This paper explores the tension between two opposite views on how networks create social capital. Network closure (Coleman 1988) stresses the role of cohesive ties in fostering a normative environment that facilitate cooperation. Structural hole theory (Burt 1992) sees cohesive ties as a source of rigidity that hinders the coordination of complex organizational tasks. The two theories lead to opposite predictions on how the structure of an actor’s network may affect his ability to adapt that network to a significant change in task environment. Using data from a newly created special unit within the Italian subsidiary of a multinational computer manufacturer, we show that managers with cohesive communication networks were less likely to adapt these networks to the change in coordination requirements prompted by their new assignments, which in turn jeopardized their role as facilitators of horizontal cooperation within a newly created business unit structure. We conclude with a discussion of the trade-off between the “safety” of cooperation within cohesive networks and the “flexibility” provided by networks rich in structural holes.

Introduction

Managers bring to their job more than just the skills they have accumulated through years of education and experience. They also bring the assets they can procure through their social networks. Economists refer to the assets embodied in the manager’s
skills as his “human capital” (Becker 1964). Sociologists coined the term “social capital” to designate the assets tied to the manager’s network (Bourdieu 1980; Coleman 1988). Consistent with this idea, scholars typically highlight the enhancing effects of social networks on the ability of individuals and organizations to attain their goals. Yet, a cursory inspection of the literature reveals two different views of how social networks produce such benefits. On the one hand, the traditional view of social capital stresses the positive effects of “network closure”—i.e., the presence of cohesive ties—in promoting a normative environment that facilitates trust and cooperation between actors (Coleman 1988, 1990). On the other hand, structural hole theory (Burt 1992, 1997) argues that the benefits from social capital stem from the brokerage opportunities created by disperse ties—that is, by the lack of network closure.

This paper contributes to the debate between the two views on social capital by analyzing how the structure of an actor’s network may affect this actor’s ability to adapt the composition of his network to a significant change in the task interdependencies that define his role. The importance of this topic is twofold. First, the adaptation of the network to significant changes in the task environment is often essential to maintain its value as social capital, but the topic has received little attention in the literature. Second, the adaptation of the network is a strategic research site to test some important implications of the two competing views of social capital. While the logic of network closure theory does not predict a relationship between the cohesiveness of an actor’s network and this actor’s flexibility to renew the composition of that network, structural hole theory suggests that cohesive social bonds should jeopardize that flexibility. We test these competing claims using data on managers in a European subsidiary of a large American-based multinational operating in the computer manufacturing and software industry. The managers worked in a newly created special unit that was responsible for catalyzing a large-scale change process aimed at promoting horizontal cooperation through cross-functional project teams.

Network Structure and Social Capital

“Social capital” has become a ubiquitous metaphor in the study of organizations. Despite differences in emphasis due to the specificity of each research agenda, most treatments coincide with the general definition of social capital as “...the sum of resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu and Wacquant 1992:119; see also Bourdieu 1980, for an early formulation).

The compelling metaphor embodied in the notion of social capital is implicitly or explicitly present in various research streams that focus on how the structure of social ties enhances actors’ ability to attain their goals. This research identifies two main ways in which social networks can enhance individual and organizational performance. First, social networks can facilitate access to information, resources, and opportunities (Granovetter 1974; Lin, Ensel, and Vaughn 1981; Campbell, Marsden, and Hulbert 1986; Flap and de Graaf 1986; Coleman 1990; Burt 1992, 1997; Podolny and Baron 1997).
Second, networks can help actors to coordinate critical task interdependencies and to overcome the dilemmas of cooperation and collective action (Blau 1955; Pfeffer and Salancik 1978; Kotter 1982; Gargiulo 1993; Gulati 1995a; Walker, Kogut, and Shan 1997; Gulati and Gargiulo 1999). Behind this apparent convergence, however, lays a fundamental disagreement about the network structure responsible for such benefits. More specifically, the core of the discrepancy concerns the effects of cohesive networks on individual action—that is, of networks where most or all the individual’s contacts are strongly tied to him as well as to one another.

The traditional view of social capital (Coleman 1988, 1990) stresses the positive effect of cohesive social ties or “network closure” on the production of social norms and sanctions that facilitate trust and cooperative exchanges. According to Coleman, members of a closely-knit network can trust each other to honor obligations, which diminishes the uncertainty of their exchanges and enhances their ability to cooperate in the pursuit of their interests. The amount of social capital available to an actor is thus a function of the closure of the network surrounding that actor. In a different form, the same argument is also advanced by Granovetter (1985), who stresses the positive effect of common third parties in facilitating trust between people and in diminishing the risk of opportunism that can affect cooperative relationships (see also Raub and Weessie 1990).

Evidence in support of the positive effects of network cohesion typically comes from contexts in which the pursuit of individual goals requires the active cooperation of other players and in which there is uncertainty about whether such cooperation will be forthcoming. This research stresses the role of common third parties in securing cooperative behavior through a concern for local reputation that enforces the honoring of obligations between partners. Common third parties serve as an incentive to display a cooperative image and as an effective deterrent to opportunistic behavior (Gulati 1995a; Burt and Knez 1995). Actors linked through ties embedded in third-party relationships are more likely to conform to the norm of reciprocity. Failure to reciprocate may result in strong sanctions and in a serious damage to the defector’s reputation as a trustful contact, a damage that can be consequential for the defector’s ability to enjoy future benefits from social capital.

Structural hole theory (Burt 1992, 1997) proposes an alternative view of the relationship between network structure and the benefits of social capital. Rather than stressing the utility of consistent norms fostered by cohesive networks, structural hole theory claims that the benefits of social capital result from the diversity of information and the brokerage opportunities created by the lack of connection between separate clusters in a social network. Players who occupy brokerage positions between those clusters have better access to information and enjoy comparative advantages in negotiating relationships, which allows them to know about more opportunities and to secure more favorable terms in the opportunities they chose to pursue. Conversely, an actor strongly tied to cohesive contacts has little autonomy to negotiate his role vis-à-vis his contacts.

Although structural hole theory is mainly concerned with the sources of competitive advantage, Burt (1997) also sees the autonomy of players as a crucial asset to
promote effective coordination in organizations. According to Burt (1997:343), managers with a contact network rich in structural holes “monitor information more effectively than it can be monitored bureaucratically. They move information faster, and to more people, than memos.” In support of his theory, Burt (1992, 1997) furnishes evidence showing how managers with networks rich in structural holes enjoy comparatively early promotions or higher bonuses, which are assumed to reflect their superior ability to add value to their organizations. By focusing on the opportunity side of networks, structural hole theory argues that those managers have high levels of social capital because they are not part of cohesive, embedded networks. The implication is that network closure does not help, but rather hinders organizational coordination.

In a recent attempt to bridge between these opposite views of how network structures create social capital, Podolny and Baron (1997) acknowledge the benefits typically associated with networks rich in structural holes, but also vindicate the positive effect of cohesive relationships on managerial performance. Consistent with structural hole theory, they assert the advantage of a network rich in structural holes for conveying information and resources to an actor. Yet, Podolny and Baron (1997:676) also argue that “a cohesive network conveys a clear normative order within which the individual can optimize performance, whereas a diverse, disconnected network exposes the individual to conflicting preferences and allegiances within which is much harder to optimize.” Using data from networks among managers in a high-technology firm, they show that structural holes between individuals whose support the managers need in order to successfully pursue their initiatives within the organization have negative consequences for the job performance, mobility, and well being of those managers. Building on these results, the authors suggest that the benefits of network structure may be contingent on the content of the ties—that is, on the nature of the exchanges between the players. Networks rich in structural holes may provide a manager with timely information about new opportunities, but cohesive ties among players whose cooperation the manager needs to exploit those opportunities is also an essential component of his success.

Although the benefits that may accrue to managers—and especially to entry-level managers—through a cohesive core of contacts should not be understated, available evidence suggests that the relationship between cohesive networks, cooperation, and performance may be more complex. In their comprehensive discussion of the effects of cohesive social ties on economic performance, Portes and Sensenbrenner (1993) describe how ethnic entrepreneurs often get suffocated by the particularistic demands posed by the same cohesive social ties purportedly responsible for initially facilitating their access to essential resources. Implicit in this denounce of the “dark side” of cohesive ties is a process aspect typically missing in other discussions on the effects of network structure on managerial or entrepreneurial success. The entrepreneurs discussed by Portes and Sensenbrenner (1993) did benefit from the support and resources provided by their cohesive networks, but the obligations that resulted from those benefits, and the entrepreneurs’ difficulties to extricate themselves from those obligations, curtailed their subsequent ability to pursue new opportunities. The “social capital” embodied in their
cohesive networks then became a liability that hindered, rather than helped, their subsequent performance.

The evidence on ethnic entrepreneurs clarifies the nature of the divergence between the network closure and the structural hole views of the relationship between network structure and social capital. Both network closure and structural hole theory view reciprocity as the mechanism that turns relationships into the assets that define social capital (see Coleman 1990:306 on reciprocal obligations, and Burt 1992:9 on social capital as a jointly owned asset). Both approaches also coincide in viewing cohesive relations as amplifiers of reciprocity. They differ, however, on their assessment of the effects of amplified reciprocity on social action. Closure theory views this amplifying effect as necessary to secure the normative environment and trust that foster cooperation (Coleman 1990:313). Structural hole theory views the same amplification of reciprocity as “structural arthritis” (Burt 1998) that makes it harder to coordinate complex markets and organizational tasks.

A difficulty in adapting networks to a significant change in the interdependencies an actor needs to coordinate may be one of the main reasons behind the rigidity that structural hole theory attributes to cohesive networks. Two main mechanisms may turn cohesive networks into an obstacle for adaptation. First, cohesive ties to a manager’s contacts amplify the pressure to reciprocate past favors to those contacts—indeed, amplified reciprocity is the main mechanism through which network closure secures cooperation. The more cohesive the network, the greater the risk of acquiring a tainted reputation for cutting ties (Raub and Weessie 1990), which will be ultimately consequential for the ability to create new ties, or to revitalize the severed ties in the future. Moreover, the difficulty to attach precise value to the “gifts” exchanged makes reciprocation an inherently ambiguous phenomenon (Leifer 1988), which may lock the players into endless mutual exchanges, even though both see no further benefits from the exchange. Given a limited amount of time and energy, an obligation to maintain relationships that are no longer advantageous may hinder the ability to cultivate new relationships necessary to maintain the value of the manager’s social capital.¹

Second, the constraining effects of amplified reciprocity are likely to be compounded by forces of inertia that may keep people tied to contacts that have lost their value as social capital without even being fully aware of the problem. Familiarity with long-term partners breeds strong bonds of mutual understanding and trust that greatly facilitates cooperation (Gulati 1995b). However, the same strong bonds may also serve as a filter for the information and the perspectives reaching the actors, generating a “cognitive lock-in” that isolates them from the outer world (Grabher 1993; Uzzi 1997).

¹ The ability to withdraw from business relationships that are no longer advantageous—or, at least, to lessen their salience—has been often recognized as an important factor in the adaptability of managers and organizations to changes in their environments (Miles and Snow 1992). This phenomenon has been also documented in studies of organizational adaptation, which show how the same processes that help organizations to be well adapted to their current environment can curtail their ability to adapt to a new environment (Grabher 1993).
The easiness of cooperation with familiar partners, and uncertainty associated with the formation of new ties, raises the cost of making the investments that are necessary to initiate and to consolidate new relationships. This “relational inertia” can make established relationships extremely resilient to losses in their instrumental value.

The previous discussion suggests that managers strongly tied to cohesive networks—that is, networks lacking structural holes—may lack the flexibility necessary to develop the new ties necessary to maintain the value of their social capital after significant changes in their task environment. Thus the hypothesis tested in this paper:

**HYPOTHESIS 1**: The higher the cohesiveness of a manager’s network, the lower this manager’s ability to adapt the composition of that network to coordinate the interdependencies that define the new task environment.

To test this hypothesis, we examined the managers of a newly created special unit responsible for helping to implement a large-scale organizational change process in the Italian subsidiary of an American high-technology firm. We focus on the managers’ failures to adapt the composition of their informal communication networks to the changes in their task interdependencies brought up by their role as facilitators of cross-functional cooperation in project teams coordinated by their special unit.

**Data**

The data analyzed for this paper comes from a self-administered questionnaire completed by all the 19 managers working in a newly created special unit in charge of coordinating cross-functional project teams in the Italian subsidiary of a leading multinational American computer firm. At the time of our survey, the subsidiary employed about 14,000 people, 3,000 of them in two manufacturing plants producing for Italy and for the rest of the world. The questionnaire covered information on the respondent’s involvement in project teams, as well as on his or her informal communication with the colleagues within the unit. Managers who were in charge of supervising the progress of a given project team were also asked to fill out a booklet with information on the project and the participants, as well as an evaluation of the level of cooperation between all pairs of team members. The questionnaire was tailored using field information gathered by one of the authors from June 1991 to December 1991.

At the time of our research, the Italian subsidiary was undergoing important organizational changes that reflected in part the worldwide reorganization of its parent firm. Like most firms in the industry, the company was dealing with difficult market conditions. Impressive price-cutting and growing competition were eroding profit margins, forcing firms to reshape their activities. In this context, the search for more effective organizational configurations was a major endeavor for computer manufacturers (The Economist 1993). This firm was not an exception. At the time of the study, several initiatives of organizational change were under way. Headquarters explicitly launched some of these initiatives, while others were emerging out of the everyday practice of organizational transformation. Among these emergent strategies, a small unit operating in one of the Italian plants, the Direzione di Processi Industriali (Direction of Industrial
Processes, or DPI) was created in January 1991 to promote alternative forms of horizontal cooperation in the subsidiary. This cooperation was crucial to materialize the newly created business unit organization and to effectively bring down the rigid barriers of the prior functional structure, which top management saw as a major obstacle to improve efficiency. In this sense, the unit can be adequately characterized as a “catalyzer” of change, an image that the DPI leadership perceived as an accurate description of their role within the firm.

Conceived as a support unit, DPI had a broad scope of activities. The unit operated both inside and outside the company, providing solutions to internal business units, top management, and functional managers, as well as facilitating the link between external clients and internal units. Its competencies included helping to devise manufacturing strategies for the two Italian plants, to develop a market-driven quality approach, to promote cooperation across business units, and to create tools and methods to implement these different initiatives. It also coordinated activities of the people in charge of setting long-term strategies and represented the Italian plant in international company hearings. Most of these multiple activities were implemented through project teams that brought together people from within and outside the firm.

An illustrative example of the technical and organizational complexity of the projects coordinated by DPI was the “Miscellaneous Equipment Specification” or “MES” project, chosen for a detailed follow-up during our fieldwork. The team initially included two DPI members (which became four in a later phase), as well as the “Business Process Owner” of Logistics and the responsible of one of the two Italian manufacturing plants devoted to final assembly and testing of two middle-range minicomputer systems. In addition, the team had inputs from a variety of sources for different aspects of their work. The goal of the project, jointly defined by the three parties implicated, was to attain a substantial reduction in the time from the reception of the order to the shipment of the systems to 5 and 10 days respectively, down from 2 and 3 weeks. The team initially undertook the reengineering of the manufacturing process to then redesign the whole cycle, including the procurement of the “miscellaneous” parts (such as chips, cards, and other modules) that made between 20 and 30 percent of the final value. Such a comprehensive approach ultimately required tight coupling of the changes affecting logistics, manufacturing, and marketing processes. True to the working style advocated by DPI, both the goals and the content of the reengineering resulted from the collaboration between all the parties implicated, an approach that proved essential to the eventual implementation of the recommendations of the team. Yet, this collaboration would have been hardly imaginable without the concerted support of DPI. Besides offering their system expertise, the DPI members of the team played a critical role facilitating the difficult exchanges between Logistics and Manufacturing.

The complexity of the projects—well illustrated by the example MES—created strong reciprocal interdependencies among all team members, requiring their active cooperation to design compatible solutions. Yet, the hierarchical culture of the old functional “silos” was ill adapted to this form of work. As one non-DPI senior manager put it to us after a training session, they were aware that they need to work differently, but
they did not know how to operate in the new environment. Each project team had one or more DPI managers, who were assigned taken into consideration the specific skill and coordination needs of the project. In addition to contributing their technical skills, the DPI managers played a crucial role facilitating cooperation in the project teams.

Between January and October 1991, DPI was directly involved in 73 of such projects. At the time of the survey, 70 percent of the projects were still under way, 20 percent were recently completed, and 10 percent abandoned. One third of these projects was a continuation of those carried out by previous units. The remaining ones were either a direct initiative of DPI (43 percent) or were launched upon internal or external customers’ demands (57 percent). DPI formally led 63 percent of the projects, but its managers had a crucial role as catalyzers of cooperation in all the teams they participated, even when the unit had not taken formal leadership. Sixty-seven percent of the teams had more than one DPI member. Their joint participation in the same teams created reciprocal interdependence between the DPI managers. This interdependence had two sources. First, as regular team members, DPI managers needed to coordinate their own technical contributions in order to produce adequate solutions to the complex issues defined by the substance of the projects. Second, as facilitators of cooperation, DPI managers jointly participating in project teams were demanding resources from the same third parties, as well as promoting the necessary cooperation between those parties. Because of the relative lack of organizational experience with cross-functional teamwork, the other team members typically looked at DPI for guidance on how to handle group processes and to coordinate the work. To adequately perform their dual task, DPI managers had to coordinate their own interventions in ways that did not interfere with the functioning of the teams.

The literature on cross-functional team suggests that an adequate network of informal communication ties between the DPI managers should have been an essential tool to coordinate their work and to create a climate that could foster cross-functional cooperation. While cross-functional teams can encourage the reciprocal information flows among functions vital to the development, design, and implementation of innovations (Hitt, Hoskisson, and Nixon 1993) and complex products (Griffin 1997), they can also foster an atmosphere of ambiguity and conflict that has negative consequences for cooperation (Ford and Alan, 1992). Fluid communication among team members can help to overcome these difficulties (Henke et al. 1993; Hauptman and Hirji, 1996). Effective cooperation among team members requires extensive use of informal methods of communication for brainstorming, project-related information, and feedback (Pinto and Pinto, 1990). Because of their role as facilitators of cross-functional cooperation, and because of the innovative character of cross-functional teams in the organization, an adequate network of informal communication ties was crucial to the success of DPI managers.

The analysis of the level of cooperation in the project teams confirms that the ability of DPI managers to effectively coordinate their work in a team through informal
communication ties was a key success factor for that team.\textsuperscript{2} Controlling for DPI’s leading role in the project and for unobserved factors that might have affected cooperation between specific team members,\textsuperscript{3} the intensity of communication between DPI managers jointly participating in a team had a statistically significant effect on the level of cooperation between the people in the team ($b = .20$; $t$-test, $p < .01$). This effect is significant across the three types of dyadic cooperation that could take place within the teams—namely, between two DPI managers, between a DPI managers and another team members, and between two other team members. Good communication between the DPI managers in a team created a climate that fostered cooperation between all team members. Since one of the goals of these projects was to promote a culture of horizontal cooperation across formal intra-organizational boundaries, the level of cooperation attained was an important indicator of the success of the projects and of DPI as a change agent.

The level of cooperation was also associated to indicators of the quality of internal group processes, as well as of the teams’ ability to attain the desired results. In a qualitative evaluation of the projects, the DPI coordinators mentioned “internal problems of DPI” as a factor that was negatively affecting results in 27.38 percent of projects. An analysis of variance reveals that the tendency to mention this problem was clearly associated with poor levels of cooperation in the project ($F$-test, $p < .01$). Conversely, the 29 projects that the informants evaluated as having “good results” had significantly higher levels of cooperation ($F$-test, $p < .05$).\textsuperscript{4}

Adequate communication levels with their colleagues was essential to facilitate coordination between the DPI managers, which in turn was critical to carry on their role as facilitators of the horizontal cooperation that materialized the change process within the firm. Yet, it is difficult to decide which level of communication was “adequate.”

\textsuperscript{2} Pairwise cooperation between team members was evaluated by the DPI member responsible for the follow-up of the project on a 0 to 3 scale, going from “no cooperation” to “strong cooperation”. A discussion of informal communication between DPI managers—also measured on a 0-3 scale—is given below in the Methods section of the paper.

\textsuperscript{3} Unobserved factors may make some people better than others at cooperating, independently of the context in which this cooperation takes place. Similarly, dyad-specific unobserved factors—such as informal ties that may exist between the two people—may render some dyads more prone to cooperate than others. Because multiple dyads in these data involve the same actor, and because the same dyad may appear in various projects, common actor effects may appear, creating a statistical problem often known as “network autocorrelation”. We have addressed this problem by including an autorregression variable as suggested by Lincoln (1984). This independent variable is the mean of the dependent variable across all dyads that include either actor $i$ or $j$, excluding the realization of the variable in the $ij^{th}$ dyad. The variable captures both unobserved nodal effects (individual cooperativeness) and dyad specific effects that would be otherwise excluded from the model. Thus, the effect of the communication between DPI managers on cooperation is independent of the unobserved propensity to cooperate of either the people of the dyads in the team.

\textsuperscript{4} Qualitative evaluations by the DPI manager responsible for the project were independently coded by each of the authors from the Italian original responses. There was more than 85% concordance in their initial coding.
Because of their differential participation in project teams, DPI managers were not equally interdependent with all their colleagues. The average DPI manager worked with 10.63 of his or her colleagues in project teams, but the range was from 3 to 16. They also had different communication networks. The average DPI manager reported some level of communication with 11 different colleagues. These ties resulted in a flat, dense informal communication web within the unit, with 62.60 percent of the possible ties present. The average strength of the ties in this network was 1.33 (on a 0-3 scale).

Although these figures suggest that DPI managers had extensive communication ties with their colleagues, they are not sufficient to assess the extent to which the managers had been able to adapt their communication networks to the new coordination requirements posed on them by the creation of their new unit. Yet, the need for adaptation was considerable. While more than half of the DPI managers continued to work with some of their old colleagues in projects launched by a forerunner of DPI when the new unit took over those projects, the creation of DPI also brought new members into the old teams, as well as new projects. This changed the composition of the people with whom the managers had to coordinate their work, which should have triggered adaptations in their informal communication. Our theoretical discussion, however, suggests that all managers might not have been equally successful at adapting their communication networks to the new working conditions.

**Methods**

To assess the extent to which DPI managers succeeded in adapting their informal networks to the new conditions, we examined the match between the levels of interdependence between DPI managers that resulted from their joint-involvement in project teams and these managers’ level of communication with peers within DPI. Consistent with exchange (Emerson 1962) and resource dependence theories (Pfeffer and Salancik 1978), we assume that the amount of time an energy a manager devotes to communicate with a peer should be related to the intensity of his or her interdependence with that peer. This assumption allows us to theorize on the relevance of deviations from a “perfect” match between interdependence and communication.

Such deviations can occur in two directions. First, managers may allocate attention to people other than the ones they are currently working with. Yet, these people may be important for future projects, they may be bridges to access information and resources, or they may be useful to exert indirect influence on third parties (Gargiulo 1993). Without specific information about the nature of the exchanges, an observer cannot assess whether those ties are instrumental or spurious to the manager—that is, whether they still have value as social capital. Second, managers may have relatively low levels of communication—or fail to communicate altogether—with people they clearly depend upon to accomplish their current tasks. Given the nature of the task entrusted to the DPI managers, this second “deviation” is qualitatively different from the first. While comparatively low levels of communication may suffice to coordinate relatively simple exchanges between people who have a history of cooperation, they are unlikely to be enough to coordinate the complex tasks undertaken by DPI managers. This is especially
the case given their joint responsibility to promote horizontal cooperation between third parties that had little experience in such cooperation. Indeed, our analysis of the cooperation within the teams suggested that weak communication between DPI managers jointly participating in a team was clearly detrimental to the cooperation in that team. Thus, we define cases in which DPI managers did not entreat strong communication with colleagues linked to them by a strong interdependence as coordination failures.

Figure 1 illustrates the difference between the two types of mismatches by comparing two hypothetical managers with similar task interdependence and communication profiles but who differ in how they allocate communication ties to task interdependence relationships. Manager A allocates his weak communication tie to one of his weak task interdependencies (#2). This leaves her three strong communication ties to adequately coordinate her two strong task interdependencies (#1 and #3) and to devote extraordinary attention to the remaining weak interdependence (#4). She has no coordination failures. Manager B, on the contrary, engages in strong communication with two weak task interdependence contacts (#2 and #4). This forces him to devote little attention to one of his two strong task interdependencies (#3), prompting a “coordination failure.” Other things being equal, the number of coordination failures committed by a DPI manager can be seen as an indicator of his or her ability to adapt the communication network to the change in working conditions brought by the new unit. According to structural hole theory, the number of coordination failures committed by DPI managers should be a function of the lack of structural hole in these managers’ communication network. According to network closure theory, there should be no relationship between the number of coordination failures and the cohesiveness of the managers’ communication networks.
Measuring Coordination Failures

To operationalize coordination failures we need to measure the two variables whose mismatch define such failures—namely, task interdependence and communication. We measure task interdependence among DPI managers as a linear function of their joint involvement in the projects implemented by the unit. Given the specific working conditions of the DPI managers, this measure is an objective indicator of task interdependence among them. It is also exhaustive, since the managers’ task was practically confined to their participation in the projects initiated or facilitated by the unit. For any two managers \( \{i, j\} \), we define the absolute task interdependence \( t_{ij} \) as the number of projects in which managers \( i \) and \( j \) were jointly involved during the period covered by our research. This measure, however, is affected by the number of colleagues with whom a manager jointly participated in project teams. DPI managers, however, were allocated to more or less projects partly depending on the match between their skills and the technical requirements of the project, which resulted in some managers working in more projects than their less skilled colleagues. To control for this factor and to focus purely on the manager’s pattern of interdependence, we use a proportional measure of task interdependence. Manager \( i \)'s interdependence with manager \( j \) can be thus represented in proportional terms, as the ratio between the number of joint projects with manager \( j \), \( t_{ij} \), and the sum of all joint projects across all managers \( q \), including \( j \):

\[
T_{ij} = \frac{t_{ij}}{\sum q (t_{iq}); \ i \neq j}
\]

It is worth noting that although the raw measure \( t_{ij} \) is by definition symmetric, this is not the case for the proportional measure \( T_{ij} \) since it is affected by the number of managers \( j \) with whom manager \( i \) has been effectively working in project teams. The larger this number, the lesser the relative importance of any given colleague \( j \) in \( i \)'s task environment.

Communication captures the strength of informal communication for work-related issues among the 19 DPI managers. Each manager was presented with a complete list of his DPI colleagues and asked how much he routinely talked with each colleague regarding matters that concerned their work in the unit. Managers could rate their answers in from 0 (reserved for cases of no communication) to 3 (labeled “strong communication”). For a variety of reasons not related to task interdependence—including potential respondent bias—, managers may vary in their tendency to be the source or the target of communication regarding work-related matters. To control for this variation, with use a proportional measure of communication rather than the raw scores. This allows us to capture the pattern of how a manager allocates time to the different people he actively consulted or to the people who consulted him for work-related matters. This allocation was a function of both the attention the manager sought from others and the

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5 This observation, based on our interviews with the head of the unit, is also supported by quantitative evidence: there was a clear association between the managers formal rank in the firm and the number of project teams in which they participated \( (F = 3.999; 4 \text{ df}; p = .023) \).
demands other colleagues posed on him. Thus, we measure manager i’s communication with manager j, $S_{ij}$, as the proportion of attention manager i has to allocate to manager j, both as a result of his seeking out j and of being sought out by j (being $s_{ij}$ the self-reported raw measure and $0 \leq s_{ij} \leq 3$):

$$S_{ij} = \frac{(s_{ij} + s_{ji})}{\sum_{q} (s_{iq} + s_{qi})}; \ i \neq j$$

The inclusion of the demands posed on a manager by the DPI colleagues, even when the manager does not seek these colleagues out, is relevant in this context. Indeed, a manager who is sought will have to pay some attention to these contacts, even if he does not seek them out to discuss his own task. The measure is sensitive to this difference. If the manager simply has to respond to demands on his time ($s_{ji} > 0$), but does not seek out this particular contact ($s_{ij} = 0$), his proportional communication tie with the contact ($S_{ij}$) would be comparatively weak. The tie, however, would become stronger if the manager also seek this particular contact out for communication ($s_{ij} > 0$).

Variables

**Coordination Failures.** This is the dependent variable in the analysis. The coordination failure score for manager i is the number of cases which strong average task interdependence $T_{ij}$ between i and his DPI colleagues j is coupled with weak communication $S_{ij}$ between managers i and j. We use the expected (mean) value of interdependence and communication within DPI as a criterion to distinguish weak (below or equal average) from strong (above average) interdependence and communication ties.\(^6\)

As we noted before, DPI managers had a large number of communication ties, which in all but one case exceeded the number of their task interdependencies. In this setting, the relative strength of the communication tie is relevant. By focusing on the joint occurrence of strong interdependence and weak communication, we capture cases of strong task interdependence that are coordinated by a weak communication tie—that is, a tie weaker than the expected level of communication among any two managers in the unit. Coordination failures may vary from 0, when the manager devoted above average communication ties to all his above average interdependencies, to a maximum of $k$ when he fails to do so for all his strong interdependencies, being $k$ the number of above-average task interdependence ties for this manager. For example, one of the managers worked

\(^6\) The mean strength of task interdependence between managers was .056, with a median of .038 and a skewness coefficient of 2.035. We also tested our results using the individual manager’s mean values as a cut-off criterion; since individual means were practically equal to the group mean, there was no difference in the coding. The proportional measures of task interdependence ($T_{ij}$) and communication ($S_{ij}$) used in this paper removes differences in the volume of interaction of individual managers, making average figures a good indicator of the socially expected levels of interdependence and communication between any two managers in the unit. In addition, our using the group mean as a criterion to define strong task interdependence we ensure that a low level of communication with a sporadic project partner will not constitute a coordination failure. Indeed, 60 percent of the observed interdependencies were below the mean and thus cannot lead to coordination failures in our definition. Communication ties were normally distributed (.056 mean, .057 median; .033 skewness).
with 13 different colleagues; seven of them were linked to him by strong task
interdependence. His level of communication with these 7 colleagues, however, was
below average in 4 of the cases, which were coded as coordination failures. On average,
DPI managers committed 3.68 failures in coordinating 10.63 task interdependencies.

Structural holes. Following Burt (1992), we measure lack of structural holes in the
manager’s network the as the sum of the constraint posed by each of the contacts in the
network. This constraint is in turn a function of the direct communication between i and j
and of the extent to which j consults with the other contacts q in i’s network (see Burt
1992: 50-71, for detailed discussion of this measure):

$$c_{ij} = [S_{ij} + \sum_q (S_{iq} S_{qj})]^2; i \neq j$$

where $S_{ij}$ is the proportional measure of communication ties discussed before and $\sum_j c_{ij}$
captures the lack of structural holes in manager i’s network. We multiplied constraint
scores by 100 to facilitate the discussion of the results. It is worth noting that the
constraint measure captures the co-occurrence of the two aspects that define cohesiveness
of a manager’s communication network: the strength of the tie with his contacts and the
strength of the ties between those contacts. It is worth noting that, because it
simultaneously considers the strength of the ego-alter and alter-alter ties ($S_{iq} S_{qj}$), the
constraint measure accurately captures the cohesiveness of a manager’s network.

We have controlled by other factors that may affect the manager’s coordination
failure scores. Specifically, we looked at the number of weak communication ties in a
manager’s network and to his or her workload.

Weak ties. High failure scores may result from the manager having a large number
of “weak” communication ties—that is, ties that are below the average strength of
communication in the unit. Although this is a significant characteristic of the manager’s
network, a larger number of weak communication ties can also be the trivial result of
having informal communication ties with a large number of contacts. The larger the
communication network, the weaker the expected communication with each contact,
which in turn may translate into a large number of coordination failures. Although weak
ties may reveal poor communication, this is not necessarily the case. Failure, however,
was not significantly associated with the size of the manager’s communication network ($r = .200; p = .206$), nor with the number of communication ties with colleagues the
manager did not work with in a team ($r = .197; p = .209$). Thus, high failure scores did
not result from managers having a large communication networks or from a tendency to
consult with colleagues not working in their project teams.

Despite these results, and to effectively rule out the possibility that the any
observed effect of network structure on coordination failures was simply an artifact, we
controlled for the number of weak ties in each manager’s communication network.
Communication ties whose proportional strength ($S_{ij}$) was below the criterion level used
to define coordination failures—that is, the mean communication in the network—were
coded as “weak.” On average, DPI managers had 8.89 weak ties, ranging from 4 to 12. If, as structural hole theory suggests, cohesive networks encumber the he ability to match
communication ties to task interdependence, lack of structural holes in the manager’s
communication network should still have a positive impact on coordination failures once the effect of weak ties is controlled for. On the contrary, if the alleged impact of structural holes on coordination failures is simply an artifact of the presence of weak ties, the effect should disappear once weak ties are controlled for.

**Workload.** A manager’s failure to maintain adequate communication ties with people he or she depends upon can also be affected by the particular workload conditions in which this manager has to perform his or her task. The higher a manager’s workload, the higher the likelihood of failing to keep an adequate level of communication across all the task interdependencies defining his or her role, and thus the higher the number of failures. Three workload dimensions are particularly relevant here: the number of project teams in which the manager participated, the number of different DPI colleagues with whom the manager jointly participated in at least one project team, and the number of third parties that participated in those teams. Since the three dimensions were strongly correlated, we combined them in a single variable through a principal component analysis. The factor retained explains 85.64 percent of the variance associated with the three dimensions of a manager’s workload. It was re-scaled so that the minimum workload was zero.

Table 1 presents descriptive statistics and zero-order correlation coefficients between all the variables in the analysis. Additional controls for typical indicators of human capital such as education, major, seniority, and organizational background were also implemented. These background variables, however, did not have any statistically significant impact on coordination failures and hence did not alter the effects of the variables reported in the results. Thus, they were deleted from the final analysis for the sake of parsimony. Since all but one of the DPI managers were male, sex was not a background characteristic amenable to statistical analysis.

**Table 1**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>σ</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Coordination failures</td>
<td>3.684</td>
<td>2.136</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Workload</td>
<td>1.691</td>
<td>1.000</td>
<td>.516•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Weak ties</td>
<td>8.894</td>
<td>1.823</td>
<td>.533•</td>
<td>.156</td>
<td></td>
</tr>
<tr>
<td>3. Lack of structural holes</td>
<td>21.937</td>
<td>.617</td>
<td>.516•</td>
<td>-.066</td>
<td>.488•</td>
</tr>
</tbody>
</table>

**Results**

Table 2 presents OLS regression coefficients measuring the impact of the structure of the managers’ networks on their rate of coordination failures. The results suggest that lack of structural holes in a manager’s consultation network increases the number of coordination failures committed by this manager. Hence, cohesive communication networks were detrimental for the managers’ ability to adapt these networks to the changes brought by the creation of DPI. The effect of lack of structural holes could not be
accounted for the manager’s number of weak communication ties in his or her network. Although the number of weak ties had an effect on coordination failures (Model 2), this effect disappeared once we entered network constraint into the equation (Model 3).

Despite the relatively high correlation between network constraint and the number of weak ties ($r = .488$), multicollinearity statistics suggest that the correlation between the two independent variables did not have a significant impact on the results. Variance inflation factors for Weak ties and Lack of structural holes are 1.377 and 1.349 respectively; standard variance-decomposition analysis reveals that the variance explained by the two coefficients is not associated to a single condition index (Belsley, Kuh, and Welsch 1981:85ss). The small sample size, however, recommends caution. To further check the robustness of the results, we removed the effect of the number of weak ties from the dependent variable and from network constraint and re-estimated the models using the adjusted scores. The results were practically unchanged ($b = 1.055$ for workload, $p < .01$; and $1.478$ for constraint, $p < .05$).

### Table 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>1.103●</td>
<td>.949●</td>
<td>1.082●●</td>
</tr>
<tr>
<td></td>
<td>(.444)</td>
<td>(.391)</td>
<td>(.352)</td>
</tr>
<tr>
<td>Weak ties</td>
<td>.544●</td>
<td>.287</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.214)</td>
<td>(.221)</td>
<td></td>
</tr>
<tr>
<td>Lack of structural holes (Network cohesion)</td>
<td></td>
<td>1.486●</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.646)</td>
<td></td>
</tr>
<tr>
<td>$R^2$ (adjusted)</td>
<td>.224</td>
<td>.412</td>
<td>.536</td>
</tr>
<tr>
<td>$F$</td>
<td>6.185●</td>
<td>7.297●●</td>
<td>7.938●●</td>
</tr>
<tr>
<td>N</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

● p < .05; ●● p < .01;

These results suggest that the number of weak ties in the mangers’ consultation network played a marginal role in accounting for the number of coordination failures. Rather, coordination failures were the result of how those weak ties were allocated to the different task interdependencies. Managers with network lacking structural holes were more likely to allocate weak consultation ties to strong interdependencies, which prompted coordination failures. Thus, the more a manager’s was strongly tied to a cohesive group of peers, the less able he or she was to adapt his or her communication.

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7 Adjusted scores are standardized residuals obtained by regressing failure and constraint on the number of weak ties in the manager's communication network. These adjusted scores are free from the spurious influence of the number of weak ties in a manager’s communication network.
network to the changes brought about by the global organizational change and by the formation of the DPI.

Adjusted R-square statistics for Model 1 suggest that workload conditions were an important factor contributing to managerial failures. A comparison of standardized regression coefficients reveals that the impact of workload was slightly higher than the impact of network constraint (.506 and .429 respectively). Yet, the inclusion of the network variables significantly increase the amount of explained variance, as measured by the adjusted R-square statistics, as well as the fit of the model.

What made some DPI managers more prone to have cohesive consultation networks? Seeking an answer to this question, we explored the sources of variation in the cohesiveness of the manager’s consultation networks. More specifically, we investigated individual and organizational sources of constraining relationships. To this end, we examined constraint scores at the dyad level and sought to identify correlates of highly constrained relationships. Contacts posing high constraint are strongly tied to the focal manager and to this manager’s other contacts in the communication network. We found no significant association between the level of constraint posed by a given peer and similarity in background variables such as educational level, major, or seniority. The average DPI manager was neither more nor less likely to be constrained by a colleague like him when similarity was defined along these “human capital” attributes. Constraint was also unrelated to formal reporting relationship. There was, however, a clear association between constraint and the manager’s organizational background. Specifically, constraint was significantly higher among people who were together in the same unit before being assigned to DPI (2.66 t-test; p < .01). Similar results are obtained using the strength of the communication tie instead of constraint.

This result suggests that the dominant players in the managers’ networks were more likely to be the people the managers used to work with in their previous assignment in the organization. As we mentioned before, ten of the nineteen DPI managers came directly from a unit that launched some of the initiatives subsequently taken over by DPI and continued to work on their projects until these were completed or terminated. Another group of six people also came from a single unit within the firm. The relatively smooth transition between those previous assignments and DPI, which in some cases even implied a continuation of the same project work, did not always signal a change in the task environment of these managers. As DPI started its own projects, the task interdependencies of the managers shifted, but the change went unnoticed for a number of them, still faithful to consultative relations built over years in the firm. It is worth noting that these results suggest that weak communication ties did not typically occur between people with a history of working together—which might have rendered intense communication unnecessary for effective coordination. Rather, weak ties were found predominantly between people that, given their different organizational origins, presumably lacked experience working together. Low levels of communication, therefore, cannot be easily explained away as the natural outcome of a mutual understanding rooted in a common organizational history.
Discussion

The results reported in this paper indicate that a lack of structural holes in their communication networks made it difficult for DPI managers to renew the composition of those networks as required by an important change in the interdependencies that shaped their task environment. Since the renewal of the managers’ networks was consequential for the cooperation attained in the project teams, our results suggest that, viewed over time, a cohesive network may eventually hurt a manager’s ability to enter and to promote new cooperative relationships involving people outside that network.

An examination of the origins of the constraining relationships responsible for the lack of structural holes in the managers’ networks revealed that those relationships typically corresponded to ties forged through years of working together in the same organizational units. The strength of those bonds, and the weak signs of change in the managers’ task environment, galvanized the mechanisms of reciprocity and relational inertia within the cohesive group and increased the risk of coordination failures outside that group. This finding confirms some well-known ideas about the origin of strong relationships. Granovetter (1973: 1361) has pointed out that the strength of a tie “is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services that characterize the tie.” Looking at the origin of ties, Feld (1981) stressed joint participation in similar organizational contexts as one of the main sources of relationships. Common organizational history puts people in contact, prompts the exchanges of advice and services, and allows for repeated exchanges that are the basis for a strong relationship. Such ties often go along with common third parties, which further amplify the intensity of the existing relationships (Burt and Knez 1995).

Our results suggest that relationships cemented through years of common organizational history may outlive the specific context in which they arose and become a liability for the managers and for the organization. If the change of context is not drastic enough—such as physical relocation that makes it difficult to reproduce the prior ties—the old relationship may remain strong. This was particularly so in the case of those DPI managers who were previously working together in the firm. This transition was particularly smooth for the managers who came from the forerunner of DPI, since they typically continued to work together in the same projects, even if new colleagues may have joined the teams. The smooth transition did not signal a clear change in the task environment for some of the managers, who continued to consult with their old colleagues. The continuation of the old ties was often at the expense of building good communication ties with other DPI managers who became an important part of their task environment with the formation of the new unit. Our first-hand knowledge of the culture inside DPI leads us to believe that coordination failures were more due to relational inertia and less to amplified pressures to reciprocate past favors. If anything, DPI managers were encouraged to have flexible networks. This suggests that institutional freedom to cut old and enter new ties may not be enough antidote to the rigidity of cohesive networks.
Our results have several implications for the current debate on the relationship between social networks and social capital. Before exploring those implications, however, we would like to acknowledge some limitations that recommend caution at the time of extracting conclusions, and suggest the importance of future research on the topic. The data reported in this paper was obtained during an exhaustive field study of all managers working in a single organizational unit. The task was relatively homogeneous across the managers. Beyond the technical specificity of each project, the managers’ main goal was to promote the type of cross-functional cooperation necessary to implement a new business unit organization and to attain integrated solutions to various organizational problems. Yet, the small sample size and the cross-sectional nature of the data call for caution in exploring its implications.

Although we have stressed that the changes that affected the interdependence between the DPI managers took place before our measuring their communication networks, a more conclusive test of our propositions would have required measuring managerial networks before and after the changes introduced by the organizational change process. Such a study should show that managers who lacked structural holes before a substantial change in the interdependencies that define their task environment have greater difficulty in aligning the composition of their networks to the new task environment, which in turn leads to coordination failures and reduced cooperation. Yet, we showed evidence suggesting that the observed patterns in the managers’ networks were rooted in their career history within the organization, rather than being a snapshot taken at the time of the measurement. We also submitted conclusive evidence of the negative impact of coordination failures on the attained levels of cooperation within the project teams facilitated by the managers.

Despite these qualifications, our research raises several theoretical and practical issues for the analysis of how networks can enhance the ability of managers to enter and promote the cooperative relationships necessary to coordinate complex organizational tasks. By analyzing the theoretical underpinnings of the network closure and structural hole theories of social capital, we clarified the nature of the tension between two alternative views of the relationship between social structures and the benefits purportedly created by those structures. The current debate suggests that networks rich in structural holes may provide the information necessary to find about new opportunities, but they may hinder the emergence and the enforcement of the norms that can secure cooperative behavior and protect individuals against the risk of defection (e.g., Podolny and Baron 1997). Network closure is thus viewed as essential to obtain the support and the cooperation necessary to take advantage of the opportunities accessible to individuals through their sparse ties. Yet, our results suggest that the very strength of the normative environment prompted by a cohesive network may also have detrimental effects on cooperation, since it may curtail the autonomy to develop the social ties that are necessary to initiate and to sustain cooperation beyond the boundaries of the existing networks. Paradoxically, this “dark side” of cohesive networks is an unintended consequence of the very mechanism that makes such networks a warranty against defection from cooperation.
By exposing the potentially detrimental effects of network closure on cooperation, our research highlights the trade-off between the enabling and constraining effects of network structures on individual behavior that is central to sociological theory (Granovetter 1985). Because they have a limited amount of time and energy, actors ultimately face a trade-off regarding how much attention they can allocate to each of their contacts. While this trade-off suggests that actors have to remain attentive to how they allocate time to their contacts, our results suggest that they also have to be mindful of the social structure of those contacts. In this case, the trade-off is between networks that guarantee the “safety” for cooperation—i.e., that minimize the risk of defection and opportunism—and networks that secure the “flexibility” to adapt the composition of the network as necessary to coordinate new interdependencies. Our results suggest that, while safety may be purchased at the cost of flexibility, attempts to maximize flexibility may entail the acceptance of higher levels of uncertainty in cooperative relationships. Because this trade-off between safety and flexibility is inherent to the dynamics of social networks, actors cannot maximize these two parameters simultaneously. As Uzzi (1997) has recently suggested in his discussion of the “paradox of embeddedness,” actors may have to define an optimal balance between safety and adaptability.

The “optimal” balance between safety and flexibility, however, may be contingent on the conditions under which cooperation must take place. Other things equal, one would expect that actors would favor safety in situations where the risk of opportunism and the cost of malfeasance is high. Research on the formation of interorganizational alliances suggests indeed that in such situations organizations have a clear preference to form “embedded” ties (Gulati and Gargiulo 1999), which may ultimately result in network closure. Recent work on managerial decision making (e.g. Shapira 1995:43ss) suggests that managers pay special attention to downside risk and are more attentive to the magnitude than to the probability of a possible loss. Thus, managers should be more likely to seek the safety of cohesive networks in situations where cooperation is uncertain and where the magnitude of the losses caused by defecting partners is high.

Rapid organizational change processes like the one in which DPI was involved is one such situation. Paradoxically, flexibility is also crucial to enact organizational change and to take advantage of the opportunities opened by it. Yet, our discussion suggests that the sudden rise in uncertainty brought up by large-scale change may lead managers to prefer the safety of cohesive networks over the flexibility associated with structural holes. Like the bird that remains inside the cage despite the open door, managers may be unable to take advantage of the opportunities opened up by the change. Previous socialization in a different organizational culture may play an important role in this inability to take advantage of the new opportunities. Yet, the opportunities itself may sometimes be a mirage. Powerful mechanisms of informal control rooted in the organizational history, coupled with a desire for “safe” cooperation prompted by the increase in uncertainty, can cement subtle interpersonal bonds and thereby curtail the organization’s ability to effect change.

The right balance between safety and flexibility may also depend on the stage of the managerial career. Existing research suggests that the relationship between network
structure and managerial performance may be contingent on the particular situation of the manager. Managers at the early stages of their career may need to obtain decisive informal sponsorship to become legitimate players (Burt 1992) or to assert their identity in the organization (Podolny and Baron 1997), both of which may be facilitated by participation in a cohesive network. At the same time, lack of structural holes seems less detrimental for entry-level managers, for whom the benefits of a diverse contact network may be negligible (Burt 1997). Hence, a small, cohesive core of supportive contacts may be the best form of social capital for entry-level managers, whose need for legitimacy and identity largely outweighs their need for flexibility. On the other hand, as managers take on more responsibilities, they eventually need the autonomy to freely allocate time and energy to different contacts to successfully cope with the diverse and changing task interdependencies associated to the role. Our results, however, suggest that the same cohesive network that was instrumental in asserting the manager’s identity in the organization may also limit his flexibility to develop the type of social capital required to further his professional growth and his capacity to add value within the organization.

Ideally, managers should be able to go through a smooth transition between these stages in their careers, adapting both the structure and the composition of their social capital to the changes in their task environment. Although the observed differences in network structure between senior and junior managers suggest that a good number of people does succeed in adapting their social capital to the growing complexity of their task environments, the transition may not always be easy. Moreover, since all comparisons between junior and senior managers are bound to focus on “success” stories on the senior side, they may ignore the possibility that a considerable amount of managerial talent could be wasted in the process. The initially supportive, legitimating sponsorship of a cohesive cluster or a strong mentor may translate into a liability that hinders the manager’s ability to adapt his social capital in later stages of his career (Higgins and Nohria 1998). Factors that make the transition more noticeable, such as physical or departmental relocation may help avoiding the perils of cohesive networks discussed in this paper. Yet, these systemic solutions may not be always feasible or even desirable. Another, perhaps complementary way to deal with the problem is to clarify the role of organizational sponsors and to hold them responsible for developing young “entrepreneurial” managers and for promoting them into positions outside their area of influence.

Our warnings about the negative effects of cohesive networks on the flexibility necessary to adapt the composition of that network should not obscure the fact that such networks may be an adequate response to certain organizational conditions. We have already the importance of cohesive networks as a defense against opportunism and malfeasance (Granovetter 1985). In the absence of clear and enforceable institutional mechanisms that can protect individuals and organizations against such hazards, sticking to the safety of embedded ties is probably the best strategy. Yet, we do expect that actors will be less able to adapt to significant environmental changes, which ultimately should impact the performance of those actors. Another important use of closed networks is the attainment of control over troublesome parties. As Gargiulo (1993) has argued, an actor
may obtain leverage on a troublesome player he depends on by building close ties with a third party who has influence on the offending player. These “two-step” leverage maneuvers can be an effective substitute for the missing cooperative tie between the actor and the difficult player. While this maneuver creates a social structure that can enforce cooperative behavior on the offending player, it also has important costs, which actors are only willing to pay in situations where the cooperation from the troublesome party is essential to their own success (Gargiulo 1993).

The points raised in this discussion stress the importance of a research agenda focused on how social structures create the social capital necessary to coordinate complex tasks in different organizational contexts. We have suggested, however, that rather than hoping to find an ideal balance between cohesive networks and structural holes, scholars should fully assume the existence of a trade-off that is inherent to the dynamic of social structures and investigate how successful individuals and organizations actually deal with that trade-off. The increasing volatility and uncertainty of today’s business environment enhance the importance of such a research agenda for the advance of organization science. Although fluid task environments have been common for years in some organizations such as investment banks (Eccles and Crane 1982), the growing diffusion of teamwork and cross-functional coordination is making those environments pervasive across most business organizations (Baker 1992). In such an environment, people—and organizations—may have a natural tendency to seek the safety of cohesive networks to secure the cooperation of key players. On the other hand, organizational success may depend more than ever on the flexibility to build effective cooperative ties across a variety of intra- and interorganizational boundaries, a flexibility that may be at odds with the constraining effects of cohesive networks. Like the tightrope walker who maintains balance by constant movements of his balancing pole, the successful individual or organization in today’s business environment may have to continuously balance the trade-off between safe (i.e., cohesive) and flexible networks.
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