

PERFORMANCE IMPACT OF MIDDLE MANAGERS' ADAPTIVE STRATEGY IMPLEMENTATION: THE ROLE OF SOCIAL CAPITAL

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This article reconciles mixed findings about the performance impact of middle managers' strategy involvement. We propose that the relationship between middle managers' adaptive strategy implementation—through upward and downward influence—and objective business performance can be curvilinear and contingent on formal and informal structures. Applying a multilevel perspective to social networks, we empirically show that reputational social capital enhances the performance impact of middle managers' upward influence while informational social capital elevates the performance impact of their downward influence. The size of a business unit or region has differential moderating effects. The curvilinear effects of middle managers' upward influence and reputational and informational social capital on business unit performance reflect paradoxes. We discuss the implications of these findings for strategy implementation research and practice. Copyright © 2013 John Wiley & Sons, Ltd.

What organizations really have are the *outer* people, connected to the world, and the *inner* ones, disconnected from it, as well as many so-called *middle* managers, who are desperately trying to connect the inner and outer people to each other. —H. Mintzberg (1996: 61, italics in original)

INTRODUCTION

Middle management includes managers who give and receive direction (Stoker, 2006). They are closer than senior managers to day-to-day operations, customers, and frontline employees,

but are still “far enough away from frontline work that they can see the big picture” (Huy, 2001: 73). Kanter (1982: 96) remarks that “because middle managers have their fingers on the pulse of operations, they can also conceive, suggest, and set in motion new ideas that top managers may not have thought of.” Thus, a prolific literature provides useful insights into middle managers' strategy involvement (e.g., Burgelman, 1983; Dutton et al., 1997; Floyd and Wooldridge, 1992a, 1992b, 1997, 1999; Huy, 2001, 2002; Kanter, 1983, 1988; Westley, 1990; Wooldridge and Floyd, 1990).

However, two research issues remain underexplored. First, middle management's influence on strategy can be associated negatively with performance, but the theoretical explanation and empirical support for this effect is still lacking (for a review, see Wooldridge, Schmid, and Floyd, 2008). Second, as Wooldridge *et al.* (2008: 1209) note, “Although there is some evidence for a positive relationship between middle

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management's involvement in strategy and organizational outcomes, ... little or no research has taken a fine-grained approach to uncover important contingency relationships." Conceptually, mixed findings about the performance impact of middle management's influence on strategy can be attributed to one or a combination of the following three factors: (1) nonlinearity in the main effect, (2) contingencies that moderate the main effect, and (3) the operationalization of the criterion variable (e.g., objective versus subjective performance).

The purpose of this study is to address these two research issues. We draw mainly from the literature on middle managers, social networks, and paradoxes to develop a contingency framework. First, we posit that the relationship between middle managers' strategy involvement and performance can be curvilinear rather than linear. Second, because actions and structures are often intertwined (Pettigrew, 1992) and because formal and informal structures may not always be aligned (Soda and Zaheer, 2012), we propose that the performance impact of middle managers' influence on strategy is contingent on both formal structures and social capital stemming from their informal social networks. We test this framework using multilevel survey data and objective performance data from a *Fortune* 500 company, which includes 43 senior managers and 285 lower-level middle managers.

Our contributions stem from the answers to the two underexplored research questions. First, we theorize and empirically demonstrate that middle managers' strategy involvement can follow an inverted U shape rather than a linear function, reflecting a control::flexibility paradox. In other words, middle managers' strategy involvement benefits performance by allowing for flexibility, but only up to a certain threshold. After this threshold, problems associated with a lack of strategic control outweigh the benefits. Second, we enrich the existing understanding of the performance impact of middle managers' strategy involvement by showing that this impact (1) holds true even with objective performance measures, and (2) is contingent on both formal and informal structural variables in the senior manager–middle manager and middle manager–employee interfaces. In doing so, we not only reconcile conflicting findings in prior research but also enrich our understanding of the conditions under which

middle managers' strategy involvement creates a positive performance impact. In the next section, we review the theoretical background before presenting our conceptual framework and empirical study.

THEORETICAL BACKGROUND

Middle managers' adaptive strategy implementation

Middle management's strategic involvement can take several forms. An important form of such involvement is middle managers' divergent behavior through championing alternatives and facilitating adaptability (Floyd and Wooldridge, 1992a; Pappas and Wooldridge, 2007). These two roles are considered divergent behaviors in that they "challenge the 'dominant logic' of the firm, help organizations enter new markets, and spark the development of new capabilities" (Pappas and Wooldridge, 2007: 324). The literature suggests that such divergence is a matter of degree. More specifically, such divergence can stem from middle managers' championing and facilitating initiatives at the operating level (Burgelman, 1983; Kanter, 1983), with implications for planned strategies at both the corporate level (Watson and Wooldridge, 2005) and the business level (Floyd and Wooldridge, 1992a).

In this study, we focus on middle managers' adaptive strategy implementation behaviors as a type of emergent behavior in strategy processes (Mintzberg and Waters, 1985). We draw from research on middle managers' divergent behavior (Floyd and Wooldridge, 1992a; Pappas and Wooldridge, 2007) to define middle managers' adaptive strategy implementation behaviors as their upward and downward influence to propose, accommodate, and embrace adjustments in planned functional level strategies (e.g., marketing strategy) at the business unit level (i.e., all sales districts of a business line within a multiline corporation) to fit with operational situations. These behaviors include (1) *championing alternative strategies* by selling them to senior management (upward strategic influence), and (2) *facilitating adaptability* on the frontline (downward strategic influence). Middle managers in our empirical context are district sales managers who reside at the lower end of the middle tier of the organization (Rouleau, 2005).

Middle managers' social networks and social capital

With regard to organizational structures, middle managers are embedded in a formal structure and multiple informal networks (e.g., Floyd and Wooldridge, 1999; Huy, 2001; Kanter, 1988; Pappas and Wooldridge, 2007; Tsui, 1984). Prior research suggests that both of these structural elements are important in strategy processes (Pettigrew, 1992; Soda and Zaheer, 2012). In this study, we focus on four formal and informal structural variables that facilitate the performance impact of managers' adaptive strategy implementation by providing them with social capital and power over the influenced (e.g., senior managers, subordinates). For upward influence, we examine two key contextual variables: (1) middle managers' *reputational social capital* in the advice network at the management level, which captures their prestige of being knowledgeable in the circles of senior managers and peer middle managers; and (2) senior managers' regional network size, which captures their span of control. For downward influence, we focus on two variables: (1) middle managers' *informational social capital* in their

regional advice network, which captures the extent to which they have access to information external to their regional network; and (2) middle managers' business unit network size, which captures middle managers' span of control.

Middle managers' social networks

As linking pins between senior management and frontline employees, middle managers leverage different social networks. We focus on three types of intraorganizational social networks: (1) the management network, which includes all senior managers (e.g., regional sales directors) and all middle managers (e.g., district sales managers); (2) regional networks, which include the middle managers who directly report to a specific senior manager; and (3) business unit networks, which include the subordinates (e.g., sales representatives) who directly report to a specific middle manager (e.g., a district sales manager). These networks cover the three role sets of a middle manager: superiors, peers, and subordinates (Tsui, 1984; see also Pappas and Wooldridge, 2007). Figure 1 provides examples of how these networks are defined.

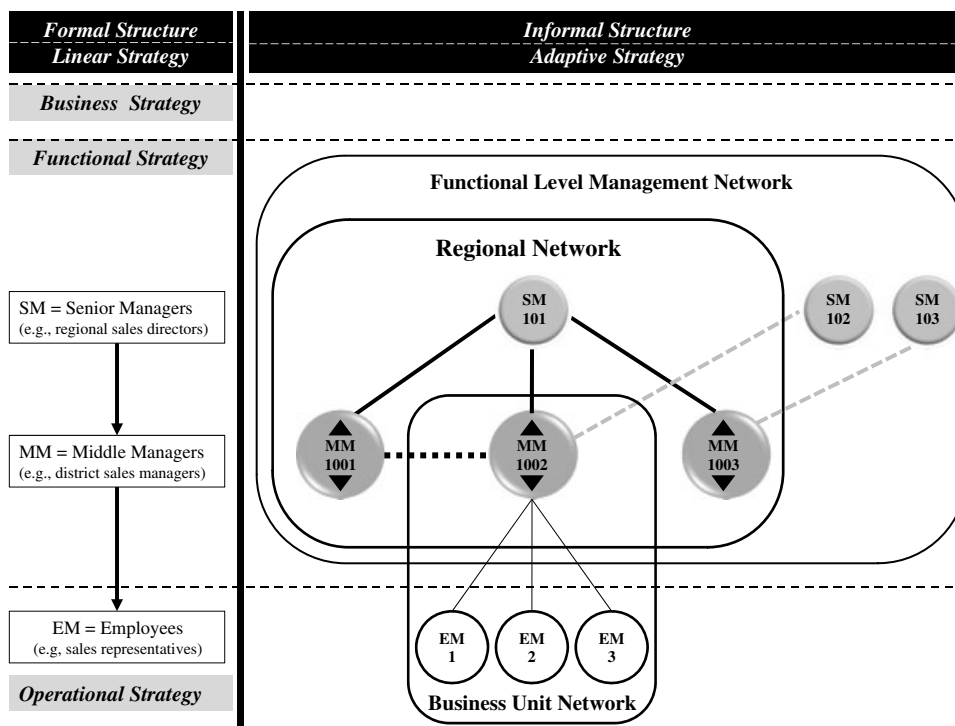
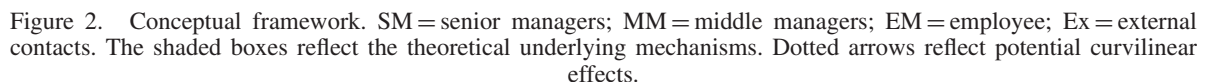


Figure 1. Types of social networks and strategy levels.

Kanter's (1983) qualitative research on middle managers as innovators suggests that managers rely on three basic commodities to achieve their goals: information, resources, and support. In this vein, the literature suggests that social networks are informal structures through which middle managers build informational and reputational social capital that enables them to be more effective in their adaptive strategy implementation (e.g., Burt, 2000; Tsai, 2000).

Therefore, when we evaluate the informational social capital that a middle manager can leverage with downward influence behavior, the empirical boundary of his or her network should be at the regional level. Second, senior and middle managers of different regions may go to the same middle manager for advice. In the eyes of senior managers, a middle manager's reputational social capital is relative to other middle managers'. Thus, when we evaluate the reputational social capital that a middle manager can leverage in upward influence behavior, the empirical boundary of his or her network should be the management network, which includes all senior managers and peer middle managers.

Figure 2 presents the conceptual framework. It shows that the relationship between middle managers' adaptive strategy implementation behaviors and business unit performance is contingent on



structures, both formal (i.e., the size of formal networks) and informal (i.e., social capital stemming from informal social networks).

Middle managers' adaptive strategy implementation and business unit performance

Prior research has suggested that middle managers' adaptive strategy implementation behaviors exert a monotonic, positive influence on organizational outcomes (e.g., Floyd and Wooldridge, 1992a, 1997; Mair, 2005; Wooldridge and Floyd, 1990). Nonetheless, a negative influence has also been suggested (Huy, 2002; Wooldridge *et al.*, 2008). Combining these insights, we propose that the performance impact of middle managers' adaptive strategy implementation may follow an inverted U shape. Such nonlinearity reflects a control::flexibility tension as a paradox of organizing (Lewis, 2000; Quinn and Cameron, 1983). That is, total control (versus flexibility) of strategy implementation without adaptation (versus with adaptation) has the benefits (versus costs) of coherence (versus anarchy) but the costs (versus benefits) of being nonresponsive (versus responsive) to the context. Figure 3 illustrates this paradox as two irreconcilable ends of an inverted U curve. Specifically, as the intensity of middle managers' actions (e.g., championing alternative strategies) moves from low to high on the horizontal axis, their actions become diminishingly beneficial

(represented by the downward sloping black dotted line) and increasingly costly (represented by the upward sloping gray dotted line). The result of such a trade-off between these costs and benefits is an inverted U-shaped relationship between middle managers' actions and net performance gain, represented by the black curvilinear line AB.

Downward influence behavior

Middle managers who facilitate adaptability can enhance the performance of their business unit for several reasons. First, senior managers' planned strategies cannot account for all the peculiarities of a middle manager's specific business unit. By adapting planned strategies to one's specific situation using ideas generated by subordinates, a middle manager enables employees to compete more effectively with competitor firms. In this vein, facilitating adaptability on the front-line also helps employees cope with emerging market trends not accounted for during planning processes (e.g., Mintzberg and Waters, 1985). Second, middle managers who facilitate experimental ideas and programs suggested by subordinates show that they support their subordinates' innovative behaviors. Such managerial support enhances subordinates' identification with the work group (Ashforth and Mael, 1989) and, in turn, results in stronger commitment to the course of actions (Mitchell, 1973). Managerial support also boosts

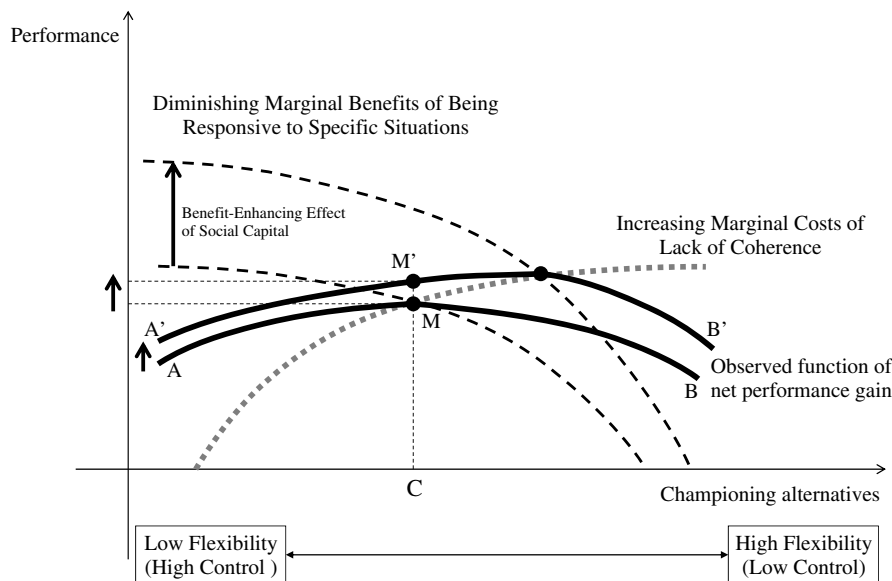


Figure 3. Curvilinear effects of championing alternatives as benefit::cost trade-offs and the solution.

subordinates' confidence in their ability to perform better. Empirically, a number of qualitative studies suggest that middle managers' involvement in downward influence is beneficial (Burgelman, 1983; Kanter, 1983). Huy (2001, 2002) reports findings from multiple case studies on middle managers as change agents and underscores that middle managers can use emotional balancing to help groups adapt and maintain continuity during organizational change. In addition, Mair (2005) provides some evidence that middle managers' proactive enactment of planned strategies is positively related to profit growth.

However, middle managers' facilitating adaptability can also be costly. Huy's (2002) study on adaptation during radical change suggests that too much change can create chaos and work unit underperformance, while too much continuity can lead to inertia and underperformance. Prior research also suggests that extreme adaptation can lead to a lack of focus in the overall strategy (Wernerfelt and Karnani, 1987). Extreme flexibility in responding to change makes it impossible for the organization to maintain a sense of identity and continuity and can even induce overreaction to reality (Volberda, 1996). We propose that at low to medium levels of facilitating adaptability, the marginal benefits of facilitating adaptability are significantly higher than the marginal costs. As a result, the net benefit of facilitating adaptability is positive. However, at high levels of facilitating adaptability, losing too much control is more costly than the marginal benefits of being flexible and adaptive, causing the net benefit to decrease. This trade-off between the benefits and costs of facilitating adaptability suggests the following hypothesis:

Hypothesis 1 (H1): The relationship between middle managers' facilitating adaptability and objective business unit performance follows an inverted U shape.

Upward influence behavior

Similarly, middle managers who engage in upward influence behavior can lead to higher organizational performance for several reasons. First, senior managers as strategy formulators are usually not fully informed (Gupta, 1987; Mintzberg and Waters, 1985). By exposing senior managers to different perspectives, middle managers provide insightful input into the strategy-making process.

For example, in the selling context, these alternative solutions are likely to be more suitable to the specific sales territory and customer base for which a middle-level sales manager is responsible. Second, if strategy is to be made only within the senior management circle, the strong ties among senior management members may subject them to a cognitive lock-in that is far from reality (Gargiulo and Benassi, 2000; Mintzberg, 1996). By providing alternative solutions to senior management, middle managers head off the possibility of groupthink, which may be detrimental. Finally, participative decision making generally induces middle managers to commit more strongly to the cause of action, which leads to higher performance (Mitchell, 1973). Westley (1990) suggests that the exclusion of middle managers in strategic conversations can be demoralizing. In support, Wooldridge and Floyd (1990) find that middle managers' generation of strategic options is related positively to multiple subjective performance measures. These arguments should also apply when organizational performance is evaluated objectively because, by championing alternatives, middle managers are more likely to be responsive to the market.

However, similar to facilitating adaptability downward, excessive costs arise when middle managers take championing alternatives to the extreme. First, too many alternatives can deter choice, making it difficult to act on market information (e.g., threats and opportunities) in a timely manner. Second, prior research suggests that affective conflicts are detrimental to relationships and collaboration (Amason, 1996). When managers engage in championing alternatives to the extreme, their behavior may backfire: senior managers may perceive middle managers' extreme upward influence as acts that question their positional power, which in turn can intensify affective strategic dissensus and impair effective strategy implementation (e.g., Amason, 1996; Floyd and Wooldridge, 1992b). We propose that at low to medium levels of championing alternatives, the marginal benefits of championing alternatives are significantly higher than the marginal costs. As a result, the net benefit of championing alternatives is positive. However, at high levels of championing alternatives, choice deterrence and affective conflicts become more costly than the marginal benefits of having many alternatives, causing the net benefit to decrease. The trade-off between the benefits

and costs of championing alternatives suggests the following hypothesis:

Hypothesis 2 (H2): The relationship between middle managers' championing alternatives and objective business unit performance follows an inverted U shape.

Boundary conditions of middle managers' facilitating adaptability

Middle managers' informational social capital in the regional network

A tie between two actors can be viewed as a pipe transmitting resources (e.g., information) between them (Podolny, 2005). However, previous research suggests that information from the same group of people can have a high level of redundancy. Burt (2000: 352) posits that people in different groups "circulate in different flows of information." Similarly, Kanter's (1983, 1988) research on middle managers as innovators also emphasizes informal social ties with peers in neighboring areas. External sources of information are valuable in providing novel insights and collaboration (Choi, 2002; Krackhardt and Stern, 1988). When we use the terms "internal" and "external," the network boundary is the "regional" network (see Figure 1).

In the selling context, for example, information exchange with sources external to the regional network may provide a middle manager with a better understanding of how markets function under different conditions. Middle managers who have external ties also learn from successes and failures in other regions rather than learning solely from the senior manager and the peers within the same region. Such vicarious learning should help them anticipate and avoid costly failures without having to experience those failures firsthand (Bandura, 1977). In short, middle managers gain nonredundant informational social capital from the social ties they hold with people outside their regional networks.

Middle managers are constrained by their limited resources. By facilitating adaptability, these managers devote scarce resources to subordinates' experimental efforts that could otherwise be invested in nontrial projects. Consequently, they require abundant—but not redundant—information to justify these adapting

attempts. Compared with middle managers who interact solely with people within their regional network, those who have access to information external to their regional network are more likely to provide more insightful feedback to their subordinates' adaptive strategies. With knowledge about successes and failures outside their regional network, they may be more prudent in identifying which experimental programs are worth pursuing and less likely to support all programs that come their way. Thus:

Hypothesis 3 (H3): The rate of business unit performance gain associated with middle managers' facilitating adaptability is higher when a middle manager has high informational social capital.

Middle managers' business unit network size

We present two opposite predictions about the moderating effect of middle managers' business unit network size. The first prediction is based on subordinates' perceptions about their middle manager's support when business unit network size is large. Specifically, a larger network size reduces the social interactions between leaders and followers. Previous research suggests that leaders working with a larger number of subordinates have less time and opportunity to build intimate relationships by coaching, providing feedback, building shared goals, and interacting with them (e.g., Ford, 1981; Porter and Lawler, 1964). Due to this lack of interpersonal interaction, subordinates may not be able to fully appreciate the support resulting from a manager who facilitates adaptability. Furthermore, cliques are more easily formed in larger units (Tichy, 1973). Subordinates may even perceive a manager's facilitating adaptability as favoritism toward a subgroup at the cost of others when a business unit size is large, thereby creating affective conflict that should hinder business performance. Thus, the performance impact of a middle manager's downward influence should be lower when his or her business unit is large, as compared to when it is small.

Alternatively, a second prediction is based on larger units' need to adapt to achieve environment–strategy fit (e.g., Hrebiniak and Joyce, 1985; Venkatraman and Prescott, 1990). Specifically, compared with those in smaller business units, subordinates in larger ones are

more likely to be faced with a more diverse business environment. In larger business units, emergent situations that are not accounted for during the strategy planning process are also more likely to arise. Subordinates in these larger business units, therefore, are not only more sensitive to but also more appreciative of middle managers' facilitating adaptability than those in smaller ones. Thus, the performance impact of middle managers' facilitating adaptability in larger business units will be stronger because it creates a better environment–strategy fit that enhances subordinates' ability to cope with emergent situations and elevates their positive perception of managerial support. Note that although middle managers in large networks may not have strong leader–follower interpersonal relationships, their formal positional power over subordinates can make up for this shortcoming and allow them to exercise adaptation “within constraints” (Hrebiniak and Joyce, 1985). Therefore, we propose two alternative hypotheses:

Hypothesis 4a (H4a): The rate of business unit performance gain associated with middle managers' facilitating adaptability is lower when the middle manager manages a large business unit network.

Hypothesis 4b (H4b): The rate of business unit performance gain associated with middle managers' facilitating adaptability is higher when the middle manager manages a large business unit network.

Boundary conditions of championing alternatives

Middle managers' reputational social capital in the management advice network

By providing advice to others in the management network, middle managers send out signals about their own business competence. Thus, managers with high centrality in the advice network have positive reputational social capital (e.g., Burt, 2000). Dutton *et al.* (1997: 410) posit that “middle managers exist in a marketplace for issues that all compete for top management's time and attention.” Because strategic change is an important decision, senior managers are unlikely to indiscriminately listen to all upward influence attempts. Rather,

they are more likely to weigh and attend to opinions from those with the reputation for being knowledgeable. In other words, senior managers are more likely to listen to, support, and, more important, provide necessary resources to middle managers who are informally well known for being central in the management advice network. Most important, prior research suggests that by giving out advice, centrally located middle managers are able to accumulate knowledge about task-related problems and form *better* solutions than those who are less central (e.g., Baldwin, Bedell, and Johnson 1997). Thus, compared with peer middle managers who lack reputational social capital, those with strong reputational social capital are better able to leverage their informal expert power against senior managers' positional power, garnering more resources and support from senior management to implement better business initiatives. Thus:

Hypothesis 5 (H5): The rate of business unit performance gain associated with middle managers' championing alternatives is higher when a middle manager's reputational social capital in the management network is high.

Senior managers' regional network size

Middle managers' upward influence differs from their downward influence in two fundamental manners: (1) they do not have formal positional power over senior managers, and (2) their interaction with senior managers is less frequent. We present two alternative hypotheses. On the one hand, it is plausible that the above-mentioned argument about middle managers' lack of interpersonal influence also holds true in their relationships with senior managers whose span of control is large. More specifically, senior managers who run large networks have less time to devote to middle managers' suggestions and less time to engage in open-minded conversations about the latter's alternative strategic initiatives. Furthermore, given their limited resources and the likely existence of cliques in large regions, senior managers may adopt a more autocratic management style (Heller and Yukl, 1969; Tichy, 1973). This lack of interpersonal relationships with senior managers coupled with limited positional power may make middle managers become less effective in selling their strategy alternatives to senior managers. Thus, middle managers' upward influence is more

likely to translate into weaker performance when a senior manager's regional network is large than when it is small. Note, however, that because senior managers and middle managers interact less frequently than middle managers and subordinates do, leader–follower interpersonal relationships become more important in the success of middle managers' upward influence than their downward influence over subordinates. Although this argument is seemingly similar to the rationale in Hypothesis 4a, it is the importance of interpersonal relationships at the senior–middle manager interface that makes this prediction more likely.

On the other hand, when the senior manager's network is large, middle managers who work under the same senior manager are responsible for satisfying more diverse stakeholders' needs that are not fully accounted for during the strategy planning process (c.f., Gupta, 1987). Strategic alternatives allow these middle managers to better adapt in their implementation, a benefit that those middle managers who work with a senior manager whose network is small do not necessarily need. Consequently, middle managers' championing alternatives matters more to their business unit performance when their senior manager's region is large than when it is small. Note that while middle managers possess the power to facilitate the execution of adaptive strategy implementation when they engage in downward influence, the power to accept or reject middle managers' upward influence shifts to senior managers. Although this argument is seemingly similar to the rationale in Hypothesis 4b, it is this shift in power between the influenced and the influencer that makes this alternative prediction less likely. Nevertheless, we propose two alternative hypotheses:

Hypothesis 6a (H6a): The rate of business unit performance gain associated with middle managers' championing alternatives is lower when a senior manager's regional network size is large.

Hypothesis 6b (H6b): The rate of business unit performance gain associated with middle managers' championing alternatives is higher when a senior manager's regional network size is large.

RESEARCH METHOD

Sample and research context

We collected data from the largest business unit of a *Fortune* 500 company that operates in the industrial cleaning and sanitizing industry. The company's organizational structure consists of three levels: senior-level sales directors, middle-level sales managers, and sales representatives. The sales managers have some freedom to determine and guide the selling approaches in their sales territories (i.e., sales districts). The size of the sales districts ranges from 3 to 12 salespeople who are in charge of different customers. Other industries, such as insurance companies, banks, and financial service providers; pharmaceutical firms; tourism companies; and retailers (e.g., clothing, computer hardware), also share this organizational structure. This context is particularly suitable for studying middle managers because they are instrumental in transforming planned marketing strategies into realized strategies for their specific sales territories. Previous research also suggests that middle managers in boundary-spanning units are likely to exhibit higher levels of strategic upward and downward influence (Floyd and Wooldridge, 1997). Before launching the survey, we conducted intensive field interviews with the senior sales directors and middle-level managers of the firm to ensure that our measures were suitable for the research context. These field interviews also enabled us to better understand the organizational structure and the formal and informal social interactions in the company. Through these interviews, we extracted several incidents of middle managers' adaptive strategy implementation; a sample of which appear in the Appendix. Then, we distributed questionnaires to the senior sales directors and middle-level sales managers in the firm. To test the cross-level hypotheses regarding the sales director–middle manager interface, we matched responses from these two sources using individual code numbers. Because of strong commitment from the top management of the firm, the final data include 43 sales directors (100% response rate) and 285 sales managers (94% response rate).

Measurement

We obtained self-reported data from sales directors and sales managers, as well as objective

firm data on business unit performance. Figure 2 also provides information about the source of the data. Most of our measures are adapted from published scales in the literature. We measured middle managers' *championing alternatives* with two items and *facilitating adaptability* with three items, using seven-point Likert scales adapted from Floyd and Wooldridge (1992a), anchored by 1 = *strongly disagree* and 7 = *strongly agree*.

For the *management network*, we asked middle managers to identify at least three sales directors and three peer middle managers whom they go to for advice. This name-generating method is consistent with ego-network protocol that has been used in previous research, while keeping the questionnaire length reasonable (e.g., Moran, 2005). Note that degree-based centrality is in principle identical for egocentric and sociocentric network data (Marsden 2002: 409). From our conversations with middle managers in the firm and given that the total number of senior managers is 43, the minimum of three names for each level (i.e., senior management, peer) was considered satisfactory. These names were then double-checked against the company roster for accuracy and coded with unique identification numbers. We then calculated middle managers' network centrality in the management network, which includes senior managers and middle managers. In our context, we operationalize middle managers' *reputational social capital* as in-degree centrality because we are interested in how many people named a sales manager as a go-to person in their advice network. This advisorship nomination reflects the prestige of being knowledgeable in the management network (e.g., Freeman, 1979; Mehra *et al.*, 2006).

Each regional network includes a sales director who managed from 3 to 16 middle managers, who in turn were in charge of their own sales territories. We operationalize middle managers' *informational social capital* using the E-I index (Krackhardt and Stern, 1988). We calculate the E-I index for each manager in each regional network as $(E - I) / (E + I)$, where E denotes the number of ties with people external to the region and I denotes the number of ties with people internal to the sales region. This E-I index has several important characteristics (Krackhardt and Stern, 1988), the most important being that it is a measure of the dominance of external over internal ties, not

simply a measure of external links. Therefore, it captures the informational value of external ties relative to that of internal ties.

Network size is the number of subordinates who report directly to a leader, who is either a sales director or a sales manager. We operationalize *business unit performance* as a formative construct by averaging the z-scores of (1) sales as a percentage of quota; (2) year-over-year growth percentage of total sales; and (3) a new customer productivity ratio, which measures the percentage of one's customer base that consists of newly acquired customers. We attained these objective performance measures from the company's records and aggregated them to the sales district level. In turn, they allow for between-unit comparability and reflect the market's response to middle managers' strategic adaptation implementation behaviors.

Covariates

Prior research suggests that social capital has both benefits and costs. Informational social capital can be detrimental because informational exchange with people outside one's group is more costly than exchange with people within the group. These hidden costs may be in the form of interpersonal risks (e.g., admitting ignorance on a topic), obligations to return a favor, or overuse of resources for purposes other than internal information exchange (Borgatti and Cross, 2003; Choi, 2002; Krackhardt and Stern, 1988). Similarly, while being central in the management advice network creates positive reputational social capital, it also deprives middle managers of their limited time. Instead of spending time managing their business unit, highly central managers are busy helping others. Prior research suggests that engagement in too much prosocial behavior comes at the cost of lower in-role performance (Bergeron, 2007). Research at the team level also suggests that centrally located social entities have more exposure to hindrance relationships and fewer opportunities to experiment with new initiatives (Lechner, Frankenberger, and Floyd, 2010). Because some empirical evidence exists on these nonlinear effects, we control for them by including quadratic terms of social capital variables in our empirical model. In addition, we controlled for middle managers' integrative activities that may influence business unit performance. These activities include

implementing deliberate strategy and synthesizing information (Floyd and Wooldridge, 1997). We measured both constructs using seven-point Likert scales, anchored by 1 = *strongly disagree* and 7 = *strongly agree*, with three items for synthesizing information and five items for implementing deliberate strategy. We also controlled for variables that have been shown in the literature to be predictive of performance, namely, sales manager's job satisfaction, organizational commitment, tenure with the company, tenure with the specific business unit, and job experience. Furthermore, it might be argued that middle managers' adaptive strategy implementation behavior is due to their lack of "buy-in" of the original strategy. We controlled for this potential confound by adding a proxy variable that measures a middle manager's buy-in of the company's vision ("[Company name] offers a strong vision in which employees can believe").

Measure reliability and validity

To validate the measurement scales, we subjected all measures to an exploratory factor analysis and found that all the items loaded onto their intended factors. The model fit of the confirmatory factor analysis was good ($\chi^2 = 157.74$, d.f. = 71; comparative fit index = 0.94; Tucker–Lewis index = 0.92). For all the constructs, the coefficient alpha values were greater than 0.70, and average variance extracted values were greater than 0.50. All the constructs had discriminant validity because their respective average variance extracted values exceeded the squared correlations between all pairs of constructs (Fornell and Larcker, 1981). Table 1 reports the descriptive statistics, internal consistency reliabilities, and intercorrelations of all the variables. Details about measurement items and factor loadings are available upon request.

Analytical strategy

Because middle-level sales managers (Level 1) are nested in sales directors (Level 2), responses from middle managers who work under the same sales director are interdependent. To account for this interdependence, we used hierarchical linear modeling (Raudenbush and Bryk, 2002). We nested the Level 1 data into the Level 2 data by relying on

the firm's organizational chart. To calculate network measures, we used UCINET VI (Borgatti, Everett, and Freeman, 2002). We first specified a null model and found that middle managers who worked under different sales directors exhibited significant between-group variation in sales performance. This step justifies the two-level model specification. Then, we added the control variables and the focal predictors. As part of a robustness test, we also include other possible interactions between facilitating adaptability and in-degree centrality, and between championing alternatives and the E-I index. These interactions were not significant, but we report them in the Result section for completeness. In our analysis, none of the other interactions at higher orders (e.g., between the squared term of facilitating adaptability and the E-I index; between the squared term of championing alternatives and in-degree centrality) were significant. Accordingly, these were not included in the final model. The final multilevel model was as follows:

Level 1 (sales districts as business units and middle managers):

Level 1 (sales districts as business units and middle managers)

$$\begin{aligned}
 \text{PERF}_{ij} = & \beta_{0j} + \beta_{1j} (\text{IDS}_{ij}) + \beta_{2j} (\text{INSY}_{ij}) \\
 & + \beta_{3j} (\text{JS}_{ij}) + \beta_{4j} (\text{COM}_{ij}) \\
 & + \beta_{5j} (\text{CTEN}_{ij}) + \beta_{6j} (\text{BUTEN}_{ij}) \\
 & + \beta_{7j} (\text{JTEN}_{ij}) + \beta_{8j} (\text{BUYIN}_{ij}) \\
 & + \beta_{9j} (\text{CALT}_{ij}) + \beta_{10j} (\text{FADP}_{ij}) \\
 & + \beta_{11j} (\text{CALT}_{ij}^2) + \beta_{12j} (\text{FADP}_{ij}^2) \\
 & + \beta_{13j} (\text{MDR}_{ij}) + \beta_{14j} (\text{MDR}_{ij}^2) \\
 & + \beta_{15j} (\text{CENT}_{ij}) + \beta_{16j} (\text{CENT}_{ij}^2) \\
 & + \beta_{17j} (\text{EXIN}_{ij}) + \beta_{18j} (\text{EXIN}_{ij}^2) \\
 & + \beta_{19j} (\text{FADP}_{ij} \times \text{MDR}_{ij}) \\
 & + \beta_{20j} (\text{CALT}_{ij} \times \text{CENT}_{ij}) \\
 & + \beta_{21j} (\text{FADP}_{ij} \times \text{CENT}_{ij}) \\
 & + \beta_{22j} (\text{CALT}_{ij} \times \text{EXIN}_{ij}) \\
 & + \beta_{23j} (\text{FADP}_{ij} \times \text{EXIN}_{ij}) + r_{ij}.
 \end{aligned}
 \tag{1}$$

Level 2 (senior managers)

$$\begin{aligned}
 (2) \quad & \beta_{0j} = \gamma_{00} + \gamma_{03} (\text{SDR}_j) + \gamma_{04} (\text{SDR}_j^2) + u_{0j}; \\
 (3) \quad & \beta_{nj} = \gamma_{10}, n \in \{1, 2, \dots, 8\}; \\
 (4) \quad & \beta_{9j} = \gamma_{90} + \gamma_{92} (\text{SDR}_j); \text{ and} \\
 (5) \quad & \beta_{mj} = \gamma_{m0}, m \in N = \{10, 11, \dots, 23\},
 \end{aligned}$$

Table 1. Means, standard deviations, and intercorrelation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11
Level 2: senior managers											
1. Senior manager's direct reports (regional network size) [SDR]	a										
Level 1: middle managers											
2. Championing alternatives [CALT]	-0.14	(0.78)									
3. Facilitating adaptability [FADP]	0.05	0.51	(0.77)								
4. Implementing deliberate strategy [IDS]	-0.17	0.41	0.40	(0.85)							
5. Information synthesis [INSY]	-0.06	0.40	0.43	0.56	(0.75)						
6. Middle manager's direct reports (business unit network size) [MDR]	0.33	-0.06	0.10	0.04	-0.07	a					
7. In-degree centrality [CENT]	0.08	0.17	-0.04	-0.08	-0.17	0.17	a				
8. E-I index [EXIN]	-0.07	0.05	-0.04	0.09	-0.05	0.12	0.27	a			
9. Job satisfaction [JS]	-0.12	0.27	0.18	0.37	0.16	0.07	0.07	0.07	(0.79)		
10. Commitment [COM]	-0.13	0.09	0.16	0.29	0.16	0.09	-0.02	-0.03	0.42	(0.72)	
11. Business unit performance [PERF]	-0.07	0.39	0.34	0.41	0.40	0.02	0.14	0.17	0.28	0.23	a
M	6.63	5.38	5.50	6.05	5.74	5.36	3.85	-0.47	5.41	5.95	0.00
SD	2.29	0.79	0.83	0.64	0.70	2.30	3.68	0.41	0.89	0.89	1.00
Composite reliability	—	0.82	0.81	0.89	0.80	—	—	—	0.83	0.76	—
Average variance extracted	—	0.66	0.65	0.65	0.63	—	—	—	0.61	0.63	—

$|r| \geq 0.07$ is significant at $p < 0.05$ (two-tailed), and $|r| \geq 0.09$ is significant at $p < 0.01$ (two-tailed). Correlations based on scores disaggregated per middle manager are below the diagonal ($n = 285$), and Cronbach's reliability coefficients appear on the diagonal. Business unit performance is measured with the averaged z -scores of the (1) current year-to-date sales divided by previous years' year-to-date sales, in percentage; (2) sales as percentage of sales representative's budget; and (3) new customer productivity ratio.

^a Constructs are measured with objective measures.

where for Level 1, PERF is business unit performance (for sales districts). For the middle manager-level variables, IDS is implementing deliberate strategy, INSY is information synthesis, JS is job satisfaction, COM is organizational commitment, CTEN is tenure with the company, BUTEN is tenure with the business unit, JTEN is tenure with the job, BUYIN is manager's buy-in of the company's strategy, CALT is championing alternatives, FADP is facilitating adaptability, MDR is direct-reports network size, CENT is in-degree centrality (reputational social capital), and EXIN is E-I index (informational social capital). For Level 2, SDR is senior manager's (i.e., sales director's) direct-reports network size, and $\eta_{ij} \sim N(0, \sigma^2)$.

Mean centering

For cross-level interactions, group mean centering of Level 1 is recommended (Raudenbush and Bryk, 2002). Our conceptual framework included both within-level interaction and cross-level interaction. Therefore, we used grand mean centering by way of standardization of the predictors within their respective level. We conducted additional tests with group mean centering and found that the results were almost identical. In the next section, we report the results with grand mean centering.

RESULTS OF HYPOTHESES TESTING

Main effects

Table 2 summarizes the results. On the left side, we report the linear effects-only model without the quadratic terms. The middle column is the full model with interaction terms and quadratic terms. We used the estimation from this full model to report our hypothesis testing because the interpretation of main effects in the presence of interaction effects is not meaningful. The results from the full model indicate that facilitating adaptability only has positive linear effects on objective business unit performance (H1: $\gamma = 0.173$, $p < 0.01$). Thus, Hypothesis 1 is not supported. However, in support of Hypothesis 2, championing alternatives has a curvilinear effect on performance (H2: linear term $\gamma = 0.231$, $p < 0.01$; quadratic term $\gamma = -0.086$, $p < 0.01$).

Moderating effects

We found strong evidence for a positive interaction effect between the linear term of middle managers' facilitating adaptability and the E-I index on business unit performance ($\gamma = 0.145$, $p < 0.01$), in support of Hypothesis 3. Furthermore, the costs of being high on the E-I index are not high, as is evident by a significant but not large quadratic term ($\gamma = -0.035$, $p < 0.05$). Hypotheses 4a and 4b state alternative moderating effects of middle managers' business unit network size on the relationship between their facilitating adaptability and business unit performance. We found support for H4b, which states that the rate of performance gain associated with middle managers' facilitating adaptability is higher when a middle manager's business unit network size is large ($\gamma = 0.095$, $p < 0.05$).

For the relationship between middle managers' championing alternatives and business unit performance, Hypothesis 5 predicts a stronger rate of performance gain of middle managers' championing alternatives when their centrality in the management network is high. The positive, significant interaction term ($\gamma = 0.144$, $p < 0.05$) supports H5. The results also show that there are costs for being helpful in the advice network (negative quadratic term: $\gamma = -0.059$, $p < 0.01$). For Hypothesis 6, we also proposed alternative moderating effects of senior managers' regional network size on the relationship between middle managers' championing alternatives and business unit performance. In contrast, with middle managers' facilitating adaptability, the rate of performance gain associated with their championing alternatives is mitigated when senior managers' regional network size is large rather than small, in support of H6a ($\gamma = -0.135$, $p < 0.01$). The interactions between in-degree centrality and facilitating adaptability and between the E-I index and championing alternatives were not significant.

Additional analysis

Covariates

For the covariates in the full model, the results show that middle managers' job satisfaction ($\gamma = 0.224$, $p < 0.01$), commitment ($\gamma = 0.147$, $p < 0.05$), experience in the job ($\gamma = 0.086$, $p < 0.05$), implementation of deliberate strategy ($\gamma = 0.381$, $p < 0.01$), synthesis of information

Table 2. Hierarchical linear modeling results

Variable	Models			Hypothesis
	Linear effects only model γ (SE)	Full model γ (SE)	Time-lagged model γ (SE)	
<i>Controls</i>				
JS	0.201** (0.066)	0.224** (0.070)	0.204** (0.073)	—
COM	0.135* (0.066)	0.147* (0.072)	0.137* (0.062)	—
IDS	0.411** (0.080)	0.381** (0.086)	0.370** (0.093)	—
INSY	0.101 (0.074)	0.114* (0.065)	0.106* (0.054)	—
CTEN	0.079 (0.053)	0.078 (0.051)	0.076 (0.056)	—
BUTEN	0.075 (0.052)	0.076 (0.052)	0.076 (0.050)	—
JTEN	0.082* (0.040)	0.086* (0.043)	0.080* (0.040)	—
BUYIN	0.136* (0.067)	0.133* (0.065)	0.128* (0.064)	—
<i>Simple effects</i>				
FADP	0.154* (0.069)	0.173** (0.056)	0.165** (0.056)	H1
FADP ²	—	−0.046 (0.033)	−0.032 (0.026)	—
CALT	0.228** (0.061)	0.231** (0.062)	0.225** (0.060)	H2
CALT ²	—	−0.086** (0.027)	−0.088** (0.026)	—
MDR	0.063 (0.056)	0.052 (0.048)	0.056 (0.047)	—
MDR ²	—	−0.010 (0.011)	−0.009 (0.010)	—
CENT	0.115* (0.058)	0.108* (0.052)	0.116* (0.061)	—
CENT ²	—	−0.059** (0.017)	−0.076** (0.021)	—
EXIN	0.056** (0.019)	0.068* (0.034)	0.074* (0.036)	—
EXIN ²	—	−0.035* (0.016)	−0.043* (0.019)	—
SDR	−0.049 (0.036)	−0.037 (0.035)	−0.029 (0.031)	—
SDR ²	—	−0.003 (0.014)	−0.002 (0.011)	—
<i>Interactions</i>				
FADP × EXIN	—	0.145** (0.035)	0.153** (0.047)	H3
FADP × MDR	—	0.095* (0.048)	0.099* (0.51)	H4a, H4b
CALT × CENT	—	0.144* (0.072)	0.144* (0.072)	H5
CALT × SDR	—	−0.135** (0.027)	−0.146** (0.027)	H6a, H6b
FADP × CENT	—	0.024 (0.040)	0.032 (0.041)	—
CALT × EXIN	—	−0.081 (0.059)	−0.052 (0.059)	—
−2 log-likelihood	843.86	705.53	716.06	—
Pseudo <i>R</i> ²	0.196	0.279	0.268	—
Change in fit index	138.33** (d.f. = 12)			—

L1 = Level 1, L2 = Level 2, standard error (SE) in parentheses. IDS = implementing deliberate strategy, INSY = information synthesis, JS = job satisfaction, COM = commitment, CTEN = tenure with the company, BUTEN = tenure with the business unit, JTEN = tenure with the job, BUYIN = middle manager's "buy-in" of the company's strategy, CALT = championing alternatives, FADP = facilitating adaptability, MDR = middle manager's business unit network size, CENT = in-degree centrality (reputational social capital), EXIN = E-I index (informational social capital), SDR = senior manager's regional network size. N = 285 (middle managers) and 43 (senior managers). We treated all slope coefficients at L1 as fixed because of insignificant between-group variance after including the quadratic terms and the interaction terms.

* $p < 0.05$; ** $p < 0.01$.

($\gamma = 0.114$, $p < 0.05$), and buy-in of the company's strategy ($\gamma = 0.133$, $p < 0.05$) significantly influence their business unit performance, whereas their tenure with the company and the specific business unit did not have significant effects. Using Snijders and Bosker's (1999) pseudo-R-square formula, we calculated that these predictors and covariates explain 28 percent of the variance of business unit performance.

Time-lagged analysis

We also ran a time-lagged analysis using objective business unit performance data from six months after the survey was conducted (operationalization of business unit performance was similar to the cross-sectional data). The results, which appear in the last column of Table 2, replicated the exact patterns as those we observed with the cross-sectional

data. This replication further validates the robustness and the temporal order of the effects.

Curvilinear effects and social desirability

A competing explanation of the curvilinear effects we found is social desirability, such that poorly performing middle managers may simply be more likely to report higher scores on adaptive strategy implementation behaviors. Although the use of time-lagged outcomes creates a temporal separation between the predictors and the outcomes that indirectly rules out this alternative explanation, we conducted additional analyses. We median-split the data into high- and low-performing middle managers. Then, we conducted an analysis of variance to compare the means of adaptive strategy implementation behaviors between the two groups; we found no significant differences.

IMPLICATIONS FOR THEORY AND PRACTICE

Analyzing more than 30 years of employment data, Osterman (2009) concludes that in shedding managerial levels, organizations have pushed core managerial responsibilities down to middle management. Thus, middle managers are becoming more important in strategy processes. While previous research has recognized the strategic roles of middle managers in adaptive strategy implementation, an important form of emergent strategy processes, empirical research has provided mixed findings and lagged behind (Wooldridge *et al.*, 2008). To address these gaps, we draw from Pettigrew's (1992) proposition that the tension between actions and structures is the ultimate moving force of the strategy process to develop a contingency framework. Focusing on the interaction between middle managers' adaptive actions and organizational structures, our study integrates the informal structural perspective (i.e., social networks) into the formal structural and the interpersonal views of strategy implementation (Skivington and Daft, 1991). We reconcile mixed findings in prior research on adaptive strategy implementation and the strategic roles of middle managers both conceptually and empirically. We show that mixed findings reviewed in Wooldridge *et al.* (2008) can be attributed to nonlinear effects of middle managers' adaptive strategy

implementation on business unit performance, formal and informal structural contingencies, and the operationalization of the business unit outcome.

Middle managers' adaptive strategy implementation and performance

Although both objective and subjective measures are important to understand the performance impact of middle managers' adaptive strategy implementation behaviors, objective measures such as sales productivity not only reflect how the market actually responds but also allow for between-unit comparability at the functional level. In this study, we propose and demonstrate that middle managers' upward influence in the form of championing alternatives is beneficial to objective business unit performance up to a certain threshold. However, the performance impact of middle managers' downward influence in the form of facilitating adaptability seems linear rather than nonlinear. It is possible that because our specific empirical context consists of mostly boundary spanners, such facilitating adaptability at the operating level is necessary to remain competitive and to cope with market uncertainty. Thus, benefits associated with being flexible in the middle manager–operating employee interface always outweigh the costs. Nevertheless, these results complement prior work that examines the antecedents to middle managers' strategy involvement (e.g., Schilit, 1987), its influence on subjective organizational outcomes (e.g., Floyd and Wooldridge, 1997; Wooldridge and Floyd, 1990), and the interaction between middle and senior managers in strategic processes (Gupta, 1987; Westley, 1990). Furthermore, the adaptive strategy implementation behaviors we examine in this study are creative and entrepreneurial in nature. Thus, our study not only confirms the role of middle managers as the impetus for new initiatives (e.g., Burgelman, 1983; Floyd and Wooldridge, 1992a; Kanter, 1983; Ren and Guo, 2011) but also provides insights into the largely ignored negative effects that occur when middle managers push their creativity and entrepreneurship to the extreme (c.f., de Vries, 1985).

In this context, our study indicates that adaptive strategy implementation can create a control::flexibility paradox. It confirms the potential paradox in the crevice model of strategy

implementation wherein middle managers' autonomous strategic behavior has to be balanced with senior managers' control (Bourgois and Brodwin, 1984). To manage such a paradox, managers who engage in adaptive strategy implementation behaviors should develop cognitive and behavioral complexity, and emotional equanimity to learn, recognize, and embrace the interrelated relationships of underlying tensions (Denison, Hooijberg, and Quinn, 1995; Huy, 2002; Lewis, 2000; Poole and Van de Ven, 1989; Smith and Lewis, 2011). We further propose that middle managers can resolve a paradox by identifying factors that enhance the benefits and hinder the costs of the paradox. More specifically, the moderating effect of the benefit elements of the learning and the belonging paradoxes (i.e., the informational and reputational social capital) can enhance the benefit element of being adaptive in strategy implementation. Thus, without pushing adaptive strategy implementation to an extreme that creates total strategic incoherence, middle managers with strong informational and reputational social capital can engage in a moderate level of adaptive strategy implementation to reach an otherwise unreachable level of performance. Figure 3 illustrates this point. Recall that the curve AB represents the observed effect of championing alternatives on performance. Because of the enhancing effect of social capital, the observed performance gain shifts upward from the curve AB to the curve A'B'. Middle managers who engage in championing alternatives at point C now can achieve a performance at M', which is higher than the original M. However, middle managers should be aware that social capital variables are inherently paradoxical as well.

The role of formal and informal structure

We demonstrate that social actors can be simultaneously constrained and facilitated by structural variables that can be either formal (e.g., the organization of a business unit; documented in organizational records) or informal (e.g., social networks at multiple levels within the formal structure; not documented). Regarding the effects of informal structure, we found that middle managers' reputational social capital, but not informational social capital, enhances the performance impact of their championing alternatives. Conversely, their informational social capital, but not their reputational

social capital, elevates the performance impact of their facilitation of adaptability. The nonsignificant interactions between reputational social capital and facilitating adaptability, and between informational social capital and championing alternatives, suggest that middle managers can only leverage a specific kind of social capital when engaging in a specific kind of adaptive strategy implementation behavior. In other words, both informational and reputational social capital influence the performance impact of either upward or downward influence behavior, but not both.

The results also confirm that, at the individual level, informational and reputational social capital can be both beneficial and costly. This finding resonates with prior research on the paradox of social capital at the team level (e.g., Lechner *et al.*, 2010). The costs and benefits of middle managers' informational social capital reflect the "old::new" tension as a paradox of learning (Lewis, 2000), such that information from an external source is costly but not always welcomed by group members, although its novelty can be useful for challenging the group's old frames of reference. The costs and benefits of middle managers' reputational social capital fall into the "self::other" tension as a paradox of belonging (Lewis, 2000). Specifically, to build reputational social capital to garner senior managers' support for strategic alternatives, middle managers have to devote their resources to helping people outside the business unit. In doing so, they have fewer resources (e.g., time) to fulfill the manager role inside the business unit.

Finally, the opposing moderating effect of network size suggests that the role of formal structure may not be homologous across organizational levels. It appears that the positional power of the influencer plays a key role in this process. More specifically, because middle managers possess positional power over subordinates, they are able to cope with environmental uncertainty and unexpected events by engaging in facilitating adaptability. Such positional power can also make up for middle managers' lack of interpersonal relationships with subordinates when the size of the business unit is large. In contrast, it is the senior manager who possesses positional power over middle managers when they engage in upward influence. If the region a senior manager oversees is small, a senior manager can develop closer interpersonal relationships with middle managers, making them

less intimidated and thus enabling their strategic alternatives to bloom. By contrast, for large regions, the inclusion of various inputs from multiple managers into strategy, even if they are driven by environmental factors, can be chaotic and not welcomed by senior managers. In this case, senior managers may actually use positional power to control rather than encourage upward influence. In this regard, our theorization and findings also contribute to the meager research that explicitly links network structures to hierarchical positions in organizations (Soda and Zaheer, 2012).

Implications for practice

Our findings pose important implications for managers at the middle and upper rungs of the firm. Middle managers can learn from our findings that the level of effort they expend on facilitating adaptability should depend on their span of control: those with *more* subordinates should encourage experimentation to a greater degree. By contrast, our findings also suggest that middle managers working for senior managers with *few* direct reports achieve relatively greater performance boosts from championing alternative strategies. When comparing these two emergent forms of strategy implementation, facilitating adaptability should remain a priority for all middle managers, as its relationship with objective business unit performance remains monotonic and positive, irrespective of the level of effort middle managers devote to it. Actions devoted to championing alternative strategies, on the other hand, demonstrate diminishing returns after a moderate threshold. A final lesson to middle managers is that their ability to facilitate adaptability and champion alternative strategies will be heightened as they build informational and reputational social capital, respectively. Steps that middle managers can take in these directions include efforts that (1) allow them to form relations with and acquire information from peers outside their senior manager's network, and (2) position themselves as advisors in the management network. Nonetheless, middle managers should keep in mind that the benefits of social capital diminish at higher levels.

Our findings suggest that senior managers can enhance the performance impact of middle managers who champion alternative strategies, but not middle managers who facilitate adaptability. These findings underscore the linking-pin role that

middle managers play in downward adaptive strategy implementation. Furthermore, senior managers can learn from our study that they should invest in activities that build an accurate perception of middle managers' informal social networks. Doing so helps senior managers identify middle managers who are central in the management work, which our results deem important because only these managers are true devil's advocates that can leverage the performance impact of strategic alternatives.

LIMITATIONS AND FURTHER RESEARCH

The results of our study should be interpreted in light of its limitations. First, the cross-sectional data do not allow us to confirm causality. However, our time-lagged analysis, which shows that the results remain almost identical, suggests that this is not a major concern. Nevertheless, longitudinal research could quantify the time lag between middle managers' adaptive strategy implementation and performance, as well as the evolution of emergent strategic processes (Van de Ven, 1992). Furthermore, research on the underlying mechanism, such as the mediating role of the effectiveness of middle managers' strategic adaptation behavior, would shed useful light on this phenomenon. Second, our data come from one firm in a single industry. Although this research context fits well with our research questions (i.e., interactions between middle managers and higher- and lower-level networks), investigating similar research questions in another industry or across several industries would provide more confidence in generalizing our theorization to other contexts. In addition, because our study focuses on lower-level middle managers' adaptive implementation of an intended, functional-level strategy, further research is needed to examine whether our findings apply to middle managers at higher levels in the organization. These managers' adaptive implementation behaviors are likely to be more divergent than those studied herein (see Pappas and Wooldridge, 2007).

Third, our study focuses on the performance impact of middle managers' behaviors, but we have not examined why they engage in adaptive strategy implementation. Middle managers can counterimplement senior managers' strategies, or

pursue their self-interest (Guth and MacMillan, 1986). Further research should explore the conditions under which middle managers engage in these negative behaviors and the actions senior managers can take to discourage them. Fourth, the moderating effects in the opposite direction of business unit and region network size are surprising. Our results suggest that the effect of network size depends on the balance of positional power (Yukl and Falbe, 1991) between the influencers (e.g., middle managers) and the influenced (e.g., senior managers in the case of upward influence and frontline employees in the case of downward influence) and the need to adapt when one's network size is large. However, it might be that middle managers resort to different influence tactics, depending on the influenced. Since our data did not allow us to address this issue, further research that explicitly measures this issue would be useful. Finally, our data do not include complete information about middle managers' networks of subordinates and external publics (e.g., Rouleau, 2005). Such information would enrich our understanding of middle managers' downward influence on frontline employees. In addition, we did not have longitudinal data about middle managers' social networks. Some research suggests that social networks can become rigid over time (Floyd and Wooldridge, 1999; Mintzberg and Waters, 1985). Thus, research should explore how changes in social networks over time play a role in these important emergent processes.

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APPENDIX: EXAMPLES OF MIDDLE MANAGERS' ADAPTIVE STRATEGY IMPLEMENTATION

Example 1. Changing the competitive frame of reference

The company's main line of business was major business clients, such as restaurant chains, large hotels, cafeterias, and so on. The company does not have a strong competitor at the national level, but small companies target similar customer groups at the local level. The company traditionally viewed these small and local competitors as insignificant threats. Through our in-depth interviews, we learned that middle managers were increasingly

realizing that this competitive framing was erroneous; these local competitors were able to address specific customer needs and were gaining larger market shares. Senior executives failed to realize this upcoming threat, because market share losses in one region were typically washed out by market share gains in another region. Through both formal and informal communications, some middle managers managed to convince senior management to reconsider the company's competitive frame of reference. The marketing strategy moved from the traditional product-standardization strategy to a customization strategy that allowed the company to be more flexible in satisfying the needs of small, local customers.

This example underscores the reality that middle managers are closer than senior managers to day-to-day operations, local customers, and frontline employees, placing them in a better position to know where the most pressing problems are. However, middle managers are also far enough away from frontline work to see the big picture, which allows them to capitalize on new possibilities.

Example 2. Initiating a new services strategy

The company introduced a completely new product line approximately two years before we conducted our study. In our in-depth interviews, several middle managers explained that they were the ones who proposed alternative services arrangements focused on preventive maintenance for new machines. These middle managers finally convinced the senior managers by showing that it made financial and operational sense to offer customers preventive maintenance on new machines. This approach was accompanied by trial projects conducted by frontline employees who began experimenting with this alternative service approach. Their middle managers had provided them the freedom and resources to run the trial projects, and eventually the frontline employees recognized an increase in customer satisfaction. The results of those projects were used as input and “ammunition” when the middle managers made a business case to convince senior managers to establish the new services approach.