

# Do Humble CEOs Matter? An Examination of CEO Humility and Firm Outcomes

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*We propose a mediation model to explain the relationship between CEO humility and firm performance. Building on upper echelons, power, and paradox theories, we hypothesize that when a more humble CEO leads a firm, its top management team (TMT) is more likely to collaborate, share information, jointly make decisions, and possess a shared vision. The firm will also tend to have lower pay disparity between the CEO and the TMT. The humble CEO and TMT, in turn, will be more likely to adopt an ambidextrous strategic orientation, which will be associated with stronger firm performance. We tested the model by using both survey and archival data that were collected at multiple time points from 105 small-to-medium-sized firms in the computer software and hardware industry in the United States. Findings largely support our theoretical assertions, suggesting that CEO humility has important implications for firm processes and outcomes.*

**Keywords:** CEO humility; firm performance; organizational ambidexterity; pay disparity; top management team integration

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Upper echelons theory has long highlighted the importance of top manager characteristics in understanding firm strategy and performance (Hambrick & Mason, 1984). While characteristics of top management teams (TMTs) tend to generate stronger explanations of organizational outcomes (Hambrick, 2007), research shows that aspects of CEOs nonetheless explain a substantial portion of variance in firm performance (Quigley & Hambrick, 2015). Indeed, studies of CEOs and their effects have directly examined psychological attributes, such as the Big Five personality characteristics, core self-evaluations, affect, hubris, and narcissism, thus enriching our understanding of how CEOs affect their firms (Finkelstein, Hambrick, & Cannella, 2009). To extend this stream of research, our study focuses on a potentially important yet underexplored CEO characteristic, humility, which involves an individual's orientation toward obtaining accurate self-knowledge, appreciating others' strengths and contributions, and being open to self-improvement (Ou, Tsui, Kinicki, Waldman, Xiao, & Song, 2014; Owens, Johnson, & Mitchell, 2013).

Growing academic and practitioner interest in humility is not surprising, given the recent experience of the past 2 decades characterized by ethical scandals and questionable corporate decisions associated with CEOs (Morris, Brotheridge, & Urbanski, 2005). Some scholars have called for the decelebritizing of top managers, suggesting that CEOs in particular might be well advised to put themselves in perspective, admit their incompleteness, and fully utilize strengths in their peers and followers—that is, to be humble (Ancona, Malone, Orlikowski, & Senge, 2007; Drucker, 1992). Although scholars have acknowledged the strategic importance of humility (Vera & Rodriguez-Lopez, 2004) and have begun to consider the association between CEO humility and TMTs (Ou et al., 2014), some fundamental questions remain unanswered. In particular, does CEO humility ultimately relate to firm performance and, if so, how do humble CEOs set the stage for effective TMT characteristics and strategic orientations? Without an answer to these questions, humility at the CEO level remains little more than a “pleasant” quality with minimal practical implications for firms (cf. Collins, 2001).

Existing literature provides limited but inconsistent answers regarding humility. Some work would suggest that humble CEOs deliver high firm performance by offering realistic perspectives of organizational prospects for employees (Vera & Rodriguez-Lopez, 2004), empowering top and middle managers (Ou et al., 2014), and channeling ambition into the organizations but not the self (Collins, 2001). Other work equates humility with lack of ambition or confidence and would suggest that humble CEOs might not perform well in dynamic industries (Chatterjee & Hambrick, 2007). Overall, we expect CEO humility to be generally relevant to performance because of its orientation toward self-improvement, learning from information and feedback, and avoidance of overconfidence. Moreover, upper echelons theory views psychological characteristics as informational filters that shape executives' responses to external environments (Hambrick & Mason, 1984), suggesting that the connection between CEO characteristics and firm performance is likely to be indirect. That is, mediating mechanisms or variables need to be taken into account. We thus suspect that the inconsistent predictions about CEO humility in relation to firm performance are due to a lack of knowledge about the mediating mechanisms. By providing theory regarding mediating variables, we will be able to address three limitations in existing CEO humility research.

First, it is unclear how and why humble CEOs may be able to work through their TMTs in the pursuit of firm performance. Management is largely a shared activity among the top leaders (Hambrick, 1994), which is probably even more the case for humble CEOs, since they

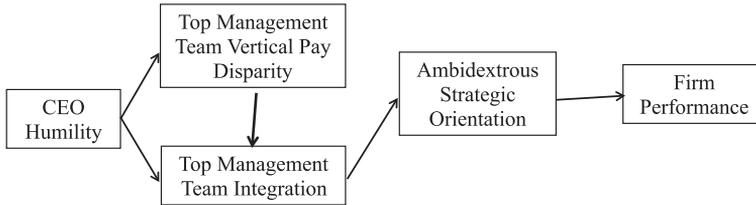
tend to rely more on TMTs for advice and action (Collins, 2001). Ou et al. (2014) suggested that humble CEOs, through their empowering leadership, foster integrative TMTs that collaborate, share information, jointly make decisions, and share a common vision (Pearce & Ensley, 2004; Simsek, Veiga, Lubatkin, & Dino, 2005). Still, these considerations have not explained exactly why or how the characteristic of humility can influence TMTs. After all, leadership studies over the past 100 years largely portray effective leaders as being masculine, dominant, and aggressive—and certainly not humble (Koenig, Eagly, Mitchell, & Ristikari, 2011). Drawing on the communal power perspective (Arendt, 1958), we propose that humble CEOs do not stress *power over* other TMT members but, instead, have *power to* pursue goals for collective interest *with* the TMTs. As compared to less humble CEOs, we argue that humble CEOs are more likely to establish a communal power base by having integrative TMTs and reducing pay disparity between themselves and other members of their TMTs (Siegel & Hambrick, 2005).

Second, we have little insight regarding the strategic orientations, or broad outlines for strategy (Slater, Olson, & Hult, 2006), that humble CEOs are likely to adopt to achieve firm performance. The essence of upper echelons perspective is that strategy is the key mechanism through which CEOs and their TMTs connect to firm performance (Hambrick & Mason, 1984). Collins (2001) touched on this issue by suggesting that humble CEOs focus on what they are passionate about and in which can excel. However, his work was not based on rigorous empirical tests; neither did it specify the type of strategic orientations that might be pursued by humble CEOs. Grounded in paradox theory (Smith & Lewis, 2011), our proposal submits that humble CEOs are more likely to recognize and accept the existence of paradoxical tensions and, thus, are willing to adopt an ambidextrous orientation (Lubatkin, Simsek, Ling, & Veiga, 2006) for sustainable firm performance.

Third, research on CEO traits provides only fragmented examinations of the mediating mechanisms linking CEO traits to firm strategic orientation or performance. A number of studies have examined only the direct effects of traits on strategic orientation and firm performance (e.g., Engelen, Neumann, & Schmidt, in press; Ling, Zhao, & Baron, 2007). Studies examining mediating mechanisms usually focus on only one set of mediators, such as leadership behaviors (e.g., S. J. Peterson, Walumbwa, Byron, & Myrowitz, 2009), or TMT characteristics (e.g., R. S. Peterson, Smith, Martorana, & Owens, 2003), but not both. In addition, some studies tested only part of the complete mediation chain. For example, Ou et al. (2014) showed that CEO humility is related to TMT integration but did not extend their work to include firm outcomes. Separate research, without involving CEO humility, has demonstrated that various forms of TMT integration, such as behavioral and social integration, as well as shared vision, are related to an ambidextrous orientation and firm performance (e.g., Lubatkin et al., 2006; Jansen, George, Van den Bosch, & Volberda, 2008). In sum, we note that without simultaneously considering multiple mediating variables, it is unclear whether one variable still matters in the presence of another and whether these mediating mechanisms follow a sequence. In the current research, we integrate the fragmented research to date and examine the mediating sequence through which humble CEOs deal with the power challenges that are critical to TMT functioning, the adoption of ambidextrous strategic orientation, and, ultimately, firm performance (see Figure 1).

We tested and found support for this model in a high-tech industry in which an ambidextrous strategic orientation may be essential for survival and success (O'Reilly & Tushman, 2013). Our study contributes to upper echelons research by examining firm-level implications

**Figure 1**  
**Theoretical Model of CEO Humility, Top Management Team Characteristics, Strategic Orientation, and Firm Performance**



of humble CEOs. By introducing a communal power perspective to examine the CEO-TMT interface, we deepen our understanding of the psychological and social processes connecting CEO traits to firm strategic orientation and performance (Hambrick, 2007). By exploring firm strategic orientation and performance as outcomes, our study provides a more macrolevel understanding of humility and sheds light on attributes that enable executives and firms to effectively manage strategic paradoxes (Smith & Lewis, 2011; Smith & Tushman, 2005).

## Theoretical Background

### *The Concept of Humility*

The concept of humility has rich philosophical and theological roots, and scholars have made substantial strides to improve construct clarity, measurement, and empirical rigor regarding humility (Ashton & Lee, 2005; Davis et al., 2011; Landrum, 2011; Morris et al., 2005; Ou et al., 2014; Owens et al., 2013; C. Peterson & Seligman, 2004; Tangney, 2009). Three commonly recognized and interrelated themes are essential for defining humility in an organizational context.

The first theme involves *willingness to obtain accurate self-knowledge*. Humble individuals are aware of human limitations and accept that they have both strengths and weaknesses (Morris et al., 2005; Owens et al., 2013). Such self-acceptance allows them to escape egoism (Kesebir, 2014), put their accomplishments and abilities in perspective, and willingly acknowledge their mistakes or limitations (Landrum, 2011). Such inclinations are often grounded in acceptance of something greater than the self (Ou et al., 2014), awareness of one's smallness in the grand scheme of things (Kesebir), recognition of one's insignificance in comparison with moral laws, connection with the larger community, and appreciation of the value of all creation (Tangney, 2009). This theme is extensively recognized in various humility descriptors, such as transcendent self-concept and low self-focus (Ou et al.), and a lack of superiority (Davis et al., 2011) or entitlement (Ashton & Lee, 2005).

The second theme involves *tendency to keep an open mind and continuously learn and improve* (Morris et al., 2005; Tangney, 2009). With the awareness of their limitations and weaknesses, humble individuals are eager to improve themselves. They are open to new information, ideas, or paradigms (Vera & Rodriguez-Lopez, 2004), and they are willing to take contradictory advice or even criticism (Owens et al., 2013; Tangney). Relatedly, as

humble individuals see that they fall short of ideals, their pursuits in life are often something greater than the self or beyond personal interests (Kesebir, 2014; Ou et al., 2014).

The third theme involves *appreciation of others' strengths and contributions* (Ou et al., 2014; Vera & Rodriguez-Lopez, 2004). An awareness of their own weaknesses and limitations allows humble individuals to appraise others generously (Tangney, 2009) and appreciate others' positive worth (Morris et al., 2005). Such appreciation is based on the understanding of their own strengths and, thus, rises above the need for entitlement or domination over others (C. Peterson & Seligman, 2004).

Scholars usually treat humility as a relatively stable trait, although they concomitantly expect that humility can gradually change through experience or training (Ou et al., 2014). Humility's discriminant validity in relation to other traits, such as narcissism, the Big Five personality traits, core self-evaluations, modesty, and learning goal orientation, among others, has been discussed theoretically and tested empirically (Ashton & Lee, 2005; Davis et al., 2011; Owens et al., 2013; Ridge & Ingram, in press; Tangney, 2009). As attention to humility is increasing among management scholars, empirical work has linked leader humility to individual or team consequences, such as employee engagement, performance, team integration, and learning orientation (Ou et al.; Owens et al.). However, examinations of humility at the CEO level and mediation mechanisms linking humility to outcomes are still rare, and existing research on humble executives has largely been through case studies or theoretical discussions (e.g., Collins, 2001; Morris et al., 2005) until recently (e.g., Ou et al.). There is only limited discussion in the literature of how humble CEOs may rely on TMTs to ultimately affect performance (Collins; Drucker, 1992). Our research aims to address this gap by examining whether and how humble CEOs are able to adopt effective strategic orientations and generate superior firm performance by working through their TMTs.

### *Humble CEOs and Firm Performance: Integration of Upper Echelons, Power, and Paradox Theories*

Upper echelons theory suggests that psychological characteristics act as cognitive and value bases that shape how top managers process information, make strategic decisions, allocate resources, lead employees, and connect ultimately to firm performance (Finkelstein et al., 2009). We expect CEO humility to have positive implications for firm performance. The drive behind humble individuals' tendencies to learn and improve is their eagerness to pursue something greater than the self, which at the CEO level involves a vision for the greater good and collective interests of the firms (Ou et al., 2014). Therefore, humble CEOs have a strong motivation to improve firm performance. Their willingness towards accurate self-knowledge helps them recognize their own weaknesses (Landrum, 2011) and avoid egoism (Kesebir, 2014), enabling them to engage in more cautious information processing and likely adopt more effective strategic orientations for firm performance. With appreciation of others (Owens et al., 2013), humble CEOs recognize that firm performance cannot be achieved alone, and they select and empower capable employees at all levels (Drucker, 1992). Indeed, Collins (2001) found that highly performing firms had humble CEOs who had ambitions for the firms, not for themselves; focused on strategies that best suited the firms; and enabled self-motivated followers.

Upper echelons theory suggests that the connection between CEO characteristics and firm performance is transmitted through TMT and strategic orientations. Besides strategy being an essential proximal linkage to firm performance (Hambrick & Mason, 1984), TMT characteristics have been recognized as having stronger association with firm outcomes than CEO characteristics per se (Hambrick, 2007). Nonetheless, Hambrick (1994) argued that CEOs have disproportional or even dominating influence on the processes and outputs of TMTs. Recent advancements in upper echelons research support an approach of differentiating the CEO from the rest of the TMT and examining the CEO-TMT interface in explaining firm strategy and performance (Ling, Simsek, Lubatkin, & Veiga, 2008). However, at first glance, humble CEOs may not seem powerful enough to influence TMTs. TMT members are individuals who are prone to be trapped in power struggles as a result of their different, and sometimes conflicting, interests, goals, and beliefs (Eisenhardt & Bourgeois, 1988; Pfeffer, 1981). Humility might seem to place CEOs in a disadvantageous power position because by admitting their limitations, they could make themselves more vulnerable to attacks, while their appreciation of others raises the status of potential opponents.

Power theories suggest that humility does not change the hierarchical power of CEOs that is embedded in the CEO position (French & Raven, 1959; Pfeffer, 1981). In fact, humility expands CEOs' referent power (French & Raven) because leadership requires leaders to both get ahead and get along with subordinates (Marinova, Moon, & Kamdar, 2013). The hierarchical title of CEO signals that the individuals who hold such positions have gotten ahead, while humble gestures on the part of CEOs reduce other TMT members' burden of subordination and help CEOs gain social acceptance. In this sense, humble CEOs exercise power in a way that diverts from an interpersonal power perspective (Sturm & Antonakis, 2015) and complies with a communal power perspective (Arendt, 1958). The interpersonal power perspective views power as a property of social relationships. Exercising power *over* others implies the enforcement of one's own intentions over those of others and, thus, narrows others' field of action or makes others relatively less powerful (Göhler, 2009). However, the communal power perspective views power as an ability of people to achieve something together that they cannot achieve individually. We expect that humble CEOs exercise communal power *to* take actions jointly *with* their respective TMTs without limiting TMT members' autonomy of action (Göhler).

In this study, we identify two TMT characteristics that are relevant to CEOs exercising communal power: (1) TMT integration and (2) vertical pay disparity. The term TMT integration originates from Hambrick's (1994) notion of behavioral integration to capture the internal dynamics of the TMT and includes collaborative behavior, information sharing, and joint decision making (Simsek et al., 2005), as well as shared vision (Pearce & Ensley, 2004). Shared vision is added in our conceptualization because it reinforces the other three dimensions of integration by creating a sense of shared fate to make others more willing to collaborate and share information and by uniting divergent perspectives during joint decision making. Vertical pay disparity refers to the pay gap between the CEO and other TMT members (Carpenter & Sanders, 2002). Both characteristics orient TMT attention towards collective interests (Ou et al., 2014) and consensually shared goals (Pfeffer, 1981), thus helping humble CEOs to reduce power struggles and establish a communal power base.

We further integrate upper echelons theory and paradox theory to identify possible strategic orientations that humble CEOs and their TMTs are likely to adopt. Upper echelons theory

suggests that executives' strategic preferences are limited by biases due to bounded rationality (Hambrick & Mason, 1984). For example, older or longer-tenured CEOs tend to commit to the status quo (Hambrick, Geletkanycz, & Fredrickson, 1993), whereas narcissistic CEOs prefer grandiose strategies (Chatterjee & Hambrick, 2007). However, humility may help CEOs to overcome such biases. As a temperance virtue, humility safeguards thoughts, behaviors, and emotions from going to extremes (C. Peterson & Seligman, 2004). Their awareness of weaknesses drives them to actively gather information from various angles, and their appreciation of others and openness to opinions prevents them from rejecting information that contradicts their thoughts. As a result, humble CEOs have reduced preference for consistency, emotional anxiety, and defensiveness, all of which are obstacles to recognize and harness paradoxical tensions (Smith & Lewis, 2011). On the basis of paradox theory, we identify ambidextrous strategic orientation, "a key example of strategic paradoxes" (Smith, 2014: 1593) involving the simultaneous pursuit of exploration and exploitation in firm strategic activities (Lubatkin et al., 2006), to be the strategic orientation that humble CEOs and their TMTs are likely to adopt to achieve firm performance.

In sum, we expect that humble CEOs will work through the TMTs to adopt an ambidextrous strategic orientation and deliver satisfactory firm performance. To that end, we next propose formal hypotheses.

## Hypotheses

### *CEO Humility, TMT Integration, and Vertical Pay Disparity*

We propose that humility on the part of CEOs is likely to relate to integrative TMTs. TMTs can be disintegrative because members are typically highly competent and competitive individuals (Henderson & Fredrickson, 2001), and members represent subunits whose interests can be misaligned (Eisenhardt & Bourgeois, 1988). While nonhumble CEOs can centralize power and eliminate politics (Pfeffer, 1981), they also render others powerless and passive, thus eliminating the motivation for lateral collaboration. In contrast, humble CEOs have referent power and, accordingly, are appealing role models for integration. Their appeal to collective interests (Morris et al., 2005) arouses team members' aspiration towards collective values, goals, and identities. They appreciate others and admit their own limitations (Owens et al., 2013), help TMT members to realize that their interactions are not a zero-sum game for power over others, and legitimize the communal power of joint actions (Pfeffer). Their openness to invite participation in decision making (Ou et al., 2014) creates ample opportunities for TMT members to interact with one another, helping them to transcend self-interests and ego-based defenses while incorporating a range of aspirations and ideas of team members. Accordingly, destructive internal competition is reduced, while mutual trust is facilitated (Schein, 2010), resulting in team-oriented behaviors, such as collaboration, information sharing, joint decision making, and the development of a shared vision.

In support of this perspective, Belschak, Den Hartog, and Kalshoven (in press) found that leaders who provide autonomy and intrinsic motivation increase Machiavellian followers' tendencies to cooperate and be prosocial. Studies on various forms of TMT integration have also demonstrated its positive association with CEOs who are agreeable (R. S. Peterson et al., 2003), articulate a collective vision (Ling et al., 2008), and show confidence and appreciation

to team members (Carmeli, Schaubroeck, & Tishler, 2011). On the basis of that reasoning, we propose:

*Hypothesis 1:* CEO humility will positively relate to TMT integration.

We also propose that CEO humility will relate negatively to vertical pay disparity. When such disparity exists, there is relatively higher CEO pay as compared to others on the TMT. In corporate governance, incentive schemes represent a mechanism to align principal (shareholders represented by the board of directors) and agent (executives, including CEOs and TMT members) interests. Humble CEOs are less likely to ask for excessively high pay for themselves, or suppress other TMT members' pay, because they are aware of their constraints, have a low need for self-glorification through material rewards or excessive luxury (C. Peterson & Seligman, 2004), and genuinely appreciate TMT members' capabilities and contributions (Morris et al., 2005). Without compromising their own power, they make other TMT members more powerful by decentralizing decision making and delegating critical responsibilities within their TMTs (Drucker, 1992), thus making TMT members' responsibilities more comparable with CEO responsibilities in importance and scope. Therefore, low vertical pay disparity becomes a natural result of a more balanced division of executive labor and power (Carpenter & Sanders, 2002). In support of this logic, Hilbig and Zettler (2009) found that humble people competing in various game theory–derived experiments unselfishly and fairly allocated rewards. We thus expect:

*Hypothesis 2:* CEO humility will negatively relate to vertical pay disparity.

We further propose that vertical pay disparity is one of the mechanisms that mediate the connection between CEO humility and TMT integration. Scholars recognize that TMT pay arrangement is a “potent determinant” of TMT processes (Siegel & Hambrick, 2005: 261) but lament that it remains unclear whether and how it affects TMT dynamics (Devers, Cannella, Reilly, & Yoder, 2007). We suggest that the narrowing of vertical pay disparity is consistent with humble CEOs' willingness to appeal to collective interest and the letting go of power claims and that narrow vertical pay disparity will connect positively to TMT integration. Consistent with research on vertical pay disparity (Carpenter & Sanders, 2002; Henderson & Fredrickson, 2001; Siegel & Hambrick), we draw on tournament (Lazear & Rosen, 1981) and relative deprivation theories (Martin, 1981) to support our claim. Tournament theory suggests that high vertical pay disparity motivates TMT members to perform. However, the “grand prize” of the CEO position induces TMT members to see one another as competitors and intensifies power struggles among TMT members, thus making them focus more on personal agendas, reducing their willingness for lateral collaboration, and even sparking sabotage against one another (Siegel & Hambrick).

In addition, relative deprivation theory (Martin, 1981) suggests that individuals compare their pay to people at higher ranks and feel deprived if they perceive themselves as receiving less than they deserve. Relative deprivation induces feelings of injustice, switches individuals' attention away from collective good, and reduces their willingness for collaboration. While this theory originates in the sociology literature, management researchers have argued that it also applies to microphenomena, such as TMT pay (Henderson & Fredrickson, 2001). Since TMT members often perceive themselves as comparable to the CEOs in terms of

capabilities and contributions, high vertical pay disparity creates feelings of relative deprivation and demotivates TMT members to collaborate, rendering the team to suffer from dysfunctional social dynamics.

We expect that humble CEOs are more likely to use such pay arrangement to help achieve TMT integration. But while we propose that vertical pay disparity mediates the connection between CEO humility and TMT integration, we also expect that such mediation is only partial. As described above, humility may also more directly affect integrative behaviors among TMT members by encouraging participation and teamwork and by providing a role model for transcending self-interests for the good of the greater collective (Ou et al., 2014). In total, these arguments suggest:

*Hypothesis 3:* Pay disparity will partially mediate the relationship between CEO humility and TMT integration such that CEO humility will negatively relate to vertical pay disparity and vertical pay disparity will negatively relate to TMT integration.

### *Ambidextrous Strategic Orientation and Firm Performance as Outcomes of TMT Integration*

We view integrative TMTs as a key mechanism through which humble CEOs adopt an ambidextrous strategic orientation. Our rationale is based largely on paradox theory and suggests that humble CEOs can overcome biases and prefer an ambidextrous orientation, but the TMT is ultimately responsible for realizing and pursuing the potential benefits of this strategic paradox (Smith & Tushman, 2005). While ambidexterity is generally viewed as a rational choice for many firms that strive for sustainable performance (Junni, Sarala, Taras, & Tarba, 2013; O'Reilly & Tushman, 2013), strategic decision making can become irrational due to a TMT's power struggles resulting from competing resource allocation, internal competition between products and processes, and intense debates among individuals who may have different mind-sets (Smith & Lewis, 2011). Such struggles may cause TMT members to filter out contradictory information, suppress the potential relatedness of seeming contradictions, or shun negative feedback (Pfeffer, 1981; Sturm & Antonakis, 2015). As such, TMT members may commit to just one of the paradoxical tensions (i.e., exploitation or exploration) but fail to recognize the possibility or necessity of ambidexterity.

However, integration enables TMT members to share more comprehensive and potentially conflicting sets of information about the external and internal environment (Lubatkin et al., 2006), and they can collaborate and effectively integrate the information through critical, but constructive, debates (Jansen et al., 2008). When they jointly share a vision and engage in participative decision making, they are more likely to put aside feudal interests and integrate the high-quality information that they obtain from their peers (Smith & Tushman, 2005). These efforts fulfill the requirements of effective paradox management, including differentiating the tensions inherent in a respective paradox, using a common goal to place tensions within a wider context, and identifying synergies to leverage the generative potential of tensions (Smith & Lewis, 2011), all of which makes possible the adoption of an ambidextrous strategic orientation among TMT members. In support of these arguments, both behavioral integration (Lubatkin et al.) and shared vision (Jansen et al.) have been shown to be positively related to an ambidextrous strategic orientation. Thus, we propose:

*Hypothesis 4:* TMT integration will positively relate to an ambidextrous strategic orientation.

Researchers on executive pay have largely focused on its connection with firm performance, but they also call for attention toward more theoretically proximal relationships, such as pay and strategic orientations (Devers et al., 2007). We anticipate that vertical pay disparity negatively connects to ambidextrous strategic orientation because relative deprivation theory (Martin, 1981) suggests that vertical pay disparity demotivates executives and reduces their attention to collective interests and behaviors, specifically TMT integration. In turn, a lack of TMT integration will prevent executives from collectively reaching the type of high-quality strategic orientation associated with ambidexterity. Thus, in line with executive pay research, we expect that the connection from vertical pay disparity and ambidextrous orientation will be indirect through the former's detrimental effect on TMT processes (Henderson & Fredrickson, 2001). In short, we propose:

*Hypothesis 5:* TMT integration will mediate the relationship between vertical pay disparity and ambidextrous strategic orientation such that vertical pay disparity will negatively relate to TMT integration and TMT integration will positively relate to ambidextrous strategic orientation.

Ambidextrous strategic orientation has been associated with sustained firm performance (O'Reilly & Tushman, 2013). Firms can reap immediate returns by exploiting their capabilities and resources, but they may be unable to adapt to change if they focus exclusively on exploitation. In contrast, exploration prepares them for environmental change and offers the potential for future profits, although pure exploration can exhaust resources before firms can derive benefits. Therefore, firms that can effectively manage the tension of exploration and exploitation are more likely to achieve sustainable performance. In general, empirical evidence supports a positive link between ambidexterity and firm performance using different measures of ambidexterity and performance, particularly in highly dynamic environments (for a review, see O'Reilly & Tushman). However, scholars (e.g., Junni et al., 2013) have noticed that the majority of studies have used perceptual measures of firm performance and cross-sectional data (e.g., Lubatkin et al., 2006). We thus hypothesize an expanded replication using objective performance data and a longitudinal design. We propose:

*Hypothesis 6:* Ambidextrous strategic orientation will positively relate to firm performance.

Integrative TMTs have positive implications for firm performance. Fluid communication, effective collaboration, and efficient coordination are essential for TMTs to integrate resources and adapt to changes for sustainable firm performance (Hambrick, 1994). As suggested by upper echelons theory, we expect that the relationship between TMT integration and firm performance will be indirect via the former's more proximal connections to ambidextrous strategic orientation (Hambrick & Mason, 1984). That is, by first having a positive effect on ambidexterity, integrative TMTs are able to ultimately have a positive effect on performance. Thus, we propose:

*Hypothesis 7:* Ambidextrous strategic orientation will mediate the relationship between TMT integration and firm performance such that TMT integration will positively relate to ambidextrous

strategic orientation and ambidextrous strategic orientation will positively relate to firm performance.

In sum, our research model summarizes the mediation mechanisms linking CEO humility and firm performance. We anticipate that CEO humility will relate to vertical pay disparity and TMT integration, and vertical pay disparity will partially mediate the connection between CEO humility and TMT integration. In turn, TMT integration will connect to ambidextrous strategic orientation, which will ultimately transmit the effect of CEO humility to firm performance.

## Method

### *Sample and Data Collection*

The sample consisted of 105 largely privately held (92%) firms in the computer hardware and software industry in the United States. Most were small-to-medium-sized enterprises (SMEs; 81%), with annual sales of less than \$5 million and no more than 500 employees (Ling et al., 2008). The sample enabled us to control for confounding industry effects (Chatterjee & Hambrick, 2007), and SMEs exert fewer constraints on CEO and TMT discretionary behaviors (Hambrick & Finkelstein, 1987).

The sample was part of a broader data collection effort that examined executive leadership and firm performance over a multiyear period. We surveyed the firms' CEOs and chief financial officers (CFOs) twice during a series of executive consortiums that were established to allow senior executives to network, share information, and learn from speakers and panelists. One of the authors served as a facilitator of these consortiums. At Time 1, the researcher verbally explained the purpose of the research project, encouraged participation, and promised to keep individual answers confidential and to supply an executive summary of the findings. CFOs were asked to complete a survey designed to evaluate their respective CEOs' humility and charismatic leadership style (as a control variable), while both CEOs and CFOs assessed TMT integration and provided their own demographics. At Time 2 (6 months later), CEOs and CFOs responded to survey items measuring ambidextrous strategic orientation. After Time 1, with the permission of the CEOs, the consortium organizers provided objective vertical pay disparity, firm and TMT demographics, and quarterly financial data from 1 year before Time 1 to 1 year after Time 2 from their own participant database.

A total of 248 firms and their respective CEOs and CFOs registered to the Time 1 consortium, but only a total of 171 executive pairs showed up at Time 1 and completed surveys (69.0% response rate), among which 105 completed Time 2 surveys (61.4% response rate). Subsequent analyses revealed no significant differences between the sample and nonresponding firms in terms of CEO tenure, education, functional background, TMT size, TMT average team tenure, and firm performance except that the nonresponding firms were larger,  $\Delta = 0.20$ ,  $t(246) = 2.11$ ,  $p < .05$ . Among the final sample of 105 CEOs, 86% were Caucasian and 82% were male. They averaged 48.42 years old ( $SD = 7.71$ ) and had been in their current positions for an average of 4.14 years ( $SD = 2.35$ ). Among the CFOs, 86% were Caucasian and 89% were male. Their average age was 48.63 years ( $SD = 8.36$ ), and average tenure in the TMT was 3.91 years ( $SD = 2.26$ ). The TMTs averaged 4.87 members ( $SD = 0.99$ ; including the CEO), and the average team tenure was 3.76 years ( $SD = 0.87$ ).

## Measures

All survey items used a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). TMT integration and ambidextrous strategic orientation were firm-level variables. Kumar, Stern, and Anderson (1993) suggested that organizational information from a single informant may be less reliable as a result of recall failure or cognitive biases. Therefore, we aggregated assessments from two raters, CEOs and CFOs for respective firms, who are pivotal decision makers and important participants in TMT dynamics. We assessed analysis of variance (ANOVA), the  $r_{wg(j)}$  index of agreement, and intraclass correlations ICC(1) and ICC(2) to ensure that the data had sufficient between-group differences and within-group agreement to justify aggregation (Kozlowski & Klein, 2000). Specifically, the aggregation of such data is deemed appropriate when the  $F$  statistic for ANOVA is significant,  $r_{wg(j)}$  is higher than .70 (James, Demaree, & Wolf, 1984), ICC(1) is higher than .30 (Bliese, 2000), and ICC(2) is higher than .70 (Kozlowski & Klein).

*CEO humility.* In recent times, two humility measures have been developed and validated that include the content domain reviewed earlier (Ou et al., 2014; Owens et al., 2013). While the measure of Ou et al. could have been more appropriate when measuring CEOs, given that we relied only on the CFO to report CEO humility, we used the Owens et al. nine-item measure that assesses more observable behavioral tendencies. We did not use self-report humility because of evidence that people high in humility tend to underrate their own humility, while those low in humility overrate their own humility (Tangney, 2009). CFOs responded to this nine-item measure. Sample items include, "My CEO actively seeks feedback, even if it is critical" and "My CEO takes notice of the strengths of others." The measure exhibited high internal consistency ( $\alpha = .95$ ). For a robustness check, we included CEOs' self-reported humility in additional analyses to see whether the findings would remain consistent with different approaches to the measurement of humility.

*TMT integration.* CEOs and CFOs responded to a 13-item measure adapted from Simsek and colleagues (2005) and Pearce and Ensley (2004). A sample item is "When a team member is busy, other team members often volunteer to help manage the workload." The adapted measure has been used in prior research in which it showed good psychometric characteristics (Ou et al., 2014), and, indeed, for the current study, it demonstrated a high level of internal consistency ( $\alpha = .98$ ). The aggregation from CEO and CFO responses was justified by acceptable agreement indices: ANOVA  $F$  statistic = 1.85,  $p < .01$ , average  $r_{wg(j)} = .92$ , ICC(1) = .30, ICC(2) = .46. ICC(2) was lower than .70 but is nevertheless appropriate to aggregate on the basis of our theory and relatively high  $r_{wg(j)}$  (G. L. Chen & Bliese, 2002).

*Vertical pay disparity.* To obtain an objective measure of the pay difference between the CEO and the rest of the TMT, we had the consortium organizers calculate and provide us with the percentage of total cash compensation (salary and bonus) difference between the CEO and the second-highest-paid TMT member (Chatterjee & Hambrick, 2007). We could not calculate vertical pay disparity for total compensation that includes stock option values as a result of high sensitivity of compensation information for the largely private participating firms. Previous pay disparity studies have found that analyses based solely on cash compensation generated similar results as compared to those based on total compensation (e.g., Siegel & Hambrick, 2005).

*Ambidextrous strategic orientation.* Both CEOs and CFOs evaluated ambidextrous strategic orientation by using Lubatkin and colleagues' (2006) 12-item measure. This measure includes two subscales: one for exploration and one for exploitation. Exploration involves new experiments and adaptation in areas such as technology, products, services, market segments, and customers. A sample item is "My organization looks for novel technological ideas by thinking outside the box." Exploitation concerns improving efficiency and reliability in existing business. A sample item is "My organization fine-tunes what it offers to keep its current customers satisfied." Both subscales showed good internal consistency and acceptable agreement indices: for exploratory orientation,  $\alpha = .90$ , ANOVA  $F$  statistic = 6.60,  $p < .01$ , average  $r_{wg(j)} = .96$ , ICC(1) = .74, ICC(2) = .85; for exploitative orientation,  $\alpha = .89$ , ANOVA  $F$  statistic = 5.28,  $p < .01$ , average  $r_{wg(j)} = .94$ , ICC(1) = .68, ICC(2) = .81.

Various approaches can be used to form a composite index for ambidexterity based on the exploration and exploitation scales (Lavie, Stettner, & Tushman, 2010). We used the *additive* approach, which is based on the average of the two scales, because it is interpretable and effective in retaining useful information from both exploration and exploitation dimensions (Lubatkin et al., 2006), and it allows for the control of measurement error in structural equation models (L. J. Williams, Vandenberg, & Edwards, 2009). More importantly, while the items of the two dimensions clearly indicate contradictory activities, the additive approach emphasizes that the two dimensions have to both be high to achieve a high level of ambidexterity, which reflects the nature of a paradox as being composed of seemingly contradictory, yet coexisting, tensions (Y. Zhang, Waldman, Han, & Li, 2015). For the overall measure, Cronbach's alpha is .94, ANOVA  $F$  statistic is 6.17 ( $p < .01$ ), average  $r_{wg(j)}$  is .98, ICC(1) is .72, and ICC(2) is .84. For a robustness check, we conducted additional analyses by replicating the model with other approaches (i.e., the multiplicative and absolute difference approaches) to measure ambidexterity (Lavie et al.).

*Firm performance.* The consortium organizers tracked firm performance in the form of quarterly ROA (return on assets trailing 12 months), calculated as the net income of the past 12 months divided by the average total assets of those 12 months. We used firms' 4-quarter average ROA for the year after Time 2 as a measure of firm performance because averaging ROA across multiple time points can mitigate bias resulting from single time point outliers (Cannella, Park, & Lee, 2008). For a robustness check, we also tested a model with ROA of the particular quarter that was 12 months after Time 2 survey administration.

*Control variables.* We controlled for key CEO and TMT characteristics, firm size, and prior firm performance. A review of previous strategic leadership research and of studies examining firm outcomes guided our selection of control variables.

*CEO tenure, education, and functional background* were controlled because these demographics reflect CEO experiences, serve as a lens for filtering environmental stimuli, and are expected to affect CEO behaviors, strategic decision making, and, ultimately, firm performance (Finkelstein et al., 2009). CEO tenure was measured as the total number of years in the CEO position. Following prior research (Fiss, 2006), we measured education by using an ordinal scale ranging from 0 to 5 (0 = no high school degree, 1 = high school degree, 2 = some college, 3 = bachelor's degree, 4 = master's degree, and 5 = doctorate). Functional background was measured by eight categories that were suggested by Cannella and colleagues (2008): operations, finance and accounting, research and development, management administration, marketing and

sales, human resource management, law, and other. To reduce the number of variables to be included in the study, we created two dummy variables for the categories accounting for the highest portions of CEOs: operation (34%) and finance and accounting (43%).

Since our model was built largely on a communal power perspective of humility, we controlled for other proxies of CEO power or influence. First, on the basis of van Essen, Otten, and Carberry's (2015) review of CEO power, we included CEO tenure as a control variable. Second, in addition to demographic characteristics, we controlled for *CEO charismatic leadership* to rule out leadership behavior as an alternative explanation to humility in connection to mediators and outcomes. We combined the idealized influence and inspirational stimulation dimensions from the Multifactor Leadership Questionnaire Form 5x (Bass & Avolio, 1995) to assess charismatic leadership. This measure captures socialized charisma, which is oriented toward using influence for the benefit of others (Brown & Trevino, 2006). Thus, it could be argued that leader charisma of this nature could account for the effects of humility. Charismatic leadership is part of the broader construct of transformational leadership, which has been examined in association with TMT characteristics, ambidextrous strategic orientation, and firm performance (Ling et al., 2008; X-a. Zhang, Li, Ullrich, & van Dick, in press). However, van Knippenberg and Sitkin (2013) urged researchers to focus on distinct, theoretically relevant dimensions rather than the broader construct of transformational leadership. Accordingly, we controlled specifically for the socialized charisma component. We collected CEO charismatic leadership ( $\alpha = .96$ ) data at Time 1 from CFOs.

*TMT characteristics* in the form of TMT size and average team tenure were also included as control variables. Following Hambrick, Cho, and Chen (1996), we operationalized the TMT as being composed of executives who held C titles, for example, chief operating officer (COO), CFO, or chief information officer (CIO), or vice president titles, which represent core decision makers at the apex of the firm. Although some researchers have suggested that a CEO might be asked to identify TMT members who are most likely to be involved in particular decisions (Finkelstein et al., 2009), we deemed using hierarchical positions to identify TMT members as appropriate in the current study because the decision and execution of ambidextrous strategic orientation are likely to involve broad coordination of top executives (Smith & Tushman, 2005). Larger teams may have greater cognitive capabilities and resources to deal with complex strategic decision making (e.g., the formation of ambidextrous strategic orientation) that is related to firm performance (Finkelstein et al.). Thus, TMT size was measured as a control variable in terms of the total number of members in the TMT. Longer team tenure improves communication and coordination within the team and therefore may be valuable for achieving ambidexterity and firm performance. Team tenure was represented as the average length of time of each member working in the TMT.

*Firm size* was included as a control variable because of its potential effects on risk preferences and strategic choices (Finkelstein et al., 2009; Heavey & Simsek, in press). The consortium organizers provided firm size in terms of total sales as indicated by the following ordinal scale: 1 = less than \$1 million, 2 = \$1–\$5 million, 3 = \$5–\$10 million, and 4 = over \$10 million.

*Prior firm performance* was controlled since how firms previously perform has been shown to affect employee perceptions of CEOs (Agle, Nagarajan, Sonnenfeld, & Srinivasan, 2006). In addition, it indicates a firm's resource stock that could affect managers' discretion on strategic management (Hambrick & Finkelstein, 1987). Its inclusion helped to alleviate concerns that the effects of humility and other variables are spurious and driven by firm

performance (Agle et al.). We used firms' 4-quarter average ROA for the year prior to Time 1 as our measure of prior firm performance.

### *Analyses*

We tested the research model by using structural equation modeling with Mplus 7.0. Structural equation modeling provides a parsimonious way to test complex mediation effects and control for measurement errors (Bollen, 1989). Following Anderson and Gerbing's (1988) two-step procedures, we first conducted confirmatory factor analysis to examine the convergent and discriminant validity of the latent variables. In the current study, we included CEO humility, TMT integration, ambidextrous strategic orientation, and charismatic leadership. Parcels were used as indicators for latent variables to reduce the number of parameters to be estimated with a moderate sample size (L. J. Williams & O'Boyle, 2008). We created three parcels for each latent variable by using the item-to-construct balance method that provides balanced indicator loadings on a latent factor.

We first performed structural equation modeling to test the research model by adding other observed variables (including vertical pay disparity, firm performance, and other control variables) and hypothesized paths. To assess the quality of the models, we report chi-square tests of model fit, CFI (comparative fit index), TLI (Tucker Lewis Index), RMSEA (root-mean-square error of approximation), and SRMR (standardized root-mean-square residual). These indices represent a balance of absolute and incremental fit indices to provide a comprehensive assessment of model misspecification and parsimony (Hu & Bentler, 1999). Hu and Bentler suggested a cutoff value close to .95 for CFI and TLI, a cutoff value close to .06 for RMSEA, and a cutoff value close to .08 for SRMR. Others have suggested that models with CFI and TLI above .90 and RMSEA and SRMR below .10 are acceptable (MacCallum, Browne, & Sugawara, 1996). We tested our research model and compared it with competing structural equation models using chi-square difference tests (Bollen, 1989) to confirm it as the best fitting model to the data set. We also conducted a series of analyses to further verify the results by alternating measures of study variables and ways to include control variables and ruling out possible common method variance and reverse causality.

Our study includes mediation hypotheses, and our research model involves three sequential mediators linking CEO humility to firm performance. Researchers have suggested moving from the traditional, causal steps approach (Baron & Kenny, 1986) to joint significance and bias-corrected bootstrapping testing of indirect effects (Taylor, MacKinnon, & Tein, 2008). Therefore, we first used the joint significance test, which suggests the existence of mediation when the paths from the independent variable to the mediator and from the mediator to the dependent variable are both significantly nonzero. This approach helps to control Type I error and has the strongest power to detect mediation effects. Furthermore, it is most appropriate when the model involves more than one mediator in sequence, which has the requirement of higher power to detect effects (L. J. Williams et al., 2009). We supplemented this approach with a bias-corrected, bootstrapping test of indirect effects, which adopts a resampling method to provide a quantitative estimate of the mediated effect and suggests the significance of mediation when the confidence interval (CI) excludes zero. This method is relatively more conservative because it requires higher power to detect effects (Taylor et al.). As a greater number of bootstrap samples yields a more accurate distribution of CIs (J. Williams & MacKinnon, 2008), we resampled 10,000 times to estimate each indirect effect.

## Results

### *Measurement Model*

Table 1 provides the correlations, means, and standard deviations. CEO humility correlated positively with TMT integration ( $r = .26, p < .01$ ) and negatively with vertical pay disparity ( $r = -.24, p < .05$ ). TMT integration correlated negatively with vertical pay disparity ( $r = -.28, p < .01$ ) and positively with ambidextrous strategic orientation ( $r = .47, p < .01$ ). Ambidextrous strategic orientation was positively associated with firm performance ( $r = .20, p < .05$ ).

Model 1 in Table 2 shows confirmatory factor analysis results for the measurement model of four latent variables (CEO humility, TMT integration, ambidextrous strategic orientation, and CEO charismatic leadership). It revealed good model fit indices:  $\chi^2(48) = 68.79, p < .05$ , CFI = .99, TLI = .98, RMSEA = .06, SRMR = .03. The measures showed satisfactory convergent validity in that all indicators loaded significantly on corresponding factors without cross-loading, and the average standardized loading was .95. We assessed the discriminant validity of the variables by comparing the baseline model (Model 1) with models that assumed that the latent variables could not be distinguished from one another (Anderson & Gerbing, 1988). Model 2 was a one-factor model that combined all four variables, assuming all four variables were nondistinguishable. Using the same rationale, Models 3 through 8 each depict three-factor models that combined two latent variables at a time. As Table 2 shows, all alternative models generated significantly higher chi-squared values ( $\Delta\chi^2 = 1,220.75, 540.90, 400.33, 306.44, 418.61, 254.45, \text{ and } 429.34$  for Models 2 through 8, respectively,  $p < .01$ ) than the baseline four-factor model (Model 1), thus providing support for the discriminant validity of the four latent variables.

### *Hypotheses Tests*

We tested our hypothesized model and compared it with several competing structural equation models. Table 3 shows the model comparison results. Model 1 represented the hypothesized model and was created by adding to the measurement model the key observed variable (vertical pay disparity and firm performance), other observed control variables, and the hypothesized paths. All control variables were treated as predictors of firm performance. The model generated good fit indices:  $\chi^2(176) = 236.98, p < .01$ , CFI = .97, TLI = .96, RMSEA = .06, and SRMR = .09. With Models 2 and 3, we examined whether CEO humility might have direct effects on ambidextrous strategic orientation or firm performance. We added the direct link from CEO humility to ambidextrous strategic orientation in Model 2 and to firm performance in Model 3. Models 4 and 5 examined whether vertical pay disparity might have direct effects on ambidextrous strategic orientation or firm performance, and we added the direct link from vertical pay disparity to ambidextrous strategic orientation in Model 4 and to firm performance in Model 5. Model 6 examined whether TMT integration might have a direct effect on firm performance by adding this direct link. Compared with Model 1, Models 2 through 6,  $\Delta\chi^2(-1) = -2.71, -1.37, -3.68, -2.51, \text{ and } -0.15$ , respectively, reduced 1 *df*, but none of them improved the chi-square (at the  $p < .05$  level). Model 7 examined whether vertical pay disparity would fully, instead of partially, mediate the link between CEO humility and TMT integration by removing the direct link from CEO humility to TMT integration, but the model had significantly worse fit,  $\Delta\chi^2(1) = 4.20, p < .05$ .

**Table 1**  
**Correlations, Means, and Standard Deviations of Study Variables**

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	M	SD
<b>Model Variable</b>																
1. CEO humility															3.37	0.86
2. TMT integration	.25														3.15	0.90
3. TMT vertical pay disparity	-.24	-.28													19.34	14.38
4. Ambidextrous strategic orientation	.26	.47	-.29												3.25	0.70
5. Firm performance (average ROA in %)	.03	.00	-.10	.20											6.90	1.90
<b>Control Variable</b>																
6. CEO tenure	-.05	.10	.00	-.03	.13										4.14	2.35
7. CEO education	-.10	.04	.08	-.20	.06	-.02									3.15	0.68
8. CEO functional background (finance and accounting dummy)	.07	.15	-.22	.05	-.07	-.12	-.03								0.43	0.50
9. CEO functional background (operation dummy)	-.14	-.16	.09	-.07	.02	.11	-.10	-.63							0.34	0.48
10. CEO charismatic leadership	.30	.21	.03	.10	.01	-.21	-.14	.14	-.13						3.17	0.88
11. TMT size	.07	.08	-.11	.05	.14	.14	.10	.14	.04	-.23					4.87	0.99
12. TMT average team tenure	-.18	-.07	.07	-.09	.05	.36	-.04	-.08	-.07	-.03	-.25				3.76	0.87
13. Firm size	.16	.09	.10	.14	.15	.06	.11	.01	-.01	.19	.02	.02			2.21	0.77
14. Prior firm performance (average ROA in %)	-.10	-.13	.03	.07	.79	.14	.08	-.02	.06	.01	.02	.12	.29		6.23	2.38

Note: N = 105. Correlations with absolute values greater than .19 are significant at  $p < .05$ . TMT = top management team; ROA = return on assets

**Table 2**  
**Confirmatory Factor Analysis Result for Measurement Model**

Model	$\chi^2$	<i>df</i>	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	$\Delta df$
Model 1 (baseline): Four-factor model with HUM, TI, AMB, and CL	68.79*	48	.99	.98	.06	.03		
Model 2: One-factor model with all latent variables combined	1,289.54**	54	.24	.08	.47	.28	1,220.75**	6
Model 3: Three-factor model with HUM and TI combined	609.69**	51	.66	.56	.32	.20	540.90**	3
Model 4: Three-factor model with HUM and CL combined	469.12**	51	.74	.67	.28	.15	400.33**	3
Model 5: Three-factor model with HUM and AMB combined	375.23**	51	.80	.74	.25	.19	306.44**	3
Model 6: Three-factor model with TI and CL combined	487.40**	51	.73	.66	.29	.18	418.61**	3
Model 7: Three-factor model with TI and AMB combined	323.24**	51	.83	.78	.23	.13	254.45**	3
Model 8: Three-factor model with AMB and CL combined	498.13**	51	.73	.64	.29	.19	429.34**	3

Note: CFI = comparative fit index; TLI = Tucker Lewis Index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual;  $\Delta\chi^2$  = difference in chi-square compared with Model 1;  $\Delta df$  = difference in degrees of freedom compared with Model 1; HUM = CEO humility; TI = top management team integration; AMB = ambidextrous strategic orientation; CL = CEO charismatic leadership.

\* $p < .05$ .

\*\* $p < .01$ .

In total, these results suggest that the hypothesized model was the best fitting model and, thus, it was used in subsequent hypothesis testing. Hayes recommended reporting unstandardized path coefficients since “standardization simply changes one arbitrary measurement scale into another arbitrary scale” and “standardized effects are not comparable across studies conducted by different investigators” (2013: 200). We thus report unstandardized path coefficients for our analysis. Figure 2 displays the path results for Model 1.

As Figure 2 reveals, among the control variables, CEO financial background was negatively linked to firm performance ( $b = -0.57, p < .05, SE = 0.28$ ), while TMT size ( $b = 0.28, p < .05, SE = 0.12$ ) and prior firm performance ( $b = 0.65, p < .01, SE = 0.05$ ) were positively linked to subsequent firm performance. Other control variables, including CEO charismatic leadership ( $b = 0.08, p > .10, SE = 0.13$ ), had no significant effects. All hypothesized path coefficients were significant and in the predicted direction: CEO humility positively related to TMT integration ( $b = 0.22, p < .05, SE = 0.11$ ) and was negatively related to vertical pay disparity ( $b = -4.26, p < .01, SE = 1.64$ ). Vertical pay disparity was negatively associated with TMT integration ( $b = -0.02, p < .05, SE = 0.01$ ), TMT integration was positively predictive of ambidextrous strategic orientation ( $b = 0.36, p < .01, SE = 0.07$ ), and ambidextrous strategic orientation was positively associated with firm performance ( $b = 0.45, p < .01, SE = 0.17$ ). These significant path coefficients support Hypotheses 1 and 2, which propose direct links from CEO humility to two TMT characteristics, TMT integration and vertical pay disparity. These findings also support Hypothesis 4, regarding the relationship between TMT integration and ambidextrous

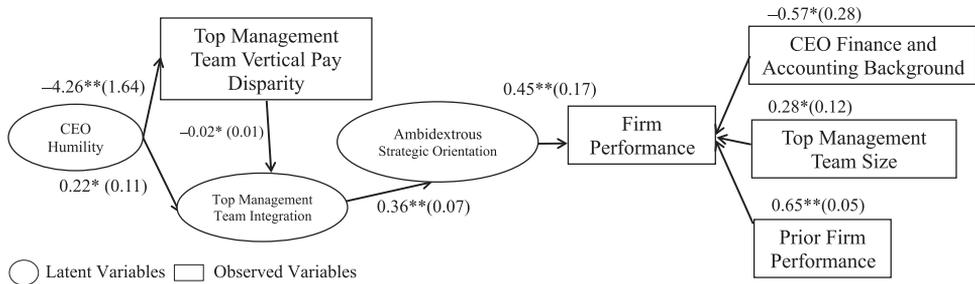
**Table 3**  
**Model Fit Indices and Comparison Among Research Model and Alternatives**

Model	$\chi^2$	<i>df</i>	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	$\Delta df$
Model 1: Hypothesized research model	236.98**	176	.97	.96	.06	.09		
Model 2: Adding HUM → AMB	234.27**	175	.97	.96	.06	.08	-2.71†	-1
Model 3: Adding HUM → FP	235.61**	175	.97	.96	.06	.09	-1.37	-1
Model 4: Adding PD → AMB	233.30**	175	.97	.96	.06	.08	-3.68†	-1
Model 5: Adding PD → FP	234.47**	175	.97	.96	.06	.09	-2.51	-1
Model 6: Adding TI → FP	236.83**	175	.97	.96	.06	.09	-0.15	-1
Model 7: Removing HUM → TI	241.18**	177	.96	.96	.06	.10	4.20**	1

Note: CFI = comparative fit index; TLI = Tucker Lewis Index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual;  $\Delta\chi^2$  = difference in chi-square compared with Model 1;  $\Delta df$  = difference in degrees of freedom compared with Model 1; HUM = CEO humility; PD = vertical pay disparity; TI = top management team integration; AMB = ambidextrous strategic orientation; FP = firm performance.

†*p* < .10.  
 \*\**p* < .01.

**Figure 2**  
**Unstandardized Results of Structural Equation Modeling of the Research Model**



Note: Standard errors are shown in parentheses.  
 \**p* < .05.  
 \*\**p* < .01.

strategic orientation, and Hypothesis 6, suggesting that ambidextrous strategic orientation would predict firm performance. The mediation Hypotheses 3, 5, and 7 were supported on the basis of criteria of the joint significance test (Taylor et al., 2008).

We further examined the bias-corrected bootstrap CIs to estimate the mediation effects. Hypothesis 3 proposed that vertical pay disparity would partially mediate the relationship between CEO humility and TMT integration. Besides a significant direct effect of 0.22 (95% CI = [0.02, 0.42]), CEO humility had an indirect effect of 0.06 (95% CI = [0.01, 0.18]) on TMT integration through vertical pay disparity, thus supporting Hypothesis 3. Hypothesis 5 concerned the mediating effect of TMT integration in the link from vertical pay disparity to

ambidextrous strategic orientation. The indirect effect of  $-0.01$  was marginally significant, as the 95% CI barely excluded zero (95% CI =  $[-0.01, 0.00]$ , 90% CI =  $[-0.012, -0.001]$ ). However, as the bootstrapping approach has a higher requirement for power to detect mediation effects, we confirmed Hypothesis 5 on the basis of the joint significance of the paths from vertical pay disparity to TMT integration and from TMT integration to ambidextrous strategic orientation. Hypothesis 7 stated that ambidextrous strategic orientation would mediate the relationship between TMT integration and firm performance, and the hypothesis was supported by the significant indirect effect of  $0.16$  (95% CI =  $[0.03, 0.32]$ ).

We estimated the overall mediation sequences linking CEO humility to firm performance. All paths linking CEO humility to firm performance were significant and in the predicted direction, thus supporting the overall mediation model based on joint significance criteria. In addition, CEO humility had a total effect of  $0.28$  (95% CI =  $[0.08, 0.48]$ ) on TMT integration, a total indirect effect of  $0.10$  (95% CI =  $[0.03, 0.19]$ ) on ambidextrous strategic orientation, and a total indirect effect of  $0.05$  (95% CI =  $[0.01, 0.13]$ ) on firm performance via TMT integration, vertical pay disparity, and ambidextrous strategic orientation. Since all CIs excluded zero, our mediation model was supported.

We conducted a series of analyses to further validate our findings. We examined whether the findings would remain consistent when using alternative measures of study variables or different ways of placing control variables in the analyses and whether common method variance or reverse causality would be threats to the findings. The results of these analyses are largely consistent with the current findings (refer to the online supplementary materials.)

## Discussion

In response to rising interest in CEO humility, we examine whether and how humble CEOs relate to firm outcomes in this study. By integrating paradox and power theories with upper echelons literature, we find that humble CEOs indeed contribute indirectly to the pursuit of ambidextrous strategies and to firm performance, and they manage to do so through TMT integration and pay equality. The findings have implications for both theory and practice.

### *Theoretical and Practical Implications*

Our work extends upper echelons theory by confirming that humility as a CEO characteristic has implications for firm outcomes. Researchers lament that the management field has focused on a limited set of traits and behaviors, particularly at the CEO level (S. J. Peterson, Galvin, & Lange, 2012). On the basis of the findings of the current study, we broaden our understanding of CEO characteristics by showing that humility, a personal quality that might be counterintuitive in relation to CEO effectiveness, is associated with TMT characteristics, strategic orientations, and firm performance. Importantly, our study used power theories to integrate previously fragmented research on mechanisms linking CEO traits to firm performance to clarify how humble CEOs can be powerful.

Our study also contributes new knowledge regarding the role of CEOs in managing paradoxes, particularly in the form of ambidexterity. CEO variables have been recognized as one of the most important factors in managing ambidexterity (O'Reilly & Tushman, 2013). Yet empirical findings on the role of CEOs have been limited, with a few studies focusing on CEOs who have extensive networks (Cao, Simsek, & Zhang, 2010) or who exhibit

transformational leadership (Jansen et al., 2008). Our study suggests that through direct interaction and pay systems, humble CEOs establish an integrative TMT context for managing paradoxes like ambidexterity.

Specifically, our examination of mediation processes enriches an understanding of how CEOs affect TMT dynamics by finding narrow vertical pay disparity to be a mediator linking CEO humility and TMT integration. Previous research on CEOs' influence on TMT integration has focused mainly on the direct effects of CEO characteristics or leadership behaviors (Ling et al., 2008; Simsek et al., 2005). The current study extends previous research that has considered TMT pay structure as a factor to explain the effect of CEO characteristics on TMT integration (cf. Jansen et al., 2008). Our findings support the long-held, yet untested, proposition in executive compensation research that vertical pay disparity affects organizational outcomes by being associated with TMT dynamics (Devers et al., 2007).

Regarding practice, our study suggests that humility should not be overlooked in executive selection and training, particularly for firms operating in highly dynamic industries. Firms that face uncertainty or crises often turn to celebrity or superstar CEOs, thus forgetting that those CEOs are sometimes part of the problem (Morris et al., 2005). We suggest that boards of directors pay more attention to humility as a criterion of executive selection, and that human resource managers target humility in executive coaching. While traits like humility are relatively stable, they can be potentially developed through life changes or role transitions (Caspi, Roberts, & Shiner, 2005), and practitioners might consider the use of systematic training programs on humility to enhance managers' capabilities.

Humility is not inherently incongruent with "strong" forms of leadership. For example, our findings revealed a modest correlation (i.e.,  $r = .30$ ,  $p < .05$ ) between humility and charismatic leadership. The key for leaders will be to determine the balance between humility and strong actions or statements, such as the espousal of vision. Perhaps in a paradoxical sense, leaders who display a sense of purpose and vision can simultaneously show humility by accepting feedback and criticism, as well as by realizing that in addition to themselves, others can help to build vision (Owens, Wallace, & Waldman, 2015; Y. Zhang et al., 2015).

### *Strengths, Limitations, and Future Research Directions*

Our study overcomes several empirical challenges in CEO humility research (e.g., Collins, 2001), such as relying on small sample sizes, focusing on exemplar companies in relatively stable industries, and describing instead of directly measuring humility (Chatterjee & Hambrick, 2007). We measured CEO humility with a validated scale and used a relatively large sample in a dynamic industry (i.e., computer and software). Still, our study has several limitations.

First, although we collected data from multiple sources at multiple points in time, our data collection period may have been too brief to support causal claims. Although the reverse causality analysis failed to support a model with TMT integration and vertical pay disparity preceding humility, future research using panel data would more powerfully test the directionality of the relationships and confirm the claim that ambidexterity is associated with sustained firm performance. In addition, longitudinal studies would enable comparisons of humility's short-term and long-term effects. For example, humble CEOs may be more likely to take a long-term perspective and, thus, may have stronger effects on long-term firm outcomes (Bridoux, Smith, & Grimm, 2013).

Second, our sample came mainly from privately held SMEs, and it remains to be seen whether the findings are generalizable to public or large firms. Such firms may be less likely to have humble CEOs because they may have more competitive executive selection and succession processes (Henderson & Fredrickson, 2001). Humble managers may be less likely to rise to the top when they maintain low profiles and avoid taking credit for success. In addition, communication with other TMT members may be more formalized and political, and less frequent (Eisenhardt & Bourgeois, 1988), compared with communication patterns in SMEs, so that humble CEOs will have less personal influence on TMT members. Still, we find no specific theoretical reason to assume that our proposed model would fail to work in larger firms, so it would be fruitful for future studies to replicate our work in different contexts.

We also encourage scholars to explore potential drawbacks and other possible benefits of humility among strategic leaders. Although our study implies that humility is largely a positive attribute, it is unclear whether humility might result in slower or less bold decision making that could hinder the firm's responses to rapid environmental changes (Eisenhardt, 1989). It is also possible that humble CEOs may not impress some external stakeholders and, thus, their firms could find it more difficult to obtain external resources (Fanelli & Misangyi, 2006). On the flip side, executives are sometimes under scrutiny for corporate scandals, corruption, or unethical behaviors (Morris et al., 2005). Thus, it would be interesting to learn whether humble CEOs, with their more constrained egos, may be associated with more ethical corporate social performance and fewer legal claims against their firms.

Third, data availability limited our research. We could not measure CEO humility and leadership from more than one subordinate. Still, reliance on a single subordinate's rating of leadership is common, particularly in dyad-level leadership research (e.g., X. P. Chen, Eberly, Chiang, Farh, & Cheng, 2014), and the significant results are unlikely to be due to random error, since we used a mixture of survey and objective data, as well as time separation of survey questions. We could not obtain integration data from all TMT members, which may have attenuated findings on team-level relationships (Timmerman, 2005). However, our data collection may have resulted in a more conservative test of the research model because attenuated correlations increase the difficulty in obtaining significant results for hypothesized relationships (Nesterkin & Ganster, 2015; Timmerman). Yet we were still able to demonstrate significant paths in our model. In addition, our study used data from both CEOs and CFOs, who are pivotal strategic decision makers in TMTs, and the high interrater agreement between the two types of informants provided further validity evidence regarding TMT integration (Bliese, 2000).

On the basis of power theories, we tested only two TMT characteristics linking CEO humility and strategy. Hambrick's (1994) framework suggests other TMT characteristics, such as TMT composition and structural variables, which may have other forms of impact. For example, recent research found that TMTs with transactive memory and diverse experience and expertise are more likely to pursue ambidextrous strategies (Heavey & Simsek, in press). With their generous appreciation of others, humble CEOs may build more diverse teams that can also work together effectively. In this way, humble CEOs are expected to leverage the informational benefits of team heterogeneity, while avoiding disadvantages of relational conflicts, thus maximizing the value of TMT transactive memory. Researchers have started to notice the importance of TMT collective personality and behaviors, such as transformational leadership

and modesty (Ridge & Ingram, in press). Considering that CEOs are salient role models for their TMT members, it will be interesting to explore whether humble CEOs are associated with the emergence of positive, collective TMT characteristics.

As we have argued, paradox theory may provide an important framework for exploring the potential impact of CEO humility. Beyond the ambidexterity paradox, it would be interesting to examine how humility may be associated with the performance paradox stemming from the conflicting demands of internal and external stakeholders (Smith & Lewis, 2011). Humility may coincide with a responsible leadership orientation that stresses the balancing or integration of various stakeholder needs and concerns (Pless, Maak, & Waldman, 2012). Scholars have identified relevant qualities, such as cognitive and behavioral complexity (Denison, Hooijberg, & Quinn, 1995), paradoxical cognition (Smith & Tushman, 2005), paradoxical leadership (Y. Zhang et al., 2015), and dynamic decision making (Smith, 2014). It may be informative to examine whether humility is relevant to those qualities. Humility is a temperance quality (Morris et al., 2005) and, thus, may interact with other leadership characteristics in predicting various outcomes. For example, humility may balance excessive narcissism and, thus, keep narcissistic executives from taking extreme risks (Owens et al., 2015).

## Conclusion

Our study suggests that humility is a potentially important CEO attribute with implications for firm strategy and performance. Although humble CEOs may differ from the “great man” image often associated with CEOs, such executives appear instead to build integrative TMTs, promote pay equity among their TMTs, and establish ambidextrous and profitable firms. We hope that future research can further examine this largely counterintuitive, yet potentially important, characteristic of effective executives.

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