Journal of Business Research xxx (2015) xxx–xxx

Contents lists available at ScienceDirect

Journal of Business Research

Boundary conditions of a curvilinear relationship between decision comprehensiveness and performance: The role of functional and national diversity

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ARTICLE INFO

Article history:
Received 27 August 2013
Received in revised form 2 December 2015
Accepted 7 December 2015
Available online xxxx

Keywords:
Decision comprehensiveness
Team dynamics
Top management team
National diversity

ABSTRACT

This research examines top management team (TMT) functional and national diversity as moderators of a curvilinear relationship between decision comprehensiveness and organizational performance. Drawing on resource allocation theory, we argue that, despite the information-related benefits associated with decision comprehensiveness, the misallocation of limited TMT cognitive resources can generate an inverted U-shaped effect on performance. We hypothesize that functional and national diversity moderate this non-linear relationship, such that the impact of decision comprehensiveness in diverse teams will be significantly weaker than in their homogenous counterparts. Results from a sample of subsidiary TMTs of multinational companies ($N = 107$) in China support the study hypotheses. We find evidence that decision comprehensiveness has no significant effect on performance for diverse TMTs. However, as hypothesized, we find support for a positive effect of decision comprehensiveness on organizational performance in relatively homogeneous TMTs up to an inflection point, beyond which the relationship becomes negative.

1. Introduction

The problems and issues that confront managers are complex and unstructured, and it is difficult to predict the impact of proposed solutions with certainty. The breadth of alternatives that should be explored prior to making a reasoned decision is also unclear (Posavac, Kardes, & Joško Brakus, 2010). These decision-making challenges exist to a greater extent for top management teams (TMTs), defined as the group of individuals constituting an organization's top executive tier, who undertake critical strategy-making decisions (Carpenter, Geletkanycz, & Sanders, 2004). Organizational performance is decided by the fit between the information-processing capability of the TMT and the requirements demanded by the organization's environment (Daft & Weick, 1984; Galbraith, 1973). Particularly in dynamic environments, effective decision-making requires the utilization and integration of unique, relevant and broad-ranging information (Eisenhardt, 1989; McCarthy, Lawrence, Wixted, & Gordon, 2010; Mesmer-Magnus & DeChurch, 2009). In such environments, TMTs are charged with making high-impact decisions that require the capacity to understand complex and ambiguous cause–effect relationships underlying possible solutions (Kozlowski, Gully, Nason, & Smith, 1999; Randall, Resick, & DeChurch, 2011).

Despite the importance of effective information-processing for TMT decision-making, previous studies into the performance effects of a range of associated strategies have generated surprisingly ambiguous results (Furnham, 2000; Isaksen, 1998; Schwenk, 1990). This points to the importance of understanding how and when TMT information-processing strategies lead to enhanced performance through better decisions. Building on the concept of groups as information processors in decision-making, we investigate the role of TMT decision comprehensiveness in organizational performance.

Decision comprehensiveness is defined as the extent to which the TMT engages in a formal, rational decision process that aims to be exhaustive or inclusive (Fredrickson, 1984; Simons, Pelled, & Smith, 1999). It reflects synoptic processes in strategic decision making, in contrast to 'best-guess' and incremental decision making approaches (Forbes, 2007; Fredrickson, 1984). It can occur at any of four decision stages: diagnosis of a situation or problem; development of alternative approaches and solutions; evaluation of different options; and integration of a final decision (Fredrickson & Mitchell, 1984). Decision comprehensiveness correspondingly reflects the degree to which an organization's TMT systematically analyzes and assesses information about the internal

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http://dx.doi.org/10.1016/j.jbusres.2015.12.049
0148-2963/

and external environments in each of these stages (Eisenhardt, 1989; Simons et al., 1999). Decision comprehensiveness is one of the most salient and enduring information-processing constructs in team research (Heavey, Simsek, Roche, & Kelly, 2009). Top management teams employing decision comprehensiveness investigate problems or issues with a wide lens, explore multiple alternative approaches and possible choices, and evaluate these using multiple decision criteria (Simons et al., 1999).

The positive impact of decision comprehensiveness on strategic decision quality and organizational performance has been supported across stable and uncertain environments (Forbes, 2007; Fredrickson, 1984; Fredrickson & Mitchell, 1984; Heavey et al., 2009). Given that the capacity to process and interpret external information has been argued to largely determine the success of organizational actions and initiatives (Tushman & Nadler, 1978), the effect of decision comprehensiveness on performance is an issue of significance and long-standing (Carmeli, Friedman, & Tishler, 2013). It is also an issue that has yet to be resolved (Forbes, 2007). While a number of studies have found that decision comprehensiveness plays a positive role in generating better decisions, other studies have found no or a negative impact (Miller & Toulouse, 1998; Walters & Bhuian, 2004).

We investigate the relationship between decision comprehensiveness and performance in some depth. Pierce & Aguinis (2013) suggest that many organizational behaviors yield positive effects initially, but there is a point beyond which a downturn in beneficial outcomes is evident. Consistent with the view that too much of a good thing (TMGT) is eventually detrimental (Pierce and Aguinis, 2013), the beneficial effects of decision comprehensiveness diminish over time due to a reduction in the non-redundant information generated through extensive analysis (Forbes, 2007). Emerging empirical evidence supports this suggestion and indicates that an imbalance of effort spent on decision comprehensiveness in decision-making may result in lesser performance outcomes implying a non-linear relationship between decision comprehensiveness and performance (Miller, 2008; Slotegraaf & Atuahene-Gima, 2011).

Resource allocation theory (Kanfer and Ackerman, 1989) provides a conceptual link connecting comprehensive information-processing with performance consequences. Resource allocation theory posits that individuals have limited attentional and cognitive resources to apply to any activity (Kanfer & Ackerman, 1989), which applied to TMT decision-making acknowledges that team members have limited resources to apply to the team's work (Barnes et al., 2008). It follows that attending to one function necessarily depletes the TMT resources available for allocation to other strategic or operational activities. From this perspective, we argue that, in addition to information redundancy arising from decision comprehensiveness, the misallocation of TMT cognitive resources to the continued use, development and discussion of redundant information can generate an inverted U-shaped association between decision comprehensiveness and performance.

However, there remain unanswered questions relating to under what circumstances decision comprehensiveness has a curvilinear impact on performance (Atuahene-Gima & Li, 2004). From the perspective of resource allocation theory, TMT decision-making suggests that some circumstances may be more appropriate than others for team members to devote their limited cognitive resources to particular team activities (Barnes et al., 2008). We argue that team composition may constitute such a circumstance and introduce team diversity as a moderator of the predicted curvilinear relationship between decision comprehensiveness and performance.

While contingencies of the decision comprehensiveness–performance relationship have previously focused on external, environmental factors (Miller, 2008), upper echelons research into the cognitive consequences of categorical diversity suggests that TMT characteristics are also likely to account for variation in decision processes (Buyl, Boone, & Matthyssens, 2011; Carpenter et al., 2004). Functional and national diversity increases divergent thinking (Gruenfeld, Thomas-Hunt, & Kim, 1998; Pratt & Rafaeli, 1997; Van Dyne & Saavedra, 1996), increases cognitive complexity in individual team members (Gruenfeld et al., 1998) and fosters a deeper understanding of contentious issues (Tjosvold & Poon, 1998). We argue that these knowledge advantages yield TMT benefits up to a saturation point, after which no additional positive effect exists. It follows that formalized decision processes that aim to be exhaustive or inclusive provide negligible net benefits. Therefore, we argue that the knowledge-related effects of diversity limit the potential for decision comprehensiveness to yield additional positive outcomes.

We develop and investigate a model in which the curvilinear impact of TMT decision comprehensiveness on organizational performance is moderated by TMT functional and national diversity, as depicted in Fig. 1.

By specifying important boundary conditions of a curvilinear relationship between decision comprehensiveness and performance, this study significantly contributes to our understanding of decision comprehensiveness and TMT diversity. While previous studies have demonstrated a curvilinear relationship between decision comprehensiveness and performance, this is the first study to identify moderators that explain when this curvilinear relationship exists.

Cohen, Cohen, West, and Aiken (2003, p. 255) argued that "it is safe to say that the testing of interactions is at the very heart of theory testing in the social sciences" and Jaccard, Wan, and Turrisi, (1990) posited that interaction effects are the 'rule rather than the exception' in many disciplines related to human behavior. Researchers have argued that the predictive validity of important constructs may be improved by identifying moderators effect on valued outcomes (Mitchell, 1997; Tett & Burnett, 2003) and that the identification of significant moderators of the path between predictors and outcomes indicates the maturity and sophistication of a research field (Aguinis, Boik, & Pierce, 2001; Judd, McClelland, & Culhane, 1995). Confirming moderation effects can also lead to better theory development by specifying the conditions under which an important decision-related variable can be expected to relate to enhanced performance (Diefendorff, Richard, & Gosserand, 2006). In the case of decision comprehensiveness, identifying moderators may also help researchers and practitioners develop interventions aimed at mitigating the potential negative effects of allocating TMT resources inefficiently. Although decision comprehensiveness and team diversity have been linked in previous studies (Simons et al., 1999), to our knowledge no published research has examined team characteristics, particularly diversity, as boundary conditions of the relationship between decision comprehensiveness and performance.

2. Model development and hypotheses

Decision comprehensiveness depicts a TMTs approach to information-processing during decision-making. Specifically, decision comprehensiveness reflects TMT engagement in systematic analysis of information about the external environment and deliberation of possible alternative solutions (Eisenhardt, 1989; Simons et al., 1999). Behavioral indicators of decision comprehensiveness include the extent to which the TMT engages in structured decision processes, such as brainstorming, and the number of possible solutions that are considered and the rigor of their assessment. The amount of analytical and investigatory effort that is directed toward decision-making is key (Miller, Burke, & Glick, 1998).

Decision comprehensiveness impacts TMT decision-making processes by exposing members to broad-ranging relevant information on which to base their assessments of possible solutions (Mitchell, Nicholas, & Boyle, 2009). Analysis of cause and effect pathways increases TMTs understanding of the implications of environmental events and, thereby, enhances their capacity to identify strategic opportunities (Callero, 1985; Joseph & Alex, 1972; Timmons & East, 2011). In addition, the process of continuous analysis of environmental changes and developments also affords TMT members with an enhanced capacity to 'join the dots' connecting different environmental changes, which is likely to increase their ability to predict risks and accurately assess the probability of future events (Joseph & Alex, 1972; Timmons & East,

Please cite this article as: Mitchell, R., et al., Boundary conditions of a curvilinear relationship between decision comprehensiveness and performance: The role of functional and n..., *Journal of Business Research* (2015), http://dx.doi.org/10.1016/j.jbusres.2015.12.049