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## **A Review of Recent Research on CEOs' Influence on Firm Performance**

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## **A Review of Recent Research on CEOs' Influence on Firm Performance**

### **Abstract**

Management scholars, as well as scholars in other disciplines, have demonstrated a long-standing interest in the influence that chief executive officers (CEOs) have on firm performance. There is now a substantial literature on this general topic. Despite the importance of the issue and the existence of a sizable body of research, there does not appear to be a recent review of studies of the CEO-firm performance relationship. This paper seeks to begin to address this gap by reviewing recent studies in this area that have appeared in high-influence management journals. To organize our review, we place these studies into five main categories: 1) studies that examine how various CEO characteristics, which have not received much prior attention, are related to firm performance; 2) studies that consider possible mediators of the performance effects of CEO attributes that have been examined in the past; 3) studies that consider how certain CEO behaviors (versus CEO characteristics) influence firm performance; 4) studies that are concerned with the so-called "CEO effect", which is the amount of variance in firm performance that can be attributed to CEOs (versus other factors like industry or the general macro-economic environment); and 5) studies that consider factors that determine when the CEO effect is stronger or weaker.

Keywords: Executive leaders; firm performance

JEL classification codes: L25; L29

Management scholars, as well as scholars in range of other disciplines, have displayed a long-standing interest in the impact that executive leaders have on overall firm performance. There is considerable consensus that chief executive officers (CEOs) have the greatest individual influence on organizational performance, and there is a substantial literature on the effects that CEOs have on the overall performance of organizations.

Despite the central nature of the relationship between CEOs and organizational performance and the extensiveness of the relevant literature, there does not appear to be a relatively recent review of this body of research. This paper seeks to begin to address this gap by reviewing recent studies on the effects that CEOs have on firm performance. We focus on work found in the most influential management journals that routinely publish studies in this area.

We place the papers that we review into five broad categories. A number of papers consider CEO characteristics and how they are related to performance outcomes, focusing on CEO attributes that have not received a lot of attention in prior research. A common theme in this set of papers is that the degree to which certain CEO characteristics positively influence company performance is often contingent on other factors. As an example of work in this area, one study we review (Nadkarni & Chen, 2014) examines how CEO temporal focus (conceptualized as the degree to which a CEO is focused on the past, present, and future) influences the ability of firms to bring new products to market. This paper suggests that the performance effects of CEO temporal focus are contingent on the nature of the environment that the firm faces. A related stream of research seeks to identify intervening mechanisms through which CEO attributes that *have* received significant study in the past (e.g., CEO tenure) ultimately come to influence firm performance. For example, one study that we review (Luo, Kanuri, & Andrews, 2014) considers how CEO tenure might influence firm-level performance

through changes in the strength of the relationships that firms have with their employees and their customers. A third stream of work considers how the behaviors that CEOs engage in come to influence firm performance. One paper in this stream (Chadwick, Super, & Kwon, 2015) examines how the degree to which a CEO focuses on human resources as a potential source of competitive advantage influences firm performance through its effects on the extent to which the firm has a coherent, commitment-based human resource system. A fourth stream of studies represents a resurgence of interest in the fundamental question of how much variance in firm performance can ultimately be attributed to CEOs. This question has been the subject of substantial debate over the years. A number of studies that we review (e.g., Hambrick & Quigley, 2014) seek to make the case that methodological limitations of past research on this question has tended to lead to a systematic *underestimation* of the size of the “CEO effect”. One study (Fitza, 2014) takes the opposing view, suggesting why the CEO effect may have been *overstated* in past research. The final stream of recent research on the CEO-firm performance link that we consider seeks to identify factors that moderate the magnitude of the CEO effect. Recent studies in this area have, for example, considered how the influence that CEOs have on firm performance might be moderated by national context (Crossland & Hambrick, 2011) or ownership/governance structures (Clark, Murphy, & Singer, 2014).

#### *Selection of Articles for Review*

In developing this review we sought to identify studies that were concerned with the impact that CEOs have on firm performance. To that end, we searched for studies that had the terms “CEO” or “Chief Executive Officer” in the title. We restricted our search to the most influential management journals that routinely publish studies on the CEO-performance relationship. The following journals were included in our search process: *Academy of*

*Management Journal, Academy of Management Review, Administrative Science Quarterly, Leadership Quarterly, Organization Science, and Strategic Management Journal.* Once we identified articles that used the relevant terms in the title, we read article abstracts to identify articles that were specifically about the effect of CEOs on firm-/organizational-level performance outcomes.

## **REVIEW OF RECENT STUDIES**

### **CEO Characteristics and Firm Performance**

A number of the studies that we identified focus on how certain CEO characteristics are related to firm-level performance. A common theme in these studies is that the relative benefits of certain CEO attributes are contingent on other factors.

Geletkancycz and Boyd (2011) consider how the performance implications of CEOs' outside directorships might depend on the particular strategic imperatives facing their firms. They specifically examine the moderating effects of industry conditions and the level of firm diversification. In developing their conceptual model, they seek to reconcile agency theory and embeddedness perspectives on the likely performance implications of CEOs sitting on the boards of other firms. In the agency theory view, outside directorships are problematic. They are seen in terms of opportunistic CEOs accruing status, financial, and other benefits that come with sitting on the boards of other firms. Agency theorists suggest that outside directorships take a CEO's time and energy away from the concerns of the focal firm, which has the potential for negative performance consequences. In contrast, an embeddedness view tends to emphasize the potential benefits of outside directorships. From this perspective, outside directorships afford a CEO access to unique information and knowledge (and perhaps other kinds of resources) that can help them in their efforts to guide their firm to success.

Geletkanczyz and Boyd begin with the premise that both views likely have some validity and suggest that the relative strength of the negative and positive implications of outsider board service is likely to depend on the strategic imperatives facing a particular firm. They offer two predictions with the common theme that CEO outside directorship will be most beneficial when a firm is facing particularly challenging competitive conditions. They first propose that CEO outside directorships will be more positively related to firm performance when industry growth is low, which tends to increase the intensity of competition. The authors similarly posit that outsider directorships will be more positively related to firm performance when industry concentration is low, another circumstance that tends to promote competition in an industry. Their third prediction is that CEO outside directorships will be more positively related to firm performance for firms that are not highly diversified. These CEOs will benefit the most from the alternate perspectives on strategic issues that a CEO gains from serving on other boards (typically in other industries). CEOs of undiversified firms would otherwise lack exposure to the strategic issues that firms seek to address in other industries. The authors test their conceptual model in a sample of Fortune 1000 firms. All three of the predictions outlined above were supported by their empirical analyses.

Miller, Xu, and Mehrotra (2015) consider possible moderators of the performance effects of CEO human capital. They specifically examine conditions under which CEO elite education, which is viewed as a potential source of human capital, can produce performance benefits. The authors motivate their study by suggesting that prior studies of the performance effects of human capital have often focused on the human capital of firm members well below the CEO level. They further observe that human capital has often been operationalized in terms of “normal education or experience”, attributes that are not necessarily rare and/or difficult to imitate.

According to the resource-based view of the firm (RBV), only factors that are relatively rare can help a firm achieve superior performance, and only those that are also hard to imitate will support *sustained* superior performance. The authors suggest that elite education (e.g., receiving a degree from an Ivy League school) is rare and ultimately difficult to imitate, and thus it would seem to have a greater potential to contribute to sustained superior performance.

In developing their conceptual model the authors begin by making the case that graduates of Ivy Leagues schools are likely to have superior talent (and presumably motivation) both because gaining admission to these schools indicates innate talent (and drive) and because the education provided by these institutions will further enhance the talents of those admitted. Thus, there is good reason to expect that graduates of Ivy League schools will have advantages in terms of human capital. Since CEOs have an outsized effect on firm performance we should expect that the human capital advantages of CEOs with Ivy League degrees should be manifested in superior firm performance. The authors propose a number of moderators of the effects of CEO elite education. One hypothesis is that CEO elite education will be most beneficial early in a CEO's tenure. The gist of the authors' argument here is that it is early in the CEO's tenure when the CEO's education will have the greatest effects because later in the CEO's tenure factors like experience will come to have greater sway relative to talent and education. The authors also hypothesize that the performance effects of CEO elite education will be stronger for smaller firms. The gist of the authors' argument for this prediction is that the potential benefits of CEO elite education are most likely to be expressed in smaller versus larger firms, where the CEO has the greatest influence on firm strategic actions.

The authors test their conceptual model using a sample of firms with high achieving CEOs, as indicated by the fact that they were the subject of a positive/complimentary cover story

by a major business publication (specifically Business Week, Fortune, or Forbes). The authors suggest that employing a sample of high achieving CEOs should provide a conservative test of the performance effects of CEO elite education. The authors' analyses indicate that firms led by CEOs with Ivy League education do perform better than other firms. Their results further show that these effects are particularly strong for a) CEOs early in their tenure and b) smaller firms, in line with their theoretical model.

Nadkarni and Chen (2014) consider how CEO temporal focus, defined as the degree to which a CEO focuses on the past, present, and future in thinking about their firm and the issues it faces influences firm performance in terms of the firm's ability to introduce new products. The authors adopt a contingency perspective, arguing that the benefits (and costs) of CEOs focusing on different aspects of time depend upon the nature of the environment their firms operate in. As the authors argue, new product introductions are a key means by which firms "adapt to changing environmental conditions, gain competitive advantage, and achieve superior performance" (p. 1810). The authors specifically consider how the performance effects of CEO temporal focus depend upon the degree of environmental dynamism facing the firm. Environmental dynamism is defined as "the rate and unpredictability of change in the environment" and is an aspect of the environment that has a long history in organizational research.

In developing their theory, the authors integrate psychological research on temporal focus with the literature on the factors that influence success in new product introductions (NPI). They are careful to note that the relevant psychological research suggests that, for CEOs (and people in general), past, present, and future focus are "distinct dimensions rather than opposite ends of a continuum" (p. 1812). Thus, some CEOs might report high (or low) degrees of focus on two or even all three dimensions. The authors explain that a *past focus* is marked by an emphasis on

past experience in decision making. A past focus can promote learning from prior experiences, but it can also be associated with a tendency to overgeneralize past experience to the special nature of current circumstances. A *present focus* is marked by high levels of attention on the here and now. It tends to be associated with the seizing of current opportunities and spontaneity. A future focus is marked by high levels of attention given to envisioning future events. It is inherently difficult to be sure of the validity of thoughts regarding the future.

The authors offer three predictions. First, they propose that environmental dynamism will negatively moderate the relationship between past focus and NPI performance. They posit that the relationship will be positive in stable environments, but negative in dynamic environments. The gist of the authors' argument is that in stable environments there is more opportunity for the learning-enhancing aspects of a past focus to prove beneficial. In more dynamic environments, focusing mental energy on the lessons of prior experience in an effort to apply those lessons to current conditions may actually be counter-productive because in dynamic environments current conditions are especially likely to differ from the past. The authors' second prediction is that environmental dynamism will positively moderate the relationship between CEO present focus and NPI performance. They propose that this relationship will be more positive in dynamic than stable environments. The gist of the arguments for this prediction is that in dynamic environments paying close attention to current conditions is likely to facilitate an appreciation for current technologies and markets, which is important to the development of new products. In stable environments, the appreciation of cutting edge technologies and current market conditions is less critical to success at NPI. The authors final hypothesize that environmental dynamism will positively moderate the relationship between CEO future focus and NPI performance such that the relationship will be positive in dynamic environments, but negative in stable environments.

Future-focused CEOs pay a great deal of time imagining things as they will be in the future. This sort of focus is especially well suited to dynamic environments where the window of opportunity for identifying and developing new products tends to be especially short; CEOs who are focused on future conditions will be at an advantage in a dynamic environment. By contrast, in stable environments a focus on future circumstances will tend to be counter-productive. Future-oriented CEOs will be at risk of diverting attention away from deriving lessons from the past, which are more likely to pay off in stable environments.

The authors measure CEO temporal focus using content analysis of multiple archival data sources: a) letters to shareholders, b) interviews with CEOs, c) CEO speeches, and d) press releases. CEO temporal focus was derived based on the frequency with which CEOs in the sample used words that are defined to be indicative of a past, present or future focus. Overall, the authors found considerable support for their theoretical model.

Chen and Hambrick (2012) bring a contingency perspective to the question of whether and how the replacement of the CEO influences the performance of firms who are in a turnaround situation. Turnaround situations involve firms that were once doing well but that are now experiencing sub-par performance. The authors begin by observing that, while the conventional wisdom is that the replacement of firm CEOs is an essential element to successfully turning around firms that are facing performance problems, there is relatively little support for the notion that replacing a CEO, in-and-of-itself, leads to significant performance improvement. These findings suggest the need to identify contingency factors that can help to determine when CEO replacement will tend to provide significant benefits.

The authors' adopt a fit/refit logic in developing their conceptual model. The core idea here is that CEO replacement at a turnaround firm will be most efficacious when a) the

incumbent CEO's capabilities are a poor fit for the situation facing the firm and b) the new CEO's capabilities are a good fit for the situation the firm faces. The authors develop more specific predictions that are in alignment with this broad logic. They hypothesize that CEO replacement will be especially efficacious when the firm is experiencing severe losses, suggesting the need for substantial changes at the firm (e.g., in terms of strategy), and the incumbent CEO has been in the position for a long time, which routinely contributes to CEO resistance to effecting significant strategic change. They further hypothesize that CEO replacement will be especially effective when the firm is experiencing severe losses and the new CEO is an outsider (i.e., not previously an executive at the focal firm). The logic here is that an outsider CEO will more willing and better able to effect the change a firm needs to realize a turnaround. They also predict that CEO replacement will be more effective when a) the incumbent CEO lacks experience in throughput functions (e.g., operations or accounting) and b) the new CEO has significant experience in throughput functions. The logic here is that CEOs with throughput functions are best suited to effect the cost reductions/retrenchments that are required when firms are experiencing severe losses. The authors also offer hypotheses related to industry conditions. They predict that CEO replacement will be especially helpful when the focal firm's industry is experiencing severe difficulties and the incumbent CEO has long industry tenure. Under these circumstances, CEOs with long industry tenure are ill-suited to undertaking strategies that go beyond industry conventions. Firms that are experiencing poor performance due to difficult industry conditions are more likely to effect a successful turnaround to the extent that they can move beyond industry conventions in terms of strategy. The authors further suggest that, in industries facing severe poor performance, firms will be more effective at improving performance when they bring in a new CEO who is from outside the focal industry.

The authors test their predictions in sample of S&P 1500 firms over the 1990 to 2003 period. Firms in the sample were operationally defined as being in need of a turnaround when they experienced two years of satisfactory performance (specified as having operating return on equity [ROE] exceeding the firm's cost of equity [COE]) followed by a year of operating losses. As the authors note "these were companies that abruptly swung from satisfactory performance to very poor performance" (p.230). The authors' empirical findings provide consistent support for their theoretical predictions.

### **Mediators of the Relationships between CEO Attributes and Firm Performance**

A number of papers that we reviewed focus on better understanding the mechanisms through which CEO attributes that have been the subject of significant prior research might influence firm-level performance.

Luo, Kanuri, and Andrews (2014) extend prior research on the effects of CEO tenure (i.e., the number of years the CEO has been in the CEO position) on performance by considering how the effects of tenure might be mediated by the nature of firm-employee and firm-customer relationships. The authors build on an influential paper by Hambrick and Fukutomi (1991), which suggests that increasing tenure can have both positive and negative performance implications. The authors offer two core hypotheses, which are broadly grounded in a learning perspective. They first suggest that there will be a positive, linear relationship between the length of a CEO's tenure and the strength of the relationship between the firm and its employees. The essence of their argument in support of this prediction is that, as CEO tenure increases, CEOs become more knowledgeable about firm-employee relations and this knowledge allows them to enhance the strength of employees' sense of identification with, and commitment to, the firm. The authors suggest that the effects of tenure on customer-firm relations is more complicated,

ultimately positing an inverted-U shaped relationship between CEO tenure and the strength of the link between customers and the firm. Luo, et al. argue that, initially, increased tenure leads to greater CEO knowledge of customers, which enhances CEOs' abilities to strengthen their firms' relationship with its customers. However, at a certain inflection point, higher levels of tenure result in CEOs becoming excessively internally focused and as a consequence CEOs' knowledge of external customer needs degrades, which reduces CEOs' abilities to enhance firm-customer relations. The authors go on to propose that, since firms are likely to perform better to the extent that they have strong relations with employees and customers, the strength of a) firm-employee relations and b) firm-customer relations will mediate the effects of CEO tenure on firm performance.

The authors test their conceptual model using a sample of U.S. firms. They rely on data from Kinder, Lydenberg, and Domini (KLD), a data source frequently employed in studies of corporate social responsibility (CSR), to develop their measures of the strength of firm-employee and firm-customer relations. Their analyses of their data support their core predictions. Their results show that CEO tenure has a positive, linear effect on the strength of firm-employee relations. They further show an inverted-U relationship between CEO tenure and firm-customer relations. This relationship is initially positive and then at tenure of approximately 5 years the effects of CEO tenure on firm-customer relations turns negative. The authors' mediation analysis indicates that the strength of firm-employee and firm-customer relations both partially mediate the effects of CEO tenure on firm performance.

Boehm, Dwertmann, Bruch, and Shamir (2015) consider how the effects of CEO charisma on firm performance might be mediated by organizational identity strength. The authors observe that past studies of the effects of CEO charisma on firm-level performance has

produced mixed results. Some studies have shown a positive effect, while other studies show no relationship between CEO charisma and firm performance. Still other studies show that CEO charisma is beneficial when the firm's environment is marked by a high level of uncertainty. The authors argue that these inconclusive findings suggest a need to better understand the mechanisms through which CEO charisma might ultimately come to influence firm-level performance.

In developing their conceptual model, the authors propose two paths through which CEO charisma is likely to enhance the strength of a firm's organizational identity. They first suggest that charismatic CEOs engage in the kinds of "rhetorical and symbolic behaviors" that will help to promote a coherent, strong, and distinctive organizational identity. They further suggest that charismatic CEOs' actions will also promote a transformational leadership climate that will lead lower level leaders in the firm to engage in actions that parallel those of the CEO, which will tend to promote a strong organizational identity. They also propose that organizational identity strength will be positively related to firm performance. The authors' reasoning here is that a coherent and strong identity will facilitate organizational identification among employees who will, consequently, be more inclined to engage in organizational citizenship behaviors that help the organization to succeed. They suggest that a stronger organizational identity will also facilitate identification among key external stakeholders, particularly customers. More highly identified customers will, for example, be more inclined to support the firm by purchasing its products or services.

The authors tested their model in a sample of German firms using a survey methodology. They were careful in their overall design, using the responses of a different set of study participants for each of the key variables, which allowed them to address issues of common

method variance (CMV). The authors found considerable empirical support for their conceptual model, suggesting that organizational identity strength is a key mediator through which CEO charisma can positively impact firm performance.

### **CEO Behaviors and Firm Performance**

A number of studies we reviewed consider how certain sets of actual CEO behaviors (versus CEO attributes) might influence firm-level performance.

Wang, Tsui, and Xin (2011) consider how certain leadership behaviors by CEOs might impact firm performance. The authors further examine how employee attitudes might function as a mediator of the effects of CEO leadership behaviors. The authors focus on the possible effect of CEO leadership behaviors in the People's Republic of China (PRC). They suggest that this context is marked by significant fluidity, with large firms experiencing significant transformations and many smaller firms being formed, which should enhance the overall influence of CEOs and their behaviors on firm-level performance.

Following a long tradition in research on leader behaviors, the authors argue that it is important to consider two broad classes of CEO leadership behaviors: task-oriented behaviors and relationship-oriented behaviors. The authors suggest task-oriented behaviors include activities "such as planning, articulating the vision or goals for the organization, monitoring subordinate activities, and providing necessary support, equipment and technical assistance" (p.93). By contrast, relationship-oriented behaviors "focus on relationships with employees, including being supportive of and helpful to subordinates, showing trust and confidence in employees, being friendly and considerate, trying to understand subordinates' problems, showing appreciation for a subordinate's ideas, and providing recognition for subordinates contributions and accomplishments" (p. 93). The authors hypothesize that CEO task-related behaviors will be

positively related to firm performance. They further predict that CEO relationship-focused behaviors will be positively related to firm performance through their effects on employees' positive attitudes towards the organization.

The authors develop original survey-based measures of task- and relationship-oriented behaviors in the context of the PRC. Factor analysis of the survey items yielded six factors. They posit that survey items related to “articulating a vision”, “monitoring operations”, and “being creative and risk-taking” capture CEOs' task-related behaviors, while items that tap “relating and communicating”, “showing benevolence”, and “being authoritative” capture CEOs' relationship-related behavior. Employee attitudes that are considered as likely mediators of the performance effects of CEO leadership behaviors are perceived organizational support, organizational commitment, distributive justice, and procedural justice. Because of the lack of reliable financial data on Chinese companies, the authors use survey-based, perceptual measures of firm performance.

SEM analysis of their data provided considerable support for the authors' conceptual model. CEO task-related leadership behaviors had a direct positive relationship on firm performance. Relationship-related leadership behaviors by the CEO were also beneficial. These behaviors positively impacted firm performance through their effects on employee attitudes (e.g., organizational commitment); relationship-related behaviors by the CEO led to more positive employee attitudes, which, in turn, led to better firm performance.

Carmeli, Schaubroeck, and Tishler (2011) consider how CEO empowering leadership behaviors influence firm performance. The authors further examine how top management team (TMT) dynamics might function as a mediator of the performance effects of CEO empowering leadership. The authors draw on past research on empowering leadership in conceptualizing

empowering leadership at the CEO level. They suggest that “empowering leadership comes about when the CEO encourages TMT members to exercise control over decision processes and facilitates their doing so” (p. 400). They propose that CEO empowering leadership will be positively related to TMT behavioral integration. TMT behavioral integration is defined in the literature as the degree to which the TMT works collaboratively as a team to address the issues facing the firm. The authors further suggest that TMT behavioral integration will, in turn, promote “TMT potency”, which the authors define as “a group’s shared perception of its ability to successfully overcome challenges and perform tasks” (p. 401). They suggest that TMT potency will be positively related to firm performance. Thus, the authors’ overall model posits that CEO empowering leadership will positively impact firm performance by enhancing TMT dynamics.

The authors test their model using a survey methodology. CEO empowering leadership was derived from TMT members’ responses to items that tapped the extent to which the CEO “(a) encourages an empowering decision-making process in the TMT, (b) facilitates knowledge sharing among TMT members, and (c) fosters collaborative behaviors among TMT members” (p. 403). TMT behavioral integration was measured using a scale developed by Simsek and colleagues. A measure for TMT potency was developed by adapting an extant measure of individual self-efficacy. Firm performance was assessed using CEOs’ responses to items related to growth in sales and net revenues, operational effectiveness, innovation, and meeting the expectation of stakeholders. The authors analyzed their data using SEM and the results provided support for all of the main elements of their conceptual model.

Chadwick, Super, and Kwon (2015) examine the performance implications of another aspect of CEO behavior, specifically the degree to which the CEO emphasizes strategic human

resource management (SHRM). In framing their study, the authors observe that strategy scholars have shown an increasing interest in the notion of resource orchestration. Grounded in the resource-based view of the firm, which suggests that a key contributor to firm performance is the unique resources and capabilities of the firm, the resource orchestration literature argues that in order for resources and capabilities to yield competitive advantage firm managers must take specific actions to leverage those resources and capabilities. They go on to suggest that, in order for resource orchestration efforts to be effective, those efforts have to be manifested in the activities of lower-level managers. The authors motivate their study by suggesting that “little empirical research has examined how managerial action can reverberate down through the depths of the firm and affect the development of strategic resources” (p.361). This study addresses this gap in the literature.

The authors predict that the emphasis that CEOs place on SHRM will positively impact firm performance by promoting commitment-based human resource (HR) systems. Emphasis on SHRM represents the degree to which the CEO focuses on leveraging human resources as a potential source of competitive advantage. A commitment-based HR system exists to the extent that a firm employs a bundle of HR practices that hang together as a coherent system. The authors first predict a positive relationship between a CEO’s emphasis on SHRM and a firm’s use of a commitment-based HR system. Part of the logic here is that, given their status and influence within a firm, what a CEO emphasizes will be reflected in the activities lower level managers devote their time and energy to. The authors further argue that, because commitment-based HR systems are both complex and comprehensive, effectively enacting them requires both broad and deep commitment amongst lower levels managers in an organization. Thus, commitment-based HR systems are unlikely to come into being in full form without concentrated

effort at the very top. The authors also predict that commitment-based HR systems will mediate a positive relationship between CEOs' emphasis on SHRM and firm performance. In support of this prediction, the authors note that a number of prior studies demonstrate a positive relationship between commitment-based HR systems and firm performance.

The authors tested their conceptual model in a sample of Korean firms, a context in which firms were likely to either have fully implemented a commitment-based HR systems or not implemented a system at all. They used a survey approach to measuring some key variables in their model, including CEO emphasis on SHRM and commitment-based HR systems. They measured firm performance using archival as well as survey data. The authors' SEM-based analysis provided considerable support for their theoretical predictions.

### **The CEO Effect**

The studies reviewed to this point are concerned with how particular CEO characteristics influence firm-level performance. A number of recent papers have taken up the qualitatively different question of how much overall influence CEOs generally have on firm performance, i.e., what percentage of variance in firm performance can be explained by the "CEO effect." There has been considerable debate about this issue over the years. Some researchers (for example, those adopting ecological and institutional theory perspectives) have argued that CEOs typically face substantial external constraints that make it difficult for them to have a significant impact. Others (for example, advocates of a strategic choice perspective) have adopted the position that CEOs are, in fact, influential. Hambrick and Quigley (2014) recently suggested that "an understanding of executive effects can be thought of as fundamentally important for much of organizational science." (p. 473).

A number of the papers that we reviewed on this issue posit that methodological shortcomings in past research have contributed to problematic estimates of the true magnitude of the so-called CEO effect. Blettner, Chaddad, and Bettis (2012) is the earliest of the papers that we reviewed that highlights methodological limitations of past studies on the CEO effect. They focus attention on three specific methodological issues. They first suggest that the stochastic nature of firm performance means that some of the variance that has been attributed to the CEO in past research may have been the result of random fluctuations rather than the actions of the CEO. In their discussion of this issue, the authors highlight the general tendency for firm performance to revert to the industry mean. As a consequence of this phenomenon, CEOs that take over when firm performance is below par may benefit from reversion to the industry mean, which would spuriously suggest that they are responsible for the improvement in firm performance. Similarly, CEOs that take over following a period of superior performance may erroneously appear to be ineffective as the performance of the firm reverts to the industry mean. The second issue that the authors make note of is that past research has tended to confound CEO and firm effects such that some of the variance attributed to “the firm” may actually be driven by CEO action. The authors observe that some past studies have sought to address this issue by exclusively studying executives who have been CEOs at multiple firms. They go on to suggest that this approach has its own limitations. In this part of the paper, the authors also consider possible interactions between CEO, the firm, and time. The authors observe that formally modeling these kinds of interactions would be difficult even with the kinds of degrees of freedom afforded by large datasets, which have been employed in past research on the CEO effect. A third methodological issue is the likely existence of a large set of interactions that likely impact firm performance coupled with a lack of a comprehensive model of the determinants of

the CEO effect. The authors suggest that such a model is likely so complex that it cannot be tested employing existing statistical techniques.

In light of the issues outlined above, the authors advance what they refer to as “a complex ‘fit’” perspective on the CEO performance effect.” The gist of this theory is that a CEO’s contribution to firm performance is contingent on a) the extent to which a complex set of CEO attributes fits with a complex set of firm characteristics—the authors refer to this as internal fit—and b) the extent to which CEO internal fit meshes with the demands of the external environment.

Hambrick and Quigley (2014) argue that the magnitude of the CEO effect has been underestimated in past research. The authors observe that the standard approach to estimating the CEO effects has been some form of variance partitioning methodology (VPM), in which researchers seek to determine how much variance in firm performance is due to firm CEOs versus other possible main factors (e.g., industry conditions, macro-economic conditions). The authors argue that prior applications of VPM have likely contributed to a confounding of the influence of the CEO with important contextual factors such that the true CEO effect is often understated. They suggest that findings from past applications of the VPM approach seem to “diverge greatly” from what a close examination of particular executives’ records would seem to indicate.

Hambrick and Quigley (2014) reframe the question to be addressed by “CEO effect” research, suggesting that the guiding question should be the following: “To what extent are individual CEOs associated with performance that differs from what would be predicted by their contexts, *particularly the performance and vitality of their firms when they start their jobs, as well as the performance of peer firms during their tenures?*” (p. 474, italics in the original).

Thus, the authors suggest that the true measure of the influence of individual CEOs properly takes into account key aspects of the firm and industry context that they operate in. To explore this alternate conceptualization of the CEO effect, they employ VPM but include measures which more effectively capture relevant contextual factors. They note, in particular, the fact that they eschew the use of what they call “full-panel grand average” approaches to capturing firm and industry effects. In the case of industry effects, instead of using grand means based on the performance of the firms in the sample, the authors include annual industry performance data that is based on the average performance of all firms in an industry (i.e., not just the firms in the sample). In the case of firm effects, instead of using grand means for the specific firm across the entire study period, the authors control for firm profitability at the time of the appointment of a CEO (inherited profitability) as well as a measure of the overall health of the firm at the time of the appointment. The authors refer to their approach as the “CEO in Context” or “CiC” technique.

Hambrick and Quigley apply their CiC approach to the analysis of the performance of 830 CEOs over a 20-year period. Their empirical findings show a greater CEO effect than is produced from prior VPM approaches. In particular, the authors report that the CiC method indicates that CEOs account for about 39% of the variance in firm performance, while sequential ANOVA and multilevel modeling (two previously employed VPM approaches) applied to the same data set indicated that CEOs accounted for 16% and 20% of the variance in firm performance, respectively. Consistent with the authors’ expectations, the CiC method showed lower industry and firm effects compared to the previously employed approaches. In further analysis the authors use the CiC method to assess CEO effects across low-, medium-, and high-discretion industries. The CEO effects derived from the CiC approach were more closely

associated with variation in discretion than previously employed methods. Based on these findings, the authors suggest that the CiC approach yields results that are more consistent with established theory regarding when CEOs should have the most and least influence, which would suggest that the method they employ has higher validity than prior empirical strategies.

While Hambrick and Quigley (2014) advance the position that prior analytical strategies have tended to understate the magnitude of the CEO effect, a paper by Fitza (2014) offers the contrary thesis, suggesting that prior methods have tended to overstate, rather than understate, the portion of variance in firm performance that can be attributed to firm CEOs. Fitza's point of departure is that even advanced variance partitioning approaches, (including, apparently, those adopted by Hambrick and Quigley, 2014) have important limitations in addressing the magnitude of the CEO effect. The author describes the standard variance partitioning approach to assessing the CEO effect as one in which all performance differences that coincide with the tenure of a CEO are attributed to the CEO, controlling for other major determinants including the year, industry, and the firm. He observes that adopting this strategy means that variation in firm performance during a CEO's tenure, which is actually random, gets attributed to the CEO. (Note that a very similar argument is made Blettner, et al., 2012). Fitza further observes that this random variation is likely to be especially pronounced to the extent that there are a relatively small number of observations for each CEO, which has been the case in past research on the CEO effect—the tenure of any particular CEO tends to be relatively short. Following this line of reasoning, Fitza (2014) concludes that it is likely that past studies have tended to overstate the magnitude of the influence of CEOs, again, because random fluctuations in firm performance during a CEO's tenure are added into the CEO effect.

Further on in the paper, the author describes his efforts to address the shortcomings of previously applied variance partitioning approaches. Applying conventional variance partitioning analysis to his dataset, the author found that 18.8 percent of the variance in firm performance would be attributable to firm performance. The author also conducted analyses in an effort to estimate the amount of the variance that was attributable to the CEO using the conventional strategy, which might actually be the by-product of random fluctuations in firm performance during a CEO's tenure. The author concludes that as much as 13.8% of the 18.8% of the variance attributed to the CEO using the conventional approach could be the result of chance, rather than the talents or leadership of the CEO. Thus, the true CEO effect in the author's sample might be as low as 5%, which is much lower than the magnitude of the effects reported in prior studies.

### **Moderators of the CEO Effect**

A number of studies we reviewed examine factors that might moderate the magnitude of the "CEO effect".

Crossland and Hambrick (2011) consider the possibility that the strength of the CEO effect might vary across national contexts. This study extends a prior study by the same authors (Crossland & Hambrick, 2007) that examined the same general issue. The authors note that perhaps the most important advance made by the 2011 paper over the earlier one is that the authors are able to measure discretion and therefore provide evidence of its role as a mediator of the effects of national context on the magnitude of the CEO effect. The authors draw on the new institutional theory to develop predictions regarding how a range of aspects of both informal and formal institutions, which vary across nations, impact managerial discretion. Informal institutions represent the norms and values that guide behavior in a particular national context. The authors specifically hypothesize that the level of managerial discretion afforded to CEOs of

firms headquartered in a particular country is greater to the extent that there is a strong value of 1) individualism, 2) tolerance of uncertainty, and 3) power distance. Individualism is the degree to which people in a society value individual- versus consensus-based decision making. Tolerance of uncertainty represents the degree to which people in a society are comfortable with unpredictability and ambiguity. Power distance represents the degree to which people in a society defer to leaders and accord them privilege and respect. The authors also consider how cultural looseness, which represents the general strength of norms in a society, will impact discretion. They argue that cultural looseness will be positively related to discretion. The authors also offer predictions regarding how formal institutions, which represent a society's formal rules which are enforced by state sanction, influence discretion. They specifically predict that CEO discretion will be greater for firms that are headquartered 1) in countries where ownership is more widely dispersed, 2) in countries with a common-law rather than a civil-law legal origin, and 3) in countries where companies have more leeway in their relations with employees (e.g., they have greater power to layoff or reassign employees). They round out their theoretical model by predicting that 1) the level of managerial discretion in a country will be positively related to the size of the CEO effect and 2) that managerial discretion will mediate the effects of the informal and formal institutional factors (previously hypothesized to impact discretion) on the size of the CEO effect.

The authors include 15 countries in their study. To measure the level of managerial discretion afforded CEOs in each of the countries included in the study the authors relied on ratings by experts, specifically "prominent, long-tenured managers of international equity mutual funds" (p.805). Three of the four informal institutional factors, individualism, tolerance for uncertainty, and power distance were measured using Hofstede's well-known country-level

indicators, while cultural looseness was measured using country scores developed by Gelfand and colleagues. In assessing formal institutions, the authors developed measures of ownership dispersion and legal origin that were based on prior work by La Porta and colleagues. Employer flexibility was measured using an index developed by Estevez-Abe and colleagues. The authors' analyses provide considerable support for their theoretical predictions. Due to high correlations among the various institutional factors, the authors explored the possibility that the factors hang together in a way that would suggest higher-order factors (informally defined). The authors concluded that two higher-order factors exist: autonomy orientation (which subsumes individualism and cultural looseness) and risk orientation (which subsumes uncertainty tolerance, legal origin, ownership dispersion, and employer flexibility). Partial least squares models showed that countries that are high on autonomy orientation or risk orientation afford CEOs more discretion. Further analyses showed that discretion was positively related to the magnitude of the CEO effect in a particular country and that discretion mediated the effects of the institutional factors on the size of the CEO effect.

Clark, Murphy, and Singer (2014) consider how the degree to which CEOs influence firm performance might be moderated by ownership and governance structures. Thus, the Clark, et al. paper has some overlapping concerns with the Crossland and Hambrick (2011) paper reviewed above. This study also has some common ground with Crossland and Hambrick in the sense that both papers argue how institutional forces can impact the magnitude of the CEO effect. Clark, et al. (2014) examine how ownership and governance structures impact the relative importance of the CEO compared to a) organizational forces and b) forces external to the organization. The context for the study is hospitals where the basic ownership/governance configurations are publicly-owned/directly-controlled, private/for-profit, private/non-profit, and public/autonomous.

They predict that when ownership/governance structures are “indicative of” a politically-oriented institutional logic, as is the case with publicly-owned/directly-controlled hospitals, then external factors will have a greater impact than the CEO (and organization-level factors). The basic reasoning here is that, when a political logic is dominant, then political actors and bureaucrats who are outside the organization tend to have considerable influence. As a consequence, the impact of the CEO on performance will be substantially constrained. The authors go on to predict that, when ownership/governance structures are indicative of a market- or community-oriented institutional logic, as is the case for private/for-profit and private/non-profit hospitals, respectively, then organizational effects will be greater than the effects of the CEO (and external factors). The authors also hypothesize that when ownership/governance structures are associated with ambiguity in the dominant institutional logic, as is the case for public/autonomous hospitals, then the CEO effect will be greater than the impact of external and organizational effects.

The authors test their conceptual model in a sample of hospitals operating in California. Consistent with their first prediction, in publicly-owned/directly-controlled hospitals the combined effects of external factors (specifically the effects of the year and local market) on hospital financial performance was significantly greater than the effect of hospitals’ CEOs. In line with their second prediction, the authors found that in private for-profit and non-profit hospitals organizational-level effects (specifically the effects of the hospital facility and the system it is part of) tend to be of greater magnitude than the CEO effect. Finally, the results show that the CEO effect tends to be greater than external and organizational factors for hospitals that have a public/autonomous ownership/governance structure. Thus, the empirical results provide consistent support for the theory the authors set forth.

Quigley and Hambrick (2015) take up the issue of how the general influence of CEOs on firm performance might vary across time. In particular, noting that there has been an increased tendency over time to attribute performance outcomes to CEOs, the authors suggest that these *perceptions* of an increase in CEO influence might be reflective of actual increases in the CEO effect. The authors hypothesize an increase in the CEO effect among U.S. firms for the period 1950-1999. The authors' empirical analyses provide support for this prediction using both sequential ANOVA and multi-level modeling (MLM) approaches. For example, the MLM results show that CEOs accounted for 13.8% of the variance in firm performance for the 1950-1969 period, 17.8% of the variance for the 1970-1989 period, and 22.9% of the variance for the 1990-2009 period. Interestingly, the impact of both industry- and firm-level factors declined across these three 20-year periods.

The authors speculate about possible reasons for the increased influence of U.S. CEOs over time. They point to three historical trends. They first observe that the period from 1950 to roughly 1970, which was characterized by steady growth in the economy and a kind of satisficing mindset among executives, was followed by the rise of investor capitalism and investor pressures to maximize shareholder returns. This new environment required bigger, riskier strategic actions that would likely contribute to greater overall variance in firm performance. They suggest that a second factor was the fact that the business environment became more dynamic beginning in the 1980s. As the business environment became more challenging, it is likely that variation in CEO capabilities would have a greater impact on firm-level performance outcomes. They finally suggest that the later periods in their analysis were marked by a wider range of strategic options available to CEOs. This allowed for more variation

in the strategic actions actually being pursued by CEOs, which would likely contribute to greater variance in performance outcomes.

## **DISCUSSION**

Management scholars, as well as scholars in other disciplines, have, for decades, shown a considerable interest in the impact that chief executive officers (CEOs) have on organizational performance. This relationship is a central one in the field of strategic management. Despite the importance of this area of research, there does not appear to be a contemporary review of studies on the topic.

This paper sought to begin to address this gap by reviewing recent studies on the CEO-firm performance link. We searched for papers on the topic that have appeared in the most influential management journals over the past five years. We placed the papers that we identified into five broad categories. One set of studies that we reviewed extends the large literature on the link between various CEO attributes and firm performance by examining the effects of attributes that have not received much study in past research in this area. The studies in this set tend to adopt a contingency perspective, suggesting that the performance effects of the CEO attributes being examined depends on certain contingency factors. A second stream of research we reviewed focuses on previously unidentified intervening mechanisms through which CEO attributes that have been studied before might come to influence firm performance. A third set of studies examines how CEO behaviors influence firm performance. A fourth set of studies re-approaches the longstanding question of how much overall influence CEOs ultimately have on firm performance. A fifth stream of research considers moderators of the magnitude of the CEO effect.

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