The Impact of the Top Management Team's Knowledge Diversity on Organizational Ambidexterity

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A Conceptual Framework

Abstract: Organizational ambidexterity, or the combination of exploratory and exploitative organizational behavior, is believed to be a key precursor for long-term organizational success. In this study, we explore the impact of the composition of the top management team (TMT), in particular the heterogeneity in the TMT members’ knowledge bases (i.e., TMT knowledge diversity), on the organization’s ambidextrous behavior. We propose that this relationship is mediated by a TMT attention focus that balances exploratory and exploitative issues. Furthermore, we suggest that the relationship between TMT knowledge diversity and the balance in the TMT’s attention focus is moderated by TMT behavioral integration, chief executive officer power/dominance, and chief executive officer narcissism.

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A recurring theorem in organization science and strategy research is that organizations’ long-term success is grounded in their ability to combine the exploitation of current capabilities with the exploration of fundamentally new competencies (Gupta et al. 2006; Lavie et al. 2010; March 1991; Raisch et al. 2009). In this respect, exploitation concerns organizational behaviors dedicated to enhance efficiency, certainty, and variance reduction, whereas exploratory organizational behaviors are about search, innovation, and embracing variation (O’Reilly and Tushman 2008). In recent years, numerous scholars have focused their attention on the organizational antecedents and consequences of exploratory or exploitative behavior. Organizations are expected to gain the highest long-run organizational success if they are able to jointly pursue exploratory and exploitative behaviors, that is, when they are ambidextrous (Lavie et al. 2010; Raisch et al. 2009).

Following scholars such as Cao et al. (2010) and Lubatkin et al. (2006), we are particularly interested in the essential role that an organization’s decision-making unit, that is, the top management team (TMT), plays in the determination of the organization’s exploratory, exploitative, and ambidextrous behaviors. As Smith and Tushman argue, “Sustained organizational performance depends on top management teams effectively exploring and exploiting” (2005, 522). Building on Ocasio’s (1997) “attention-based view of the firm,” which stipulates that an organization’s strategy and strategic orientation are the product of the decision makers’ attention focus, we argue that, especially in small to medium-size organizations (Lubatkin et al. 2006), the organization’s exploratory and exploitative behaviors ensue from the TMT’s attention to exploratory and exploitative issues.

To understand this difference between TMT attention focus and organizational behavior, think of Mintzberg’s (1978) intended and realized strategy: the TMT’s exploratory and exploitative attention focus represents the organization’s intentions, whereas actual exploratory and exploitative organizational behavior is the realized strategy. Though intentions and realized strategies are highly related, they are not equal. Analogously, issues to which a TMT pays attention will be highly related, but not equal, to issues on which an organization takes action (Cho and Hambrick 2006). Therefore, we focus on the TMT’s (exploratory and exploitative) attention focus as an intermediate step when trying to explain (exploratory and exploitative) organizational behavior. In particular, we propose that an organization with a TMT that balances exploratory and exploitative attention focuses will be more able to exercise ambidextrous organizational behavior and, ultimately, long-run organizational success. Put differently, a balanced TMT attention focus is a necessary, but not sufficient, condition for organizational ambidexterity and long-run success.

This reasoning concerning the TMT’s attention focus actually echoes the baseline ideas of the “upper echelons” (UE) theory, which was introduced by Hambrick and Mason (1984) and has incited scholars to investigate the impact of (the demographic composition of) the TMT on organizational outcomes (for a review, see Nielsen 2010). Building on the Carnegie School’s ideas (e.g., Cyert and March 1963), one of the UE theory’s fundamental assumptions is that TMTs have a limited field of vi-
sion and perception, based on the TMT members’ cognitive base and (demographic) background characteristics, and that in decision making, managers will selectively focus their attention on particular stimuli and pieces of information, based on their experiences, preferences, and other biases (Hambrick and Mason 1984).

Building on Cho and Hambrick’s (2006) example, we propose that the TMT’s attention focus and patterns are the fundamental underlying mechanisms of how TMTs have an effect on long-run organizational success. Finkelstein et al. recognize the value of studying aspects of the TMT’s cognition, such as TMT attention: “Substantial work needs to be done on the antecedents, or determinants, of managers’ cognitive models. The distinct influences of different types of experiences in shaping cognitions need to be understood” (2009, 69). We posit that TMTs with a high level of knowledge diversity will be more able to obtain a balanced TMT attention focus concerning exploratory and exploitative issues. “TMT knowledge diversity” is defined quite broadly, as the heterogeneity in the TMT members’ knowledge bases—encompassing directly observable and objective measures, such as functional (Bunderson and Sutcliffe 2002) and educational (Lee and Park 2006) background or prior affiliations (Beckman 2006) as well as less obvious indicators of the TMT members’ knowledge base, such as their network relations (Geletkanycz and Hambrick 1997) or beliefs and preferences (Miller et al. 1998). Prior research (Cho and Hambrick 2006) suggests that executives’ knowledge bases are especially relevant in determining their attention patterns. Hence, we propose that TMT knowledge diversity will enhance the balance in the TMT’s attention focus with regard to exploration versus exploitation and that this balanced TMT attention focus will result in organizational ambidexterity and, eventually, long-run organizational success.

Furthermore, we suggest several moderators that might determine the relation between the TMT’s knowledge diversity and its attention focus. First, Hambrick (1994) has indicated that in practice TMTs do not always act as “real teams.” As a result, the TMT’s attention focus might not be based on the collection of TMT members’ knowledge bases. Therefore, we forward the TMT’s level of behavioral integration as a moderator. Second, as the chief executive officer (CEO) is expected to play a vital role in the TMT and its processes (Buyl, Boone, Hendriks, & Matthyssens 2011), we propose that (1) the CEO’s power and dominance and (2) his or her personality characteristics, such as narcissism, might interact with TMT knowledge diversity to affect the balance in the TMT’s attention focus. Figure 1 offers a graphical representation of the conceptual model developed in this article.

This conceptual study contributes to both the UE and the organizational ambidexterity research streams. To the former research stream, we add by explicitly focusing on the TMT’s cognition, and in particular the TMT’s attention focus, as a mediator, instead of merely considering TMT cognition to be proxied by the TMT’s demographic composition, as is the standard approach in UE research (Buyl, Boone, and Matthyssens 2011). To the latter research stream, we contribute
by (conceptually) analyzing the role of one particular TMT characteristic, that is, its knowledge diversity and influence on organizational ambidexterity, and by integrating moderators at the CEO and TMT levels.

**TMT composition, TMT attention, and organizational behavior**

*Balanced TMT attention focus and ambidextrous organizational behavior*

“Ambidexterity” is defined as “an organization’s ability to be aligned and efficient in its management of today’s business demands while simultaneously being adaptive to changes in the environment” (Raisch and Birkinshaw 2008, 375). As exploratory and exploitative organizational behaviors require fundamentally different organizational structures, strategies, and contexts (March 1991), many organizations struggle to reconcile both. However, although diverging streams of literature, such as organizational learning (Miller et al. 2006), technological innovation (He and Wong 2004), and strategic management (Benner and Tushman 2003), have dedicated their attention to this debate, the conclusion of these studies was generally the same: balance between exploration and exploitation is a prerequisite of organizational survival and success (Raisch and Birkinshaw 2008). For instance, in a longitudinal analysis of 279 manufacturing firms, Uotila et al. (2009, 224) found that to attain optimal financial performance, firms should balance between exploratory and exploitative strategic actions. Furthermore, Gibson and Birkinshaw’s (2004) study on organizational ambidexterity demonstrated that successful business units were capable of simultaneously adapting (exploring) and aligning (exploiting).

The question now remains of how organizations can obtain such organizational ambidexterity. In strategy research, the vital role of the TMT’s cognition—that is, cognitive structures such as beliefs about environment and strategy and cognitive processes such as scanning and decision making—is emphasized in matters such as strategic renewal and long-run survival. For instance, Eggers and Kaplan (2009) discuss executive attention—which is defined as the “noticing, encoding, interpreting, and focusing of time and effort by organizational decision-makers” (Ocasio 1997, 189)—as an antecedent of timing of strategic renewal. In line with Eggers
and Kaplan (2009) and Cho and Hambrick (2006), we focus on one dimension of the TMT’s cognition, namely, its focus of attention.

When discussing organizations’ capacity to survive in the long run, Burgelman and Grove (2007, 966) indicate that it is the task of the TMT to maintain a balance of exploratory and exploitative orientations in their decision-making processes. Therefore, in our conceptual model we highlight the balance in the TMT’s attention focus concerning exploration and exploitation as an antecedent of ambidextrous organizational behavior (see Figure 1). As organizational behavior is believed to be the product of the attention patterns of the organization’s main decision makers (i.e., its TMT; Ocasio 1997), for organizations to be able to manifest exploratory as well as exploitative behaviors, the attention patterns of their TMTs need to be balanced between exploratory and exploitative issues.

Based on this argument, we propose the following:

**Proposition 1: A balance in the TMT’s attention focus concerning exploratory and exploitative issues is positively related to the organization’s ambidextrous behavior.**

**TMT knowledge diversity and balanced TMT attention focus**

One of the UE research tradition’s fundamental assumptions is that the TMT’s attention is (partially) determined by the TMT members’ background characteristics (Hambrick and Mason 1984). For that reason, we explicitly postulate that TMT attention acts as a mediator between TMT characteristics and organizational behavior (see Figure 1). In a similar vein, Finkelstein and Hambrick assert, “A central requirement for understanding organizational behavior is to identify those factors that direct or orient executive attention” (1990, 484). Surprisingly however, this—though often implicitly assumed—mediating role of TMT attention still remains rather unexplored (for a notable exception, see Cho and Hambrick 2006).

As we suggest that a *balanced* TMT attention focus would be required to attain ambidextrous organizational behavior, we are eager to find out which features of the TMT’s composition might help to obtain such an attention focus that balances exploratory and exploitative issues. In this respect, we explore the role of heterogeneity in the TMT members’ knowledge bases—that is, **TMT knowledge diversity**. TMT members’ knowledge bases are made up of diverging components. Though several scholars have linked one or more components of the TMT members’ knowledge base to dependent variables related to exploration and exploitation (see below), a study in which the different components of the TMT members’ knowledge bases and TMT knowledge diversity are systematically linked with the balance in TMT attention for exploratory and exploitative issues and subsequent ambidextrous organizational behavior is still lacking.

In UE research, the standard approach to studying the TMT members’ knowledge bases is to explore its demographic components, such as the TMT members’
functional or educational background, tenure, or industry experience. For instance, UE scholars have found that a TMT member’s functional background can be considered an important source of expertise (Bunderson and Sutcliffe 2002) and a lens through which the TMT member sees business problems and solutions (Dearborn and Simon 1958). The TMT members’ professional experiences (e.g., functional background, education, industry experience, and tenure) will be especially relevant for TMT attention patterns concerning exploration and exploitation, as the heterogeneity in such TMT characteristics has been linked to exploratory versus exploitative strategies in the past. For instance, Cho and Hambrick (2006) distinguish between output- and throughput-oriented functional experience and argue that output-oriented functional experiences (marketing, sales, and product research and development [R&D]) are more likely to be related to entrepreneurial attention (exploration), whereas throughput-oriented functional backgrounds (operations, accounting, and finance) are more likely to be associated with engineering attention (exploitation). Furthermore, March (1991) highlights the impact of executives’ tenure in exploratory versus exploitative organizational learning patterns. In addition, Beckman (2006) found that diversity in industry experience within the TMT promotes ambidexterity.

The TMT members’ social capital, or the knowledge obtained through their (intra- as well as extraorganizational) network relations, represents another, more relationally oriented component of the TMT members’ knowledge base that is highly relevant for their attention focus concerning exploratory and exploitative issues. Mom et al. (2007) found that a mixture of intraorganizational network ties—in particular, a combination of both top-down and bottom-up or horizontal knowledge inflows—increases the ambidexterity in executives’ activities. For executives’ extraorganizational relations, Geletkanycz and Hambrick (1997) indicate that a distinction should be made between relationships inside and outside their industry. Whereas TMT members’ intraindustry ties are associated with strategic conformity (exploitative attention), their extraindustry ties are related to the adoption of deviant strategies (exploratory attention).

Finally, besides demographic and network components, we propose that the TMT members’ knowledge bases also contain a “softer” component. In this respect, Miller et al. define “cognitive diversity” as “variation in beliefs concerning cause-effect relationships and variation in preferences concerning various goals for the organization” (1998, 41). These beliefs and preferences of TMT members are found to have an impact on issues such as strategic persistence and reorientation (Lant et al. 1992). In the same vein, scholars have studied executives’ attitudes, values, and beliefs and found these to affect the TMT’s functioning (Ward et al. 2007) and the organization’s strategy (Kilduff et al. 2000). For instance, Sheng et al. (2010) found that whereas executives with a long-term orientation would encourage innovation (exploration), their short-term–oriented counterparts tend to formulate efficiency-related strategies (exploitation).

We have argued that to attain ambidextrous organizational behavior, the
TMT should have a balanced attention focus in which both exploratory and exploitative issues are considered (Proposition 1). Furthermore, we have inferred that the TMT’s attention focus is (partially) determined by the TMT members’ knowledge base (Cho and Hambrick 2006; Hambrick and Mason 1984) and that different components of the TMT members’ knowledge base, such as functional background, networks, and values, affect their amount of attention for exploratory and exploitative issues. Hence, combining both arguments, we believe that to achieve the balanced TMT attention focus that is needed for ambidextrous organizational behavior, the TMT should unite knowledge bases that direct attention toward exploratory as well as exploitative issues. Therefore, we propose that the probability of obtaining a TMT attention that balances exploratory and exploitative issues increases with the heterogeneity in the TMT’s knowledge bases, that is, TMT knowledge diversity.

Note, however, that several considerations should be made. First, according to our definition, “knowledge diversity” encompasses diverging components, such as demographic features (e.g., professional experiences), relational features (e.g., network ties), and cognitive features (e.g., values and beliefs). This entails that, for instance, TMTs can be homogenous with respect to the TMT members’ functional backgrounds but still encompass a high level of knowledge diversity due to the other dimensions in the TMT members’ knowledge base, such as their education, tenure, network relations, beliefs, and values. Second, the literature on “fault lines” (Lau and Murnighan 2005) has highlighted the fact that a diverse group composition might also involve disruptive effects in the group’s processes, according to the specific nature of diversity studied. As an illustration, if diversity provokes the emergence of subgroups within the group, for instance because several dimensions of (knowledge) diversity coalign, the communication and interaction patterns between these subgroups might be severely disturbed. For TMTs, this might also imply a disruptive effect on balances within TMT attention, as this will no longer be the result of the TMT’s collective knowledge bases. In this respect, the most disruptive effects are expected if the TMT comprises a small amount of relatively large and visible subgroups (Polzer et al. 2006). Third, TMT researchers have repeatedly indicated that diversity might have both positive and negative effects on TMT processes and performance, entailing a curvilinear relationship between the TMT’s diversity and its processes and performance (e.g., Nielsen 2010). However, this might not apply in our study, as we discuss the effects of knowledge diversity on TMT attention, not on TMT functioning or performance. For the balance in TMT attention, the marginal returns of knowledge diversity might level off with high degrees of diversity, but they will not turn negative. Hence, for the sake of parsimony, we do not include these considerations in our second proposition.

**Proposition 2:** TMT knowledge diversity has an impact on the TMT’s attention focus; the higher the TMT’s knowledge diversity, the more balanced the TMT’s attention focus between exploratory and exploitative issues.
Moderators at the TMT and CEO levels

We argue that TMT knowledge diversity will affect the balance in the TMT’s attention focus. However, in this argument, we implicitly assume that every one of the TMT members will have an impact on TMT attention focus and that every TMT member’s knowledge base will be “used.” That is, for the TMT’s degree of knowledge diversity to materialize into a balanced TMT attention focus, it should be a clear reflection of the whole TMT.

In reality, however, this assumption does not always hold true (Roberto 2003) and TMTs do not always act in such a collective way (Hambrick 1994). Therefore, we introduce two moderators, behavioral integration at the TMT level and power/dominance and narcissism at the CEO level (see Figure 1), which might affect the translation of TMT knowledge diversity into TMT attention focus. In other words, we assume that these moderators affect the degree to which TMT attention focus is determined by the knowledge bases of the whole TMT, as opposed to that of one or a few TMT members. Prior research shows that TMT behavioral integration (Boone and Hendriks 2009) as well as CEO characteristics (Buyl, Boone, Hendriks, and Matthysssens 2011) are extremely relevant in materializing the potential benefits of TMT knowledge diversity.

Moderator at the TMT level: TMT behavioral integration

“Behavioral integration” is conceptualized as a metaconstruct capturing three interrelated processes that characterize the TMT: (1) joint decision making, (2) collaborative behavior, and (3) the quantity and quality of information exchange (Hambrick 1994; Simsek et al. 2005). Highly behaviorally integrated TMTs will act as “real” teams. Conversely, TMTs with a low level of behavioral integration can be seen as fragmented, loosely coupled collections of executives.

We anticipate that TMT behavioral integration will affect how the TMT members’ knowledge bases will be reflected in the TMT’s attention focus and, in turn, the organization’s ambidextrous behavior. TMTs with a high level of behavioral integration will be characterized by a high level of within-team collaboration and information exchange (Hambrick 1994). By collaborating and exchanging information intensively, the CEO and TMT members will have the chance and the ability to develop knowledge about each other’s areas of expertise (Rulke and Galaskiewicz 2000). In addition, the TMT members’ psychological safety and familiarity will also increase because of the collaborative behavior associated with behavioral integration, which boosts the TMT members’ willingness to express their opinions (Carmeli and Schaubroeck 2006; Gruenfeld et al. 1996). These arguments suggest that in behaviorally integrated TMTs, the TMT’s attention focus and patterns will more probably result from the knowledge base of the TMT as a whole and not only of one or a few TMT members. In support of this argument, behaviorally integrated TMTs are found to have a higher capacity...
to integrate TMT members’ opinions into balanced strategic decisions (Carmeli and Schaubroeck 2006).

Conversely, if the TMT’s level of behavioral integration is low, the degree of information exchange, collaboration, and joint decision making within the TMT will also be low (Hambrick 1994). We assume that, in this case, the knowledge bases of the whole TMT will not be involved in the development of the TMT’s attention focus but only that of the key decision maker(s), most probably the CEO, within the TMT (Roberto 2003). As a consequence, in such fragmented TMTs, knowledge diversity is less likely to entail a balanced TMT attention, as TMT members with deviant knowledge bases might not be “heard” and accounted for in the TMT’s attention focus. Therefore, we propose that TMT behavioral integration will moderate the relationship between TMT knowledge diversity and TMT attention focus:

**Proposition 3:** TMT behavioral integration moderates the relationship between TMT knowledge diversity and TMT attention focus (Proposition 2): the positive impact of TMT knowledge diversity on the balance in the TMT’s attention focus between exploratory and exploitative issues will be higher if the TMT is behaviorally integrated.

**Moderators at the CEO level: CEO power/dominance and CEO narcissism**

Scholars such as Arendt et al. (2005) and Roberto (2003) have highlighted that CEOs play a unique and decisive role in TMT strategic decision making, as they are the “leaders” of both the TMT and of the organization. Therefore, the CEO might also affect the TMT’s attention patterns and the way in which the knowledge bases of all TMT members are reflected in TMT attention focus. In particular, we consider two characteristics of the CEO: power/dominance and narcissism. Both are expected to moderate the relationship between TMT knowledge diversity and TMT attention focus.

**CEO Power and dominance**

Finkelstein (1992) distinguishes between four different sources of executives’ power: structural (positional), ownership, expert, and prestige power. Because of their hierarchical position, CEOs normally already have a high level of structural power. Some CEOs combine this positional power with other sources of power, such as ownership power (if they are also the company’s founder or major shareholder) and prestige power (if they have a high level of reputation), which provokes power asymmetries in the TMT. Because power asymmetries within teams generally hamper the open exchange of information and effective communication within the team (De Brabander and Thiers 1984), TMT attention focus might be related to the CEO’s
rather than to the TMT's characteristics in case of high CEO power concentration. Moreover, power concentration might render CEOs to be more dominant and less susceptible to input from other TMT members (Adams et al. 2005). The psychological safety of TMT members might also be reduced, which causes reluctance to speak openly and share information (Carmeli and Schaubroeck 2006).

As a result, we propose that TMT attention focus will be a weaker reflection of the knowledge bases of all TMT members in the case of a highly powerful and dominant CEO; instead, it will most probably only reflect the CEO’s knowledge base. Because, in this case, the deviant knowledge bases of the other TMT members are not considered in TMT attention focus, TMT knowledge diversity is less likely to result in a balanced TMT attention focus.

Proposition 4: CEO power and dominance moderate the relationship between TMT knowledge diversity and TMT attention focus (Proposition 2): the positive impact of TMT knowledge diversity on the balance in the TMT’s attention focus between exploratory and exploitative issues will be lower if the CEO is very powerful and/or dominant.

**CEO narcissism**

Not only the CEO’s power, but also his or her personality might affect the extent to which TMT knowledge diversity is translated into a balanced TMT attention focus. Executives’ “narcissism,” a coherent but multifaceted personality dimension that is defined as “the degree to which an individual has an inflated sense of self and is preoccupied with having that self-view continually reinforced” (Chatterjee and Hambrick 2007; Ellis 1898), has been the subject of a considerable amount of research. Narcissism appears to be closely related to the concept of executive “hubris,” that is, exaggerated self-confidence (Hiller and Hambrick 2005). Feelings of superiority, entitlement, and a constant need for attention and admiration are its main manifestations (Bogart et al. 2004).

Although, on average, CEOs might be more narcissistic than the general population, they nevertheless will vary in their degree of narcissism. Narcissistic CEOs will be characterized by a belief in their superior qualities (Chatterjee and Hambrick 2007), yearning for a continuing stream of self-image reinforcements and applause (Kohut and Wolf 1986), and need for sensation (Emmons 1981). Based on these characterizations, we assume that highly narcissistic CEOs will claim strategic decision power and that they will only allow a very limited level of decision involvement of the other TMT members. Thus, in the case of a highly narcissistic CEO, the TMT’s attention focus is expected to be determined by the CEO alone instead of by the collective knowledge bases of the whole TMT.

Proposition 5: The degree of CEO narcissism moderates the relationship between TMT knowledge diversity and TMT attention focus (Proposition 2): the positive impact of TMT knowledge diversity on the balance in the TMT’s
attention focus between exploratory and exploitative issues will be lower if the CEO is a narcissist.

Discussion

In the conceptual model developed here, we forward the idea that TMTs that are diverse in their members’ knowledge bases might be able to achieve ambidextrous organizational behaviors because of the associated balanced TMT attention focus between exploration and exploitation. Furthermore, we proposed that the relationship between TMT knowledge diversity and attention focus would be moderated by TMT behavioral integration, CEO power/dominance, and CEO narcissism. Our conceptual framework is especially relevant for small to medium-size organizations, because the role of the TMT and the CEO in attaining organizational ambidexterity is probably more salient in such smaller organizations compared with large firms (Cao et al. 2010). Smaller organizations mostly do not have facilitating mechanisms, such as slack resources or hierarchical administrative systems, that help larger firms in the attainment of ambidexterity. Therefore, they have to rely more on the ability of their TMT to achieve a balance between exploratory and exploitative organizational behavior (Lubatkin et al. 2006).

The most important contribution that we make to the UE research stream is probably our explicit consideration of the TMT’s attention focus as a mediator through which TMT composition (here: TMT knowledge diversity) has an effect on an organization’s behavior (here: ambidexterity). Although this mediating role of TMT attention is actually one of the basic underlying assumptions of the UE research stream, systematic research still remains rather scarce (Cho and Hambrick 2006). Such an explicit consideration of TMT cognition as a mediator can inspire future UE scholars, as it offers them the opportunity to (partially) unveil the proverbial “black box” of the UE research stream (Lawrence 1997) by unraveling the link between TMT composition and organizational behavior (Buyl, Boone, and Matthyssens 2011).

Furthermore, we also make a substantial contribution to the literature concerning organizational ambidexterity. Though several scholars have highlighted the relevance of the TMT and the CEO in attaining ambidextrous organizational behavior (e.g., Smith and Tushman 2005), the research still remains scarce and scattered. In this conceptual piece, we focus on the impact of TMT knowledge diversity—defined as the heterogeneity in the TMT members’ knowledge bases and encompassing demographic, relational, and cognitive components—and provide a systematic overview of how this TMT compositional feature might affect organizational ambidexterity through the balance in the TMT’s attention focus.

Moreover, we put forward several moderators at the TMT-level (behavioral integration) and at the CEO level (power/dominance and narcissism) that might interact with TMT knowledge diversity to affect TMT attention focus and organizational behavior. We included these moderators because we assumed that they would have
an impact on the degree to which TMT attention (and subsequent organizational behavior) is determined by the whole TMT, and not only by the TMT’s key decision-maker(s). More generally, this inference suggests that scholars investigating the impact of the TMT’s composition on various organizational outcomes should be cautious in their conclusions, as it might be that not all TMT members have equal impact (Roberto 2003).

Overall, our conceptual framework could inspire UE scholars to explore various new research questions. In general, we hope that the developed conceptual model could (partially) be empirically tested. Although in our model we have only explored some of the relationships between TMT composition, TMT processes, CEO characteristics, TMT cognition, and organizational behavior, several other links between these variables could also represent fruitful avenues for (empirical) research, for instance, the direct effects of CEO characteristics on TMT attention focus or the feedback effects of organizational behavior on TMT and CEO characteristics. In addition, other variables, at the TMT, CEO, or organizational level, could be incorporated in empirical research.

Another potentially fascinating area for further research involves the mobility of TMT members. Although the conceptual model so far has been rather static, the advantages of ambidextrous organizational behavior are actually more likely to occur in the long run. Organizations are not likely to benefit from ambidextrous behavior at one point in time but from a sustained balance of exploratory and exploitative behaviors over time (O’Reilly and Tushman 2008). Therefore, it would be exciting and valuable to explore the effects of changes in the TMT’s composition—that is, TMT mobility—over time on the balance in the TMT’s attention focus. Evidently, the entry or exit of TMT members almost always involve some kind of alteration of the TMT’s current composition generally and of the TMT’s knowledge diversity specifically. However, how this change in the TMT’s composition subsequently affects the TMT’s attention focus and organizational behavior is not very straightforward. Based on literature on mobility and turnover in organizations and TMTs (e.g., Harrison and Carroll 2006; Tushman and Rosenkopf 1996), we argue that TMT mobility has two effects: a short-term, disruptive “process” effect and a longer-term “content” effect, which could turn out positively for the TMT and the organization.

First, insights in the literature and research on organizational behavior clarify that, in the short term, mobility within a group will probably have disruptive effects on the group’s processes, because the entry and/or exit of group members is assumed to decrease the group’s level of cohesion (Harrison and Carroll 2006) and social integration (Tushman and Rosenkopf 1996). As Sorensen (2000) emphasizes, the social structure of a group changes in response to alterations in its membership. This process effect will be of particular importance for the TMT’s level of behavioral integration. As mentioned, TMT behavioral integration represents the TMT’s degree of collaborative behavior, information exchange, and joint decision making (Hambrick 1994). In line with the above-mentioned disruptive effects of
mobility within groups (Harrison and Carroll 2006; Sorensen 2000; Tushman and Rosenkopf 1996), we assume that the entry or exit of TMT members will have equally disruptive effects on collaboration, information exchange, and decision making within TMTs and hence on the TMT’s degree of behavioral integration. Further on, because TMT behavioral integration was assumed to determine the degree to which the knowledge bases of all TMT members would be reflected in TMT attention focus (see Proposition 3), TMT mobility might have a disruptive effect on this translation of TMT knowledge diversity into a balanced TMT attention focus. This disruptive effect might be even more pronounced when the background characteristics of the entering/exiting TMT member are highly deviant from those of the other TMT members.

This process effect of TMT mobility is expected to appear immediately after a TMT member has entered/exited the TMT. However, TMT mobility might also have long-term consequences, provoked by content effects of the alterations in the TMT’s composition. A new TMT member entering the TMT will also bring his or her knowledge base into the TMT. Conversely, an exiting TMT member will also take away his or her knowledge base. These changes in the TMT’s knowledge composition might also alter the TMT’s attention focus and, consequently, organizational behavior. As Tushman and Rosenkopf note, “The replacement of a CEO or of executive team members alters the top team’s demography and, in turn, the team’s ability to attend to and deal with environmental conditions” (1996, 940). In the long term, these “content effects” of TMT mobility might prove beneficial.

From an organizational learning perspective, March (1991) suggests that a moderate level of turnover will positively affect attention for both exploration and exploitation, because new entrants bring in fresh insights and novel perspectives, whereas old-timers are familiar with the existing organizational code. Similarly, we argue that an alteration of the TMT’s knowledge composition due to the exit or entry of TMT members might have favorable effects for the balance on the TMT’s attention focus. In particular, if this change in TMT composition involves an increase in the TMT’s degree of knowledge diversity (e.g., the entry of an “outsider” in a TMT of “insiders”), it might simultaneously shift the TMT’s attention focus toward a higher degree of balance. Of course, the opposite effect could also take place; the entry or exit of TMT members could also decrease the level of TMT knowledge diversity, resulting in a less balanced TMT attention focus.

How to empirically test the conceptual model

We have presented a comprehensive conceptual model of the effect of TMT knowledge diversity on organizational ambidexterity through TMT attention focus. Evidently, the question of how to operationalize this conceptual model is particularly interesting. Several methods could be used, each with its own advantages and difficulties. First, perhaps the simplest, is by using questionnaires completed by the TMT members, a data collection method that has been used quite frequently
in UE research. In previous studies, scholars have used and validated scales in questionnaires for constructs such as exploitative and explorative innovation (e.g., Jansen et al. 2006), TMT behavioral integration (e.g., Simsek et al. 2005), and CEO characteristics (e.g., Buyt, Boone, Hendriks, and Matthysens 2011). However, the main disadvantages of this research method are probably the low response rates and the difficulty assessing the TMT’s attention patterns, as TMT members might suffer from retroactive sense making (Barr et al. 1992).

Second, Hambrick (2007) proposes the use of a new type of strategy simulation game—a bounded rationality game. This research method appears especially suitable for studying the TMT’s attention focus, as it allows researchers to observe and explore how the participants access, weigh, and interpret information in strategic decision making. Nevertheless, setting up and developing such a complex simulation game will be extremely hard, as it requires a very high upfront investment and the active collaboration of the participants (preferably real executives). In addition, although this research method would be appropriate for examining the TMT’s attention focus, it is probably not suited for exploring subsequent organizational behavior, such as organizational ambidexterity.

Third, longitudinal case studies could be used. In case study research, the collaboration and contact with the people being observed (in our case, TMTs) is intense and rather intimate (Danneels 2002; Siggelkow 2007). This makes it possible to obtain information on variables that might be difficult to measure through questionnaires, such as the TMT’s attention focus, TMT behavioral integration, and CEO narcissism. Tripsas and Gavetti (2000) have, for instance, used a longitudinal case study of a digital imaging company to explore the inertia involved in the TMT’s cognitive models and managerial beliefs, based on interviews with current and former executives. However, such case studies are extremely time and effort intensive and are prone to low generalizability.

Fourth, inspired by Cho and Hambrick’s (2006) research, we suggest a final methodological approach: the analysis of a company’s annual reports, and in particular of the letters to the shareholders found in these annual reports. This represents a relatively easy method to collect longitudinal data of a large sample of organizations, as publicly traded organizations’ annual reports and proxy statements are, in general, freely available on the Internet for several years. Computer-aided content analysis of organizations’ annual reports and letters to the shareholders has already been used in numerous organizational studies to gauge executive cognition (e.g., Short et al. 2010), and several tests have demonstrated its validity (D’Aveni and MacMillan 1990; Michalisin 2001). Content analysis of letters to the shareholders represents a fruitful way to assess the TMT’s attention focus and patterns, as it reveals which topics are discussed thoroughly—or not—in the companies’ annual reports. Exploratory and exploitative organizational behaviors could then be assessed using objective measures such as R&D spending or patent information. Furthermore, Chatterjee and Hambrick (2007) suggest several ways in which the CEO’s narcissistic behavior could be measured using annual reports, such as the
size of the CEO’s photograph accompanying the letter to the shareholders. However, this final method has severe limitations, too. For instance, it would be very difficult to operationalize “TMT behavioral integration” based on annual reports.

In conclusion, the main purpose of this conceptual study was to attempt to direct the attention of UE scholars to the TMT’s cognitive processes that mediate the relationship between TMT composition and organizational behavior. Whereas our conceptual model was focused on the impact of one particular TMT characteristic, knowledge diversity, on one particular type of organizational behavior, ambidexterity, through the balance in the TMT’s attention focus, we hope that our conceptual method will inspire future UE scholars in general to explicitly consider the mediating role of the TMT’s cognitive processes.

Notes

1. This raises questions about the interplay between the various components of TMT diversity. For example, will homogeneity in TMT members’ tenure be “leveled” out by heterogeneity in their functional backgrounds in TMT attention focus? Or, conversely, is balance in the TMT’s attention focus only reached in the case of diversity with respect to multiple components of the TMT members’ knowledge base? Future research might attend to these questions.

2. Based on these arguments, one might wonder what the “optimal” nature of TMT knowledge diversity would be to obtain a balanced attention focus. We anticipate that the TMT should be composed of TMT members with diverse knowledge bases, while avoiding the occurrence of clearly defined subgroups. The presence of one isolated TMT member with a diverging knowledge base (e.g., one TMT member with output-oriented functional experience in a TMT composed of members with throughput-oriented functional backgrounds) could be enough to achieve a sufficient level of TMT knowledge diversity (O’Leary and Cummings 2007), reflected in a balanced TMT attention focus.

References


