

CEO Career Variety: Effects on Firm-level Strategic and Social Novelty

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ABSTRACT

We introduce the concept of CEO career variety – defined as the array of distinct professional and institutional experiences an executive has had prior to becoming CEO. Using a longitudinal sample of Fortune 250 CEOs, we hypothesize, and find strong evidence, that CEO career variety is positively associated with firm-level strategic novelty – manifested in strategic dynamism (period-on-period change) and strategic distinctiveness (deviance from industry central tendencies). We also find mixed evidence that CEO career variety is positively associated with social novelty – manifested in top management team turnover and heterogeneity.

Keywords: Strategic leadership, CEO/TMT decision making, executive psychology, managerial cognition, TMT composition.

One of the most striking trends on the U.S. business landscape over the last half-century has been the substantial increase in the proportion of chief executive officers (CEOs) who have widely diverse career backgrounds and experiences. In the decades prior to and immediately following World War II, CEOs overwhelmingly rose through just one functional track (until being tapped for general management) and typically in just one firm (Cappelli & Hamori, 2005; Fligstein, 1990; Kanter, 1977). By the 1970s and 1980s, though, institutional factors started permitting alternative trajectories. Companies began to allow and encourage, but not necessarily require, individuals to move across functional areas (Ocasio & Kim, 1999). There was new acceptance of the concept of the “professional manager,” the individual who possesses general talents and tools that can be applied in any setting, not only at the person’s current employer (Bertrand, 2009). In turn, the executive labor market became much more fluid, as companies greatly increased their outside hiring, abetted by a flourishing executive search industry (Hollenbeck, 2009; Murphy & Zabochnik, 2007; Ryan & Wang, 2011). Today, more and more CEOs look like Boeing’s James McNerney, who, prior to arriving at his current employer, had worked for firms as varied as Procter and Gamble, McKinsey, General Electric, and 3M.

However, this trend toward CEOs with diverse career experiences is by no means universal. Some current CEOs, such as ExxonMobil’s Rex Tillerson, look very much like their earlier predecessors, having spent their entire careers in one industry and one firm. And, of course, others are somewhere in between. Thus, in stark contrast to the uniform “organization men” of the 1950s (Whyte, 1956), today’s CEOs exhibit considerable heterogeneity in their career experiences.

Our paper has two main objectives. The first is to introduce and elaborate the concept of CEO career variety, which we define as the array of distinct professional and institutional

experiences an executive has had prior to becoming CEO. As we shall argue, a CEO's degree of career variety, ranging from very narrow to very broad, reflects a somewhat specifiable bundle of motivations and cognitions.

On the motivational side, high-variety CEOs tend to have personal dispositions favoring experimentation and change, while low-variety CEOs tend to have dispositional preferences for stability and incrementalism. Recognizing that individuals make career moves for a host of reasons (including family factors, job blockages, and emerging opportunities), psychologists and labor economists have shown that there are underlying personality differences between those who engage in a lot of career changes and those who do not. As we shall discuss, prior research suggests that CEO career variety is likely to be moderately correlated with other established constructs (e.g., openness to experience and risk propensity), but it is not equivalent to, or a proxy for, any single existing index.

On the cognitive side, career variety confers an awareness (even if not mastery) of a broad range of perspectives, paradigms, and exemplars. Regardless of why a person engages in career variety (say, because of personality vs. family considerations), the moves themselves will shape the individual's cognitive map (Fiske & Taylor, 1984). Specifically, relative to their low-variety counterparts, high-variety CEOs will have broader cognitive stocks for contemplating business situations and solutions.

Our second objective, at the more macro level, is to hypothesize and empirically demonstrate the organizational implications of CEO career variety. Adopting the logic of upper echelons theory (Hambrick, 2005; Hambrick & Mason, 1984), we argue that career variety will influence how CEOs perceive, interpret, and – ultimately – act in strategic situations. Those who have high career variety, with personal biases favoring the new and different, and possessing

broader mental models, will direct their firms down novel paths. Those CEOs with low career variety, with preferences for stability and incrementalism, and possessing narrower cognitive stocks, will tend toward managerial actions that are more mainstream.

Specifically, we hypothesize that CEO career variety will be associated with two different types of firm-level outcomes: *strategic novelty* and *social novelty*. We examine two main manifestations of strategic novelty: strategic dynamism (period-on-period change) and strategic distinctiveness (deviance from industry central tendencies). In doing so, we contribute to an understanding of why some established organizations are inertial and imitative, while others show much more novelty, exhibiting quantum changes and distinctiveness relative to their peers (Kelly & Amburgey, 1991; Romanelli & Tushman, 1986). In addition, we examine two manifestations of social novelty: turnover within the top management team (TMT) and heterogeneity of the TMT. Our study therefore responds to recent calls for more theory and research on the antecedents of TMT composition (Beckman & Burton, 2011).

We examine a longitudinal sample of 183 CEOs of large public companies, scoring their career variety on the basis of the array of industry sectors, firms, and functional areas they had worked in prior to becoming CEOs. With comprehensive controls, we find considerable support for our hypotheses.

CEO CAREER VARIETY

Researchers have long been interested in people's careers. Defined as "the unfolding sequence of a person's work experiences over time" (Arthur, Khapova, & Wilderom, 2005: 178), careers have been argued to provide great insights into a broad range of fundamental phenomena, including prestige and status, work-life roles, and an individual's search for meaning (Arthur et al., 2005; Dougherty, Dreher, & Whitely, 1993; Sullivan, 1999). Driven simultaneously by

voluntary choice and contextual conditions, a person's career reflects the intersection of one's capabilities and opportunities, attributes of the macro-economic and technological environments, and one's preferences.

The most prominent trend identified by career scholars over the last several decades has been the decline of the "traditional" organizational career (Briscoe, Hall, & Frautschy DeMuth, 2006). Compared with the post-WWII era, the occupational environment has changed dramatically. Organizations have become more diverse; rapid advances in technology have favored knowledge workers; implicit and explicit contracts between employers and employees have become weaker; and structural delayering and "virtualization" have compelled employees to interact beyond organizational boundaries far more often (Higgins & Kram, 2001). These changes have been accompanied by the rise of what is sometimes termed the "protean" (Hall, 1996) or "boundaryless" (Arthur, 1994; Inkson, Gunz, Ganesh, & Roper, 2012) career. Although these patterns have been most strongly documented in the United States, similar phenomena have also been noted in other countries (e.g., Ahmadjian & Robinson, 2001).

Not surprisingly, there is evidence of similar trends in executive ranks. CEOs and other senior executives – compared to thirty years ago – have spent less time in their current firms and are more likely to have entered their current positions from outside (Cappelli & Hamori, 2005; Hamori & Kakarika, 2009; Murphy & Zabochnik, 2005). Still, not all CEOs have been equally affected by, or have seized upon, these broad societal changes; some still follow more traditional career paths, rising primarily through the ranks of a single functional area within a single firm (Hamori, 2010). To capture this heterogeneity in today's CEO population, we introduce the concept of *CEO career variety*.

Again, CEO career variety encompasses the breadth of work experiences an executive has engaged in over the course of his or her career prior to becoming a CEO. This array of experiences – specifically one’s involvement in various functional areas, firms, and industry sectors – is a distinct behavioral construct in its own right, in that it is amenable to concise conceptual description, is reliably measurable, varies substantially across senior executives, is not redundant with any other single established construct, and is associated with consequential outcomes (Shadish, Cook, & Campbell, 2002). Still, the psychological significance of CEO career variety stems from what it reflects, or represents, about an executive. Accordingly, we conceptualize CEO career variety to be a manifestation of two distinct sets of personal attributes: a) one’s ingrained dispositional preference for change and experimentation, and b) one’s accumulated cognitive breadth.

Based upon prior research, we argue that certain types of individuals, specifically those preferring change and experimentation, are more prone to engage in career variety than are others. In a series of studies, researchers have examined the personality correlates of several indicators of career variety (including job search, job change, and voluntary departure). These studies suggest that the seeds of career variety reside in a set of dispositional tendencies, all oriented toward an inclination for change and experimentation. These include one’s openness to experience, a Big Five personality trait that captures (in part) a desire for new and varied experiences (Boudreau, Boswell, Judge, & Bretz, 2001; Zimmerman, 2008); one’s risk propensity (Nicholson, Soane, Fenton-O’Creevey, & Willman, 2005; Vardaman, Allen, Renn & Moffit, 2008), an association earlier proposed by labor economists (Harris & Weiss, 1984; Pissarides, 1974), who argued that voluntary job-leavers are willing to give up the known for the unknown; and one’s degree of neuroticism, another Big Five trait, signifying a person’s degree

of anxiety, or lack of contentment (Barrick & Mount, 1996; Judge & Bono, 2001). There is also more limited evidence (from single studies) that job moves are related to one's need for autonomy, an association suggesting that job-hopping stems in part from an avoidance of commitment (Mowday & Spencer, 1981); and with one's locus of control, suggesting that a person's belief that life's outcomes are within one's control leads to job mobility (Phillips & Bedeian, 1994).

Although CEO career variety may be correlated with multiple dispositional attributes, it is not a proxy for any one single established dimension. For instance, individuals who score high on openness to experience (OTE) may tend to engage in career variety, as high-OTE individuals prefer novel experiences. But OTE has additional facets, including an appreciation of art, aesthetics, and emotions, which have little bearing on career variety (Costa & McCrae, 1992). Similarly, one's risk propensity may be associated with career variety, as noted above, but risk orientation is known to manifest itself very differently in different domains (e.g., investing, hobbies, career choices) (Vardaman et al., 2008), such that the overlap between the general construct of risk propensity and career variety may be limited. Indeed, in the various studies cited above, the correlations between the noted personality dimensions and the observed indicators of career variety ranged from .07 to .18 – uniformly significant but far from determinative.

The cognitive significance of CEO career variety arises from its impact on an executive's frame of reference, irrespective of why the executive engaged in career variety in the first place. As executives progress through their careers, they encounter a stream of discrete situations, tasks, tools, and models. Some executives – whether because of personal disposition, family exigencies, random chance or yet other reasons – will face an array of radically new experiences over the

course of their careers, while others will face incremental variations of prior experiences. CEO career variety, encompassing diverse experiences – including exposure to new business functions, new organizations, and new environments – imparts a broad cognitive and experiential stock from which an executive may subsequently draw (Dragoni, Oh, Vankatwyk, & Tesluk, 2011; McCall, Lombardo, & Morrison, 1988; Tesluk & Jacobs, 1998).

Indeed, prior research suggests that career variety contributes to, or shapes, one's cognitive breadth. In an early study, for instance, Hitt and Tyler (1991) showed that executives with varied functional experiences apply more criteria when assessing acquisition targets than do those with narrower experiences. Hambrick, Geletkanycz, and Fredrickson (1993), found that career experiences beyond the focal firm and focal industry caused CEOs to be less psychologically committed to their firms' current strategies. And Dragoni et al. (2011) recently showed that accumulation of varied types of managerial experiences is associated with one's multifaceted diagnosis and solution of business problems, as gauged by assessment center exercises. In sum, there is evidence that accumulation of varied career experiences confers cognitive breadth—in terms of awareness of multiple perspectives.

On another cognitive front, research has shown that varied career experiences tend to bring about diverse social and professional networks. For instance, the accumulation of multifunctional experience (sometimes called “intrapersonal functional diversity”) is associated with the size and structural sparseness of one's network (Campion, Cheraskin, & Stevens, 1994; Monge & Eisenberg, 1987), as well as with one's centrality in work teams (Bunderson, 2003). Moreover, an individual's multi-firm experience is associated with one's frequency and willingness to participate in informal innovation networks (Yao, 2008). Thus, it appears that

varied career experiences lead to diverse networks—and the heterogeneous perspectives that accompany such diversity.

As depicted in Figure 1, CEO career variety is a behavioral construct in its own right, but it reflects those *portions* of other established dispositional traits that signify an ingrained preference for experimentation and change. Moreover, once accrued, career variety is a reflection of one’s cognitive breadth, signifying awareness (even if not mastery) of multiple paradigms, models, and exemplars.

Insert Figure 1 about here

It is perhaps this *combination* of motivations and cognitions that makes CEO career variety distinct from its several correlates, as well as so consequential (as we shall argue momentarily). High-variety CEOs have personal penchants for change and experimentation, *and* they possess expansive menus. This duality, which is not captured by any single personality trait or cognitive feature, makes career variety an especially potent managerial attribute.

We should emphasize that CEO career variety is not necessarily meritorious or beneficial. One may engage in a lot of career moves because of failure, fear of failure (recall the connection to neuroticism), or simple boredom. And the cognitive outcome may be superficial breadth but without mastery of anything in particular. Although it is outside our scope to explore the implications of CEO career variety for organizational performance, we do not view such consequences as necessarily positive – a point we return to later.

ORGANIZATIONAL IMPLICATIONS OF CEO CAREER VARIETY

Although they operate under some constraints (Hambrick & Finkelstein, 1987; Lieberman & O’Connor, 1972), CEOs are the most powerful actors in their organizations, and hold

considerable sway over strategic choices such as new product introductions, market entries, acquisitions and divestitures, resource allocations, and internal restructuring. Such actions are influenced by executives' personal characteristics (Cyert & March, 1963; Hambrick & Mason, 1984). When faced with objectively similar situations, different executives may make substantially different decisions, according to their own individual construals of those situations (Thomas, Clark, & Gioia, 1993; Weick, 1995). As such, firm-level characteristics and outcomes can be linked, in part, to the experiences, cognitions, and values of senior executives (Hambrick, 2007; Miller, 1991; Wiersema & Bantel, 1992; see Carpenter, Geletkanycz, & Sanders, 2004; Finkelstein, Hambrick, & Cannella, 2009, for reviews).

We envision that CEO career variety will give rise to strategic and social novelty via several interlinked mechanisms. First, as noted above, CEOs with varied experiences are likely to have dispositional preferences for novelty and change. Thus, to the extent that CEOs generate strategic insights themselves, high-variety CEOs can be expected to develop more creative, innovative alternatives than their low-variety peers (cf. George & Zhou, 2001). In turn, the well-documented mechanism of "motivated cognition" (Higgins & Molden, 2003) suggests that they are also more likely to identify a compelling business case for those proposals, making the novel options more likely to be pursued. And, in those instances where both incremental and novel alternatives are seen to have roughly equivalent expected values (after all potential benefits, costs, and eventualities have been weighed), high-variety CEOs will directly favor the more radical path. As a matter of personal inclination, high-variety CEOs, when faced with such a toss-up, can be expected to enthusiastically say, "Let's go for it."

Second, career variety imbues cognitive breadth. Adapting to new environments involves the acquisition of new information and skills, which, in combination with prior learning and

experiences, can trigger creative solutions (cf. Maddux, Adam, & Galinsky, 2010; Maddux & Galinsky, 2009). Accordingly, executives' cognitive frameworks will depend on their career experiences (Beyer, Chattopadhyay, George, Glick, ogilvie, & Pugliese, 1997; Bunderson & Sutcliffe, 2002; Dearborn & Simon, 1958; Sutcliffe & Huber, 1998). Executives with highly varied backgrounds are likely to view strategic situations differently than low-variety CEOs, and will perceive a wider range of novel options as being feasible in any given strategic situation.

CEO Career Variety and Strategic Novelty

Scholars have long been interested in the question of why some – perhaps most – established organizations are inertial and imitative, while others exhibit much more novelty (Kelly & Amburgey, 1991; Romanelli & Tushman, 1986). The prevailing view is that organizations are constrained by their pre-existing resource configurations, entrenched cultures, and political stasis (e.g., Hannan & Freeman, 1977), such that the default tendency is to continue along the same path and adhere to normative pressures to conform (e.g., DiMaggio & Powell, 1983). Researchers have therefore become especially intrigued with organizations that defy these common tendencies (Boeker, 1989; Henderson, 1996; Tushman, Newman, & Romanelli, 1986).

Because strategic novelty requires organizations to surmount strong inertial pulls, such behavior would seem to especially require concerted, deliberate choices. Researchers have therefore targeted the influence of senior leaders as forces for change (Datta, Rajagopalan, & Zhang, 2003; Nadkarni & Herrman, 2010). For example, Hambrick and colleagues (1993) showed that CEOs who were relatively new to their focal industries were much more open-minded about the need for change than those who were long-steeped in the status quo.

Studies addressing this topic have considered a range of different constructs – including change, inertia, diversity, adaptation, and upheaval (e.g., Henderson, 1996; Meyer, 1982;

Wiersema & Bantel, 1992). We adopt the umbrella term of *strategic novelty*, a broad construct incorporating many of these related ideas. We consider two major components of strategic novelty – dynamism, or period-on-period change; and distinctiveness, or within-period uniqueness.

Strategic dynamism. Strategic dynamism refers to the magnitude of change in a firm's allocation of resources and priorities over time (Miller, 1991; Wiersema & Bantel, 1992). Highly dynamic firms engage in substantial year-on-year change in the allocation of resources across strategic choice domains, such as advertising, research and development, capital investment, and capital structure. Dynamism is also manifested in a firm's corporate strategic posture (Boeker, 1997; Hoskisson & Johnson, 1992; Westphal & Fredrickson, 2001). Dynamic firms – via mergers and acquisitions, divestments, and restructurings – exhibit greater year-on-year upheaval in the mix and relative size of their business units.

We argue that high-variety CEOs will be associated with greater amounts of strategic dynamism. These CEOs are more likely to have had experiences with a wider range of strategic approaches, are more likely to come up with more unique options themselves, and are more likely to be motivationally predisposed toward quantum and novel initiatives. High-variety CEOs are less likely to consider minimal or incremental strategic change, and will instead prefer to explore new opportunities and new markets, and develop innovative strategic options to pursue these new opportunities. Even when a firm is performing successfully, a high-variety CEO will still be drawn toward dynamic actions and will be less satisfied with the status quo.

In contrast, firms led by low-variety CEOs will exhibit relatively little year-on-year change; under such CEOs, one year's resource allocation pattern will be greatly predictive of the next year's. Expenditures in choice domains such as advertising and research and development

will vary little over time. Similarly, firms with low-variety CEOs will tend to show little temporal variation in their mix of businesses; the makeup of their overall corporate portfolios will change little from one year to the next. Thus, we hypothesize:

Hypothesis 1: CEO career variety will be positively associated with firm-level strategic dynamism.

Strategic distinctiveness. While strategic dynamism is the extent to which a firm changes its allocation of resources and priorities from one year to the next, distinctiveness (or strategic nonconformity) refers to how much a firm's profile differs from the profiles of other firms, or industry central tendencies, at any given point in time. Thus, distinctiveness reflects the degree to which a firm adheres to, or conversely ignores, prevailing industry norms (Geletkanycz & Hambrick, 1997; Miller & Chen, 1996).

We argue that firms headed by high-variety CEOs will display higher levels of strategic distinctiveness. Such CEOs' inherent dispositional preferences for novelty, greater exposure to heterogeneous contexts, and concomitant experience with distinctive ideas and solutions will push them to consider a wider range of strategic options. High-variety CEOs are likely to see established industry practices and profiles as starting points to be transcended, rather than as standards to be closely followed. They are also likely to be relatively imaginative and to question conventional wisdom. Thus, we expect that high-variety CEOs will themselves be more likely to generate original, unconventional approaches, and they will be more likely to positively view distinctive solutions proposed by others.

Firms led by low-variety CEOs will be significantly less distinctive. Such executives – who have limited dispositional preferences toward novelty for its own sake, relatively little experience with alternative strategic recipes, and modest likelihood of generating unique

approaches themselves – will find the inertial pull of industry norms to be stronger, and the logic behind established industry practices to be more persuasive. Therefore, we hypothesize:

Hypothesis 2: CEO career variety will be positively associated with firm-level strategic distinctiveness.

CEO Career Variety and Social Novelty

Complementing the idea of strategic novelty, we now consider social novelty, which we define as the degree of dynamism and variety within the CEO's top management team (TMT). A TMT can be viewed as a dominant coalition at the apex of an organization charged with decision-making responsibility. Its members individually fill a set of differentiated roles, and collectively reflect a set of values, personalities, and cognitive bases (Wiersema & Bantel, 1992). Just as high-variety CEOs will seek to enact their predilections for variety in strategic decisions, we expect that they will they also enact variety in another important choice domain, their top management teams.

A large literature has explored the implications of the composition and structure of TMTs (e.g., Boone, Van Olfen, Van Witteloostuijn, & DeBrabander, 2004; Hambrick, & Mason, 1984; see Carpenter et al., 2004, for a review), primarily focusing on the consequences of TMT characteristics. For instance, Carpenter and Fredrickson (2001) showed that firms with TMTs displaying high levels of educational and functional heterogeneity tended to have more expansive global strategic postures. Far fewer studies have considered the *antecedents* of TMT composition (Beckman & Burton, 2011), which almost surely include the inclinations of CEOs. Even more so than for firm-level strategic actions, decisions regarding the selection and retention of TMT members lie greatly within the control of CEOs (Finkelstein, 1992). CEOs' preferences are not only reflected in the characteristics of intra-TMT interactions and processes (Jackson, 1992), but also in the choice of individuals comprising the TMT in the first place. Consistent

with our arguments concerning strategic novelty, we expect that CEO career variety will be associated with two distinct elements of social novelty: year-on-year TMT membership change and within-year TMT heterogeneity.

TMT membership change. TMT membership change concerns the extent to which the composition of a given TMT differs over time. Change may arise from the addition of new members, the departure of existing members (whether voluntarily or involuntarily), or a combination of both. While some top management teams show great stability over time, others display ongoing patterns of change, with regular modifications from one year to the next (Wiersema & Bantel, 1993).

A CEO may seek to make changes to a TMT simply for instrumental reasons, such as altering the mix of skills in order to improve the fit between the team's capabilities and the requirements of its task environment (Michel & Hambrick, 1992; Wiersema & Bantel, 1993). But beyond these reasons, we argue that high-variety CEOs will also seek ongoing change within their TMTs in order to maintain fresh perspectives and discourse. From a dispositional perspective, high-variety CEOs will be predisposed toward novel and distinctive experiences for their own sake. And, from a cognitive perspective, the diverse backgrounds of high-variety CEOs will cause them to see merit in a wider range of experiences and viewpoints. As such, high-variety CEOs will be relatively open to adding new TMT members and removing existing ones. Moreover, by virtue of their own career trajectories, high-variety CEOs will have relatively positive attitudes toward job turnover (cf., Maertz & Griffeth, 2004; Zimmerman, 2008), and thus may be more likely to encourage or propel turnover in others.

In contrast, CEOs with narrower career experiences are less likely to see intrinsic merit in a wide range of perspectives. At the extreme, low-variety CEOs may tend to pursue TMT

consensus by creating and enforcing informal norms that promote acquiescence. For such CEOs, stable TMTs – which are more likely to have developed routinized approaches to intra-team interactions and communications (Katz, 1982) – will be preferable to constantly-changing TMTs, which will always be developing new norms and interaction patterns.

Taken together, these arguments suggest that high-variety CEOs will actively seek new perspectives and will be more comfortable with making changes to their in-groups (TMTs). In firms with high-variety CEOs, we expect to see a higher number of new appointments and exits. Low-variety CEOs, who prefer social stability, will be significantly less likely to add new members or to remove existing ones.

Hypothesis 3: CEO career variety will be positively associated with TMT membership change.

TMT heterogeneity. While TMT membership change reflects variety in a top management team from one year to the next, TMT heterogeneity reflects variety at any given point. TMT heterogeneity – the extent to which a group of senior executives is characterized by diversity in backgrounds, experiences, and outlooks – has been widely studied in the strategic management literature. Typically thought to be a reflection of underlying cognitive diversity, TMT heterogeneity has been associated with both positive outcomes, such as improved creativity (Bantel & Jackson, 1989), and negative outcomes, such as reduced group cohesiveness (Michel & Hambrick, 1992).

Just as a CEO can ensure that he or she is exposed to new perspectives by making changes to the TMT, an alternative way of achieving the same outcome might be to create a heterogeneous TMT. A heterogeneous TMT will be more likely to satisfy high-variety CEOs' inherent motivational preferences for novelty. Also, high-variety CEOs are highly likely – almost axiomatically – to have interacted with a wide array of business associates during their careers.

This broader variety of past experience will lead high-variety CEOs to see more strategic and operational potential in the range of approaches and capabilities represented by a heterogeneous TMT. In contrast, whereas high-variety CEOs will tend to be more tolerant of, and perhaps even promote, dissimilar perspectives within their teams, we argue that low-variety CEOs will have less psychological need or preference for divergent viewpoints. Thus, a high-variety CEO's desire for social variety will be evidenced by a wide variety of background experiences represented in a TMT, while a TMT led by a low-variety CEO will be relatively homogeneous, in terms of attributes such as age, tenure, education, and gender.

Hypothesis 4: CEO career variety will be positively associated with TMT heterogeneity.

In sum, we anticipate that CEO career variety will be associated with two forms of strategic novelty and two forms of social novelty. Although one might argue that social novelty is a mediator of the relationship between CEO career variety and strategic novelty (as TMT change and heterogeneity can be expected to bring about strategy dynamism and distinctiveness), it can equally be reasoned that strategic novelty is instead the mediator (as strategic changes would prompt TMT turnover and heterogeneity). As such, we simply posit all four outcomes as co-equal consequences of high CEO career variety.

METHODS

Sample

We drew our sample from the Fortune 250 (the largest 250 U.S. firms by total revenue), which operate in a wide range of industries, characterized by considerable variation in competitive dynamics, profitability, and stages of the industry life cycle. We collected data on every individual who became (non-interim) CEO of a Fortune 250 firm between January 1999 and December 2005 inclusive. Commencing with each CEO's first year in office ($year_1$) (i.e., the

first year in which he or she served for more than half the company's fiscal year), we collected annual data on our dependent variables through the CEO's fifth year in office (year₅) or until the CEO's departure, whichever came first. For example, if the CEO entered office in January 2004, year₁ would be 2004, and year₅ would be 2008. Data for dependent variables and firm-level control variables (described below) were additionally collected for the pre-entry year (year₀) and the year before that (year₋₁). We used this sample frame for two reasons. First, in 1997 companies changed how they reported intra-firm segment-level data (Bascle, 2008); thus, by starting our data panel in 1999, our corporate strategic change measure (described below) is comparable across our entire panel. Second, limiting our sample to five post-entry years allowed sufficient time to determine whether multi-year patterns of strategic and social novelty exist, while at the same time focusing on the period within a CEO's tenure when change is most likely (Boeker, 1997). Our final sample consisted of 183 CEOs and 776 CEO-years of data (due to missing data, some of our tests contain fewer observations, as described below).

Independent Variable: CEO Career Variety

Mindful of the challenges in constructing a new measure for a new construct, we went to lengths to be deliberate and rigorous in developing our index of CEO career variety. As we shall discuss, we considered an array of indicators, and we experimented with numerous variations. Essentially all the computational forms examined, including some that were highly complex, generated results that were qualitatively similar to those obtained from this simple index of CEO career variety: *the sum of distinct industry sectors, distinct firms, and distinct functional areas the individual had worked in prior to becoming CEO of the focal firm, divided by the number of years the person had worked prior to becoming CEO.*

Both the careers literature and the management literature point to the importance of focusing on one's experience in distinct industries, firms, and functions for gauging career variety. Careers scholars and applied psychologists, who identify differences among various occupational and institutional contexts, and who examine benefits and challenges in moving across contexts, attach primacy to industries, firms, and functions as relevant units of analysis (Bowman & Daniels, 1995; Quinones, Ford, & Teachout, 1995; Tesluk & Jacobs, 1998). Similarly, management scholars strongly emphasize the same three loci of experience. Industries differ in their munificence, uncertainty, growth, competitiveness, and regulatory constraints (Porter, 1980; Rumelt, 1991; Sirmon, Hitt, & Ireland, 2007); firms differ in their cultures, resources, capabilities, incentive systems, governance, and performance expectations (Nelson & Winter, 1982; Teece, Pisano, & Shuen, 1997); and functional areas – such as sales/marketing, accounting/finance, and production/operations – vary in their institutional logics, requisite skills and aptitudes, and time horizons (Carpenter et al., 2004; Lawrence & Lorsch, 1967; Simons, Pelled, & Smith, 1999). In turn, numerous studies have pointedly examined various aspects of executives' experiences in industries, firms, and functions (Bunderson & Sutcliffe, 2002; Hambrick et al., 1993; Harris & Helfat, 1997; Porac, Thomas, & Baden-Fuller, 1989).

Coding career experiences. We chronicled each CEO's full employment history since completing formal education. CEO career data were hand-collected from multiple sources, including *Marquis Who's Who*; the *Dun & Bradstreet Reference Book of Corporate Management*; *Standard & Poor's Register of Corporations, Directors, and Executives*; *BoardEx*; corporate web sites and press releases; and several online databases containing information on executive employment histories (Forbes, Reference for Business, and NNDB).

We coded a firm as being distinct only if the individual joined the firm as an outsider. Thus, if an individual remained with a firm that changed its name, or merged with (or was acquired by) another firm, or that was spun off from a parent, we did not code this as being a separate firm. Industry sectors were identified using a firm's 2-digit Global Industry Classification Standard (GICS) code, a 10-sector classification scheme, which has been shown to more logically aggregate similar industries, and to separate dissimilar industries, as compared to SIC schemes (Bhojraj, Lee, & Oler, 2003). The 10 GICS categories are as follows: energy; materials; industrials; consumer discretionary; consumer staples; health care; financials; information technology; telecommunication services; and utilities. Every employing firm was allocated a single industry sector code¹. Functions were categorized based on the eight-track scheme used by Cannella, Park, and Lee (2008; see also Carpenter & Fredrickson, 2001; Michel & Hambrick, 1992): production/operations, R&D/engineering, accounting/finance, management/administration, marketing/sales, personnel/labor relations, law, and other. Each function was counted only once. For example, if an individual worked in a marketing role, then moved to a finance role, and then moved back to a marketing role, we coded this as a functional variety score of two.

We took several steps to ensure that our coding was as accurate as possible. In coding CEOs' experience in public firms, we used annual reports and press releases to determine the timing and characteristics of any mergers, acquisitions, or divestitures involving the firm (to determine whether a new firm name in an individual's employment history indeed represented a legitimate change of employer). We gathered data on industry sector membership of public firms from Compustat. For smaller and private firms, we cross-checked our coding using multiple

¹ We only considered inter-sector transfers when an individual moved to a different firm. Thus, we did not code any intra-firm transitions as being inter-sector.

sources, including corporate (Hoovers, Mergent, D&B Million Dollar Database) and media (Factiva, LexisNexis) archives. In cases where a company's sector was unclear, we used the description of the firm's business from these sources to assign the most appropriate sector code. For coding of functional areas, in those instances where an individual's employment history did not identify a specific job title, we used the description of duties to determine the most likely function. If no job title or description was available, we did not code any function. Where possible, we cross-checked all career variety data using at least two sources to verify the accuracy of the information. To ensure our coding scheme was reliable, two independent raters separately coded and calculated all three forms of career variety for a random sample of 25 CEOs. Aggregate inter-rater reliability was high ($ICC1 = .91$), indicating strong agreement.

Inter-correlations among the three individual elements of career variety were high ($.47 < r < .71$, $p < .01$), with a Cronbach's alpha of .76, which is above the threshold of .70 recommended for new construct reliability (Nunnally, 1978). To further assess convergent and discriminant validity, we conducted an exploratory factor analysis (EFA). We included all three career experience items – distinct sectors, distinct firms, and distinct functions – and four additional items. In selecting these four additional items, for purposes of gauging discriminant validity, it was important to identify variables that are not reflective of the core construct (in our case career variety) but that might logically be expected to co-vary with it (Bagozzi, Yi, & Phillips, 1991). Thus, we included CEO age and CEO career experience (in years), both of which indicate basic longevity; and we included CEO education (in years) and a binary indicator of whether the CEO had an MBA. These latter variables do not conceptually tap career variety, but they can reasonably be expected to co-vary with it, as they signify a desire for intellectual stimulation, an achievement orientation, and preparation for generalism. Based upon an oblique factor structure

with promax rotation, as called for by the inter-item correlations (Ford, MacCallum, & Tait, 1986), our EFA indicated a distinct three-factor solution; our three career variety measures loaded on one factor, CEO age and career experience loaded on a second factor, and CEO education and MBA loaded on a third factor (see Table 1). This pattern of results suggests both convergent and discriminant validity of our index².

Insert Table 1 about here

Because the three elements of career variety had roughly similar means – 1.6 for number of industry sectors, 2.4 for number of firms, and 2.5 for number of functions – we used the simple sum of all three for gauging overall variety. Then, to acknowledge that one’s number of career moves depends on the time available to engage in such moves, we divided by the person’s career length. To reiterate, our final measure was the sum of distinct industry sectors, distinct firms, and distinct functional areas the individual had worked in prior to becoming CEO of the focal firm, divided by the number of years the person had worked prior to becoming CEO.

Robustness tests. We examined an array of alternative measures, none of which substantially altered our findings. Here we highlight several of the notable variations we explored. First, instead of relying on broad sector categories for measuring one’s mobility across industries, we used narrower 2-digit SIC codes instead. Second, out of a concern that our measure might include (or overly count) relatively trivial career moves, we re-coded the component measures such that a unique experience (sector, firm, or function) was only counted if the person had spent a minimum of three years in that position. Third, to ensure that our results

² To further demonstrate the validity of our measure, we coded the resumes of a separate sample of 169 MBA alumni who agreed to participate in our project, and who had an average of 14.6 years of work experience. Correlations among the three component measures for this sample were again high ($.50 < r < .72$; $p < .01$), with a Cronbach’s alpha of 0.80. All three components loaded cleanly on a single underlying factor, with factor loadings between 0.60 and 0.80.

were not overly driven by just one of the elements of career variety (since we used the simple sum of all three), we calculated standardized scores for each element (mean of zero; standard deviation of one) and summed them to form the index. Finally, out of a concern that the three forms of variety might differ in how rare or momentous they are (recall that inter-sector moves were somewhat rarer than the other two types), we used weightings to adjust for the overall prevalence of each form of variety. Again, none of these sensitivity tests yielded results that differed appreciably from those generated by our simple index.

Dependent Variables

Strategic dynamism. Existing studies have examined two main forms of strategic dynamism: resource reallocation (e.g., Geletkanycz & Hambrick, 1997) and corporate strategic change (e.g., Wiersema & Bantel, 1992). We therefore used both measures in our tests of H1. Following prior research (e.g., Tang, Crossan, & Rowe, 2011), we operationalized *resource reallocation* as the year-on-year absolute change in a series of six strategic choice variables: 1) advertising intensity (advertising expenditure/sales); 2) R&D intensity (R&D expenditure/sales); 3) overhead efficiency (selling, general, and administrative expenses/sales); 4) capital intensity (fixed assets/total employees); 5) plant and equipment newness (net plant and equipment/gross plant and equipment), and 6) financial leverage (total debt/shareholder's equity). All variables were taken from Compustat³. To minimize the influence of extreme observations, all firm-year dependent variables were Winsorized (Dixon, 1960) at the 2% level.

³ As noted in past work (e.g., Tang et al., 2011), public firms do not consistently report data on all strategic choice variables every year, with advertising intensity and R&D intensity displaying the largest amount of missing data. However, for every firm-year in our sample, data for at least four of the six strategic choice variables were available. Therefore, for firms that did not report a particular variable for a given year, we replaced this with the industry mean. Results were unchanged when we instead omitted the missing variables for those firm-years or imputed the missing values based on the other strategic dynamism components (Royston, 2004).

For each of the six variables, we calculated the absolute difference from the prior year to the focal year. Because all measures were right-skewed, we took the log of each. We then standardized the six logged measures, by converting them to z-scores, and summed these to create a single standardized index of resource reallocation for each year. Thus, our annual resource reallocation measure reflects the absolute change in resource allocation from one year to the next (with higher scores reflecting greater reallocation); we calculated this measure for each of the first five years of a CEO's tenure.

We operationalized *corporate strategic change* as the year-on-year change in diversification (Wiersema & Bantel, 1992). To measure diversification, we used the entropy measure (Palepu, 1985; Qian, Khoury, Peng, & Qian, 2010), which reflects the number, importance, and relatedness of a firm's business units. It is calculated as follows:

$$\sum_{i=1}^N P_i \ln\left(\frac{1}{P_i}\right)$$

where P_i is the percentage of a firm's total sales attributable to business segment i , and N is the number of segments. For each firm-year, we calculated the absolute percentage change in the entropy measure from the prior year, then logged and standardized this value. Data for some of the firm-years in our sample were unavailable; thus, our sample size for this dependent variable was 475 firm-years.

Strategic distinctiveness. To measure annual strategic distinctiveness, we used the same six resource allocation variables as for our resource reallocation measure. For each year, we took each variable and calculated the standardized absolute difference between the firm's score and the industry mean (Geletkanycz & Hambrick, 1997; Tang et al., 2011). We then took the log of

each and summed the six individual variables to create an overall strategic distinctiveness index for the firm in that year⁴.

Top management team measures. We defined a firm's top management team (TMT) in a given year as all senior executives identified in the firm's annual 10-K report (Gordon, Stewart, Sweo, & Luker, 2000). The CEO was excluded from TMT calculations. Our final sample consisted of 2624 TMT members, with a mean of 7.98 members per firm-year. Due to a small number of firms with missing data, our sample size for Hypotheses 3 and 4 was 678 firm-years.

We operationalized *TMT membership change* as the annual sum of additions and deletions to the TMT in a year, divided by the number of members in the previous year (Wiersema, 1995). Following prior research, we generated multiple annual measures of *TMT heterogeneity* (e.g., Carpenter, 2002; Tihanyi, Ellstrand, Daily, & Dalton, 2000): *age*, *tenure*, *educational background*, and *gender*. Age and tenure heterogeneity were operationalized using the coefficient of variation (standard deviation divided by the mean, multiplied by 100) (Allison, 1978). Tenure was coded as the number of years the individual had continuously been a member of the firm. Educational background was coded according to Wiersema and Bantel's (1992) five-category scheme: arts, science, engineering, business and economics, and law. Gender was coded as a 1/0 binary variable. We operationalized annual TMT education and gender heterogeneity via the Herfindahl-Blau index (Blau, 1977; Cannella et al., 2008; Tihanyi et al., 2000), which is calculated as $1 - \sum S_i^2$, where S_i is the proportion of the TMT in the i th category. Higher scores indicate greater heterogeneity.

⁴ We did not include a corporate measure of strategic distinctiveness as we did for strategic dynamism because the characteristics of our corporate strategic change measure make industry comparisons problematic. A parallel measure (i.e., absolute difference between firm diversification and industry average diversification) would be very difficult to interpret. For instance, if firm A were less diversified than the industry average, this could be both a signal of novelty (because this suggests distinctiveness) and a signal of lack of novelty (because the firm's resources are concentrated in fewer industries). These concerns do not arise for our resource reallocation-based measure.

Control Variables

We included a comprehensive set of control variables in all of our analyses. For each dependent variable, we controlled for *pre-entry condition*, which was the value of the relevant DV in the period immediately prior to the first observation for a particular CEO. For DVs operationalized as year-on-year change (resource reallocation, corporate strategic change, and TMT membership change), pre-entry condition was the change in that variable from the year before year₀ (i.e., year₋₁) to year₀. For DVs operationalized in a single year (strategic distinctiveness, TMT heterogeneity), pre-entry condition was the value of the variable in year₀. To mitigate the potential for non-independence, we instrumented all pre-entry condition variables (cf. McDonald & Westphal, 2010; Westphal & Deephouse, 2011).

At the CEO level, evidence suggests that strategic decision-making may be influenced by CEO age, tenure, and education (e.g., Boeker, 1997; Fondas & Wiersema, 1997; Wiersema & Bantel, 1992). We therefore controlled for *CEO age* (in years at the start of each year), *CEO education* (numbers of years post-high school education), *CEO MBA* (binary 1/0 variable), and *CEO experience* (total years of work experience). There is also evidence that compensation and ownership patterns may influence strategic decision-making (e.g., Goodstein & Boeker, 1991; Sanders & Hambrick, 2007). We therefore controlled for *incentive compensation*, which was operationalized as total compensation minus cash compensation (salary and bonus), divided by total compensation, multiplied by 100. We controlled for *CEO ownership*, which was calculated as number of shares owned by the CEO, divided by total outstanding shares, multiplied by 100.

We also controlled for CEO- and firm-level characteristics that may have implications for the power of, and specific role played by, the CEO in the firm (Finkelstein, 1992). *Duality* was operationalized as a 1/0 binary variable, coded as one if the CEO was simultaneously the board

chair for the majority of a particular firm-year. *Outsider* was coded as one if the CEO entered his or her new role from outside the company. *Previous CEO dismiss* was also operationalized as a 1/0 binary variable, coded one if the CEO's predecessor had departed office involuntarily. *Firm departures* was operationalized as the number of instances of CEO succession that had occurred at the firm in the seven years prior to the focal CEO's entry.

In addition, we controlled for several other important annual firm- and industry-level characteristics. Because the tendency to engage in dynamic strategies may vary according to how established or inertial a firm is, we controlled for *firm age* (years since founding) and *firm size* (log of total assets). Building on past research suggesting that firm performance is one of the strongest determinants of CEO behavior (e.g., Gamson & Scotch, 1964; Wagner, Pfeffer, & O'Reilly, 1984), we also controlled for *firm performance*, operationalized as total shareholder returns (final share price plus dividends, minus initial share price (adjusted for stock splits), all divided by initial share price). To capture governance conditions, we controlled for *board independence* (number of independent directors divided by board size) and *institutional blockholding* (the proportion of outstanding shares held by the largest institutional blockholder). Because dynamic and unstable environments may be marked by greater need for strategic and TMT changes, we also controlled for *industry dynamism*, which was operationalized as the logged standard deviation of market growth⁵ over the previous five years (Finkelstein, 2009). All annual (firm-year-level) control variables were lagged by one year.

Finally, because CEOs entered office at different times in our sample, we included binary control variables for *calendar year* and CEO *tenure year* (i.e., year₁-year₅). Also, because there may be unobserved heterogeneity associated with industry membership, we included dummy variables for *industry*. We omitted one category in each case.

⁵ Market growth was calculated as: $(\text{industry sales in year}_t - \text{industry sales in year}_{t-1}) / \text{industry sales in year}_{t-1}$

Analyses

All analyses included up to five years of data for each CEO. We therefore used generalized estimating equations (Liang & Zeger, 1986; Rhee & Haunschild, 2006) to estimate our models. GEE models provide maximum likelihood estimates that account for non-independence of multiple observations from the same CEO (Hanley, Negassa, Edwardes, & Forrester, 2003). A fixed-effects generalized least squares model would not be appropriate, as our main independent variable (CEO career variety) and several of our control variables (e.g., CEO education) do not vary over time. In all models, we specified a Gaussian distribution with an identity link function and an autoregressive (one year) within-group correlation structure. We used robust (Huber-Sandwich-White) standard errors in all models (White, 1982).

Although we did not expect endogeneity to bias our results, it is possible that boards make CEO selection decisions based on characteristics such as a CEO's career variety, with the intent that the selected CEO will then enact a particular amount of change. Therefore, as a robustness test, we ran two-stage models for all analyses. To create our first-stage model, we regressed CEO career variety on a vector of antecedent and contemporaneous measures (including firm performance) that might predict the board's CEO selection decision in the first place. We then used the residuals from this model as our revised CEO career variety measure (cf. Wiersema & Zhang, 2011). This two-stage model produced essentially identical results. (Full analyses are available on request.) Moreover, the correlations between our independent variable and the error terms of our estimated models (which we are about to report) were non-significant, further suggesting that endogeneity did not bias our results (McDonald & Westphal, 2010).

RESULTS

Table 2 reports the descriptive statistics and correlations for all variables. As can be seen, CEO career variety was positively and significantly associated with resource reallocation, strategic distinctiveness, TMT turnover, and all TMT heterogeneity measures. It was also positively and marginally significantly associated with corporate strategic change. Thus, all bivariate correlations were consistent with our hypotheses.

Insert Table 2 about here

Table 3 presents tests of H1 and H2, including all control variables. Hypothesis 1 argued that career variety would be positively related to strategic dynamism. Model 1 in Table 3 shows that this was indeed the case for resource reallocation ($\beta = 3.43, p < .05$). Model 2 shows that career variety was also a significant predictor of corporate strategic change ($\beta = 2.88, p < .01$). Thus, Hypothesis 1 was supported. Similarly, Model 3 in Table 3 shows that, consistent with Hypothesis 2, career variety was positively and significantly related to strategic distinctiveness ($\beta = 2.91, p < .05$). We therefore found support for H2 and, more generally, strong support for our core argument that CEO career variety engenders strategic novelty.

Insert Table 3 about here

Hypothesis 3 argued that career variety would be positively associated with TMT membership change, one component of social novelty. Model 1 in Table 4 shows that H3 was supported ($\beta = 0.42, p < .01$). Hypothesis 4 predicted that career variety would be positively associated with TMT heterogeneity. We conducted four tests of this hypothesis. Models 2 to 5 in Table 4 shows that H4 was not supported for any of our heterogeneity measures. More generally,

we found mixed support for our core argument that CEO career variety would be significantly associated with social novelty⁶.

Insert Table 4 about here

Our results were practically significant also. For example, moving from a CEO with a career variety score one standard deviation (s.d.) below the mean to a CEO with a score one s.d. above the mean was associated with an increase of 37% of one s.d. in resource reallocation⁷. For the median firm in our sample, this was equivalent to an annual change of \$34m in advertising expenditures and \$149m in selling, general, and administrative expenditures. In terms of social novelty, the same change in CEO career variety was associated with approximately one additional person being added to or removed from a top management team each year.

DISCUSSION

A substantial body of work building on the core principles of upper echelons theory (Hambrick & Mason, 1984) has examined the extent to which senior executives influence the characteristics and outcomes of their firms. The results of this stream strongly suggest that executives' dispositions, cognitions, and experiences are significantly related to firm behavior and firm performance. In the present research, we examined the impact of CEO career variety on firm-level strategic and social novelty in a longitudinal sample of Fortune 250 companies. We

⁶ To further examine our claim that CEO career variety has an impact on organizational outcomes beyond the underlying influence of executives' dispositional characteristics, we gathered dispositional and organizational preference data from a sample of 108 MBA alumni who agree to participate in our study (a sub-group of the sample discussed in footnote 2 above). Specifically, we gathered data on respondents' openness to experience (Costa & McCrae, 1992), neuroticism (Costa & McCrae, 1992), and general risk propensity (Meertens & Lions, 2008), as well as several items measuring respondents' preferences for strategic novelty and social novelty. Results from regression analyses showed that career variety had a statistically significant incremental impact on preferences for strategic novelty, even after controlling for the impact of dispositional characteristics. However, career variety had no significant impact on preferences for social novelty.

⁷ Generalized estimating equation (GEE) models are population-averaged, or marginal, models. Thus, a unit change in the independent variable is equivalent to the expected change in the average response, or dependent variable (Ballinger, 2004).

found evidence that firms led by CEOs with higher levels of career variety display greater strategic dynamism (resource reallocation and corporate strategic change) and strategic distinctiveness – which we refer to collectively as strategic novelty.

We also found partial evidence supporting our arguments that firms led by high-variety CEOs are associated with greater social novelty. Although CEO career variety was indeed associated with one element of social novelty, TMT turnover, career variety was not associated with our other facet of social novelty, TMT heterogeneity (operationalized by age, tenure, education, and gender heterogeneity). Thus, in our sample at least, it appears that high-variety CEOs' preferences for novelty are indeed satisfied through ongoing TMT “churn,” but that TMT member diversity at any given point in time may not be as important. Perhaps high-variety CEOs are able to solicit information and obtain distinctive perspectives from sources other than their TMTs (Judge & Bono, 2000).

Implications

Our results have implications for several streams of research in strategic management and organization science. The most important concerns the role of top executives in influencing organizational change. A recurring theme in organization theory is that organizations are heavily constrained – by path-dependence, bureaucratic inertia, and institutional forces (e.g., DiMaggio & Powell, 1983; Hannan & Freeman, 1977, 1984). Although top managers may have some influence over the actions and directions of organizations, they often experience great difficulties in enacting change (e.g., Hambrick et al., 1993; Starbuck, Greve, & Hedberg, 1978). At the same time, however, there is considerable evidence that some executives, in some circumstances, can be catalysts for major change in their organizations (e.g., Chen & Meindl, 1991; Gioia & Chittipeddi, 1991). Our findings help to identify the types of executives who are most likely to

be associated with major organizational change. In a related vein, it would be interesting to explore whether high-variety CEOs tend to attract and retain other high-variety individuals to their TMTs, which of course would further enhance the collective propensity for novelty.

Our concept of career variety may also have implications for CEO tenure lengths and succession. After all, if an individual has a life-long pattern of moving from job to job, there is a good chance that such a pattern will continue in one's current assignment. As such, it would be interesting to explore whether high-variety CEOs tend to have relatively short CEO tenures; whether they tend to depart even when performance is satisfactory; and whether they are especially likely to be multi-time CEOs (Bertrand & Schoar, 2003).

Our paper also has important practical implications. Our findings suggest that boards of directors might benefit from explicitly considering a potential corporate leader's career variety when making selection decisions. If a board believes that a firm's strategy has become too predictable, conventional, or inertial, hiring a high-variety CEO might help to promote rapid, large-scale change and increased strategic distinctiveness. In contrast, if a board feels that a firm's strategy has been too erratic, unsettled, and volatile, hiring a low-variety CEO might contribute to a more consistent and steady approach moving forward.

However, our study also raises a cautionary note, as it is entirely possible that high-variety CEOs seek novelty for its own sake, shaking-up their companies' strategies and TMTs whether needed or not (cf. Elenkov, 1998). Although the performance implications of CEO career variety were outside our scope for this paper, we conducted a limited post-hoc analysis with suggestive results: strategic novelty brings about subsequent performance volatility, but it is not related to the subsequent performance level. Namely, the preferred actions of high-

variety CEOs are not, on average, inherently beneficial (or harmful). Future research could examine a host of questions regarding the prescriptive implications of CEO career variety.

Limitations and Future Research

As with any empirical project, ours has limitations, which in turn suggest future opportunities. Foremost, our study does not demonstrate the underlying psychological content associated with career variety. Based on prior research, we argued that CEO career variety reflects multiple dispositional traits favoring experimentation and change (such as openness to experience and risk propensity), as well as one's accumulated cognitive breadth. Future research, almost surely requiring survey and/or experimental methods, is needed to confirm and clarify what career variety actually indicates about a CEO.

Perhaps one of the psychological accompaniments of career variety, particularly among CEOs, is a motivational conviction in the merits of change. By definition, CEOs have achieved long series of successes, and may be psychologically wedded to the patterns of behavior that accompanied those successes (Miller, 1994). Thus, the CEO who has personally engaged in a wide array of career experiences may tend to see the merits of change, experimentation, and novelty in general. Conversely, the CEO who has risen through just one functional area, and in just one firm, may tend to attribute his or her professional success to a pattern of reliability, patience, and incremental advances – and this pattern, too, will become the person's preferred formula on many fronts. Thus, in addition to any dispositional tendencies that might spur one to engage in widely varying career experiences in the first place, an accumulation of successes might reinforce those behaviors – on multiple fronts. We consider this line of thought to be highly promising for future inquiry.

Researchers may be able to refine our measure of career variety in numerous ways. Although we experimented with an array of variants of our archivally-derived index, as discussed earlier, other refinements may well be fruitful. Moreover, depending on a researcher's specific interests, there may be merit in developing more fine-grained measures of CEOs' prior experiences, which would probably require in-depth interviews or surveys. For instance, a given researcher might be interested in knowing which of a CEOs' prior positions were most impactful or indelible, which were most and least successful, or which were most and least of a skill-stretch. Our archivally-based measure and associated findings open the way for scholars to consider other approaches for gauging executives' career experiences.

Future research might also explore our finding that CEO career variety does not appear to be an endogenous reflection of a board's desire for innovation and change. Our own speculation is that boards tend to focus on very proximate criteria when deciding on a CEO ("Do we need an outsider?" "Do we need someone from outside the industry?" "Do we need someone with a recent record of delivering top-line growth?") By comparison, boards do not (we surmise) focus very much on candidates' *entire* careers. If we bear in mind that many of the job moves made by our high-variety CEOs occurred in their 20s, 30s, and 40s, it is highly plausible that patterns of career variety are quite incidental for boards when considering CEO candidates. Perhaps such patterns *should* be given more weight, as they say quite a lot about a person, and tend to become reflected in CEOs' behaviors once on the job, as our results show.

We only examined the first five years of CEOs' tenures, because these years hold the greatest potential, in general, for observing strategic changes and adjustments. But there may be benefits in examining the effects of CEO career variety during the later phases of CEOs' tenures. Do high-variety CEOs still pursue greater strategic novelty and social novelty, relative to their

low-variety counterparts, as their tenures advance? Or do they, too, succumb to the general tendency to make only incremental adjustments after several years in office (Miller, 1991; Henderson, Miller, & Hambrick, 2006)?

Finally, although our focus has been strictly on CEOs, there may be great opportunity to explore the implications of career variety for employees at other organizational levels. As our earlier literature review indicated, researchers have used primarily non-executive samples to examine the links between personality and manifestations of career variety (such as voluntary departure); to our knowledge, there has been no research on the in-role behaviors of high-variety vs. low-variety middle-managers or other employees. Do such individuals tend to manifest their degree of career variety in their job behaviors? For instance, what would be the equivalent of “strategic novelty” or “social novelty” for a high-variety sales representative, R&D scientist, or country manager? Applying our ideas about career variety might lead to new insights about the antecedents of individual creativity, deviance or rule-breaking behaviors, and supervisory styles.

SUMMARY

An important but under-studied trend in business over the last several decades concerns the increasing heterogeneity in the background and experiences of public company CEOs. Our study suggests that CEO career variety is manifested in a firm’s tendency to change its strategic profile from year-to-year, to deviate from the central tendencies of its industry, and to change the composition of its TMT. Taken together, these patterns suggest that CEO career variety provides potent insights into firm-level actions and behaviors – but with still largely-unexplored implications for performance.

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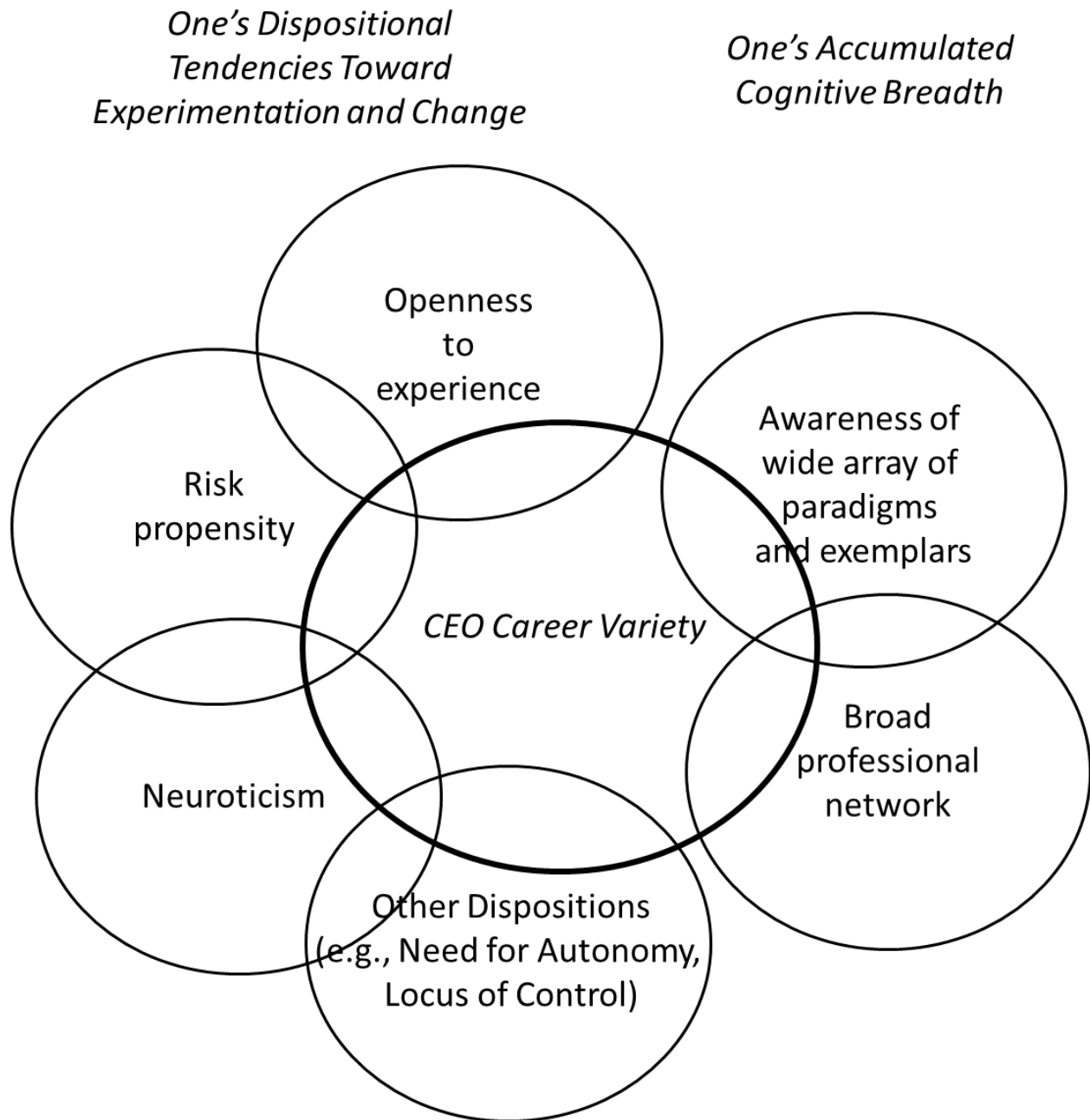
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FIGURE 1
What Does CEO Career Variety Reflect?
Qualitative Portrayal of its Psychological Correlates



Note: The size and degree of overlap of the circles is merely illustrative and not meant to convey any quantitative properties.

TABLE 1
CEO Career Variety Component Measures: Exploratory Factor Analysis

Variable	Factor 1	Factor 2	Factor 3	Uniqueness
Industry sectors per year	0.79	0.03	-0.02	0.41
Firms per year	0.47	-0.34	0.00	0.50
Functions per year	0.79	-0.05	0.01	0.33
Age	0.09	0.81	0.05	0.43
Career experience	-0.18	0.75	-0.04	0.25
Education	0.09	0.10	0.56	0.68
MBA	-0.10	-0.12	0.54	0.70

TABLE 2
Descriptive Statistics and Correlations

	Mean	s.d.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. CEO career variety	0.25	0.13	----														
2. Resource reallocation	0.00	2.37	.10**	-----													
3. Corporate strategic change ¹	0.00	1.00	.08	.19**	-----												
4. Strategic distinctiveness	0.00	2.55	.13**	.29**	.06	-----											
5. TMT membership change ²	0.29	0.34	.07*	.13**	.03	.07	-----										
6. TMT age heterogeneity ²	11.03	3.66	.12**	-.01	.11*	-.02	-.01	-----									
7. TMT tenure heterogeneity ²	67.68	28.89	.18**	.15**	.11*	.07	.23**	.10**	-----								
8. TMT education heterogeneity ²	0.54	0.20	.13**	.01	-.03	.00	.05	-.10**	.13**	-----							
9. TMT gender heterogeneity ²	0.19	0.16	.09**	-.04	.02	-.10**	.05	.04	.13**	.13**	-----						
10. CEO age	55.17	5.34	-.33**	-.06	.01	-.01	-.10**	-.06	.00	-.07*	.10**	-----					
11. CEO education	5.52	1.41	.11**	.03	.02	.11**	.05	.03	.05	.09*	-.01	.07	-----				
12. CEO MBA	0.49	0.50	.04	.11**	.01	.17**	.10**	.01	.11**	.10**	-.02	-.11**	.40**	-----			
13. CEO experience	29.09	6.09	-.58**	-.01	.06	-.04	-.05	-.09*	-.01	-.08*	.05	.72**	-.06	-.11**	-----		
14. Incentive compensation	67.18	22.62	.08*	.03	.03	-.04	.01	-.16**	.00	.02	.14**	.03	.01	-.01	.02	-----	
15. CEO ownership	0.30	1.40	.01	.04	.09	-.01	-.03	.13**	.05	-.06	.00	-.05	.03	.01	-.06	-.20**	-----
16. Duality	0.67	0.47	-.07	-.01	-.05	-.03	.03	-.06	-.06	.09**	.14**	.16**	.08*	.06	.15**	.11**	-.05
17. Outsider	0.20	0.40	.30**	.04	.05	.00	.07*	.08*	.19**	.07	.15**	.09**	.04	.01	.05	.02	.00
18. Previous CEO dismiss	0.14	0.35	-.03	.13**	-.01	.10**	.03	-.03	.13**	-.01	.02	.00	-.06	.05	.09**	.05	.01
19. Firm departures	1.35	0.57	-.06	-.05	-.02	-.03	-.03	-.10**	.01	-.03	-.03	.14**	-.04	.04	.10**	-.03	-.04
20. Board independence	0.77	0.14	.08*	.10**	.02	.02	.01	-.20**	.16**	-.01	.10**	.16**	.14**	.11**	.09*	.15**	-.07
21. Institutional blockholding	0.09	0.05	.07*	.02	.03	.06	-.05	.11**	.06	.00	.06	-.01	-.07*	-.03	-.06	.01	.04
22. Firm size	23.87	1.25	-.12**	.15**	.02	.07*	.06	-.14**	-.02	.11**	.10**	.00	.13**	.12**	.07	.03	-.05
23. Firm age	75.45	43.44	-.06	.04	-.15**	.05	-.02	-.12**	.08*	.03	.00	.08*	.14**	.05	.07	.01	-.08*
24. Firm performance	0.05	0.36	-.03	.04	.00	-.02	-.07	-.04	.00	.05	.06	.04	.01	.00	.03	-.10**	.00
25. Demand instability	-3.54	0.61	.02	-.07*	.14**	-.13**	-.04	.16**	.03	-.08*	-.02	-.02	.00	-.02	.00	.04	.07*

	Mean	s.d.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.
16. Duality	0.67	0.47	----									
17. Outsider	0.20	0.40	.04	-----								
18. Previous CEO dismiss	0.14	0.35	-.10**	.17**	-----							
19. Firm departures	1.35	0.57	.00	.14**	.18**	-----						
20. Board independence	0.77	0.14	.16**	.06	-.05	.15**	-----					
21. Institutional blockholding	0.09	0.05	-.09*	.10**	.13**	.08*	-.02	-----				
22. Firm size	23.87	1.25	.06	-.18**	-.02	-.13**	.07*	-.21**	-----			
23. Firm age	75.45	43.44	.14**	-.03	.00	.09**	.19**	-.03	.20**	-----		
24. Firm performance	0.05	0.36	-.02	.04	-.02	.04	.00	-.02	-.02	.00	-----	
25. Demand instability	-3.54	0.61	-.01	.01	-.01	.04	.01	.07*	-.01	-.06	-.02	-----

N = 776, except for ¹N = 475, ²N = 678; * p < .05, ** p < .01

TABLE 3
Impact of CEO Career Variety: Strategic Novelty

	H1: Resource reallocation	H1: Corporate strategic change	H2: Strategic distinctiveness
Constant	-0.21 (4.50)	0.03 (3.62)	7.92* (3.96)
Year 2	0.04 (0.22)	-0.05 (0.14)	0.19 (0.13)
Year 3	0.00 (0.27)	-0.26 (0.18)	0.07 (0.19)
Year 4	-0.10 (0.27)	-0.12 (0.20)	0.11 (0.23)
Year 5	0.28 (0.30)	-0.03 (0.26)	0.20 (0.27)
Pre-entry condition	0.16** (0.06)	0.10 (0.08)	0.55** (0.07)
CEO age	-0.04 (0.03)	-0.04* (0.02)	0.04 (0.03)
CEO education	-0.07 (0.11)	0.04 (0.05)	-0.18+ (0.10)
CEO MBA	0.61** (0.24)	0.20 (0.14)	0.42+ (0.25)
CEO experience	0.07* (0.03)	0.05** (0.02)	0.04+ (0.03)
Incentive compensation	0.00 (0.01)	0.01* (0.003)	0.00 (0.01)
CEO ownership	0.01 (0.01)	0.12 (0.10)	0.00 (0.03)
Duality	-0.11 (0.22)	-0.01 (0.14)	-0.29* (0.14)
Outside	0.17 (0.37)	-0.27 (0.19)	0.03 (0.32)
Prev. CEO dismiss	1.09** (0.39)	0.10 (0.14)	0.89** (0.32)
Firm departures	-0.51* (0.25)	-0.23 (0.14)	0.03 (0.24)
Board independence	0.40 (1.07)	0.49 (0.46)	-0.18 (0.48)
Institutional blockholding	0.87 (2.63)	-2.80+ (1.58)	3.61* (1.83)
Firm size	-0.01 (0.15)	0.05 (0.11)	-0.36** (0.14)
Firm age	0.00 (0.01)	-0.004* (0.002)	0.00 (0.01)
Firm performance	-0.59* (0.25)	0.24 (0.18)	-0.15 (0.12)
Demand instability	-0.12 (0.17)	0.22+ (0.12)	-0.08 (0.14)
CEO career variety	3.43* (1.39)	2.88** (0.80)	2.91* (1.22)
Wald Chi ²	244.76**	158.22**	567.39
ΔWald Chi ² (CEO career variety)	16.95**	23.18**	26.66**
N	776	475	776

Note: coefficients for calendar year and industry dummy variables not reported

+p < .1, *p < .05, **p < .01

TABLE 4
Impact of CEO Career Variety: Social Novelty

	H3: TMT membership change	H4: TMT age heterogeneity	H4: TMT tenure heterogeneity	H4: TMT education heterogeneity	H4: TMT gender heterogeneity
Constant	0.55 (0.46)	2.85 (7.60)	138.29* (65.30)	0.68 (0.46)	-0.34 (0.40)
Year 2	-0.06 (0.04)	-0.13 (0.34)	0.12 (2.13)	0.01 (0.01)	0.01 (0.01)
Year 3	-0.07 (0.05)	0.11 (0.42)	-0.23 (2.71)	0.03+ (0.02)	0.02 (0.02)
Year 4	-0.09* (0.05)	0.05 (0.49)	-4.79 (4.08)	0.05* (0.02)	0.02 (0.02)
Year 5	-0.15* (0.06)	-0.29 (0.56)	-5.81 (4.95)	0.09** (0.03)	0.04 (0.03)
Pre-entry condition	0.05 (0.04)	0.28** (0.06)	0.25** (0.06)	0.27** (0.08)	0.50** (0.06)
CEO age	-0.01** (0.004)	0.10+ (0.06)	-0.41 (0.42)	0.00 (0.01)	0.00 (0.01)
CEO education	0.02 (0.01)	-0.09 (0.21)	0.87 (1.58)	0.01 (0.01)	-0.01 (0.01)
CEO MBA	0.03 (0.03)	0.77+ (0.46)	4.80 (3.77)	-0.04 (0.03)	0.03 (0.02)
CEO experience	0.01** (0.004)	-0.10 (0.06)	0.71* (0.35)	0.00 (0.01)	0.00 (0.01)
Incentive compensation	0.00 (0.01)	0.00 (0.01)	-0.02 (0.04)	0.00 (0.01)	0.00 (0.01)
CEO ownership	-0.01 (0.01)	-0.01 (0.06)	0.21 (0.77)	0.00 (0.01)	0.00 (0.01)
Duality	-0.01 (0.03)	0.69 (0.52)	-4.72 (3.26)	-0.01 (0.01)	0.01 (0.01)
Outside	0.05 (0.04)	1.12 (0.83)	3.56 (6.30)	0.04 (0.03)	0.04 (0.03)
Prev. CEO dismiss	-0.03 (0.04)	-0.20 (0.65)	8.87* (4.43)	0.00 (0.04)	-0.08** (0.03)
Firm departures	-0.04 (0.03)	-0.96* (0.45)	-8.47* (3.37)	-0.03 (0.03)	-0.01 (0.02)
Board independence	0.19+ (0.10)	-1.31 (1.43)	26.94** (10.64)	-0.03 (0.06)	0.04 (0.05)
Institutional blockholding	-0.40 (0.29)	-0.60 (3.01)	-1.68 (25.11)	0.02 (0.19)	0.06 (0.12)
Firm size	0.00 (0.02)	0.10 (0.24)	-4.76* (1.97)	-0.01 (0.02)	0.01 (0.01)
Firm age	0.00 (0.01)	0.00 (0.01)	0.02 (0.05)	0.00 (0.01)	0.00 (0.01)
Firm performance	0.02 (0.04)	0.17 (0.29)	-1.22 (1.99)	0.01 (0.01)	0.00 (0.01)
Demand instability	0.04 (0.03)	0.40 (0.34)	-0.84 (2.74)	0.01 (0.01)	0.02+ (0.01)
CEO career variety	0.42** (0.16)	1.04 (2.46)	16.19 (15.03)	0.13 (0.13)	0.02 (0.12)
Wald Chi ²	169.98**	214.17**	168.26**	97.75*	172.55**
ΔWald Chi ² (CEO career variety)	11.98**	0.81	2.02	1.23	0.13
N	678	678	678	678	678

Note: coefficients for calendar year and industry dummy variables not reported
+p < .1, *p < .05, **p < .01

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