

Senior Team Attributes and Organizational Ambidexterity: The Moderating Role of Transformational Leadership

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ABSTRACT Organizations capable of pursuing exploration and exploitation simultaneously have been suggested to obtain superior performance. Combining both types of activities and achieving organizational ambidexterity, however, leads to the presence of multiple and often conflicting goals, and poses considerable challenges to senior teams in ambidextrous organizations. This study explores the role of senior team attributes and leadership behaviour in reconciling conflicting interests among senior team members and achieving organizational ambidexterity. Findings indicate that a senior team shared vision and contingency rewards are associated with a firm's ability to combine high levels of exploratory and exploitative innovations. In addition, our study shows that an executive director's transformational leadership increases the effectiveness of senior team attributes in ambidextrous organizations and moderates the effectiveness of senior team social integration and contingency rewards. Hence, our study clarifies how senior executives reconcile conflicting demands and facilitate the balancing of seemingly contradictory forces in ambidextrous organizations. Implications for literatures on senior team attributes, transformational leadership and organizational ambidexterity are discussed.

INTRODUCTION

Firms are constantly faced with the challenge of exploiting existing competencies and exploring new ones (Vera and Crossan, 2004). As they seek to adapt to environmental changes, firms explore new ideas or processes, and develop new products and services for emerging markets. Simultaneously, they need stability to leverage current competences and exploit existing products and services (Danneels, 2002). Hence, prior literatures have increasingly argued that successful firms are *ambidextrous* – they generate competitive advantages through revolutionary *and* evolutionary change (Tushman and O'Reilly,

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1996), adaptability *and* alignment (Gibson and Birkinshaw, 2004), or simultaneously pursuing exploratory *and* exploitative innovation (Benner and Tushman, 2003).

Although studies have highlighted the benefits of balancing high levels of exploratory and exploitative innovation (Gibson and Birkinshaw, 2004; He and Wong, 2004), few have examined the drivers of ambidexterity. The lack of research regarding this link is surprising, especially since simultaneously pursuing both activities appears to be complex and difficult to achieve (Benner and Tushman, 2003; Sheremata, 2000). Exploration and exploitation may require fundamentally different and inconsistent architectures and competencies that can create paradoxical challenges. Exploration refers to search, variation, and experimentation that result from decentralization, loose cultures, and less formalized processes. Exploitation, on the contrary, captures refinement, efficiency, and improvement that succeed by reducing variance and increasing control and formalization (Benner and Tushman, 2003; March, 1991). Although studies are beginning to address some factors that enable ambidexterity such as the appropriate structure (Gilbert, 2005; Tushman and O'Reilly, 1996) and context (Gibson and Birkinshaw, 2004), there is little empirical evidence about the role of senior executives in ambidextrous organizations. Yet scholars have emphasized that senior executives are crucial to firm outcomes (Hambrick and Mason, 1984) and play a decisive role in establishing a supportive context and reconciling the implicit tension (Gibson and Birkinshaw, 2004; Smith and Tushman, 2005). Beyond a conceptual framework (Smith and Tushman, 2005), however, there have been few attempts to examine how senior executives contribute to achieving ambidexterity.

This study adds to the emergent dialogue on ambidexterity in two important ways. First, this study provides insight into the relationship between senior team attributes and organizational ambidexterity. Combining exploration and exploitation within an organization poses considerable challenges to senior teams (Denison et al., 1995). Although structural differentiation can help overcome resource and routine rigidity (Gilbert, 2005), senior teams face tradeoffs in their decision-making. For instance, senior teams need to allow for variety and local adaptation, yet facilitate collective action and strategic coherence (O'Reilly and Tushman, 2004). In this sense, they face considerable role conflicts and role ambiguities as senior teams in ambidextrous organizations are expected to resolve contradictions through joint information processing and tight integration (Floyd and Lane, 2000; Michel and Hambrick, 1992). We systematically examine three attributes of senior teams that might help achieve organizational ambidexterity. In so doing, this study deepens our understanding of how senior teams combine contradictory strategic agendas and overcome paradoxes in decision-making associated with simultaneously pursuing exploratory and exploitative innovation.

Second, we explore the moderating role of leadership behaviour in senior team dynamics and achieving organizational ambidexterity. Encouraging senior executives to work as a team has been suggested as an important mechanism by which strategic leadership can enhance senior team effectiveness in ambidextrous organizations. Studies have argued that the executive director, as senior team leader, might participate in team processes and thereby influence team dynamics and organizational outcomes (Finkelstein, 1992; Halebian and Finkelstein, 1993; Hambrick, 1994; Peterson et al., 2003). For instance, executive directors may improve team effectiveness through appropriate coach-

ing or process choices (Edmondson et al., 2003; Peterson et al., 2003; Wageman, 2001). There is little empirical evidence on this contingency perspective, however, and scholars have called for more research in this area (Gibson and Birkinshaw, 2004; Smith and Tushman, 2005). Our study addresses how executive directors may contribute to the effectiveness of senior teams in ambidextrous organizations and considers how their transformational leadership behaviour (Bass, 1985) strengthens the impact of senior team attributes on achieving organizational ambidexterity.

In the next section, we present the theoretical review and hypotheses. Then, we present the empirical findings using data from 305 senior team members and 89 executive directors at Dutch autonomous branches of a large European financial services firm. These branches were chosen because of – although part of the financial services firm – their autonomy with respect to the types of products and services offered under increasingly dynamic and competitive environmental conditions. We conclude with a discussion of the implications, limitations and issues for future research.

LITERATURE REVIEW AND HYPOTHESES

Organizational Ambidexterity

Many studies have emphasized the need for organizations to combine exploration and exploitation (Eisenhardt and Martin, 2000; Kang and Snell, 2008; Levinthal and March, 1993), whereas others have associated exploration and exploitation with different types of learning and innovation (Benner and Tushman, 2003; He and Wong, 2004; Jansen et al., 2006; Smith and Tushman, 2005). Exploratory innovations are radical and designed to meet the needs of emerging customers or markets (Abernathy and Clark, 1985; Benner and Tushman, 2003). They require new knowledge or departure from existing knowledge and often are associated with experimentation, flexibility, and divergent thinking (Jansen et al., 2006). Conversely, exploitative innovations are incremental and meet the needs of existing customers or markets (Abernathy and Clark, 1985; Benner and Tushman, 2003). They broaden existing knowledge and skills and often are associated with efficiency, refinement, and focus (Zahra and George, 2002).

Based on case study research, Tushman and O'Reilly (1996) proposed that ambidextrous organizations possess the ability to combine exploratory and exploitative innovation. Hence, prior literatures have defined organizational ambidexterity as the ability of firms to pursue and synchronize exploratory and exploitative innovation simultaneously (Benner and Tushman, 2003; He and Wong, 2004). Organizational ambidexterity not only helps firms overcome structural inertia that results from a focus on exploitation, but also refrain firms from accelerating exploration without deriving benefits from these activities (Levinthal and March, 1993).

Senior Executives, Reconciling Conflicts, and Achieving Organizational Ambidexterity

O'Reilly and Tushman (2004) found that ambidextrous organizations host exploratory and exploitative innovation in structurally independent organizational units that

remained strategically integrated into the senior management hierarchy. In this sense, senior management allows departure from existing knowledge within exploratory units (Gilbert, 2005; Hill and Rothaermel, 2003), yet establishes cross-fertilization and synergies with ongoing businesses in exploitative units (Tushman and O'Reilly, 1996). In addition, they need to allocate scarce resources to both types of units: allowing experimentation and the generation of exploratory efforts by avoiding resource constraints when exploratory activities become overwhelmed by mature businesses. Achieving ambidexterity may create conflicts among senior team members as the short-term, efficiency and control focus of exploitative units is at odds with the long-term, experimental focus and decentralized architectures at exploratory units.

Because of these paradoxical ambidextrous designs, senior teams typically face role conflicts that may diminish acceptance of decisions (O'Reilly and Tushman, 2004). The likelihood of conflict is further exacerbated by the fact that senior team members are responsible for differentiated exploratory or exploitative organizational units (Eisenhardt et al., 1997; Tushman and O'Reilly, 1996). Achieving ambidexterity may enhance self-interested behaviour in which senior team members perceive direct competition regarding the allocation of scarce resources (Bower, 1970). Senior teams in ambidextrous organizations are therefore expected to recognize and translate different, ambiguous, and conflicting expectations into workable strategies. How these conflicting tensions are resolved within senior teams is a crucial element in the ability of firms to create integrative and synergetic value among exploratory and exploitative activities and to achieve organizational ambidexterity. To uncover how senior teams are able to reconcile conflicting interests and overcome barriers associated with combining exploratory and exploitative innovation, we consider how senior team attributes and leadership affect the achievement of ambidexterity as depicted in Figure 1.

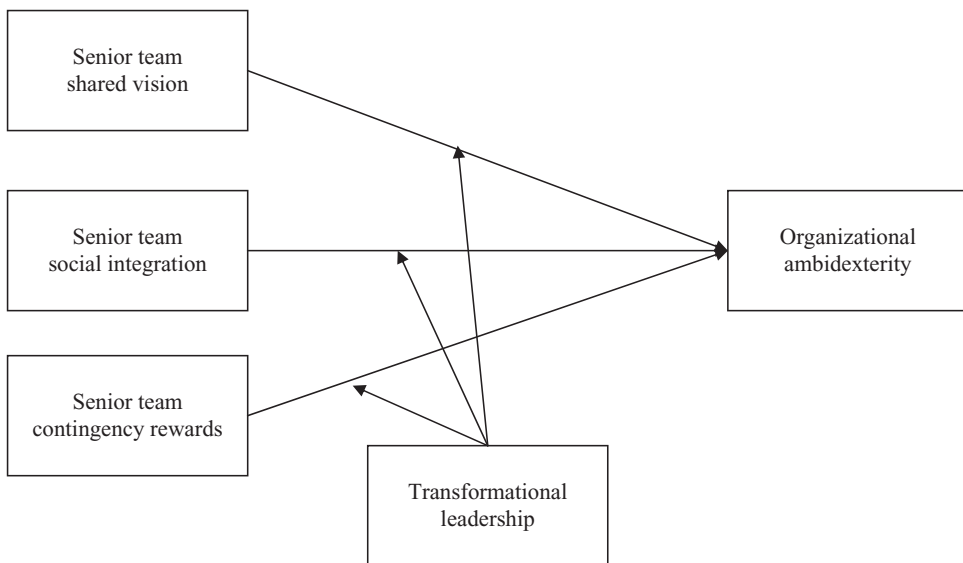


Figure 1. Conceptual model

Scholars have argued that an overarching set of values, team integration processes, and common fate incentive systems enable senior teams to manage inconsistent alignments (Siegel and Hambrick, 2005; Tushman and O'Reilly, 1996). Together, these studies suggest that the effectiveness of senior teams in ambidextrous organizations is associated with a set of senior team attributes: (1) shared vision, (2) social integration, and (3) group contingency rewards (Hambrick, 1994; O'Reilly and Tushman, 2004; Siegel and Hambrick, 2005; Smith and Tushman, 2005). In addition, prior studies have been focusing on the role of leadership in realizing the effectiveness of senior teams under ambiguous and uncertain conditions (Edmondson et al., 2003; Eisenhardt et al., 1997). Strategic leaders may be more or less directive in resolving conflicts and reconciling the paradox of combining exploratory and exploitative innovation. For instance, executive directors may assign different senior team members to exploratory and exploitative activities, recognize conflicts between agendas, and facilitate discussion and debate about possible synergies (Smith and Tushman, 2005). Hence, we propose that leadership behaviour influences the effectiveness of senior teams in ambidextrous organizations. To better understand how senior executives affect organizational ambidexterity, we explore how senior team attributes (i.e. shared vision, social integration, and team contingency rewards) and leader behaviour (i.e. transformational leadership) enable organizations to reconcile conflicting demands and combine exploratory and exploitative innovation.

Senior Team Attributes and Organizational Ambidexterity

Senior team shared vision. A senior team shared vision embodies the collective goals and aspirations of senior team members that express the developmental path for an organization's future (Larwood et al., 1995; Tsai and Ghoshal, 1998). A shared set of goals and values provides a common strategic direction that ameliorates conflicting interests and disagreement. It can override the adverse effects of divergent goals and conflicting perspectives among senior team members responsible for exploratory and exploitative units (Brewer and Miller, 1984; Mackie and Goethals, 1987), and prevent senior teams from devolving into fragmented structures. By contrast, a lack of such shared values can lead to distrust and suspicion within senior teams and throughout the organization, making it hard to draw common characteristics and to identify, extract and combine diverse skills, abilities, and perspectives within exploratory and exploitative units. Hence, common goals and shared values in ambidextrous organizations motivate senior team members to generate opportunities for resource exchange and combination across exploratory and exploitative units (Brown and Eisenhardt, 1995; Tsai and Ghoshal, 1998; Tushman and O'Reilly, 1996). They contribute to a collective understanding of how senior team members might resolve contradictory agendas and engage in productive behaviours towards overarching goals (Orton and Weick, 1990; O'Reilly and Tushman, 2004; Sinkula et al., 1997).

In other words, when a shared vision is acknowledged throughout senior teams, members are willing to consider and incorporate opposing views about tactical issues (Simons et al., 1999). To illustrate, consider the description of O'Reilly and Tushman (2004) of Ciba Vision, a producer of contact lenses, which decided to combine exploratory and exploitative innovation by competing in the mature business of conventional

contact lenses and to explore new technologies and markets for extended wear and fashion lenses. These latter exploratory activities required new technology and manufacturing competences and took place in physically separated organizational units. Yet they required collaboration and coordination with existing organizational units. As the emerging technologies might threaten the future of existing organizational units and create potential conflicts in senior teams, Ciba Vision developed common goals and values by propounding a shared vision, 'healthy eyes for life', that justified the coexistence of the old and emerging businesses. In this sense, a senior team shared vision contributes to resolving conflicts regarding resource exchange and combination, and to achieving organizational ambidexterity.

Hypothesis 1: Senior team shared vision increases the achievement of organizational ambidexterity.

Senior team social integration. Social integration is a multifaceted phenomenon that reflects the 'attraction to the group, satisfaction with other members of the group, and social interaction among the group members' (O'Reilly et al., 1989, p. 22). Social integration differs from shared vision, which refers to shared values and common understanding of collective goals, in that social integration is directly related to affective factors or social forces among senior team members (Smith et al., 1994). Previous studies, therefore, have distinguished between both types of senior team attributes in examining team effectiveness and performance (i.e. Ensley and Pearson, 2005; Klein and Mulvey, 1995).

Members of socially integrated teams exhibit greater efficiency in task coordination and aspire for team success (O'Reilly et al., 1989; Smith et al., 1994). Socially integrated senior teams are related to increased negotiation, compromise, and collaboration across organizational units (Michel and Hambrick, 1992). In this way, members of socially integrated senior teams are expected to work harder to recognize opportunities and synergies for combining exploratory and exploitative activities (Smith et al., 1994). Social integration increases collaborative problem solving that is based on social interaction and trust among senior team members (Dailey, 1978). Such interaction and trust enable senior executives to articulate and develop arguments more effectively and to build realistic understandings of key preferences and conflicting roles in senior teams (Eisenhardt et al., 1997). Social integration stimulates critical debate as senior team members are more likely to evaluate alternative ways to reconcile conflicting goals associated with exploratory and exploitative activities. It provides comfortable and familiar platforms that routinize thorough consideration of conflicting strategic agendas and increases the confidence of senior executives to engage in dissenting viewpoints (Jehn et al., 1997). Hence, we propose that senior team social integration contributes to achieving organizational ambidexterity.

Hypothesis 2: Senior team social integration increases the achievement of organizational ambidexterity.

Senior team contingency rewards. Previous research has suggested that pay patterns among executives influence interactions and outcomes of senior teams (Baron and Pfeffer, 1994; Gomez-Mejia et al., 1987; Siegel and Hambrick, 2005). For instance, studies have argued

that contingency rewards, which reflect the degree to which benefits for individual team members depend on their team's outcome, are beneficial to senior teams confronted with pressures for mutual adjustment (Harrison et al., 2002; Shaw et al., 2002; Wageman and Baker, 1997). Team contingency rewards foster collaboration and create commitment to organizational goals (Bloom, 1999). They cause senior team members to direct attention and corresponding behaviour to interdependent rather than individual activities (Siegel and Hambrick, 2005). Team contingency rewards create an outcome interdependency among senior team members (Slavin, 1996; Wageman, 1995) and encourage them to achieve integrative value through identifying ways to use shared resources across exploratory and exploitative units (Smith and Tushman, 2005). In this sense, team contingency rewards motivate senior team members to transcend their unit's direct interests and to establish ways to allocate resources to both exploratory and exploitative innovation. Moreover, they establish norms that motivate senior team members to advance thinking and participate in clarifying problems and proposing solutions to complex issues (Wageman, 1995). Team contingency rewards reduce interpersonal competition and facilitate negotiation and mutual adjustment (Pfeffer, 1995) necessary for exploratory and exploitative units to coexist. Govindarajan and Trimble (2005) described how Analog Devices, a semiconductor company, avoided strong incentives tied to mature businesses' performance and started to evaluate and reward senior managers based on overarching achievements. In this sense, Analog Devices was able to promote and leverage assets across differentiated exploratory and exploitative units. In ambidextrous organizations, senior team contingency rewards are likely to urge executives to transcend their unit's direct interests and allocate resources to and achieve integrative value across exploratory and exploitative units (e.g. Smith and Tushman, 2005).

Hypothesis 3: Senior team contingency rewards increase the achievement of organizational ambidexterity.

Transformational Leadership, Senior Team Attributes and Organizational Ambidexterity

Organizational literature has identified the importance of leader behaviour and in particular, transformational leadership, to team and organizational outcomes (Bass, 1985; Lowe et al., 1996). Transformational leaders exhibit idealized influence, arouse inspirational motivation, provide intellectual stimulation, and treat followers with individualized consideration (Avolio et al., 1999). Idealized influence represents the degree to which leaders are admired, respected, and trusted. This dimension includes charismatic behaviour that causes followers to identify with the leader. Inspirational motivation is defined as the degree to which leaders articulate an appealing vision and behave in ways that motivate those around them by providing meaning and challenge to their followers' work. Intellectual stimulation is defined as the degree to which leaders stimulate their followers' effort to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways. Individualized consideration captures the degree to which leaders pay attention to each individual's need for achievement and growth by acting as a coach or mentor (Bass et al., 2003).

Transformational leaders may affect senior team effectiveness by participating in and facilitating senior teams to resolve conflicts and contradictory demands. Leaders exert their influence by broadening and elevating team members' goals and providing them with confidence in performing beyond expectations (Dvir et al., 2002). Accordingly, leaders in ambidextrous organizations may be more or less directive in affecting senior team dynamics and influence the way how senior teams reach closure on a decision, direct team discussion and structure debate (Edmondson et al., 2003). Intervention of transformational leaders has appeared to be particularly relevant to senior teams with goals and perspective asymmetries across senior team members (Stasser, 1999). By translating shared goals and collective values in desired behaviour, for instance, transformational leaders enhance the effectiveness of a senior team's shared vision to reconcile conflicting agendas and to implement synergies across exploratory and exploitative units. Consistently, we argue that transformational leadership increases the effectiveness of senior team attributes in achieving ambidexterity.

First, through inspirational motivation, transformational leaders display personal commitment to shared goals and values, and emphasize the ideological importance of a senior team's shared vision (Shamir et al., 1998; Waldman et al., 2006). The idealized influence of transformational leaders bolsters a sense of belongingness and inspires senior team members to commit to the overarching goals and values across exploratory and exploitative organizational units. To this end, transformational leaders facilitate the implementation of a shared senior team vision by translating shared goals and collective values in desired behaviour and increasing the likelihood that a shared senior team vision is implicated in actual collaborative action (Gardner and Avolio, 1998; Shamir et al., 1998).

Through individualized consideration, leaders can also enhance the effectiveness of a shared senior team vision by providing ideological explanations that link exploratory and exploitative efforts of individual senior team members to the achievement of shared goals and values. In this sense, they motivate senior team members to get more involved in searching integrative and synergetic value across exploratory and exploitative units and realize the achievement of shared goals. Hence, by encouraging collaborative action and creating affective response to overcoming conflicting agendas, transformational leadership increases the impact of a shared senior team vision on achieving ambidexterity.

Second, transformational leadership also moderates the effectiveness of senior team social integration in ambidextrous organizations. Transformational leaders use inspirational motivation to emphasize harmonious relationships and encourage shared learning experiences across senior team members with possible conflicting interests (Chen et al., 1998; Vera and Crossan, 2004). For example, Waldman and Yammarino (1999) indicated how Mary Kay Ash, former CEO of Mary Kay Cosmetics, offered women a career as beauty consultants and articulated a compelling vision that stressed the coming together as cohesive teams to accomplish organizational objectives. Through such intellectual stimulation, transformational leaders induce senior team members to openly discuss conflicting interests. In so doing, they encourage asymmetric information sharing that enhances the quality of decision-making in socially integrated senior teams (Edmondson et al., 2003). Moreover, past research has argued that idealized influence of transformational leaders facilitates senior team behaviours to cascade to lower hierarchical levels (Avolio and Bass, 1995; Waldman and Yammarino, 1999). Based on role

modelling of transformational leaders, synergetic and integrative efforts of socially integrated senior teams permeate across hierarchical levels. Such efforts inspire organizational members at lower echelons to demonstrate preferred behaviour and search for synergetic possibilities across exploratory and exploitative units to achieve organizational ambidexterity.

Third, although contingency rewards have typically been related to transactional leadership, recent studies have shown that contingent rewards are associated with transformational leadership behaviours as well (Bycio et al., 1995; Wofford et al., 1998). Transformational leaders are believed to carefully manage performance-based incentives by recognizing and rewarding effective performance based on values for fairness and trust rather than on exchange agreements (Goodwin et al., 2001). Transformational leaders motivate senior team members to think and act in terms of collective interests (Bass, 1985) rather than in direct interests of their exploratory and exploitative units. The idealized influence of transformational leaders involves the display and attribution of role modelling for senior team members that promote the transcendence of ordinary preoccupations and self-interests of senior team members (Bass and Riggio, 2006). Moreover, through inspirational motivation, transformational leaders articulate complex paradoxical challenges into attainable goals and rewards. As Smith and Tushman (2005, p. 527) explained, such leadership behaviour signals confidence in the ability of senior teams in ambidextrous organizations to reconcile conflicting situations and helps reduce threat and fear among senior team members. By doing so, transformational leaders use individual consideration and intellectual stimulation to express high confidence in the senior team's ability to meet complex expectations, and to increase the team's efficacy that collective aspirations and rewards will be achieved (Bono and Judge, 2003; Shamir et al., 1993). Individualized consideration by transformational leaders may also decrease the probability of senior team members to engage in social loafing, in which senior team members realize that they might 'hide in the team' while still reaping the benefits of contingency rewards (Høigaard et al., 2006). In this way, transformational leaders mitigate the potential negative effect of social loafing resulting from establishing contingency rewards. Hence, transformational leadership facilitates the acceptance and commitment to senior team contingency rewards in ambidextrous organizations.

Overall, we predict that the effectiveness of the three senior team attributes in ambidextrous organizations will be most pronounced when occurring in concert with a transformational leadership behaviour of the executive director.

Hypothesis 4: Transformational leadership positively moderates the impact of (a) senior team shared vision, (b) senior team social integration, and (c) senior team contingency rewards on organizational ambidexterity.

METHODS

Setting and Data Collection

The empirical research was conducted at Dutch branches of a large European financial services firm with a broad range of financial service providers in various

countries. The firm has more than \$350 billion in assets and ranks among the top 30 on the Fortune Global 500 in terms of total revenue in the banking industry. We chose the branches because they are geographically distinct, autonomous decision entities with their own board of directors. They have autonomy with respect to types of products and services offered and markets within which to provide these products and services. Each branch has its own senior management team with budget responsibilities regarding several aspects of their operations such as pursuing exploratory and exploitative innovation. Branches provide a wide range of products and services that cover asset management, mortgages, loans and savings, insurance, leasing, equity participation, corporate banking, and investment banking. Moreover, they operate in markets with varying levels of environmental dynamism and competitiveness – a condition required to observe branches pursuing different innovations (Han et al., 1998).

To deal with potential problems associated with single-informant bias and common method bias, we separated the measurement of the independent and dependent variables and collected data through multiple respondents. The first ‘executive director’ survey was designed for the executive director and a second senior team member of each branch and included items on a branch’s exploratory and exploitative innovation. The second ‘senior team’ survey was designed for remaining senior team members in each branch and included items on senior team shared vision, senior team social integration, senior team contingency rewards, and the executive director’s transformational leadership style. We developed survey packages, each containing copies of the executive director questionnaire and copies of questionnaires for senior team members and administered them to 211 branches in the Netherlands. To ensure confidentiality, we agreed not to reveal the names of the respondents and asked to return the questionnaire directly to us.

We received a total of 89 questionnaires from executive-directors, corresponding to a 42 per cent response rate. From these 89 branches, we received 305 ‘senior team’ questionnaires (34 per cent response rate). The number of senior team members who responded ranged from 2 to 8 with a mean of 3.43 members per branch. The executive directors had an average company tenure of 8.10 years (*s.d.* = 7.26). The average company tenure of the senior team members was 5.88 years (*s.d.* = 5.61). The mean size of the branches was 128.74 (*s.d.* = 68.29) full-time employees. To test for non-response bias, we examined differences between respondents and non-respondents for our final sample. T-tests showed no significant differences based on a branch’s number of full-time employees, total assets, and prior performance. We also compared early and late respondents (before and after 6 weeks) in terms of control and model variables. These comparisons did not reveal any significant differences ($p < 0.05$), indicating that non-response bias was not a problem in this study.

Measurement and Validation of Constructs

This study used existing multi-item scales that were verified through various analyses (items of constructs are provided in the appendix).

Organizational ambidexterity. Following prior studies, we consider exploratory and exploitative innovation as orthogonal (Gibson and Birkinshaw, 2004; He and Wong, 2004) and used a two-step approach to develop a measure for organizational ambidexterity. First, branch executive-directors provided information concerning their branch's level of exploratory and exploitative innovation. The measure for *exploratory innovation* was adapted from Jansen et al. (2006). The six-item scale for exploratory innovation ($\alpha = 0.91$) captured the extent to which branches depart from existing knowledge and pursue radical innovations for emerging customers or markets. In the context of financial services, exploratory innovation has been associated with developing fundamentally new loan structures and contingent contracts (Uzzi and Lancaster, 2003). A six-item scale ($\alpha = 0.88$) measured firm-level *exploitative innovation* (Jansen et al., 2006) and captured the extent to which branches build upon existing knowledge and pursue incremental innovations that meet the needs of existing customers (Abernathy and Clark, 1985; Benner and Tushman, 2003; Smith and Tushman, 2005). Prior research on financial services has related exploitative innovation to aggressive lending, shopping the market and increasing efficiency (Uzzi and Lancaster, 2003). To provide evidence of convergent and discriminant validity for branch-level exploratory and exploitative innovation, we performed exploratory factor analysis. The analysis clearly replicated the intended two-factor structure with each item loading clearly on their intended factor (all factor loadings were above 0.74 with cross-loadings below 0.25) and all factors having eigenvalues greater than one. Second, to develop a measure for a branch's level of organizational ambidexterity, we followed previous research and computed the multiplicative interaction between exploratory and exploitative innovation. The computation of the multiplicative interaction reflects arguments that both types of activities are orthogonal (cf. Gibson and Birkinshaw, 2004; Gupta et al., 2006).

In addition, to examine reliability issues associated with the executive-director data, we collected responses from a second senior team member in each responding branch. Of the 89 branches that participated, we received 40 responses from second senior team members located in branches that were comparable in size, age, and prior performance to our full sample. We calculated an inter-rater agreement score (r_{wg}) between the scores of the executive director and the second senior team member for exploratory innovation and exploitative innovation (James et al., 1993). The median [average] inter-rater agreements were 0.82 [0.80] and 0.89 [0.88] for both constructs, suggesting adequate agreement.

Senior team attributes and transformational leadership. The data for senior team attributes and transformational leadership were collected through multiple senior team members per branch. The measure for *senior team shared vision* ($\alpha = 0.84$) was adapted from Sinkula et al. (1997) and refers to the extent to which senior teams have collective goals and shared aspirations. *Senior team social integration* ($\alpha = 0.77$) was measured by seven items adapted from Smith et al. (1994). The items reflected the attraction to the senior team, satisfaction with other senior team members, and the social interaction among team members (O'Reilly et al., 1989). *Senior team contingency rewards* ($\alpha = 0.73$) refers to the extent to which senior team incentives, such as bonuses and profit sharing, were tied to overall firm performance. We adapted a four-item measure for senior team contingency rewards from Collins and Clark (2003). *Transformational leadership* was assessed by senior team

members' response to items of the Multifactor Leadership Questionnaire (MLQ-5X; Bass and Avolio, 1995). Each senior team member rated the items on transformational leadership for his or her executive director on a five-point scale, with 1 = 'strongly disagree' and 5 = 'strongly agree'. The four dimensions of transformational leadership consist of four items for intellectual stimulation, inspirational motivation, individualized consideration, and eight items for idealized influence. Because the dimensions are highly correlated (average $r = 0.78$) and past research showed that the dimensions of transformational leadership failed to exhibit discriminant validity in predicting outcomes, we averaged the items to create a single index for transformational leadership ($\alpha = 0.96$). Similar to previous studies (Bono and Judge, 2003; Jung et al., 2003), we conducted subsequent analyses using the composite index.

To empirically justify using data from the 'senior team' survey that assesses senior team attributes and transformational leadership, we conducted various analyses to demonstrate convergence and discriminant validity, within-team agreement and between-team differences for senior team shared vision, social integration, contingency rewards, and transformational leadership. First, convergent and discriminant validity of senior team characteristics and transformational leadership were established through exploratory and confirmatory factor analysis. Exploratory factor analysis clearly replicated the four-factor model and did not reveal any evidence of a single underlying construct. Next, we used confirmatory factor analysis on all items pertaining to senior team characteristics and transformational leadership (with the four facet scores used as manifest indicators of the latent transformational leadership factor) which yielded a model that fitted the data adequately ($\chi^2(164) = 468.87$, $\chi^2/df = 2.86$, CFI = 0.931, NFI = 0.900, SRMR = 0.056). Item loadings were as proposed and significant ($p < 0.001$), providing evidence for convergent and discriminant validity. Second, we calculated an inter-rater agreement score (r_{wg}) for each variable (James et al., 1993). Median [average] inter-rater agreement was 0.81 [0.78] for senior team shared vision, 0.77 [0.78] for senior team social integration, 0.92 [0.91] for senior team contingency rewards, and 0.83 [0.81] for transformational leadership, which were well above the cut-off value of 0.70. Third, intra-class correlations were generated using one-way analysis of variance. An indication of convergence within firms is an ICC(1) value greater than zero with a corresponding ANOVA F-statistic that is statistically significant (Kenny and La Voie, 1985). The ICC(1) values for the particular variables ranged between 0.26 and 0.39 with significant F-statistics, indicating that the means for the ratings for each variable accurately represent team scores. Hence, results indicate that our measures represent concepts that are theoretically and empirically distinguishable, and are not characterized by common method variance.

Control variables. We controlled for possible alternative explanations by including relevant control variables. As larger branches may have more resources and yet lack the flexibility to pursue exploratory and exploitative activities simultaneously (Ahuja and Lampert, 2001), we included the natural logarithm of the number of full-time employees within branches to account for *branch size*. Senior team size could affect the heterogeneity of senior teams, and accordingly, impact the achievement of ambidexterity. Following previous studies, we measured *senior team size* through the number of senior executives who are responsible for strategy formulation and implementation (e.g. Siegel and Ham-

brick, 2005). Previous research has suggested that gender may influence the extent to which executive directors are recognized and accepted as legitimate leaders (Eagly and Carli, 2003). Female leaders have been suggested to encounter obstacles when intervening in senior team dynamics and affecting the effectiveness of senior teams in achieving organizational ambidexterity. Hence, we included a dummy variable *CEO gender* (male = 1 and female = 0) to control for such possible confounding effects. An executive director's *tenure* was also included, because previous research has suggested that the tenure of an executive director may be related to senior team effectiveness and organizational outcomes (Haleblian and Finkelstein, 1993; Wu et al., 2005). Environmental aspects, such as dynamism can trigger branches to develop new products and services. Hence, we included a five-item scale ($\alpha = 0.91$) adapted from Jansen et al. (2006) that captures *environmental dynamism*.

ANALYSIS AND RESULTS

Table I presents descriptive statistics and correlations for study variables. Table II presents the regression results for organizational ambidexterity. Prior to the creation of the interaction terms in model 3, we mean centred the independent variables (Aiken and West, 1991). We also calculated variance inflation factors (VIF) to assess multicollinearity. The maximum VIF within the models was 1.96, which is well below the rule-of-thumb cut-off of 10 (Neter et al., 1990). The baseline model 1 contains the moderator and control variables. Model 2 introduces effects of senior team attributes and model 3 examines the potential moderating effects of transformational leadership. We discuss the results of the final model, i.e. model 3 in Table II.

The proposed positive effect of senior team shared vision on organizational ambidexterity (Hypothesis 1) was supported ($b = 3.78$, $p < 0.01$). The coefficient for senior team social integration was not significantly related to organizational ambidexterity. Accordingly, Hypothesis 2, which posited that social integration would contribute to overcoming strategic contradiction and to pursuing exploratory and exploitative activities simultaneously, was not supported. Hypothesis 3, proposing a positive relationship between senior team contingency rewards and ambidexterity, was supported ($b = 1.82$, $p < 0.01$).

In addition to the direct effects of senior team attributes on achieving ambidexterity, we argued that their impact will be most pronounced when occurring in concert with transformational leaders. This proposed interaction effect, however, was not significant for transformational leadership and senior team shared vision (Hypothesis 4a not supported). Consistent with the hypothesis, the interaction effect between senior team social integration and transformational leadership is significantly related to organizational ambidexterity ($b = 5.48$, $p < 0.01$). To plot this interaction, senior team social integration and transformational leadership took the values of one standard deviation below (i.e. low level) and above (i.e. high level) the mean. The plot of the interaction is shown in Figure 2. Consistent with Hypothesis 4b, Figure 1 shows a positive relationship between senior team social integration and organizational ambidexterity when transformational leadership is high. Interestingly, contrary to our Hypothesis 4c of a positive moderating effect of transformational leadership on the relationship between senior team contingency rewards and ambidexterity, the effect was negative and significantly related to a

Table I. Means, standard deviations, and correlations^a

	<i>Mean</i>	<i>St. dev</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Organizational ambidexterity	20.97	8.73	—									
(2) Senior team shared vision	5.47	0.75	0.41	(0.84)								
(3) Senior team social integration	4.97	0.92	0.32	0.51	(0.77)							
(4) Senior team contingency rewards	3.84	1.43	0.41	0.32	0.38	(0.73)						
(5) Transformational leadership	3.60	0.54	0.14	0.25	0.16	0.27	(0.96)					
(6) Branch size ^b	2.07	0.17	0.10	0.13	0.13	0.26	0.01	—				
(7) Senior team size	8.43	1.30	0.11	−0.03	−0.11	0.17	−0.09	0.35	—			
(8) CEO gender	0.88	0.33	0.05	0.07	−0.04	−0.02	0.07	0.05	0.10	—		
(9) CEO tenure	8.10	7.26	0.15	0.06	0.11	0.16	−0.02	−0.20	−0.07	0.04	—	
(10) Environmental dynamism	4.14	1.40	0.36	0.25	0.27	0.22	−0.02	0.24	0.06	−0.04	−0.04	(0.91)

Notes:^a n = 89. Numbers in parentheses on the diagonal are Cronbach's alphas of the composite scales.

Correlations above 0.17 are significant at p < 0.05, above 0.24 are significant at p < 0.01.

^b Log number of full-time employees.

Table II. Effects of senior team attributes and transformational leadership on organizational ambidexterity^a

	<i>Organizational ambidexterity</i>		
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
<i>Main effects</i>			
Senior team shared vision		2.93*	3.78**
		(1.30)	(1.29)
Senior team social integration		0.48	-0.65
		(1.08)	(1.05)
Senior team contingency rewards		1.46*	1.82**
		(0.68)	(0.64)
<i>Interaction effects</i>			
Senior team shared vision * Transformational leadership			2.55
			(1.99)
Senior team social integration * Transformational leadership			5.48**
			(1.79)
Senior team contingency rewards * Transformational leadership			-2.45*
			(1.13)
<i>Moderator and control variables</i>			
Transformational leadership	2.59	0.30	0.45
	(1.61)	(1.61)	(1.64)
Branch size	0.11	-4.34	-1.48
	(5.63)	(5.40)	(5.07)
Senior team size	0.75	0.69	0.01
	(0.72)	(0.69)	(0.66)
CEO gender	0.98	1.03	-0.23
	(2.64)	(2.48)	(2.38)
CEO tenure	0.21	0.11	0.06
	(0.12)	(0.12)	(0.11)
Environmental dynamism	2.28**	1.56*	1.58**
	(0.64)	(0.62)	(0.59)
Adjusted R ²	0.14**	0.25***	0.36***
Δ adjusted R ²		0.11**	0.11**

Notes:^a n = 89.

* p < 0.05; ** p < 0.01; *** p < 0.001; standard errors in parentheses.

branch's ambidexterity ($b = -2.45$, $p < 0.05$). As plotted in Figure 3, organizations with transformational leaders together with senior team contingency rewards are less conducive to achieving ambidexterity than organizations with transformational leaders and lower levels of contingency rewards.

To further verify our research findings, we conducted additional regression analyses with the sum of exploratory and exploitative innovation as an alternative measurement for organizational ambidexterity (Lubatkin et al., 2006). We repeated hypotheses tests using this alternative measurement as dependent variable, and found similar results. Senior team shared vision ($b = 0.89$, $p < 0.01$), team contingency rewards ($b = 0.40$,

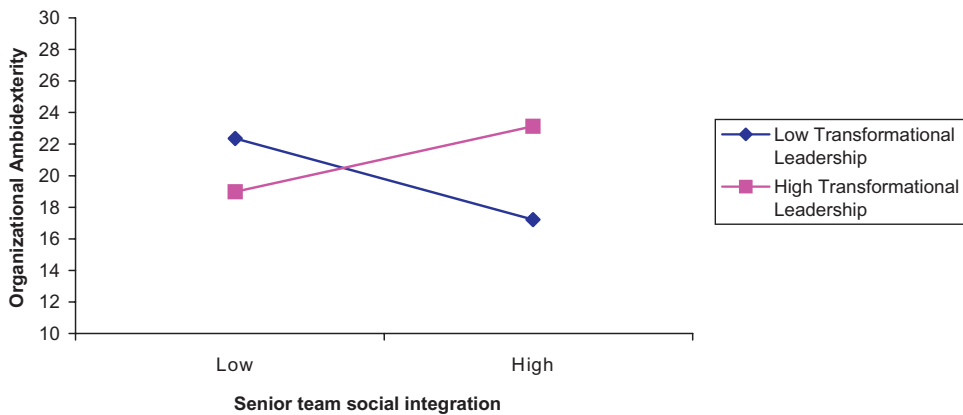


Figure 2. Interaction of senior team social integration and transformational leadership

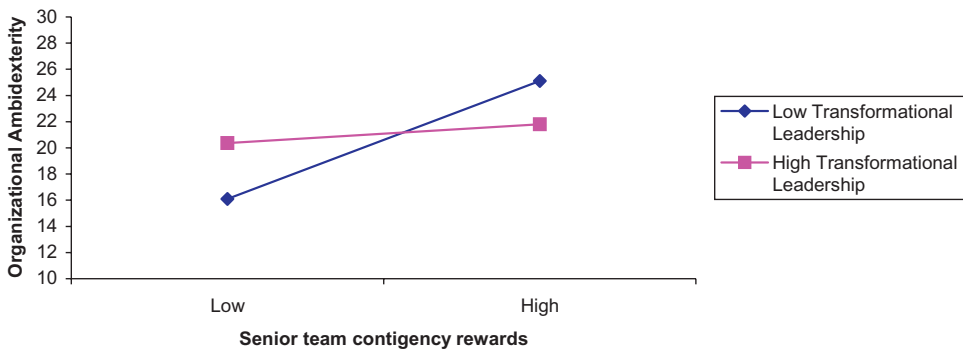


Figure 3. Interaction of senior team contingency rewards and transformational leadership

$p < 0.01$) as well as the interaction effects between senior team shared vision and transformational leadership ($b = 1.23$, $p < 0.01$) and senior team social integration and transformational leadership ($b = -0.50$, $p < 0.05$) were significantly related to ambidexterity.

DISCUSSION AND CONCLUSION

Strategy scholars strive to understand the factors that impel organizations to explore and exploit emergent opportunities so as to augment firm performance. Due to its theoretical importance and practical relevance, research in this area is burgeoning. Conceptual arguments assert that achieving ambidexterity imposes considerable challenges on senior executives, because of the necessity to allow differentiation while maintaining integration and balanced decision-making (Smith and Tushman, 2005). Senior teams in ambidextrous organizations are collectives of individuals responsible for resolving conflicting strategic agendas while managing the operational functions for which they are responsible. We posit that senior teams are important elements for ambidextrous organizations to resolve conflicts and combine exploratory and exploitative activities in different parts of the organization. Hence, we test this core idea to find that senior team attributes and

transformational leadership differentially influence a firm's ability to pursue exploratory and exploitative innovation and to achieve organizational ambidexterity.

Implications

Our results confirm that organizational ambidexterity requires the development of a strong and compelling *shared vision*. A collective aspiration expresses the future developmental path and can prevent ambidextrous organizations from leading into fragmented structures (Hambrick, 1994). Our result also support assertions that common values and aspirations are an important team attribute that facilitates senior team members to prioritize and interpret problems and reduce conflicts (Simons et al., 1999). Another conceptual extension introduced in the present study is that shared values and collective goals facilitate team processes that compensate for spatial differentiation in ambidextrous organizations. Orton and Weick (1990), for instance, argued that shared values may constitute the sole remaining basis that holds together loosely-coupled exploratory and exploitative units. In addition, Ouchi (1980) discussed that goal congruity may serve as a central control mechanism that directs discipline and behaviour of organizational members. A strong and compelling senior team shared vision, therefore, becomes a primary mechanism for embracing conflicts that stem from senior team members occupying multiple roles with potentially incompatible expectations. Shared values and collective goals are associated with integrative and synergetic behaviours through which senior teams balance requirements for resource allocation to both exploratory and exploitative efforts.

Interestingly though, whereas a senior team shared vision is a positive and significant predictor of organizational ambidexterity, our study fails to support the hypothesis that senior team *social integration* enables reconciling conflicts within senior teams. Although we expected social integration to increase efficiency of coordination and attention given to overcome complex problems, our study reveals that it does not help senior teams to reconcile conflicting demands and to allocate resources to both exploratory and exploitative innovation. At first glance, the fact that socially integrated teams do not directly favour the achievement of organizational ambidexterity seems inconsistent with prevailing view that behavioural integration increases team effectiveness in ambidextrous organizations (Lubatkin et al., 2006). On close inspection, however, it is not. A possible explanation could be that the attractiveness dimension of social integration might be detrimental to openly discussing and debating conflicting demands. Mullen and Copper (1994), for instance, found that the more the social integration tapped into interpersonal attraction, the more social integration impaired group-decision making. This would imply that interpersonal attraction as an inherent part of social integration (Smith et al., 1994) might decrease the willingness of senior team members to discuss and debate conflicting demands and force the confrontation of competing goals and aspirations. Senior team members in socially integrated teams might compromise confrontation of competing goals associated with exploratory and exploitative units. Our study suggests that further research is needed to evaluate the influence of the elements of social integration (i.e. attraction to the team, satisfaction with other team members, and social interaction among team members) on the effectiveness of senior teams in ambidextrous organizations.

Another plausible explanation for the non-significant finding could be that the task interdependency within senior teams is typically limited in scope and generally involves only subsets of members. Senior team members in ambidextrous organizations may sometimes work alone at independent tasks associated with their exploratory or exploitative units and sometimes work together as a team. Meta-analytic results suggest that teams exhibiting low to moderate levels of task interdependency benefit less from social integration (Beal et al., 2003). Such hybrid forms of interdependencies have received relatively little attention in the literature (e.g. Wageman, 1995), however, and might be particularly important as they moderate the process and performance of senior teams in ambidextrous organizations. More research is certainly necessary to address task interdependency as an important characteristic and contingency condition for senior teams in ambidextrous organizations.

Our findings on senior team *contingency rewards* highlight the importance of reward systems in implementing complex strategic choices such as achieving organizational ambidexterity. Whereas the literature on executive compensation has largely considered individual consequences of pay patterns, our study indicates that shared pay patterns

can be expected to affect the functioning of senior teams in ambidextrous organizations (Siegel and Hambrick, 2005). Compensating senior team members for overall firm performance decreases the chance of interest asymmetries and encourages senior team members to seek opportunities for strategic synergies across inconsistent exploratory and exploitative organizational units. Senior team contingency rewards reduce interpersonal competition and foster a firm wide view and collaboration (Edmondson et al., 2003; Wageman, 1995) that prevents ambidextrous organizations from drifting towards fragmented structures. Hence, our study contributes to recent insights concerning the importance of team contingency rewards to enhancing organizational performance under highly dynamic environmental conditions (Siegel and Hambrick, 2005) as we show that such 'shared-fate' rewards enable firms to combine exploratory and exploitative efforts and to achieve organizational ambidexterity.

Our study's findings on the moderating effect of *transformational leadership* also add to the emergent dialogue on the level of discretion that leaders may possess over senior team processes (Haleblian and Finkelstein, 1993; Peterson et al., 2003) and, consequently, in influencing organizational ambidexterity. With regard to the effectiveness of a shared senior team vision in ambidextrous organizations, however, our findings did not provide evidence that transformational leaders facilitate the commitment to and implementation of a senior team shared vision in ambidextrous organizations. Although previous research has suggested that transformational leadership ensures the attendance and understanding of a strategic direction (e.g. Berson and Avolio, 2004), our non-significant finding might be explained by the fact that senior team members may have a voice in determining the strategic direction. Through this increased involvement, senior team members may already be committed to and perceive shared goals and values as highly important to achieving organizational ambidexterity. In this sense, the effect of transformational leaders emphasizing the ideological importance diminishes yet may be particularly important to the effectiveness of organizational members at lower hierarchical levels. Future research is necessary to explore this

possibility and examine how transformational leadership increases the effectiveness of shared goals and values at lower levels within organizations.

Of particular interest is that senior team social integration only affects the achievement of organizational ambidexterity in the presence of a transformational leader. Specifically, socially integrated senior teams with a transformational leader are more likely to reconcile conflicting demands and debate about inconsistent perspectives at exploratory and exploitative units. This finding has important implications. Together with the non-significant direct effect of senior team social integration on organizational ambidexterity, it highlights that transformational leaders are necessary to force socially integrated teams to critically debate and openly discuss conflicting task issues. Socially integrated teams may establish strong behavioural expectations, reduce deviant behaviour, and limit divergent perspectives how to establish organizational ambidexterity (Rowley et al., 2000). Our study indicates that socially integrated teams need inspirational and intellectual stimulation on behalf of a transformational leader to debate conflicting interests and to reconcile conflicting demands among senior team members in ambidextrous organizations.

Studies are beginning to address the idea that the use of rewards for performance may be tied to transformational leadership (Goodwin et al., 2001). We expected transformational leaders to provide credit and expressions of satisfaction, and to influence senior team members' expectations about the fairness of group rewards for senior team performance. Interestingly, however, our study shows that transformational leadership *negatively* moderates the impact of senior team contingency rewards on achieving organizational ambidexterity. We speculate that this finding may be consistent with arguments suggesting that transformational leaders emphasize *intrinsic* rather than *extrinsic* rewards (Bono and Judge, 2003). Because senior team members become attracted by a transformational leader's inspirational motivation and intellectual stimulation, they may implicitly assume they can trust the leader to provide rewards consistent with collective performance. Shamir et al. (1993), for instance, argued that transformational leadership motivates followers through intrinsic aspects, such as self-expression, self-efficacy, self-worth, and self-consistency. Intrinsic motivation on behalf of senior team members, in turn, diminishes perception about the importance of negotiating and implementing extrinsic contingency senior team rewards that are tied to overall firm performance. Hence, this result suggests that the effectiveness of senior team contingency rewards to achieve organizational ambidexterity may be stifled when its leader exhibits transformational leadership behaviours. This finding encourages further research on the link between transformational leadership, intrinsic and extrinsic aspects of contingency rewards and achieving ambidexterity.

Limitations and Future Research

Although our study presents the first step towards uncovering the specific features of senior teams and leadership behaviour in ambidextrous organizations, a number of limitations call for further research. First, one possible shortcoming is that our hypotheses, albeit generic, were tested at branches of a large financial services firm. Our focus helped to control for corporate-, industry- and country-specific differences that might have otherwise masked effects. Yet our focus may raise questions about the generaliz-

ability of our findings to other industry settings. We demonstrated that specific senior team attributes and leadership behaviour affect a firm's ability to achieve organizational ambidexterity. In other settings, some conditions may not hold, and the degree of homogeneity among the branches may mean that the effects of study variables are underestimated in our study. In addition, prior studies have shown that environmental dynamism and uncertainty influence the discretion of executive directors over team processes and outcomes. In less regulated and more dynamic and uncertain industry settings, effects of transformational leadership on team attributes may be more pronounced; however, the financial services sector has also been witnessing an increasing extent of turbulence due to increased competition. With this in mind, there is reason to believe that the salient features of our sample are evident in other industries as well. Of course, this cannot be confirmed without more analyses offering a similar depth of coverage.

Second, although we took great care in separating collection of data on the independent and dependent variables as well as the use of multiple respondents that provide valuable methodological contributions, future longitudinal research is necessary to empirically establish the causal claim of our model. Third, as we averaged the items pertaining to dimensions of transformational leadership to obtain a single index, it would be useful to examine differential effects of each component of transformational leadership. In this sense, future research may provide a richer assessment about the effectiveness of each component of transformational leadership to senior team dynamics and achieving organizational ambidexterity. Moreover, future studies may address how transactional leadership influences the effectiveness of senior teams in ambidextrous organizations. Finally, although our study provides new insights into how senior executives contribute to achieving organizational ambidexterity, it does not address performance implications of achieving organizational ambidexterity. Although prior studies have suggested that ambidexterity is a critical capability for success (i.e. Gibson and Birkinshaw, 2004; He and Wong, 2004), future research exploring whether environmental dynamism and competitiveness are important boundary conditions, would be an important extension of our study.

There are several other opportunities in which our findings could be extended both theoretically and empirically. First, although our model focused on the senior team attributes and transformational leadership behaviour, we did not directly examine team decision-making processes. Senior team decision-making processes may have important moderating or mediating influence on the relationship between senior team attributes and organizational ambidexterity. Future research that incorporates measures of decision-making such as speed, quality, and comprehensiveness may help explain more variance in organizational ambidexterity. Second, our study variables provide partial explanation of the phenomenon. Undoubtedly there are other important factors that affect the ability of organizations to achieve organizational ambidexterity. For instance, future research may investigate additional senior team attributes such as internal and external social networks (i.e. content, strength, and density) as these dimensions have been associated with team effectiveness and performance (Balkundi and Harrison, 2006). Moreover, organizational determinants such as formal and informal integration mechanisms may help implement differentiated exploratory and exploitative activities in a

targeted integrated structure and further develop a firm's ability to pursue exploratory and exploitative innovation simultaneously. Third, future research on ambidextrous organizations may take the notion of multiple levels into account. As our study investigated close leadership effects on senior team dynamics and achieving organizational ambidexterity, it would be useful to examine distant leadership effects on ambidextrous behaviours at lower levels within organizations. Gibson and Birkinshaw (2004) suggested that leaders may serve as role models who encourage organizational members at lower hierarchical levels to make their own judgment about conflicting demands. Future studies may also address exploration and exploitation at the manager level-of-analysis (i.e. Mom et al., 2007) and examine how organizational and leader attributes affect managers' exploration and exploitation activities.

In conclusion, our study responds to calls for research on combining and synchronizing exploratory and exploitative innovations within organizations. The study not only examines how senior teams might successfully coordinate pursuing exploratory and exploitative innovations, but also reveals how transformational leadership might moderate the effectiveness of senior teams in ambidextrous organizations. In doing so, this study contributes to the management literature on ambidexterity and senior teams, transformational leadership and capability development.

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APPENDIX: MEASURES AND ITEMS

All items were measured on a seven-point scale, anchored by 1 = strongly disagree and 7 = strongly agree.

- Exploratory innovation (Jansen et al., 2006)
 - Our organization accepts demands that go beyond existing products and services
 - We invent new products and services
 - We experiment with new products and services in our local market
 - We commercialize products and services that are completely new to our organization
 - We frequently utilize new opportunities in new markets
 - Our organization regularly uses new distribution channels
 - We regularly search for and approach new clients in new markets [item deleted after exploratory factor analysis]
- Exploitative innovation (Jansen et al., 2006)
 - We frequently refine the provision of existing products and services
 - We regularly implement small adaptations to existing products and services
 - We introduce improved, but existing products and services for our local market

- We improve our provision's efficiency of products and services
- We increase economies of scales in existing markets
- Our organization expands services for existing clients
- Lowering costs of internal processes is an important objective [item deleted after exploratory factor analysis]
- Senior team shared vision (Tsai and Ghoshal, 1998; Sinkula et al., 1997)
 - There is commonality of purpose in my senior team
 - There is total agreement on our organizational vision
 - All senior team members are committed to the goals of this organization
 - People are enthusiastic about the collective goals and mission of the whole organization
 - Our senior team lacks a clearly defined collective vision [reversed item]
- Senior team social integration (O'Reilly et al., 1989; Smith et al., 1994)
 - The members of the senior team are quick to defend each other from criticism by outsiders
 - Everyone's input is incorporated into most important company decisions
 - The members of the senior team get along together very well
 - The members of the senior team are always ready to cooperate and help each other
 - When final decisions are reached, it is common for at least one member to be unhappy with the decision [reversed item]
 - There is a great deal of competition between members of the senior team [reversed item]
 - The members of the senior team really stick together
- Senior team contingency rewards (Collins and Clark, 2003)
 - Senior team members' variable pay is based on how well the organization as a whole is performing
 - This organization uses multiple incentives (e.g. signing bonuses) to attract top candidates for the senior team
 - The majority of senior team members' pay is based on variable compensation (bonuses, profit sharing)
 - Incentive-based pay for the senior team is based on how well the organization is performing as a whole

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