The Leadership Quarterly 19 (2008) 582–594

Contents lists available at ScienceDirect

The Leadership Quarterly

journal homepage: www.elsevier.com/locate/leaqua

Towards understanding the direct and indirect effects of CEOs' transformational leadership on firm innovation

Dongil (Don) Jung[a,*], Anne Wu[b,1], Chee W. Chow[c,2]

[a] Department of Management, College of Business, San Diego State University, 5500 Campanile Dr., San Diego, CA 92182, USA
[b] Department of Accounting, National Chengchi University, Wenshan, Taipei, Taiwan
[c] School of Accountancy, San Diego State University, San Diego, CA 92182, USA

ARTICLE INFO

Keywords:
Transformational leadership
Innovation
Moderators

ABSTRACT

This study seeks to advance understanding of how transformational leadership by top managers (CEOs) can affect their companies' innovativeness. We propose a model that includes both direct effects and indirect effects moderated by aspects of organizational culture, structure, and the external environment. The predicted effects are tested with data collected through multiple sources on 50 Taiwanese electronics and telecommunications companies. The results support the expectation that a positive relationship exists between CEO transformational leadership and organizational innovation. They also support most of the predicted moderating effects. The implications of these findings for practice and research are delineated.

This study seeks to advance understanding of how transformational leadership by Chief Executive Officers (CEOs) affects innovation at the organizational level. This topic is important because in today's global economy, firms are under constant pressure to innovate their products and services (Andriopoulos & Lowe 2000; Perry-Smith, 2006; Puranam, Singh, & Zollo, 2006; Tierney, Farmer, & Graen, 1999). Thus, for example, Leifer, O'Connor, & Rice (2001) have observed that "the contemporary competitive landscape has been and continues to be driven by technological revolution, globalization, hyper-competition, and extreme emphasis on price, quality, and customer satisfaction, requiring an increased recognition and focus on innovation as a strategic competence (p. 102)."

Numerous studies have sought to identify factors that can stimulate organizational innovation, broadly defined by Amabile & Conti (1999) as "the implementation or adoption of new, useful ideas by people in organizations (p. 630)." Examples of factors found to have an effect include leadership (Amabile, 1998; Mumford & Gustafson, 1998), intra-organizational networks and learning capability (Tsai, 2001), CEO pay (Balkin, Markman, & Gomez-Mejia, 2000), a creativity-conducive work environment (Amabile, 1998), job complexity and type of supervision (Oldham & Cummings, 1996), and organizational culture and climate (Mumford & Gustafson, 1998). Among these myriad factors, managers' leadership behavior has been identified by many researchers as being one of the most, if not the most, important (Amabile, 1998; Jung, 2001; Mumford, Scott, Gaddis, & Strange, 2002).

Indeed, over the past two decades, many management scholars and practitioners have called for more adaptive leadership by top business executives in responding to the rapid changes confronting today's organizations (Bass, Avolio, Jung, & Berson, 2003). Corporate chieftains like Jack Welch of General Electric and Lou Gerstner of IBM have been cited as examples of how adaptive leaders can successfully restructure and transform their organizations. The label "transformational" has been applied to a set of adaptive leadership behaviors held to be more effective than other leadership styles in enhancing organizational innovation (Lowe, Kroeck, & Sivasubramaniam, 1996; Gardner & Avolio, 1998; Howell & Avolio, 1993).

Despite being held to be a key driver of innovation at the organizational level, transformational leadership's effects have mostly been studied at the levels of individual employees or organizational subunits (Mumford et al., 2002). The limitation of such a focus

* Corresponding author. Tel.: +1 619 594 0208; fax: +1 619 594 3272.
E-mail addresses: donjung@mail.sdsu.edu (D.(D.) Jung), anwu@nccu.edu.tw (A. Wu), Chow@mail.sdsu.edu (C.W. Chow).
[1] Tel.: +886 2 2938 7128.
[2] Tel.: +1 619 594 5331.

1048-9843/$ – see front matter. Published by Elsevier Inc.
doi:10.1016/j.leaqua.2008.07.007

is that, unless the creative behaviors and outputs of individuals and subunits are coordinated to yield organizational-level outcomes, the company as a whole still could be left without effective responses to the challenges of a competitive market place. A second limitation of extant research is that it has mainly used subjective performance measures (e.g., self-reported and supervisory ratings of creativity and innovation), which are open to judgment and other biases. Although objective measures are not necessarily free of other forms of unmeasured systematic or random error, they are less subject to cognitive biases and can more directly capture the end-products of innovative efforts in an organization. Therefore, our empirical tests go beyond subjective assessments of organizational innovation to also include objective measures. A further advance over prior research is that we identify and simultaneously test a number of internal and external organizational attributes that may interact with leadership behaviors in affecting organizational innovativeness.

We focus on CEOs because they usually play key roles in determining organizational policies/processes as well as resource allocations, yet relatively few studies have examined how they affect innovation at the organizational level. Specifically focusing on transformational leadership, Waldman & Yammarino (1999) have called for more research on how this type of leader behavior affects organizational performance through various levels of mediators and moderators. Recently, several authors have undertaken work of this nature. Zhu, Chew, & Spangler (2005) collected company-level data from 170 firms in Singapore. They found perception of the CEO's transformational leadership to be positively associated with perceptions of organizational outcomes (e.g., “ability to attract essential employees”), and negatively associated with absenteeism. They also found that a company's practices in performance appraisal, staffing, training, and compensation systems fully mediated the relationship between CEO transformational leadership and perceived organizational outcomes. Similarly, De Hoogh & her colleagues (2005) studied 73 small and medium-sized companies, and found that perception of the CEOs' transformational leadership had a positive relationship with their direct reports' work attitude. While these studies did not focus on organizational innovativeness, they do provide support for expecting that the CEO's leadership behavior can affect organizational level outcomes.

A prior study that did examine this relation is Jung, Chow & Wu (2003). They posited that a positive direct relation would exist between CEO transformational leadership and organizational innovation, and that this relation would be moderated by the organization's extent of employee empowerment and climate of support for innovation. Survey data from 32 Taiwanese electronics/telecommunications firms supported the expected direct effect. They also revealed a statistically significant positive moderating effect from climate of support for innovation. However, Jung et al. (2003) were emphatic that their results needed validation. Specifically, they noted as limitations their relatively small sample size and their use of only one informant per firm for each measurement scale. They also stressed the need to expand the scope of their organizational innovation measure and to augment the set of moderating variables.

Our study is patterned after Jung et al. (2003) and advances over this prior study in several ways. First, our sample includes a larger number of firms, and we use multiple informants in each firm. Second, we use a more encompassing measure of organizational innovativeness. Finally, we test the moderating effects of a richer set of variables. In addition to empowerment and climate for innovation which were included in Jung et al. (2003), we propose moderating effects from two organizational structural attributes (centralization and formalization) and two attributes of the external environment (competition and uncertainty). In the following subsections, we explicate the theoretical basis for the hypothesized direct and moderating effects. Following that, the method section will describe how we use a multi-source and multi-dimensional approach to operationalize the variables.

1. Theoretical background and hypotheses

1.1. Transformational leadership and organizational innovation

Bass et al. (2003) have characterized transformational leadership as encompassing five theoretically distinct components: charisma, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. They explain that both charisma and idealized influence have to do with serving as role models, with the former reflecting followers' attributions and the latter capturing leaders' behaviors. Leaders with idealized influence tend to place followers' needs over their own needs, share risks with followers, and exhibit adherence to a set of underlying principles and values. Inspirational motivation involves providing meaning and challenge to followers' work, including inculcating visions of the future. Intellectual stimulation entails stimulating followers to question assumptions, reframe problems, and to approach old situations in new ways. New ideas and creative solutions are solicited from followers, and there is no public criticism of individuals' mistakes. Finally, leaders who provide individualized consideration are seen as ones who pay attention to followers' individual needs for achievement and growth. They do so by acting as coach or mentor, and by creating learning opportunities as well as a supportive climate in which to grow.

Advocates of transformational leadership maintain that by means of their behavior, transformational leaders create personal and professional commitment from subordinates toward higher-level needs like self-esteem and self-actualization (Bass, 1985; Gardner & Avolio, 1998). This in turn increases the latter's intrinsic motivation, which has been identified as an important driver of employee creativity and firm innovation (Oldham & Cummings, 1996; Amabile, 1998; Zhou, 2003). In addition, a transformational leader's intellectual stimulation can facilitate unconventional and innovative thinking and working processes that lead to new knowledge and technology, which is fundamental to firm innovation (Dougherty & Hardy, 1996). At the opposite end of the spectrum, transactional leadership focuses on maintaining the status quo and motivating people through contractual agreement (Bass, 1985). This leadership style tends to emphasize extrinsic rewards, such as monetary incentives and promotion, as a means to increase followers' motivation. Amabile, Conti, Coon, Lazenby, & Herron (1996) have specifically identified transactional leadership as being detrimental to creativity, and a recent meta-analysis by Bono & Judge (2004) has provided support for this proposition. It found that as compared to transactional leadership, transformational leadership yielded higher employee job satisfaction and increased their autonomous goal-directed motivation.