

Cognition that travels and cognition that stays: distinguishing CEO-specific from firm-embedded temporal focus

Organization
Management
Journal

Dongge Zhou

*College of Business and Public Management, Kean University, Union,
New Jersey, USA, and*

Shyam Kumar

*Lally School of Management, Rensselaer Polytechnic Institute, Troy,
New York, USA*

Received 6 January 2026

Revised 22 April 2026

9 June 2026

Accepted 30 June 2026

Abstract

Purpose – Upper echelons theory (UET) argues that CEOs shape organizational outcomes, yet cognitive attributes are especially difficult to measure because they are intertwined with firm-level routines. CEOs' temporal focus – the allocation of attention to past, present or future – exemplifies this problem, as it may reflect selection by boards, discretion constraints or entrainment into firm temporal structures. To advance UET, the authors distinguish CEO-specific and firm-embedded temporal focus and investigate whether a CEO-specific temporal focus exists independently of firm-level temporal demands, what individual characteristics give rise to it and whether it predicts CEO-specific firm performance.

Design/methodology/approach – Leveraging a panel of S&P 1,500 firms in which multiple CEOs served during our observation period from 2010 to 2018, the authors use a research design that separates CEO fixed effects (i.e. stable CEO features) from firm fixed effects (i.e. firm routines) to isolate the portable component of temporal focus. The authors then examine the antecedents and consequences of such CEO-specific temporal schemas.

Findings – CEOs exhibit significant, stable differences in temporal focus beyond firm routines. Age and early-career recession exposure predict these differences. CEO-specific temporal focus contributes to CEO-specific firm performance.

Originality/value – By disentangling CEO-specific cognition from firm-embedded influences, our study offers a more precise test of executive agency and introduces a methodological approach for identifying the cognitive traits that genuinely reflect the individual rather than the context.

Keywords Cognition, Upper echelons theory, Temporal focus, CEO effects, Subjective time

Paper type Research paper

Introduction

Upper echelons theory (UET) posits that CEO characteristics shape organizational outcomes (Hambrick & Mason, 1984) and a large body of research has explored a range of such



© Dongge Zhou and Shyam Kumar. Published in *Organization Management Journal*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence maybe seen at <http://creativecommons.org/licenses/by/4.0/>

Organization Management Journal
Emerald Publishing Limited
e-ISSN: 1541-6518
p-ISSN: 2753-8567
DOI 10.1108/OMJ-01-2026-2927

characteristics (Boone, De Brabander, & Hellemans, 2000; Brahmana, You, & Kontesa, 2021; Bromiley & Rau, 2016; Chiu, Kong, & Celly, 2024; Kaur & Singh, 2019; Kremer, 2023; Li & Yang, 2019; Ma & Wu, 2025; Prasad & Junni, 2017; Rodenbach & Brettel, 2012; Sghaier & Hamza, 2024; Wang, Wu, Xie, & Zhang, 2023; White & Borgholthaus, 2022). Many of these features, such as education, tenure, or CEO duality, are objective and relatively easy to capture. However, other features, particularly those rooted in cognition, are more difficult to observe and measure directly. In addition to the inherent difficulty of measuring cognition, a critical challenge is that cognitive traits are often intertwined with firm-level routines due to self-selection bias, discretion constraints and entrainment (Hambrick, 2007). For instance, a CEO's temporal focus, defined as the attention devoted to past, present, or future (Shipp, Edwards, & Lambert, 2009), may be selected by the board to *match* the firm's temporal routines (Clougherty, Duso, & Muck, 2016; Rocha, van Praag, Folta, & Carneiro, 2019), may be *constrained* in its expression by established organizational processes and expectations (Finkelstein & Peteraf, 2007; Hambrick & Finkelstein, 1987) and may be *partially shaped or entrained* by the firm's preexisting temporal structures. This blending of individual cognition and organizational context makes it difficult to isolate CEO-specific features.

Prior studies have examined the relationship between CEO temporal orientation and firm performance or behavior (Back, Rosing, Dickler, Kraft, & Bausch, 2020; Barreto, Lanivich, & Cox, 2022; Chen, 2022; Chen, Miller, & Chen, 2021; DesJardine & Shi, 2020; Dille, Hernes, & Vaagaasar, 2022; Nadkarni & Chen, 2014). However, these studies often treat temporal orientation as a unitary construct without distinguishing the sources between firm-embedded and CEO-specific features. Actually, CEO temporal orientation exhibits both *trait-like* and *state-like* features (Kooij, Kanfer, Betts, & Rudolph, 2018; Tang, Richter, & Nadkarni, 2020). Traits are stable and internally rooted, whereas states are malleable and externally shaped (Chaplin, John, & Goldberg, 1988). The firm-embedded component reflects state-like features through routinized time patterns embedded within the firm, such as budgeting cycles, strategic horizons, or institutional norms, that tend to influence incumbent CEOs while persisting across different CEOs (Bansal, Reinecke, Suddaby, & Langley, 2022; Kunzl & Messner, 2022; Orlikowski & Yates, 2002). In contrast, the CEO-specific component represents trait-like features, a portable temporal schema like a personality that travels with the individual across different firms. Failing to separate these components risks conflating executive cognition with organizational context. This distinction is essential for accurately testing Upper Echelons Theory, which implies that CEO-specific traits, rather than context constraints, are what important for firm outcomes (Hambrick, 2007; Phillips, Berman, Elms, & Johnson-Cramer, 2010; Schiehl, Lewellyn, & Muller-Kahle, 2018).

In this study, we try to solve this problem by separating the CEO-specific and firm-embedded temporal focus and exploring the antecedents and consequences of CEO-specific temporal focus. We adopted a panel of S&P 1500 firms and constructed a data set of firms with multiple CEOs over the observation period. In other words, each firm included in our sample had more than one CEO who appeared on earnings conference calls between 2010 and 2018. This sampling strategy enables us to disentangle CEO-specific effects from firm fixed effects (i.e. firm's routine), allowing for a more precise attribution of temporal focus to either entrenched organizational routines or CEO-specific cognitive patterns (Crossland & Hambrick, 2011; Jarosiewicz & Ross, 2022; Quigley & Hambrick, 2015). With this data set, we isolated the CEO-specific portion of temporal focus that lies beyond organizational routines. We then examined whether the solely CEO-specific portion remains significant, what individual traits and experiences contribute to the formation of certain CEO-specific

cognition and whether such CEO-specific cognition contributes to CEO-specific firm performance.

By addressing these questions, we advance UET in several important ways. Traditionally, UET research has relied on cross-sectional or longitudinal designs to link CEO characteristics to firm-level outcomes. This approach has been highly effective for uncovering broad associations, but as the theory has matured, scholars have sought more refined assessments of the cognitive mechanisms that underlie executive influence. This pursuit raises several conceptual and empirical challenges. First, when CEO cognition is inferred from linguistic data, a now widely adopted practice, such language reflects not only individual cognitive tendencies but also the influence of organizational routines and norms. Unlike demographic attributes such as age or gender, cognition reflected in language is partly embedded in context. Because UET was originally designed to explain how top managers' *individual* attributes shape organizational outcomes, what we ultimately aim to measure is the CEO-specific cognitive component – namely, the portion that can travel with a CEO across organizations – rather than the context embedded component. Differentiating these two components is therefore essential and doing so constitutes one of this paper's central contributions. Second, although prior studies frequently include firm fixed effects to isolate managerial influence, this strategy cannot fully separate CEO-specific cognition from firm routines when a firm is led by the same CEO throughout the observation window. In such cases, firm fixed effects merely absorb unobserved, time-invariant firm characteristics rather than isolating managerial signatures. Only when a firm experiences multiple CEOs can firm fixed effects properly capture a firm's routine and identify systematic deviations from the routine. Our design explicitly leverages such variation, enabling a more precise estimation of CEO-specific effects. Taken together, we contribute to UET by introducing a measurement approach that disentangles CEO-specific cognitive tendencies from external context and yields a relatively “pure” form of executive cognition. This CEO-specific cognition represents the portion that deviates from firm routines and persists across organizational contexts. We further isolate CEO-specific firm performance, the degree to which some CEOs consistently elevate (or depress) performance across different firms and demonstrate its relationship to CEO-specific cognition. In doing so, we introduce a more nuanced and analytically rigorous approach to examining executive effects within the upper echelons tradition.

Hypotheses

CEO-specific temporal focus

As discussed above, CEO temporal orientation exhibits both trait-like and state-like features (Kooij et al., 2018; Tang et al., 2020). While biased selection, firm routines, and temporal structures may shape how executives communicate and allocate attention, upper echelons theory suggests that executives also possess stable cognitive schemas that influence their interpretation of strategic issues across contexts (Hambrick, 2007). If temporal focus contains a meaningful trait-like component, systematic differences should remain observable after accounting for firm-level routines and contextual factors. Such differences would indicate that temporal focus is not merely a reflection of organizational context but also represents a portable cognitive characteristic that can travel with CEOs across firms. This leads to our first hypothesis:

- H1.* CEOs exhibit systematic and persistent differences in temporal focus that remain significant after controlling for firm-level routines and contextual factors.

Beyond testing for the presence of this individual-level temporal schema, we also seek to develop a methodological approach for disentangling CEO-specific cognitive traits from

organizational routines. By leveraging a panel of firms with multiple CEOs, we offer a replicable approach for future research to more precisely identify executive agency and separate CEO cognition from organizational context.

Antecedents of CEO-specific temporal focus

Building on the premise that CEOs exhibit persistent temporal schemas independent of firm context, we next examine the origins of CEO-specific temporal focus. Research in psychology and management suggests that enduring demographic characteristics and formative experiences shape cognitive tendencies and information-processing patterns throughout an individual's career (Trommsdorff, 1983). With this said, we argue that CEO-specific temporal focus is shaped by individual-level characteristics. Specifically, we examine whether observable traits, such as gender, age, and early-career recession experiences, predict differences in CEO-specific temporal focus. In other words, we argue that CEO-specific temporal cognition that CEOs can carry with them across organizations, independent of firm context, stems from enduring demographic or experiential factors. This approach allows us to identify plausible antecedents of CEO-specific temporal focus and supports the view that such temporal schemas are rooted in individual human capital rather than being merely reactive to firm context:

- H2. CEO-specific temporal focus is systematically shaped by individual-level characteristics.

CEO-specific temporal focus and CEO-specific firm performance

Our final hypothesis concerns the consequences of CEO-specific temporal focus. Prior research on the "CEO effect" shows that individual CEOs meaningfully influence firm performance, accounting for a nontrivial share of performance variance beyond environmental or organizational factors (Boone et al., 2000; Goll & Rasheed, 2005; Mackey, 2008). This line of work suggests that CEOs differ systematically in how they shape organizational outcomes. We refer to these systematic deviations from a firm's routine performance and an industry's general performance as *CEO-specific firm performance*. In other words, CEO-specific firm performance reflects the idea that a CEO would consistently bring better or worse performance to different firms if they were to work across firms.

Upper echelons theory suggests that idiosyncratic personality characteristics are a central driver of such CEO-specific firm performance, because personality traits are inherently inimitable (Jarosiewicz & Ross, 2022). Guided by this logic, we examine CEO-specific temporal focus as one such cognitive characteristic that may contribute to stable, transferable CEO effects. Specifically, we first isolate CEO-specific firm performance from performance that might be attributed to firm-level and industry-level routines and then assess whether CEO-specific temporal focus explains this CEO-specific firm performance. By doing so, we assess whether temporal focus constitutes a transferable, performance-relevant aspect of executive human capital:

- H3. CEO-specific temporal focus contributes to CEO-specific firm performance, such that differences in temporal focus explain systematic variation in performance across CEOs.

Methods

Data sources and sample

We constructed measures of temporal focus from text analyses of S&P 1500 firms' earnings call transcripts using the CEO presentation portion over the period 2010–2018. Apart from

earnings calls, for variables related to firm-level and CEO-level controls, we collected data from ExecuComp and Compustat from 2009 to 2018. Economic recession information was obtained from NBER's business cycle dating database. Using these various sources, we constructed a data set of firms with multiple CEOs over the observation period, i.e., each firm needed to have multiple CEOs that appeared on conference calls between 2010 and 2018. This criterion enabled us to disentangle CEO fixed effects (i.e. CEO-specific component) and firm fixed effects (i.e. firm routines) in measures of temporal focus. In addition, the data set we constructed also enabled us to conduct variance partitioning analysis following prior practices (Crossland & Hambrick, 2011; Quigley & Hambrick, 2015). After these steps, we obtained our final sample which includes 3282 observations, covering 469 unique firms and 988 unique CEOs heading these firms.

It is important to highlight that our sample construction of multi-CEO firms is inspired by but different from the practice of Bertrand & Schoar (2003). In Bertrand & Schoar (2003) study, they focus on executives who were observed in multiple firms to identify executive fixed effects. Their practice has been questioned recently by Jarosiewicz & Ross (2022). For instance, one important issue with multifirm executive construction is the number of observations. Jarosiewicz & Ross (2022) find only 48 executives who work in multiple firms within a 30-year period. In our data, after constructing the textual measures and controls, there were only five CEOs left who were observed across multiple firms. To avoid this extremely small number of observations, we chose to use multi-CEO firms (469 unique firms and 988 unique CEOs) instead of multifirm CEOs as our observations.

Measures and models

Temporal focus. We measured *past, present, and future focus* using the LIWC 2015 software and dictionary to calculate the related word percentage associated with each temporal focus dimension in earnings calls. The LIWC dictionary is consistent with definitions of individual-level past, present, and future focus and has been widely used in prior studies (Bluedorn, 2002; DesJardine & Shi, 2020; Nadkarni & Chen, 2014; Shipp et al., 2009). Specifically, LIWC dictionary classifies words into three temporal dimensions: *past focus* (e.g. "ago", "already", "had", "did"), *present focus* (e.g. "today", "now", "is", "are"), and *future focus* (e.g. "will", "going to", "expect", "wish"). These measures reflect the relative allocation of managerial attention across temporal frames. A higher proportion of future-focused words indicates a forward-looking orientation emphasizing expectations and projections, whereas greater use of present- or past-focused language reflects attention to ongoing conditions or prior events, respectively. Prior research has established LIWC-based temporal indicators as reliable proxies for cognitive time orientation in organizational and strategic contexts.

Models and independent variables. To examine our first hypothesis, our models follow prior practices of fixed-effect design (Bertrand & Schoar, 2003; Schoar & Zuo, 2017). The fixed-effect analysis aims to estimate the joint significance of CEO fixed effects in regressions with each of the three temporal dimensions as dependent variables. Most importantly, the joint significance of CEO fixed effects is assessed after including various controls and firm fixed effects. The empirical models we specified are as follows:

$$\text{Temporal focus}_{ijt} = \alpha_t + \gamma_i + \beta X_{ijt} + \lambda_j + \varepsilon_{ijt} \quad (1)$$

In (1), temporal focus refers to the three dimensions of past, present, and future focus measured from conference calls using LIWC. α_t refers to year fixed effects, γ_i to firm fixed effects, X_{ijt} to time-varying firm controls and CEO-level controls and λ_j refers to CEO fixed

effects. The firm fixed effects capture whether firms intrinsically have a routine toward each temporal focus dimension, after accounting for various controls. To the extent that CEO hiring decisions are driven by firm characteristics, the inclusion of firm fixed effects in the model should eliminate or suppress the significance of any CEO fixed effects in temporal focus. However, if CEOs' idiosyncratic temporal focus manifests independently of firm-level determinants, we would expect CEO fixed effects to remain significant even after including firm fixed effects.

An alternate way to differentiate CEO-specific temporal focus from firm-level routines is to conduct a variance partitioning methodology (VPM) analysis that has been popular in the upper echelons literature. Variance partitioning analysis is used to assess how much each component contributes to the variation in the dependent variable and to establish their relative importance. Grounded in statistics and multivariate modeling, VPM decomposes the total explained variance (e.g., R^2) into portions uniquely attributable to each set of predictors as well as portions jointly explained by overlapping predictor sets. By estimating models with different combinations of components, VPM enables a precise quantification of the independent contribution of each factor while accounting for shared explanatory power. This approach is particularly valuable in settings where predictors are correlated, as it clarifies not only whether a component matters, but also how much it matters relative to others in explaining the dependent variable. VPM has been extensively used to tease out the degree of influence CEOs exert on various aspects. In our view, VPM is complementary to the fixed-effects approach that we adopt here: whereas fixed effects can be used to rigorously test the hypothesis that a CEO effect exists in the first place, VPM can be subsequently used to assess the magnitude of significance. Following this logic, we also adopt VPM to gauge the variance explained by CEO effects in the three temporal dimensions.

To test our *second hypothesis*, we regress each temporal focus dimension as a dependent variable on CEO characteristics including gender, age, and whether a CEO started her career in a recession year. The model for this hypothesis is structurally the same as the prior model (1), except that we replace the CEO fixed effects λ_j with these three CEO characteristics. This can be interpreted as testing whether CEO-specific temporal focus comes from their demographic characteristics (gender and age) and early-career experiences (recession experience).

We use the variable *Recession* to capture whether a CEO started his or her career during an economic recession or not. Following [Schoar & Zuo \(2017\)](#), if the year when a CEO turns 24 years old is a recession year, we code this variable as 1, and otherwise it is coded as 0. To be classified as a recession year, the year must either include the trough of a business cycle or fully fall into a recession period. We use an indicator to capture gender (*female*), and we measure CEO *age* from ExecuComp.

To address our *third hypothesis*, the effect of CEO-specific temporal focus on CEO-specific firm performance, we require independent measures of CEO-specific temporal focus and a dependent measure of CEO-specific firm performance. For CEO-specific temporal focus, we draw on the regressions from *H1* test following prior practices ([Bertrand & Schoar, 2003](#); [Schoar & Zuo, 2017](#)): because each CEO fixed-effect coefficient captures the extent to which a CEO's temporal orientation deviates from the firm's routine temporal pattern, we use these coefficients for the three temporal dimensions as our CEO-specific temporal focus measures. We apply the same logic to firm performance. Specifically, we estimate a model of ROA with CEO fixed effects and treat each CEO's fixed-effect coefficient as the measure of CEO-specific firm performance. We then regress CEO-specific ROA on CEO-specific temporal focus. Following [Davis, Ge, Matsumoto, & Zhang \(2015\)](#), we convert both sets of coefficients into percentile ranks to mitigate the influence of outliers.

In terms of controls, apart from firm fixed effects and year fixed effects, we included several variables pertaining to the firm and CEO level, including Tobin's *Q*, leverage, firm size, capital intensity, R&D intensity, asset durability, CEOs' restricted stock, exercisable option, unexercisable option, and cash pay.

Results

[Table 1](#) provides the descriptive statistics and correlations of the variables used in our analysis. All correlations were within the acceptable range, indicating minimal concerns related to multicollinearity. [Table 2](#) presents the fixed-effect model regression results for our analyses pertaining to *H1*: whether there is a CEO-specific element in temporal focus that manifests after controlling for firm fixed effects and other controls. For each of our dependent variables (future focus, present focus, past focus), we first report the results of our regression with only control variables and year effects in Columns (1), (4) and (7). Next, we add firm fixed effects in Columns (2), (5) and (8). Finally, we add CEO fixed effects in Columns (3), (6) and (9). In the rows below, we report the results of *F*-tests of significance of firm fixed effects and CEO fixed effects.

As shown in the *F*-tests in [Table 2](#) Columns (2), (5) and (8), the first noteworthy result is that firm fixed effects are significant at the $p < 0.001$ level in all three temporal focus dimensions. This suggests firms have their own temporal orientation and structure along each dimension which is embedded in their routines, which CEOs need to incorporate into their decision making and communication. From the perspective of upper echelons research, the critical question is whether there are significant CEO fixed effects in the three dimensions after accounting for firm fixed effects. The results in Columns (3), (6) and (9) confirm the presence of significant CEO fixed effects in all three dimensions of temporal focus. The *F*-tests for CEO fixed effects have *p*-values that are less than 0.001. These results confirm that CEO-specific temporal focus is evidenced in their public language at the firm level, highlighting the impact of CEOs as individuals on their firms.

[Table 3](#) presents the VPM results. Similar to [Crossland & Hambrick \(2011\)](#), we examined the CEO effect in temporal focus using the multilevel model approach ([Lester, Cullen-Lester, & Walters, 2021](#)) comprising CEOs (Level 1) within firms (Level 2) within industries (Level 3), with year fixed effects controlled. Our sample includes 158 distinct industries based on three-digit SIC codes. Industry classification is based on Compustat primary SIC, which reflects each firm's dominant line of business in terms of revenue. As shown in the table, CEO effects account for 24.59% in future focus variance, 38.16% in present focus variance and 38.66% in past focus. In comparison, firm effects in the three dimensions are 24.76%, 30.35% and 18.44%, respectively. These results reinforce the proposition that as individuals, CEOs have specific temporal focus beyond firms.

[Table 4](#) reports the effect of CEO individual characteristics on the three CEO-specific temporal focus dimensions in conference calls to examine *H2*. For each of our dependent variables (future focus, present focus, past focus), we once again report the results of the model excluding CEO observable characteristics (Columns 1, 3, 5). Next, we report the results of the full model along with *F*-tests of CEO observable characteristics (Columns 2, 4, 6). As the *F*-statistics indicate, the temporal dimensions of past, present, and future focus are significantly influenced by CEO observable characteristics at the 0.05, 0.001 and 0.001 levels, respectively. These results further indicate that the CEO-specific temporal focus observed in [Table 2](#) ultimately stems from CEO characteristics instead of firm context.

As shown in [Table 5](#) as examinations of *H3*, from Columns (2) to (3), we do not find that the coefficients of CEO-specific past and present focus have an impact on CEO-specific firm performance. However, CEO-specific future focus was negatively related to CEO-specific

Table 1. Descriptive statistics and correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Future focus	1.61	0.52	1.00																	
2. Present focus	6.27	1.47	0.28	1.00																
3. Past focus	2.12	0.66	-0.09	0.02	1.00															
4. Female	0.04	0.19	0.01	-0.05	-0.02	1.00														
5. Age	56.99	6.10	0.09	0.05	0.07	-0.06	1.00													
6. Tenure	6.95	5.62	0.09	0.07	0.07	-0.09	0.41	1.00												
7. Recession	0.21	0.41	0.01	-0.02	0.04	0.02	0.10	0.04	1.00											
8. Tobin's Q	1.98	1.11	-0.15	-0.12	-0.05	0.04	-0.03	-0.00	0.01	1.00										
9. ROA	0.06	0.07	-0.13	-0.09	0.03	0.03	0.04	0.04	0.01	0.53	1.00									
10. Leverage	0.25	0.18	0.05	0.01	0.02	-0.01	-0.04	-0.09	-0.02	-0.13	-0.19	1.00								
11. Firm size	8.24	1.57	-0.01	0.05	-0.03	0.02	0.02	-0.13	-0.08	-0.19	-0.06	0.30	1.00							
12. Asset durability	13.53	8.78	0.19	0.05	0.04	0.06	0.09	0.01	0.04	-0.17	-0.06	0.23	0.18	1.00						
13. R&D intensity	0.02	0.04	-0.09	-0.10	-0.17	-0.05	-0.04	0.06	-0.01	0.35	0.07	-0.24	-0.20	-0.29	1.00					
14. Capital intensity	0.04	0.04	0.15	0.09	-0.01	0.06	0.08	0.01	0.05	0.02	0.05	0.06	-0.04	0.37	-0.18	1.00				
15. Restricted stock	4.10	5.93	-0.09	0.01	-0.05	0.04	-0.01	-0.06	-0.05	0.11	0.11	0.02	0.34	-0.06	0.06	0.00	1.00			
16. Exercisable option	6.22	14.94	-0.06	0.00	0.02	-0.06	0.08	0.16	-0.01	0.25	0.18	0.09	0.25	-0.07	0.08	-0.04	0.18	1.00		
17. Un-exercisable option	2.28	4.90	-0.08	-0.06	0.01	-0.03	0.01	0.03	0.00	0.23	0.18	0.05	0.27	-0.05	0.06	-0.04	0.22	0.61	1.00	
18. Cash pay	0.23	0.17	0.06	0.06	0.07	-0.03	0.11	0.24	-0.02	-0.04	-0.05	-0.11	-0.40	0.02	-0.03	0.04	-0.26	-0.16	-0.18	1.00

Note(s): n = 3,282

Table 2. CEO-specific temporal focus

Variables	(1) Focus future	(2) Focus future	(3) Focus future	(4) Focus present	(5) Focus present	(6) Focus present	(7) Focus past	(8) Focus past	(9) Focus past
Tobin's Q	-0.059*** (0.009)	-0.021* (0.012)	-0.000 (0.015)	-0.136*** (0.026)	-0.081** (0.031)	-0.055* (0.032)	-0.000 (0.012)	-0.022 (0.015)	-0.039* (0.017)
Leverage	0.039 (0.053)	0.005 (0.091)	0.064 (0.110)	-0.183 (0.153)	0.049 (0.226)	0.190 (0.228)	0.029 (0.068)	-0.169 (0.112)	-0.160 (0.124)
Firm size	-0.009 (0.007)	-0.036 (0.026)	-0.001 (0.038)	0.050* (0.021)	-0.090 (0.065)	-0.039 (0.078)	-0.027** (0.009)	0.073* (0.032)	-0.030 (0.042)
Capital intensity	1.263*** (0.229)	-0.469 (0.405)	-0.090 (0.450)	3.279*** (0.666)	1.729* (0.958)	0.257 (0.937)	-0.900** (0.295)	-0.548 (0.497)	-0.141 (0.509)
R&D intensity	0.214 (0.267)	-1.409* (0.797)	-2.234* (1.026)	-1.898* (0.775)	3.329* (1.965)	2.130 (2.136)	-3.425*** (0.344)	0.046 (0.978)	0.158 (1.161)
Asset durability	0.008*** (0.001)	-0.002 (0.003)	-0.002 (0.003)	-0.003 (0.003)	-0.010 (0.007)	-0.005 (0.007)	0.001 (0.001)	0.000 (0.003)	-0.006 (0.004)
Restricted stock	-0.005** (0.002)	0.000 (0.002)	-0.003 (0.002)	0.009* (0.005)	0.004 (0.004)	0.002 (0.004)	-0.001 (0.002)	0.002 (0.002)	0.003 (0.002)
Exercisable option	0.001 (0.001)	0.002** (0.001)	0.001 (0.001)	0.007*** (0.002)	0.004* (0.002)	0.000 (0.002)	0.002 (0.001)	0.000 (0.001)	-0.001 (0.001)
Unexercisable option	-0.003 (0.002)	-0.005* (0.002)	-0.006* (0.002)	-0.024*** (0.007)	-0.007 (0.006)	-0.005 (0.005)	0.003 (0.003)	0.003 (0.003)	0.002 (0.003)
Cash pay	0.044 (0.057)	0.018 (0.061)	-0.072 (0.069)	0.591*** (0.166)	0.143 (0.150)	0.109 (0.143)	0.111 (0.074)	0.025 (0.075)	0.117 (0.078)
Constant	1.621*** (0.074)	2.169*** (0.337)	1.655*** (0.446)	6.081*** (0.213)	9.740*** (0.831)	10.087*** (0.928)	2.475*** (0.095)	1.928*** (0.414)	3.559*** (0.504)
Year fixed effect	yes	yes	yes	yes	yes	yes	yes	yes	yes
Firm fixed effect	yes	yes	yes	yes	yes	yes	yes	yes	yes
CEO fixed effect									
F-test for firm fixed effect		6.108***			10.760***			7.317***	
F-test for CEO fixed effect			2.591***			5.385***			3.810***
Obs	3282	3282	3282	3282	3282	3282	3282	3282	3282
R ²	0.073	0.542	0.712	0.039	0.657	0.846	0.054	0.575	0.773
Adj. R ²	0.068	0.462	0.585	0.034	0.597	0.778	0.049	0.501	0.673

Note(s): Standard errors are reported in parentheses. ***, **, * and + indicate statistical significance at the 0.001, 0.01, 0.05 and 0.1 levels, respectively. If personality characteristics of idiosyncratic temporal focus do manifest independent of firm level antecedents and determinants, we would expect CEO fixed effects to be significant despite including firm fixed effects

Table 3. Proportion of variance in temporal focus

Dependent variable	Explained factors	Proportion (%)
Focus future	Industry	8.86
	Firm	24.76
	CEO	24.59
	Unexplained	41.79
Focus present	Industry	9.78
	Firm	30.35
	CEO	38.16
	Unexplained	21.71
Focus past	Industry	9.28
	Firm	18.44
	CEO	38.66
	Unexplained	33.62

firm performance, as captured by ROA. This result stands to intuition, since future focused CEOs’ human capital may be oriented toward building future performance, rather than maximizing current performance. To further tease out the relationship between CEO-specific temporal focus and CEO-specific firm performance, we constructed a measure of CEO temporal balance. This measure is given as the reciprocal of the standard deviation of the coefficients of the three temporal dimensions (Mohammed & Nadkarni, 2011). As shown in Table 5 Column (4), this measure had a significant impact at $p < 0.10$ on ROA, indicating that CEO-specific temporal balance as a dimension of human capital was important in explaining how individual CEOs improved ROA. To address potential concerns regarding reverse causality that firm performance leads to certain temporal focus, it is important to clarify the level of analysis and measurement in this study. Unlike prior research that relies on firm-year/quarter observations of CEO language, our analysis is conducted at the CEO level, using CEO-specific (i.e., time-invariant) measures. CEO-specific temporal focus captures a stable linguistic tendency aggregated across time points and relative to firm routines, reflecting an enduring cognitive orientation rather than situational responses to contemporaneous performance. Likewise, CEO-specific firm performance is constructed as the systematic deviation of firm outcomes during a CEO’s tenure from firm-level baseline performance and is also represented as a single, nonlongitudinal measure. Because both the independent and dependent variables reflect cross-temporal, CEO-level patterns rather than fluctuations, the likelihood that short-term performance drives temporal focus is substantially reduced. Instead, the analysis is designed to capture how stable CEO characteristics are associated with systematic differences in firm performance, supporting a directional interpretation from CEO temporal focus to firm outcomes.

Discussion

Upper echelons research has made considerable progress in explaining how CEOs shape organizational outcomes. With the growing availability of textual analyses and natural language processing, scholars can now capture nuanced personality characteristics from language use. Using text-based measures of temporal focus, our study contributes foundational evidence that – despite self-selection, discretion, and entrainment – CEO personality characteristics do surface at the firm level and exert independent influence on firm behavior. In this regard, our work echoes prior efforts to revisit core analytical

Table 4. Determinants of CEO-specific temporal focus

Variables	(1) Focus future	(2) Focus future	(3) Focus present	(4) Focus present	(5) Focus past	(6) Focus past
Tobin's Q	-0.019 (0.012)	-0.020 (0.012)	-0.077* (0.031)	-0.074* (0.030)	-0.022 (0.015)	-0.022 (0.015)
leverage	-0.009 (0.091)	-0.005 (0.091)	0.007 (0.224)	0.058 (0.224)	-0.168 (0.112)	-0.162 (0.112)
Firm size	-0.033 (0.026)	-0.039 (0.026)	-0.082 (0.065)	-0.106 (0.065)	0.073* (0.032)	0.069* (0.032)
Capital intensity	-0.504 (0.404)	-0.518 (0.403)	1.621 (0.993)	1.678+ (0.991)	-0.544 (0.497)	-0.610 (0.496)
R&D intensity	-1.467+ (0.794)	-1.598* (0.796)	3.152 (1.954)	2.506 (1.955)	0.052 (0.978)	-0.061 (0.979)
Asset durability	-0.003 (0.003)	-0.003 (0.003)	-0.012+ (0.006)	-0.012+ (0.006)	0.000 (0.003)	-0.000 (0.003)
Restricted stock	-0.000 (0.002)	-0.000 (0.002)	0.003 (0.004)	0.003 (0.004)	0.002 (0.002)	0.002 (0.002)
Exercisable option	0.001+ (0.001)	0.001 (0.001)	0.001 (0.002)	0.001 (0.002)	0.000 (0.001)	0.000 (0.001)
un-exercisable option	-0.004+ (0.002)	-0.004+ (0.002)	-0.005 (0.006)	-0.006 (0.006)	0.003 (0.003)	0.003 (0.003)
Cash pay	-0.008 (0.061)	-0.009 (0.061)	0.065 (0.150)	0.027 (0.150)	0.028 (0.075)	0.044 (0.075)
tenure	0.008*** (0.002)	0.005** (0.002)	0.025*** (0.004)	0.018*** (0.005)	-0.001 (0.002)	-0.004 (0.003)
female		-0.088 (0.054)		0.066 (0.132)		0.062 (0.066)
recession		0.002 (0.026)		-0.184** (0.063)		0.103** (0.032)
age		0.005* (0.002)		0.015*** (0.004)		0.005* (0.002)
constant	2.132*** (0.336)	1.959*** (0.342)	9.624*** (0.827)	9.094*** (0.841)	1.932*** (0.414)	1.732*** (0.421)
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
F-test for CEO characteristics						
Obs	3282	3282	3282	3282	3282	3282
R ²	0.545	0.547	0.661	0.663	0.575	0.578
Adj_R ²	0.466	0.467	0.602	0.604	0.501	0.503

Note(s): Standard errors are reported in parentheses. ***, **, * and + indicate statistical significance at the 0.001, 0.01, 0.05 and 0.1 levels, respectively

Table 5. Relationship between CEO-specific ROA and CEO-specific temporal focus

Variables	(1) ROA_ percentile	(2) ROA_ percentile	(3) ROA_ percentile	(7) ROA_ percentile
Future percentile	−0.072+ (0.044)			
Present percentile		−0.051 (0.044)		
Past percentile			−0.060 (0.044)	
Temporal balance				0.007+ (0.004)
Constant	53.717*** (2.531)	52.649*** (2.534)	53.081*** (2.533)	49.905*** (1.268)
Obs	521	521	521	521

Note(s): Standard errors are reported in parentheses. *** and +Statistical significance at the 0.001 and 0.1 levels, respectively. The observation number 521 comes from CEO number 988 minus firm number 467, because for each firm, one of their CEOs as base group cannot output CEO fixed-effect coefficient. Temporal balance is measured as the reciprocal of the standard deviation of the coefficients of the Three temporal dimensions (Mohammed & Nadkarni, 2011)

approaches to gain more conclusive insights into CEO effects (e.g., Hambrick & Quigley, 2014). By applying more rigorous empirical tests to language-based temporal focus measures, we address lingering skepticism about the detectability and influence of CEO-level cognition.

Theoretical implications for CEO effects using language-based measures

As language-based personality measures become increasingly central to upper echelons research, our findings offer several recommendations to strengthen theoretical rigor. First, studies should explicitly articulate the firm-level factors that would induce boards to select a CEO with a particular personality characteristic. At the same time, the selected executives face constraints and entrainment. In our case, we outlined how firms’ investment horizons, approaches to learning and change orientations jointly shape the temporal focus they may prefer in CEO candidates and influence the selected CEO’s temporal focus. Second, empirical evidence from our fixed-effects models shows meaningful firm fixed effects across all three dimensions of temporal focus, indicating that firms themselves possess distinctive temporal orientations independent of the CEO. This highlights the importance of theorizing CEO-specific features and firm-imprinted features before attributing variance to CEOs. Third, after establishing why firms might demand a certain CEO trait, future research should theorize why deviations between CEO personality and firm temporal structures may be beneficial. In our case, we argued that imperfect alignment may help counteract entrenched temporal biases in the top management team, consistent with micro-level findings that temporal diversity enhances team performance (Waller, Franklin, & Parcher, 2020). Taken together, this structured approach strengthens theoretical explanations for when CEO personality matters, when it does not and why stakeholders might benefit from appointing a CEO whose traits diverge from organizational norms.

Theoretical implications for understanding CEO-specific firm performance

Our study also deepens understanding of CEO-specific firm performance, which refers to systematic deviations from a firm’s routine performance and industry norms. In other words, CEO-specific firm performance reflects the idea that a CEO would consistently generate better or worse outcomes across different firms if they were to lead multiple organizations. By regressing CEO fixed effects in performance on CEO fixed effects in temporal focus, our findings demonstrate a direct link between CEO-specific temporal focus and CEO-specific

firm performance. This provides empirical evidence that idiosyncratic personality traits, rather than perfect CEO–firm fit, can enhance performance, consistent with upper echelons theory.

This insight also aligns with resource-based perspectives that emphasize the value of managerial skills and capabilities (Castanias & Helfat, 1991). Temporal focus appears to function as a form of generic managerial skill: a cognitive orientation that can generate performance benefits across diverse settings, even when misaligned with existing organizational routines.

Empirical implications for assessing CEO personality measures

Our findings offer a few practical considerations for empirical work using language-based personality measures. First, researchers could begin by estimating models with controls and firm fixed effects to assess the extent to which firm-level factors drive variation in the personality measure. Second, adding CEO fixed effects can help determine whether a stable CEO-specific component remains after accounting for firm influences. Third, where appropriate, variance decomposition techniques can complement fixed-effects models by indicating how much variance is attributable to CEOs versus firms. Taken together, these steps provide a straightforward way to evaluate whether a given personality measure meaningfully captures CEO-specific attributes before it is used in hypothesis testing.

Empirical implications for the use of CEO cognition as a proxy for firm-level perspective

Our findings also have important implications for the common practice in management research of using CEO cognition as a proxy for firm-level cognition and strategic orientation. While upper echelons theory suggests that executives shape organizational outcomes, our results indicate that CEO cognition contains a meaningful CEO-specific component that is not fully embedded in firm routines, raising questions about the extent to which CEO perspectives accurately represent firm-level mindsets. This distinction may be particularly consequential across different organizational contexts. For instance, CEO–firm alignment may be stronger in smaller or founder-led firms, where leaders have greater discretion and imprint their cognitive styles more directly on organizational practices, whereas in larger or more mature firms, institutionalized routines may attenuate this alignment. Future research could examine how CEO–firm alignment varies across firm size, governance structure, and stages of organizational development, as well as identify the conditions under which firm-level effects become more distinct from CEO-specific influences.

Directions for future research

Our study also opens several promising avenues for future research. One direction concerns contextual variation, including whether CEO fixed effects in temporal focus differ across historical periods or institutional environments, such as those with alternative governance systems (Crossland & Hambrick, 2007). Another involves extending analysis to other personality constructs – such as hubris, narcissism, the Big Five, or overconfidence – as measurement precision for these traits continues to improve. Additional work is needed to understand the origins of such characteristics, particularly how early experiences shape stable cognitive orientations; our focus on recession entry provides one illustration, but future studies could examine influences ranging from social class background and childhood experiences to industry-specific career pathways. In addition, future research could explore the mechanisms linking personality to CEO-specific firm performance by applying similar empirical strategies to other traits, provided that data include sufficient variation and degrees of freedom to reliably estimate CEO-level effects (Jarosiewicz & Ross, 2022). Finally, an

important avenue for future research concerns the temporal dynamics of CEO–firm misalignment. While our study conceptualizes misalignment as a relatively stable difference between a CEO’s cognitive orientation and firm-level routines, it remains unclear how such misalignment evolves over a CEO’s tenure. A longitudinal approach could examine whether misalignment decreases over time as CEOs adapt to organizational norms or alternatively, whether it persists or even intensifies as CEOs imprint their own cognitive styles onto the firm. Moreover, future research could investigate whether sustained misalignment has implications for CEO tenure, such as increasing the likelihood of turnover when misalignment remains unresolved or conversely, whether CEOs remain in position long enough to reshape organizational routines toward alignment. Examining these dynamics would deepen our understanding of the interaction between managerial cognition and organizational adaptation over time.

Conclusion

In sum, using language-based measures of temporal focus and a series of fixed-effects models, we provide rigorous evidence for the existence, antecedents, and consequences of CEO-specific temporal focus. A central contribution of our study is the clear differentiation between CEO-specific cognitive tendencies and firm-embedded features from organizational routines. Our work addresses core concerns in upper echelons research by demonstrating that CEO cognition does manifest at the firm level in stable and shape firm-level outcomes in a systematic way. We hope that future research builds on our theoretical and empirical recommendations to advance understanding of CEOs and their organizational impact.

References

- Back, P., Rosing, K., Dickler, T. A., Kraft, P. S., & Bausch, A. (2020). CEOs’ temporal focus, firm strategic change, and performance: Insights from a paradox perspective. *European Management Journal*, 38(6), 884–899, <https://doi.org/10.1016/j.emj.2020.04.009>.
- Bansal, P., Reinecke, J., Suddaby, R., & Langley, A. (2022). Temporal work: The strategic organization of time. *Strategic Organization*, 20(1), 6–19, <https://doi.org/10.1177/14761270221081332>.
- Barreto, T. S., Lanivich, S. E., & Cox, K. C. (2022). Temporal orientation as a robust predictor of innovation. *Journal of Business Research*, 138, 287–300, <https://doi.org/10.1016/j.jbusres.2021.09.003>.
- Bertrand, M., & Schoar, A. (2003). Managing with style: The effect of managers on firm policies. *The Quarterly Journal of Economics*, 118(4), 1169–1208.
- Bluedorn, A. C. (2002). *The human organization of time: Temporal realities and experience*, Stanford University Press.
- Boone, C., De Brabander, B., & Helleman, J. (2000). Research note: CEO locus of control and small firm performance. *Organization Studies*, 21(3), 641–646.
- Brahmana, R. K., You, H. W., & Kontesa, M. (2021). Does CEO power matter for the performance of retrenchment strategy? *Journal of Strategy and Management*, 14(1), 1–18.
- Bromiley, P., & Rau, D. (2016). Social, behavioral, and cognitive influences on upper echelons during strategy process: A literature review. *Journal of Management*, 42(1), 174–202, <https://doi.org/10.1177/0149206315617240>.
- Castanias, R. P., & Helfat, C. E. (1991). Managerial resources and rents. *Journal of Management*, 17(1), 155–171.
- Chaplin, W. F., John, O. P., & Goldberg, L. R. (1988). Conceptions of states and traits: Dimensional attributes with ideals as prototypes. *Journal of Personality and Social Psychology*, 54(4), 541.

- Chen, J. (2022). A juggling act: CEO polychronicity and firm innovation. *The Leadership Quarterly*, 33(3), 101380, <https://doi.org/10.1016/j.leaqua.2019.101380>.
- Chen, J., Miller, D., & Chen, M.-J. (2021). Top management team time horizon blending and organizational ambidexterity. *Strategic Organization*, 19(2), 183–206.
- Chiu, S., Kong, D. T., & Celly, N. (2024). CEO regulatory focus and environmental resource scarcity on employee downsizing. *Management Decision*, 62(11), 3534–3557.
- Clougherty, J. A., Duso, T., & Muck, J. (2016). Correcting for self-selection based endogeneity in management research: Review, recommendations and simulations. *Organizational Research Methods*, 19(2), 286–347, <https://doi.org/10.1177/1094428115619013>.
- Crossland, C., & Hambrick, D. C. (2007). How national systems differ in their constraints on corporate executives: A study of CEO effects in three countries. *Strategic Management Journal*, 28(8), 767–789, <https://doi.org/10.1002/smj.610>.
- Crossland, C., & Hambrick, D. C. (2011). Differences in managerial discretion across countries: How nation-level institutions affect the degree to which CEOs matter? *Strategic Management Journal*, 32(8), 797–819, <https://doi.org/10.1002/smj.913>.
- Davis, A. K., Ge, W., Matsumoto, D., & Zhang, J. L. (2015). The effect of manager-specific optimism on the tone of earnings conference calls. *Review of Accounting Studies*, 20(2), 639–673, <https://doi.org/10.1007/s11142-014-9309-4>.
- DesJardine, M. R., & Shi, W. (2020). CEO temporal focus and behavioral agency theory: Evidence from mergers and acquisitions. *Academy of Management Journal*, 64(1), 265–292, <https://doi.org/10.5465/amj.2018.1470>.
- Dille, T., Hernes, T., & Vaagaasar, A.-L. (2022). Stuck in temporal translation? Challenges of discrepant temporal structures in interorganizational project collaboration. *Organization Studies*, 44(6), <https://doi.org/10.1177/01708406221137841>.
- Finkelstein, S., & Peteraf, M. A. (2007). Managerial activities: A missing link in managerial discretion theory. *Strategic Organization*, 5(3), 237–248, <https://doi.org/10.1177/1476127007079975>.
- Goll, I., & Rasheed, A. A. (2005). The relationships between top management demographic characteristics, rational decision making, environmental munificence, and firm performance. *Organization Studies*, 26(7), 999–1023, <https://doi.org/10.1177/0170840605053538>.
- Hambrick, D. C. (2007). *Upper echelons theory: An update*, New York, NY 10510: Academy of Management Briarcliff Manor.
- Hambrick, D. C., & Finkelstein, S. (1987). Managerial discretion: A bridge between polar views of organizational outcomes. *Research in Organizational Behavior*.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *The Academy of Management Review*, 9(2), 193–206.
- Hambrick, D. C., & Quigley, T. J. (2014). Toward more accurate contextualization of the CEO effect on firm performance. *Strategic Management Journal*, 35(4), 473–491, <https://doi.org/10.1002/smj.2108>.
- Jarosiewicz, V. E., & Ross, D. G. (2022). Revisiting managerial ‘style’: The replicability and falsifiability of manager fixed effects for firm policies. *Strategic Management Journal*, 44(3), 1–29, <https://doi.org/10.1002/smj.3439>.
- Kaur, R., & Singh, B. (2019). Do CEO characteristics explain firm performance in India? *Journal of Strategy and Management*, 12(3), 409–426.
- Kooij, D. T. A. M., Kanfer, R., Betts, M., & Rudolph, C. W. (2018). Future time perspective: A systematic review and meta-analysis. *Journal of Applied Psychology*, 103(8), 867–893, <https://doi.org/10.1037/apl0000306>.
- Kremer, R. (2023). Opening up their values: How CEOs conservation and openness to change impact downsizing decisions? *Management Decision*, 61(9), 2512–2540.

- Kunzl, F., & Messner, M. (2022). Temporal structuring as self-discipline: Managing time in the budgeting process. *Organization Studies*, 44(9), <https://doi.org/10.1177/01708406221137840>.
- Lester, H. F., Cullen-Lester, K. L., & Walters, R. W. (2021). From nuisance to novel research questions: Using multilevel models to predict heterogeneous variances. *Organizational Research Methods*, 24(2), 342–388, <https://doi.org/10.1177/1094428119887434>.
- Li, M., & Yang, J. (2019). Effects of CEO duality and tenure on innovation. *Journal of Strategy and Management*, 12(4), 536–552.
- Ma, D., & Wu, W. (2025). Experience as a double-edged sword: CEO experience and power on breakthrough innovation. *Management Decision*, 63(1), 338–367.
- Mackey, A. (2008). The effect of CEOs on firm performance. *Strategic Management Journal*, 29(12), 1357–1367, <https://doi.org/10.1002/smj.708>.
- Mohammed, S., & Nadkarni, S. (2011). Temporal diversity and team performance: The moderating role of team temporal leadership. *Academy of Management Journal*, 54(3), 489–508, <https://doi.org/10.5465/amj.2011.61967991>.
- Nadkarni, S., & Chen, J. (2014). Bridging yesterday, today, and tomorrow: CEO temporal focus, environmental dynamism, and rate of new product introduction. *Academy of Management Journal*, 57(6), 1810–1833.
- Orlikowski, W. J., & Yates, J. (2002). It's about time: Temporal structuring in organizations. *Organization Science*, 13(6), 684–700, <https://doi.org/10.1287/orsc.13.6.684.501>.
- Phillips, R. A., Berman, S. L., Elms, H., & Johnson-Cramer, M. E. (2010). Strategy, stakeholders and managerial discretion. *Strategic Organization*, 8(2), 176–183, <https://doi.org/10.1177/1476127010365721>.
- Prasad, B., & Junni, P. (2017). A contingency model of CEO characteristics and firm innovativeness: The moderating role of organizational size. *Management Decision*, 55(1), 156–177.
- Quigley, T. J., & Hambrick, D. C. (2015). Has the “CEO effect” increased in recent decades? A new explanation for the great rise in America’s attention to corporate leaders. *Strategic Management Journal*, 36(6), 821–830, <https://doi.org/10.1002/smj.2258>.
- Rocha, V., van Praag, M., Folta, T. B., & Carneiro, A. (2019). Endogeneity in strategy-performance analysis: An application to initial human capital strategy and new venture performance. *Organizational Research Methods*, 22(3), 740–764, <https://doi.org/10.1177/1094428118757313>.
- Rodenbach, M., & Brettel, M. (2012). CEO experience as micro-level origin of dynamic capabilities. *Management Decision*, 50(4), 611–634.
- Schiehl, E., Lewellyn, K. B., & Muller-Kahle, M. I. (2018). Pilot, pivot and advisory boards: The role of governance configurations in innovation commitment. *Organization Studies*, 39(10), 1449–1472, <https://doi.org/10.1177/0170840617717092>.
- Schoar, A., & Zuo, L. (2017). Shaped by booms and busts: How the economy impacts CEO careers and management styles? *The Review of Financial Studies*, 30(5), 1425–1456, <https://doi.org/10.1093/rfs/hhw111>.
- Sghaier, A., & Hamza, T. (2024). CEO power and risk taking: Evidence from European banks mergers and acquisitions. *Journal of Strategy and Management*, 17(4), 655–687.
- Shipp, A. J., Edwards, J. R., & Lambert, L. S. (2009). Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational Behavior and Human Decision Processes*, 110(1), 1–22.
- Tang, S., Richter, A. W., & Nadkarni, S. (2020). Subjective time in organizations: Conceptual clarification, integration, and implications for future research. *Journal of Organizational Behavior*, 41(2), 210–234, <https://doi.org/10.1002/job.2421>.
- Trommsdorff, G. (1983). Future orientation and socialization. *International Journal of Psychology*, 18(1–4), 381–406.

Waller, M. J., Franklin, A. E., & Parcher, D. B. (2020). Time perspective balance and team adaptation in dynamic task contexts. *Journal of Organizational Behavior*, 41(3), 263–275, <https://doi.org/10.1002/job.2431>.

Wang, Q., Wu, Q., Xie, L., & Zhang, X. (2023). CEO's self-oriented perfectionism, strategic decision comprehensiveness and firm resilience. *Management Decision*, 61(11), 3343–3360.

White, J. V., & Borgholthaus, C. J. (2022). Who's in charge here? A bibliometric analysis of upper echelons research. *Journal of Business Research*, 139, 1012–1025, <https://doi.org/10.1016/j.jbusres.2021.10.028>.

Corresponding author

Dongge Zhou can be contacted at: dzhou@kean.edu