

## **Market Dynamism and Firm Strategic Orientation: How CEO Transformational Leadership Emerges and Affects Firm Performance**

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### **Abstract**

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*The importance of the Chief Executive Officer's (CEO) transformational leadership (CTL) has been increasingly recognized, yet our understanding of how CTL arises and how it impacts firm performance remains limited. Building on the current body of leadership research, we theorize that market dynamism in part gives rise to CTL, and that CTL then affects firm performance through influencing two critical firm strategic orientations, namely, customer orientation and innovation orientation. Data collected from a sample of 206 manufacturing firms indicate support for the hypotheses. The findings advance our understanding of the interrelationship among the firm's market context, emergence of CEO transformational leadership, firms' chosen strategic orientation, and firm performance.*

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**Keywords:** Market dynamism, CEO transformational leadership, customer orientation, innovation orientation, firm performance

### **1. Introduction**

The importance of top executive transformational leadership to organizational success has increasingly been recognized (Bass & Avolio, 1994; Chen et al., 2019; Jensen et al., 2020). Researchers and practitioners alike are particularly interested in understanding when, how, and under what conditions CEO transformational leadership (CTL) emerges and positively affects firm performance. Yet, two significant knowledge gaps remain.

First, transformational leadership is thought to be in greater need in dynamic environments (Agle et al., 2006; Ling et al., 2008), but such an assumption has not been empirically tested. Dynamic environments are characterized by high levels of uncertainty resulting from rapid changes in competition, demand, and technology.

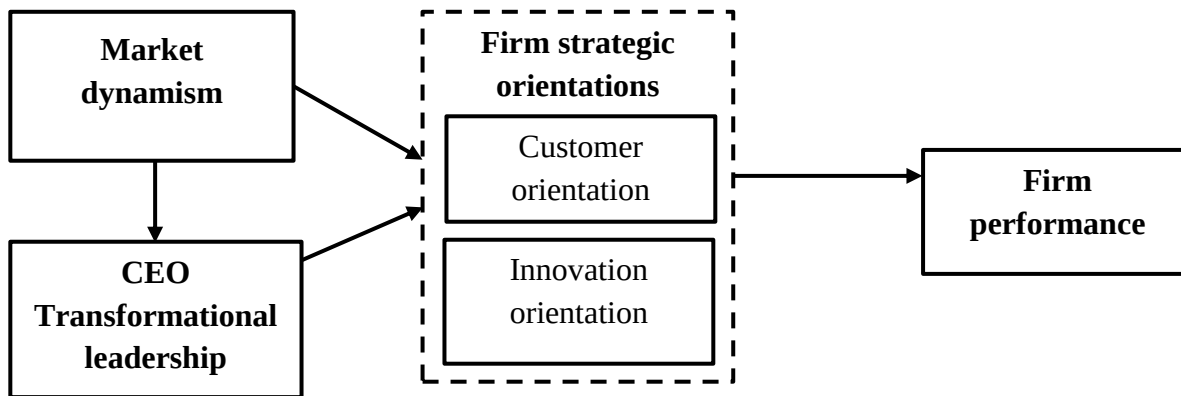
Most studies treated such dynamic environments as a moderator in the CTL-firm performance relationship, but results are mixed (Agle et al., 2006; Chen et al., 2019; Waldman et al., 2004; Waldman et al., 2001). For example, Waldman et al. (2001) found that CEO charisma, one of the four components of transformational leadership, was positively related to firm performance only under high environmental uncertainty. Agle et al. (2006) found no relationship between CEO charisma and organizational performance, regardless of the degree of environmental uncertainty.

Second, researchers have argued that CTL should deliver higher firm performance, largely theorizing that CTL inspires and motivates organizational members to transcend their self-interest for the collective good (Bass, 1999; Bass & Riggio, 2006; Jensen et al., 2020). Yet, there is little research on the mechanism through which that effect actually occurs. Existing studies on the impact of CTL on firm performance have produced mixed results, indicating a need for more precise mediation models. For example, Ensley et al. (2006) failed to find a positive main effect of CTL on firm performance. Tosi et al. (2004) reported that CEO charisma was not related to firm performance. Jensen et al. (2020), using secondary data, showed that only certain aspects of CTL are associated with select financial indicators, including sales and profits. The important question of how and to what degree CTL influences organizational performance has not been adequately addressed.

This research aims to address these two gaps in literature. We draw on transformational leadership theory to examine market dynamism as a key antecedent to CTL, and link the latter to firm performance through two important strategic orientations: customer and innovation orientations.

A firm's ability to adapt to a dynamic environment is essential and the CEO's leadership is integral part of this adaptation. Scholars have argued that contextual variables may facilitate the emergence of transformational leadership (e.g., Bass & Avolio, 1994; Beugré et al., 2006; Shamir & Howell, 1999), yet little empirical research has tested such antecedents at the CEO level. This contrasts with the relatively more developed research on antecedents of transformational leadership of managers at lower organizational levels. Leaders at tactical- and operational-levels of the organization, however, lack significant influence over the firm's strategic decisions and are comparatively more insulated from the external environment than is the CEO (Wang et al., 2015). To address this deficit, we theorize and test whether dynamic markets are an antecedent to CTL, shedding light on the origin and emergence of transformational leadership in business contexts.

We propose that two critical firm strategic orientations, i.e., customer orientation and innovation orientation, serve as mediating mechanisms through which CEO transformational leadership affects firm performance (Zhou et al., 2005). One of the orientations is customer-based and the other is product-based, representing two parallel firm-level processes through which CTL may influence firm performance (Siguaw et al., 2006; Stock & Zacharias, 2011; Zhou et al., 2005). We theorize that both paths can be enhanced by CTL, and we thereby illuminate the mechanisms through which CTL affects firm performance. Identifying these two mechanisms not only adds specificity to prior general assertions that CTL broadly inspires and motivates, but also as firm-level mechanisms, avoids issues with non-specified levels of analysis inherent in those prior assertions – i.e., motivation and inspiration can occur at one level or emerge across multiple levels. Figure 1 illustrates the overall conceptual framework.

**Figure 1***Conceptual Model*

## 2. Hypothesis Development

### 2.1. CEO transformational leadership (CTL)

CTL is characterized by four leadership behaviors: idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration (Bass & Riggio, 2006). CEOs exhibit idealized influence when they role model high levels of competence and ethical behavior, behave consistently with promises, instill pride, and gain respect and trust among their subordinates. Intellectual stimulation occurs when the CEO encourages organizational members to think outside the box, challenge assumptions, think independently, and generate creative ideas. Inspirational motivation refers to CEOs communicating and articulating compelling, appealing, and inspiring visions of the future and instilling an understanding of the importance of achieving those visions. Finally, CEOs practice individualized consideration through recognizing the developmental needs of individual organizational members, leveraging their strengths, and providing systems and resources for employee support and development to reach higher levels of potential and performance.

Top management transformational leadership has been associated with organizational and product innovation, market orientation, corporate entrepreneurship, corporate social responsibility, and firm performance (Bass & Riggio, 2006). Yet, research has explained neither how CTL emerges nor the mechanisms through which it influences firm performance.

### 2.2. Market dynamism

Market dynamism consists of three aspects: market turbulence, competitive intensity, and technological turbulence (Henderson et al., 2006; Song & Parry, 2009; Wallace et al., 2010). Market turbulence is the rate of change in the composition of customers and their preferences, causing uncertainty in demand and customer requirements. Competitive intensity refers to the number of close substitute offerings available in the market. Technological turbulence refers to the rate of technological change in an industry.

There are two possible routes for CEOs to emerge as transformational leaders in dynamic markets. First, a dynamic environment encourages the existing CEO to become more transformational. In times of crisis, turbulence, and stress, traditional solutions and arrangements no longer function, the future looks uncertain and frightening, and followers may feel somewhat helpless, anxious, and frustrated and tend to look for leaders who are confident and visionary.

Such an environment may prompt CEOs to rise to the occasion by enacting more transformational leadership behaviors that were perhaps latent in more static contexts. For example, in low-dynamic contexts, CEOs may focus more on the effective enactment of current strategies, managing the firm to maximize efficiencies through driving execution.

In highly dynamic contexts, however, CEOs should feel greater need to provide their organization with a compelling new vision, role model ‘calm during the storm,’ engage others in ideating new paths forward, seek to excite and inspire followers to take on the new challenges, calm and comfort any alienated and disenchanted followers, and communicate new opportunities. Bass and Avolio (1994) argued that in rapidly changing markets, followers tend to desire and accept strong leadership, embrace change, and devote themselves to new visions. As such, in a more dynamic market environment, leaders may more likely develop and display transformational qualities and behaviors, seeking to provide their followers with both meaning to the current situation and promise of security and clarity under distress (Howell & Shamir, 2005).

The second route for transformational CEOs to emerge is through the hiring and selection process (Schneider, 1987). Researchers have reasoned that transformational leaders tend to “find acceptance in organizations facing rapidly changing technologies and markets than in organizations operating under routine and stable conditions” ((Shamir & Howell, 1999), p. 264). Transformational leaders may be attracted toward CEO positions in more dynamic industries as they will have more opportunities to shine. It is also possible that leaders with bold visions and charisma are seen as more competent to lead firms operating in more turbulent environments, and are thus more likely to be hired for such CEO positions (Bass & Riggio, 2006). Thus, through attraction-selection-attrition processes (Schneider, 1987), transformational leaders are more likely to occupy CEO positions in more dynamic contexts. Taken together, we hypothesize:

H1. Market dynamism is positively related to CEO transformational leadership.

### 2.3. Firm strategic orientations

Peter Drucker maintained that firms only have two primary functions: marketing and innovation (Drucker 1954). Marketing is about creating a customer base whose needs can be satisfied with the firm’s products, and innovation is about creating products and processes that deliver superior value to customers. We argue that the firm’s customer and innovation orientations serve as mediating channels in order for CTL to positively affect firm performance.

*Customer orientation.* Customer orientation refers to an organizational focus on understanding customers and creating superior customer value by delivering on the target customers’ present and latent needs (Narver et al., 1998). Achieving customer need fulfillment is the most fundamental aspect of market orientation that underpins modern marketing theory and practice. The positive effects of customer orientation on firm performance has been consistently documented (Attuahene-Gima & Ko, 2001; AttuaheneGima, 1996; Han et al., 1998; Hurley & Hult, 1998; Kumar et al., 2011; Liem Viet & O’Cass, 2012; Lukas & Ferrell, 2000).

We argue that CTL affects firm performance in part through shaping firm-level customer orientation. First, a customer-oriented culture enables the firm to anticipate future customer needs and provide solutions for them through organization-wide learning about the constantly changing customer needs and preferences. The intellectual stimulation dimension of transformational leadership would likely encourage the firm to develop a customer-oriented learning culture and drive needed changes. Compared to transactional leaders, transformational CEOs are more likely to nurture a customer-oriented culture (Jansen et al., 2006; Menguc et al., 2007).

Second, customer orientation requires the firm to have a long-term perspective to assess future customer needs and to have a vision for the future (Slater & Narver, 1995). The inspirational motivation aspect of transformational leadership entails CEOs ability to create, communicate, and inspire commitment toward such long-term visions (Bass & Riggio, 2006).

Third, cultivating a customer orientation requires employees across the firm to develop a consistently strong customer mindset, and to continuously learn to meet customers’ changing needs. Through individualized consideration, transformational CEOs encourage learning and development in all individuals and institutionalize the policies to support continuous development across all organizational levels (Bass & Riggio, 2006). As such, transformational CEOs would promote the kind of adaptations needed to create an organization-wide customer orientation culture.

Finally, the idealized influence component of transformational leadership entails driving values in the organization’s culture. Embracing a customer-focused mindset requires the CEO to drive the value (i.e., importance and criticality) of support and service to customers across the organization. More transformational leaders are better able to communicate and role model such values and serve as culture carriers for their organizations. As such, we hypothesize:

H2. CEO transformational leadership is positively related to firm customer orientation.

*Innovation orientation.* Innovation orientation refers to an organizational culture that guides and promotes the firm's innovation in product development, operations, supply chain, or other core business processes (Siguaw et al., 2006; Stock & Zacharias, 2011; Zhou et al., 2005). It serves as "a guiding principle for strategy making and implementation with the purpose of increasing a company's innovativeness" (Stock & Zacharias, 2011, p. 871). Innovation orientation has been identified as a key driver of firm performance (Attuahene-Gima & Ko, 2001; Han et al., 1998; Li & Attuahene-Gima, 2002; Rubera & Kirca, 2012; Stock & Zacharias, 2011; Talke et al., 2011).

CTL should positively shape and nurture the firm's innovation orientation. First, Transformational CEOs promote organization-wide intellectual stimulation and creativity, instill confidence, and inspire and motivate employees to pursue new ideas and visions, thereby cultivating an innovation-oriented culture (Jesus Garcia-Morales et al., 2012). Transformational CEOs also openly communicate and articulate a shared vision, which helps align efforts and overcome social, psychological, and political barriers to adopting an innovation orientation. Consistent with this logic, Jansen et al. (2006) found that transformational leadership significantly contributes to exploratory innovation that seeks to develop new knowledge and capabilities by promoting a prudent risk-taking culture and a vision for a new future for the firm.

CTL also fosters an overarching innovation culture through a cascading process. Researchers have long suggested that transformational leadership and its effects may cascade down the firm's hierarchical levels (Waldman & Yammarino, 1999). Transformational CEOs tend to set high expectations regarding innovation for senior or middle-level managers, who would in turn likely set higher innovation expectations for their own subordinates (Bass & Riggio, 2006). This cascading of expectations and support for innovation promotes teams (e.g., R&D and project teams) as well as individuals to become more innovation-oriented (Keller, 1992; Shin & Zhou, 2003). Importantly, transformational CEOs often are themselves seen as being highly innovative (Bass & Riggio, 2006). Through imposing idealized influence, thereby evoking social learning processes, other organizational members should seek to model the CEO's innovation-oriented behaviors, prompting such behavior to cascade across organizational levels (Waldman & Yammarino, 1999). Thus:

H3. CEO transformational leadership is positively related to firm innovation orientation.

#### **2.4. Direct effects of market dynamism on firm strategic orientations**

It is unlikely that market dynamism works through CEO leadership alone to affect firm strategic orientations. In general, firms operating in more competitive or more technologically turbulent markets must be more customer- and innovation-oriented in order to survive and grow (Siguaw et al., 2006). Similarly, when customer wants are constantly evolving, firms need to be more customer- and innovation-oriented to prosper (Song & Parry, 2009). These market forces operate upon the firm and create existential pressures not just on the CEO, but directly on leaders at all levels of the firm as they attempt to react in their own capacity to such environmental dynamics. Leaders at all levels of the organization interact with peers and associates at other firms, are exposed to media reports, attend trade group or association meetings, and are exposed to a plethora of other sources of information that raise their awareness of the demands of their dynamic market. Competition, for one, motivates organization members to continuously adapt, change, and innovate to better meet customer needs than their competitors. These influences suggest there should be a direct effect of market dynamism on both strategic orientations in addition to the indirect effect through CTL. This leads to the following additional hypotheses:

H4. Market dynamism is positively related to firm customer orientation.

H5. Market dynamism is positively related to firm innovation orientation.

#### **2.5. The mediating effect of CTL on firm performance**

Given the overwhelming evidence on the effects of customer orientation and innovation orientation on firm performance we note above, we include the paths from customer and innovation orientations to firm performance to complete the model, suggesting the effect of CTL on firm performance will be largely indirect in nature. Thus:

H6. Firm customer orientation mediates the effects of CEO transformational leadership on firm performance.

H7. Firm innovation orientation mediates the effects of CEO transformational leadership on firm performance.

### 3. Methods

#### 3.1. Data Collection and Sample

We collected survey data from a sample of manufacturing firms in China via a business research firm, which has access to approximately 3,000 manufacturing firms. On our behalf, the research firm selected a random sample of 500 firms from its database, contacted them for their participation, obtained commitment of cooperation from 235 firms, and eventually received 206 usable responses. This final sample includes a range of foreign owned (17.0%), Sino-foreign joint ventures (20.9%), and domestic Chinese owned firms (62.1%). The 206 firms range in size from 30 employees to 25,000 employees ( $\bar{X} = 1327$ ,  $SD = 2383$ ). A t-test showed that the number of employees (firm size) of the 206 responding firms did not vary significantly from the sizes of the non-responding firms ( $t = .45$ ,  $p > .10$ ).

We followed received practice in leadership research by utilizing top management team (TMT) members as respondents to rate CEO leadership, firm strategic orientations, and firm performance (e.g., Menguc et al., 2007). To minimize common method bias, we used different response formats in the questionnaire for different constructs and collected data from two executive respondents in each firm. The survey was originally developed in English and then translated into Chinese and followed the method of back-translation. The associates of the research firm distributed the surveys to two top executives directly below the CEO in each firm with broad organizational responsibilities for operations, marketing, and/or finance. The respondents reported to have full access to firm-level performance and comparable market information, and were involved in and knowledgeable about the firm's strategy and operations. We randomly selected one respondent to rate CEO transformational leadership, and the other to rate customer orientation, innovation orientation, and firm performance. Market dynamism was rated by both respondents.

All respondents signed an informed consent form, which informed them that their participation in the research was completely voluntary, they could withdraw their participation at any time, and their responses would be kept strictly confidential for academic research only.

#### 3.2. Measures

CEO transformational leadership was measured using the 20-item Multifactor Leadership Questionnaire (MLQ) on five-point Likert scales ranging from 0 (not at all) to 4 (frequently, if not always) (Bass & Avolio, 1997). Customer orientation was assessed via a five-item measure on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree) (Deshpande & Farley, 1998). Innovation orientation was measured with four items on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree) (Chen et al., 2009). Market dynamism was measured with the 12-item scale from Jaworski and Kohli (1993), with four items for each of three dimensions: market turbulence, competitive intensity, and technological turbulence. Both informants rated the statements using a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). Firm performance was rated on four performance aspects (i.e., sales growth, profit growth, profitability rate, and return on investment) relative to the firm's major competitors (1 = much worse than the major competitors, 7 = much better than the major competitors) (Menguc et al., 2007).

### 4. Analysis and Results

We first conducted confirmatory factor analyses (CFA) to assess the measurement properties of our model constructs. We used measurement items as indicators in the CFA, except for CTL and market dynamism, where we grouped items into four and three factors, respectively, based on these measures' theoretical dimensions described above. The measurement model achieved satisfactory fit:  $\chi^2 = 445.64$ ,  $df = 160$ ,  $\chi^2/df = 2.79$ , CFI = .91, RMSEA = .09, SRMR = .06.

The average variance extracted (AVE) was greater than .50 with composite reliability estimates greater than .80 for all constructs, demonstrating internal consistency and reliability (Bagozzi & Yi, 2012). As evidence for discriminant validity, the AVE of each construct was greater than its shared variance with any other constructs (Fornell & Larcker, 1981). Additionally, we made a series of measurement model comparisons between a model where the correlation between two of the five constructs was constrained to one and a model where the correlation was freely estimated (Anderson & Gerbing, 1988). For all possible pairs of constructs, the "free" model had better fit than the constrained model, demonstrating discriminant validity of the measures. Table 1 presents the descriptive statistics and bivariate correlations of the variables.

**Table 1***Descriptive Statistics and Bivariate Correlations*

|                                    | 1    | 2     | 3     | 4     | 5     | 6     | 7       |
|------------------------------------|------|-------|-------|-------|-------|-------|---------|
| 1. Ownership                       |      |       |       |       |       |       |         |
| 2. Firm size                       | -.04 |       |       |       |       |       |         |
| 3. CEO transformational leadership | .04  | .19** |       |       |       |       |         |
| 4. Innovation orientation          | .03  | -.05  | .36** |       |       |       |         |
| 5. Customer orientation            | -.04 | .05   | .49** | .71** |       |       |         |
| 6. Firm performance                | -.02 | -.04  | .13   | .39** | .43** |       |         |
| 7. Market dynamism                 | -.06 | .17*  | .27** | .37** | .29** | .20** |         |
| Mean                               | .72  | 7.20  | 2.49  | 5.26  | 5.55  | 5.16  | 4.66    |
| SD                                 | .45  | 7.78  | .56   | .90   | .97   | .87   | .77     |
| Cronbach's alpha                   | NA   | NA    | .91   | .84   | .93   | .90   | .91/.92 |

Note: N = 206. Ownership = 1 if domestic, = 0 if foreign or joint venture; Firm size = Ln (number of employees).

\* $p < .05$

\*\* $p < .01$

#### 4.1. Hypotheses Testing

Given the satisfactory psychometric properties of the measures, we calculated the summated scores for the multi-item model constructs, standardized them, and conducted path analyses to test our hypotheses. Due to the moderate correlation between the two firm orientations, we allowed their error terms to correlate to account for any potential confounding relationship.

The fit of the structural model was adequate ( $\chi^2 = 3.61$ ,  $df = 2$ ,  $\chi^2/df = 1.80$ , CFI = .99, RMSEA = .06, SRMR = .02). The  $R^2$  estimates were .07 for CTL, .26 for customer orientation, .21 for innovation orientation, and .20 for firm performance. We also estimated a competing, nested model with a direct path from CTL to firm performance. The direct path was not statistically significant ( $b = -.11$ ,  $p > .10$ ), lending support to the hypothesized model. Table 2 presents the path estimates and Table 3 presents the indirect effects from the mediation tests.

**Table 2***Path Model Estimation*

| Paths                                     | Standardized coefficients | Critical ratio | 95% confidence interval |
|-------------------------------------------|---------------------------|----------------|-------------------------|
| Market dynamism → CTL                     | .27*                      | 4.20           | (.17, .38)              |
| CTL → Customer orientation                | .44**                     | 7.77           | (.35, .53)              |
| CTL → Innovation orientation              | .28**                     | 4.52           | (.18, .38)              |
| Market dynamism → Customer orientation    | .17**                     | 2.82           | (.07, .27)              |
| Market dynamism → Innovation orientation  | .29**                     | 4.73           | (.19, .40)              |
| Customer orientation → Firm performance   | .31**                     | 3.52           | (.16, .45)              |
| Innovation orientation → Firm performance | .18*                      | 2.00           | (.03, .32)              |

\* $p < .05$

\*\* $p < .01$

**Table 3***Indirect Effects*

| <b>Paths</b>                                    | <b>Standardized coefficients</b> | <b>Critical ratio</b> | <b>95% confidence interval</b> |
|-------------------------------------------------|----------------------------------|-----------------------|--------------------------------|
| CTL → Customer orientation → Firm performance   | .13**                            | 3.16                  | (.06, .20)                     |
| CTL → Innovation orientation → Firm performance | .05*                             | 1.82                  | (.00, .09)                     |
| Total effects (i.e., CTL → Firm performance)    | .18**                            | 4.97                  | (.18, .25)                     |

*Note:*

\*\* $p < .01$

\*  $p < .05$ , 1-tailed.

All of our hypothesized relationships received empirical support. H1, which predicts that market dynamism is positively related to CTL, is strongly supported ( $b = .27, p < .01$ ). The data also supports H2, which predicts that CTL is positively related to firm customer orientation ( $b = .44, p < .01$ ), and H3, which proposes that CTL is positively related to firm innovation orientation ( $b = .28, p < .01$ ). H4 and H5, predicting that market dynamism is directly positively related to customer orientation and innovation orientation, are also supported ( $b = .17, p < .01$  for H4,  $b = .29, p < .01$  for H5).

The results suggest the effect of CEO transformational leadership on firm performance is largely indirect, as the direct path from CTL to performance was statistically insignificant. Consistent with H6, the indirect effect of CTL on performance through customer orientation is positive and significant ( $b = .13, p < .01$ ). Similarly and consistent with H7, the indirect effect of CTL on performance through innovation orientation ( $b = .05, p < .05$ ) was also significant, with the total indirect effect being .18 ( $p < .01$ ).

## **5. Discussion**

### **5.1. Theoretical Implications**

This study addresses two gaps in leadership research: the antecedent role of market dynamism in the emergence of CTL and the mediated pathways through which CTL affects firm performance.

First, we explore a condition that facilitates the emergence of CTL and demonstrate that market dynamism may give rise to transformational leadership at the CEO level. CEOs with demonstrated transformational attributes may more likely be hired for a firm in a more turbulent environment, and dynamic market environments may reveal the transformational leadership qualities present in CEOs. This finding enriches transformational leadership theory and links organizational leadership to the external environment, a prior gap many scholars have identified and called for more research.

Second, CTL is theorized to be positively related to firm performance through two firm strategic orientations. The empirical evidence on the effect of CTL on firm performance is far from conclusive in the literature. A direct link between the two is unlikely as the CEO must wield their influence through strategic, operational, and tactical levels of the firm. This study builds on past research enriches our understanding of this important relationship by identifying two additional mediators, and testing them simultaneously to determine their unique effects. These two mediators also differ from mediators assessed in prior research as they are aspects of the firm's culture, also highlighting how more transformational CEO may drive performance through shaping culture.

Our findings enhance research on transformational leadership theory by applying traditionally micro-oriented leadership theories to macro, organizational-level phenomena (Waldman et al., 2001). Empirical research on transformational leadership has predominantly focused on low- to middle-level supervisors, such as group leaders and second-level supervisors. Little empirical research has tested the relationship between CTL and firm outcomes, and this study heeds the call of Agle et al. (2006) for further research to identify key mediating variables that cast light on the black box between CTL and firm performance.



Consistent with prior research (Ling et al., 2008; Waldman et al., 2001), we did not find a significant direct effect of CTL on firm performance, likely due to the complexity and diversity of the variables that can influence firm performance (Agle et al., 2006).

## 5.2. Managerial Implications

Research shows that customer-oriented and innovation-oriented firms tend to stay competitive and be more profitable (Kumar et al., 2011; Lukas & Ferrell, 2000; Ngo & O'Cass, 2013; Stock et al., 2013). Our study shows that CTL is one important way to promote firm competitiveness through enhanced customer and innovation orientations, and thereby firm performance. Organizations should select or develop more transformational CEOs to improve their competitive advantage in the marketplace. This is particularly important for firms that operate in more dynamic market environments.

Since both customer orientation and innovation orientation are more immediate antecedents of firm performance than CEO transformational leadership, it is likely that a firm might still perform well if it has strong customer and innovation orientations, regardless of the form of CEO leadership. CTL and market dynamism combined explained 26.40% of the variance in customer orientation, and 21.00% of the variance in innovation orientation. Firms should identify other factors that could incrementally explain customer and innovation orientations. For example, customer orientation development requires dramatic changes to an organization's culture and systems (e.g., reward structures and performance evaluation systems) and development of market understanding and intelligence shared by the whole organization. Similarly, cultural changes and innovation-oriented human resource management practices might help firms to develop stronger innovation orientation.

## 5.3. Limitations and Future Research

This study has a few methodological limitations. First, while we varied rating sources, some of the linkages in the model are still subject to potential common source bias. We used Harmon's one-factor approach and did not find a single factor that could explain a majority of the variance in the measurement model (Harman, 1967), suggesting common method variance may not be a significant issue. Second, all data were collected utilizing a cross-sectional field-study design. As a result, causal inference is not warranted. Therefore, research using causally interpretable designs is needed to validate this model. Future research may also adopt longitudinal designs to test this model. Further, customer orientation and innovation orientation are two significant mediators in this study. Yet firms are extremely complex, and it is impossible to model all potential processes that may be operating. Additional mediators that may help enhance and refine our understanding of the relationships between CTL and firm performance and test them simultaneously with the two identified here. Finally, the generalizability of our results may also be limited due to all participant firms being located in China. Yet due to the size and importance of its economy as the second largest in the world, studying firms located in China is relevant in its own right. Nevertheless, we encourage researchers to further generalize the present findings in other countries and market sectors.

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