Moving in Social Circles –
Social Circle Membership and Performance Implications

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Moving in Social Circles –

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Abstract

We investigate social circles in intra-firm settings. First, we argue that social circles are inhabited by individuals whose attitudes display fit with the objectives of the social circle rather than more self-centered instrumentalism or calculation. For a test of this hypothesis, we distinguish between friendship circles and strategy-influence circles. We find that friendship circle membership is positively associated with attitudes that display empathic concern but negatively with more instrumental attitudes, whereas strategy-influence circle membership is positively associated with attitudes that display long-term ambition but negatively with attitudes that display short-term calculation. Second, we argue and find that membership of social circles affects individual performance (social circles foster the exchange of information, for which we find clear evidence), albeit not necessarily in a linear fashion. Our new insights into social circle membership and performance implications can guide individuals in seeking access to such social circles and can aid management in understanding and perhaps influencing intra-firm knowledge flows.

Key words: knowledge management, social networks, reciprocity.

A large body of research has studied social capital, a concept introduced by Bourdieu (1986) and reconceptualized and redefined in numerous ways in many consecutive papers (e.g., Coleman, 1988; Paxton, 1999; Putnam, 1993). In his overview study of this diverse social capital literature, Portes (1998) arrives at the following definition of social capital: the ability of actors to secure *personal* benefits by virtue of membership in social networks or other social structures. One of the aspects of membership of social structures that have received growing attention in the recent literature, in view of its importance in everyday practice, is the 'social round' which emerges when people participate in 'social circles' within the firm (Nahapiet & Ghoshal 1998). Kadushin (1968) identifies three important defining characteristics of social circles: (1) they consist of members that are either directly connected to each other or at least through a third party; (2) their members share common interests (e.g., political); (3) they are informal. We adopt these defining characteristics in our conceptualization and operationalization of social circles. Social circles can be considered as an extra layer on a social network that enables its individual members to more efficiently cooperate (Paxton, 1999). Members of social circles tend to feel relatively uninhibited to engage in time-consuming conversations e.g., with the purpose of requesting information about the developments within the company and industry. Authors refer in this regard to social capital as the "psychic comfort in asking others for resources and in using those resources once acquired, as well as the perceived likelihood of providing, receiving and asking help from the social actors"(Kostova & Roth, 2003, p. 301).

We study two types of social circles, namely social circles created by interaction between colleagues in social activities and discussion of personal matters that are unrelated to the firm (which we label friendship circles) and social circles created by discussion between colleagues of strategic issues related to the future of the firm (which we label strategy-influence circles). An important difference between these two types of social circles is that friendship circles are primarily based on and sustained by 'resilient trust'. Resilient trust is based on strong and numerous links and can survive the occasional transaction in which benefits and costs are not equilibrated (Leana & Van Buren, 1999; Ring & Van de Ven, 1992). Strategy-influence circles are primarily based on and sustained by shared goals to influence the direction

of the firm. Such shared goals give rise to 'enlightened self-interest', which goes beyond the individual interest to a sense of shared responsibility for the strategy-influence circle with the intention to influence the firm (Paxton, 1999). What different types of social circles have in common, however, is that, stimulated by resilient trust or enlightened self-interest, their members can more easily rely on each other for access to specific information and help. Finally, it is important to note that one individual can be member of multiple friendship circles, multiple strategy-influence circles, as well as a combination of friendship circles and strategy-influence circles. In other words, the two types of circles are not mutually exclusive.

With our focus on social circles within firms, we intend to address two research questions. First, we investigate what characterizes individual members of social circles. More precisely, we study different attitudes displayed by individuals and hypothesize on their likely association with social circle membership. Our hypotheses rely on the insight that individuals should display primarily concern for the group and its sustenance (Leana & Van Buren, 1999), i.e., fit with the *raison d'être* of the social circle. Every time new members are to be accepted, the definition of the group (e.g., its boundaries) is put at stake (Bourdieu, 1986), which implies personal concerns by its members to carefully select new members in the group. While friendship circles and strategy-influence circles will likely require different attitudes from their members, we expect that the argument that members should display attitudes that signal fit with the social circle can be generalized across different social circles. Second, we will investigate how social circle membership influences individual performance. Even though concern for the group may be a necessary condition for access to social circles, individuals are likely to have expectations of some kind of personal benefit as well (Bourdieu, 1986). Besides positive consequences for individual performance (e.g., Nahapiet & Ghoshal, 1998), there are also costs involved when being member of multiple social circles, which might negatively affect individual performance (Leana & Van Buren, 1999; Portes, 1998).

To address our research question and provide a formal test of our hypotheses, we have conducted an empirical study mapping different social networks (friendship networks and strategy-influence networks) at three different firms. Our findings provide support for our conceptual framework. We follow standard

approaches to identify dense sub-networks in each firm's friendship and strategy-influence networks, consistent with Kadushin's (1968) definition of social circles.

In sum, we contribute to prior literature by (1) identifying which attitudes are positively and negatively associated with social circle membership for friendship circles versus strategy-influence circles, (3) showing that social circles display higher levels of reciprocity in information exchange than is average for the firm, and (4) studying the consequences of social circle membership for individual performance.

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Theory and Hypotheses

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Social Capital and Social Circles

For a detailed account of the social capital literature, we refer to a number of excellent overview studies (Adler & Kwon, 2002; Portes, 1998). We recall Bourdieu's (1986) original definition: "*Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition—or in other words, to membership in a group—which provides each of its members with the backing of the collectivity-owned capital, a "credential" which entitles them to credit, in the various senses of the word*." For a more general conceptualization, we rely on Portes' (1998) conclusion that social capital stands for *the ability of actors to secure benefits by virtue of membership in social networks or other social structures*.

We focus on one particular type of intra-organizational social structures, namely social circles, which are informal groups formed around social foci that are characterized by dense and durable relationships, with a short reach (small groups) and clear closure (Kadushin, 1968). Prior research suggests a close link between trust, reciprocity and closure on the one hand and shared interests, similarity, and identification on the other hand (Reagans & Zuckerman, 2001). Shared interests and similarity among individuals fosters relations of trust and reciprocity (Ibarra, 1995), which in turn enhances closure. High levels of closure again foster identification with the group (Portes & Sensenbrenner, 1993). In all, the interplay between closure and identification puts restrictions on

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accessibility to the social circle for outsiders. The shared social focus provides the basis for entry barriers in that not everybody is free to enter (Uzzi, 1997). Within social circles, people update each other about developments in their otherwise dynamic environment. Updating occurs via asking questions to colleagues whose knowledge is being primed such that relevant information can be transmitted (Bannon & Kuutti, 2002). It is important to note that resources that reside in social circles, such as having a clear understanding of the business issues in an industry, cannot be individually produced (Portes, 1998). Hence, for accessing such resources, individuals should gain access to social circles. However, this leads to an apparent paradox, as individuals may personally gain from membership of social circles but the social circles themselves thrive on the intrinsic concern of its members for group interests. On the one hand, Bourdieu (1986) takes an instrumental stance and focuses on the benefits accruing to individuals by virtue of participation in groups and on the deliberate construction of sociability for the purpose of creating this resource: "*The profits which accrue from membership in a group are the basis of the solidarity which makes them possible.*" However, one can intuitively see the difficulty: an individual, who displays a very instrumental attitude to gain access to a group of friends, will be looked upon with suspicion. On the other hand, social capital can be viewed as a by-product of other activities (Coleman 1988; Leana & Van Buren, 1999). It inheres in groups of people who share something in common and this commonality is the basis that facilitates resource creation and exchange. Hence, according to this perspective individuals should primarily display a certain extent of fit with this shared commonality (e.g., friendship or similar views on the firm's future strategy) and signal a genuine interest in the group prior to an interest in personal benefits. In other words, according to this perspective, a purely calculated and instrumental approach would not be effective for gaining access to social circles.

Before turning to the development of our hypotheses, we summarize our expectations in general terms. First, we expect that individuals' attitudes that signal a genuine interest in the group and fit with the group's *raison d'être*, are more likely to be associated with membership of social circles than attitudes that signal a misfit. Of course, social circles are dynamic phenomena, in that over time members may enter or exit a social circle. We argue that, even though such dynamics may lead to adaptations of social

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circles over time, for both friendship and strategy-influence circles one can identify certain attitudinal pre-conditions that are robust over time. Theoretically, we assert that fit is hence a rather stable concept despite eventual adaptations as members enter and exit. Second, we expect that an individual's degree of social circle membership affects her individual performance, although not necessarily in a linear fashion. Membership of multiple circles allows the individual to draw resources from these circles, but also requires full participation.

Hypotheses

Attitudes and social circle membership

Circles tend to have a long-term staying power (and can survive shocks), which suggests that people who populate them have an intrinsic interest in sustaining the group. Group members engage in selection processes to determine who can belong to the social circle and who should be shut out. Such selection processes are important to create social capital (Leana & Van Buren, 1999). Bourdieu (1986) sees in this a specific role for each of the members of a social group: *Each member of the group is a custodian of the limits of the group*. As a result of this kind of selection processes, we expect that social circles are inhabited by individuals whose attitudes signal a good fit with the circle's objectives, whereas individuals whose attitudes signal misfit with these objectives are less likely to be accepted as group members.

Friendship Circles

Friendships are based upon helping one another in case of need (Tooby & Cosmides, 1996) and upon genuine mutual disclosure of private feelings and information (Derlega, et al., 1993). Hence, we suggest that actors are chosen as friends if they have empathic concern for others (which is also conceived as altruism, see Batson, et al., 1991; Preston & de Waal, 2003): feeling compassion for those who suffer or happiness when others thrive. For actors to become and remain members of friendship circles, their attitude and behavioral patterns over time need to signal a visible concern for others and an unconditional willingness to help. A consistent display of empathic concern generates resilient trust, which can survive

the occasional transaction in which benefits and costs are not equilibrated (Leana & Van Buren, 1999; Ring & Van de Ven, 1992). In sum, we expect that friendship circle membership is associated with attitudes that reflect empathic concern.

Another predictor for being considered a friend is a person's disclosure of emotions and private information (Clark, Fitness & Brisette, 2001). Disclosure of information can be considered as either genuine or instrumentally motivated. For it to create further liking (Berg & Archer, 1982) and strengthen friendship (Derlega et al., 1993), disclosure of information should be interpreted as genuine rather than instrumentally motivated. In order to verify whether information disclosure is genuine or instrumental, colleagues seek out the intentions behind the pattern of disclosure (Clark, et al., 2001) as a basis for distinguishing friends from mere colleagues. When the pattern of disclosure of private information reveals even that the actor benefits from disclosing information, the actor's disclosure might be perceived as being motivated by instrumental intentions (Jones & Pittman, 1982; Bolino, 1998). Even though colleagues might appreciate such an actor's professionalism, they are not likely to accept him into a friendship circle. We expect that when an actor's disclosure of private information signals some short-term individual benefits or instrumentalism, the likelihood of his acceptance into friendship circles is reduced. In other words, we expect that friendship circle membership is inversely related with instrumental disclosure[i]. Hence:

H1a. Empathic concern is positively associated with friendship circle membership.

H1b. Instrumental disclosure of private information is negatively associated with friendship circle membership.

Strategy-Influence Circles

Within any firm, issues related to the firm's strategy are often being debated. Therefore, multiple yet conflicting coalitions emerge around common ground for influencing the firm strategically in one direction as opposed to another – a communication process known as 'shaping'-conversations (Liedtka & Rosenblum, 1996; Weick, 1976). Strategy-influence circles emerge when people seek to mobilize support from colleagues so that they in concert can influence the strategies of the firm to conform to their

aspirations (Bacharach, Bamberger & Sonnenstuhl, 1996; Bacharach & Lawler, 1998). Paxton (1999) explains that similarity of aspirations and shared identity generate enlightened self-interest among the group members, which goes beyond the individual's personal interests and extends to the interest of the larger group. Enlightened self-interest assures the sustenance of the strategy-influence circle.

Different attitudes can signal enlightened self-interest. We focus on ambition to grow within the firm and to build a long-term career as a signal of enlightened self-interest. Personal stakes are typically part of one's strategic intention, but these personal stakes are merged with a collective endeavor to push the firm into specific directions. Legitimate members of strategy-influence circles are those who approach their individual ambitions in a strategic way that coincides with the strategic orientation of the strategy-influence circle.[ii] New members of a strategy-influence circle ought to bring critical social mass to the circle, which can be reflected in personal ambition. People with critical social mass display a sense of dominance within their organization. On the other hand, people who lack a clear ambition are unlikely to provide sufficient social mass to move forward the strategic agenda of the social circle. Ambitious employees are more likely to be perceived as possessing resources that can help move the strategic agenda forward (Pfeffer, 1992).

Actors that approach a strategy-influence circle for the sake of their own short-term benefit without displaying a long-term ambition are less likely to be accepted as legitimate members. Their attitudes do not reflect any interest in playing a role in the firm's strategic future, and hence do not fit with the strategy-influence circles. People whose attitudes and behavioral patterns express short-term benefit seeking could even undermine the strategy-influence process, since the expectation of short-term returns to given favors stands in the way of long-term alignment of interests. In fact, their short-term intentions may signal opportunistic behaviors rather than loyalty. In short, membership in strategy-influence circles is likely to be (1) positively associated with the strength of an individual's long-term ambition (that contributes to the circle's influence within the firm), and (2) negatively associated with the individual's expectation of short-term payback of favors (that would hamper the circle's long-term orientation). Hence,

H2a. Long-term ambition is positively associated with strategy-influence circle membership.

H2b. Short-term calculation is negatively associated with strategy-influence circle membership.

Social circle membership and individual performance

Finally, we are interested in the link between social circle membership and individual performance. Individual performance stands for how well employees perform their jobs. For example, in account management systems, the individual performance of boundary personnel (i.e., employees that operate in direct contact with customers) is reflected in factors such as share of market and profit margins. Individual performance of internal personnel (i.e., employees that operate within the boundaries of the firm without direct customer contact) is reflected in factors such as task performance and level of professionalism in the firm.

For understanding the link between social circles and performance, we start from two important insights, namely that knowledge in organizations resides in multiple repositories (Argote & Ingram, 2000) and that people rely on people for access to information (Cross & Sproull, 2004). A constructivist or situated perspective on knowledge transfer further suggests that access to information is a function of the social context (Brown & Duguid, 1991). Combining the previous two insights with a constructivist perspective on knowledge transfer, i.e. considering the social circles as an extra layer that stimulates information exchange, we argue that an individual who is member of multiple social circles will in the first place be better and differentially informed (Ibarra, 1992). In information-intensive environments, such as account management systems, this suggests a positive relationship of social circle membership on individual performance. In the second place, literature on social capital (Bourdieu, 1986), social resources (Lin, Ensel, & Vaughen, 1981; Lin, 1982), and social embeddedness (Granovetter, 1985) has suggested that an individual's network position leads to resource benefits that may extend beyond simple bits of information. Social circle membership enables the individual to mobilize help and expertise from its social contacts. The strong social ties and level of closure that characterize social circles (1) *enable* members to share more or less complex expertise and help and (2) enhance the *willingness* to share

expertise and ask for help. In sum, social circle membership leads to informational benefits as well as better access to expertise and help from colleagues.

Yet, there is also a downside to being member of many social circles. Membership of social circles not only enables one to ask for favours, such as information, from other group members, it also comes at the cost of reciprocating these favours. This can lead to time constraints and ultimately helping and informing others may result in a lack of time to properly perform one's job. Indeed, prior studies have suggested that membership of social groups involves both high maintenance costs (Leana & Van Buren, 1999) and restrictions on individual freedom (Portes, 1998). As time is a scarce resource, the amount of attention one can devote to each of the social circles is limited (Hansen & Haas, 2001). There is an important additional downside to being member of multiple strategy-influence circles. Membership of multiple strategy-influence circles might require disproportionate investment efforts because support for one strategic intention makes it difficult to support a second, potentially incompatible strategic intention (Bacharach & Lawler, 1998). Actors that are members of large numbers of strategy-influence circles risk losing credibility and falling victim to accusations of disloyalty. Such risks turn membership of multiple strategy-influence circles into a difficult and time-consuming task that may negatively affect the actor's actual personal achievements.

In sum, we expect an inverted-U effect of social circle membership on individual performance. Note that an inverted-U effect for both friendship and strategy-influence circles would be consistent with the general time allocation problem, whereas an inverted-U effect for only strategy-influence circles would be consistent with the credibility problem outlined above. For now, we forward the following unifying hypothesis:

H3. The relationship between social circle membership and individual performance is inverted-U-shaped.

Method

Data Collection.

For an empirical test of our model, we combined three different datasets (sociometric data, multi-item attitudinal scales, and performance ratings by supervising managers) at three different service companies (two insurance firms and one firm that designs and sells building projects). The two insurance firms were part of one conglomerate but they operated independently of one another. We selected these three firms because we had good contacts with top management in each of the firms, which is indispensable for collecting sensitive information related to friendship and strategy-influence ties as well as for obtaining performance ratings of employees by the responsible managers. In each of the three companies we identified all people involved in dealing with large customers, i.e., those who meet customers at their premises (account managers) and those who collaborate internally with these account managers. The first firm sells pension products to medium and small firms. The account managers engage in the acquisition of new customers and also actively expand the relationship with existing customers (up-selling, providing information about new trends in the industry, evaluating the relationship). The internal support staff works with the account managers on proposals for the customers yet also maintain contact with customers. The second firm sells insurance products to large firms (multinationals) and institutions (e.g., universities) and operates in a manner similar to that of the first firm: employees working within the firm, cooperating with the account managers, providing information support and preparing contracts for customers. The third firm sells building projects: more specifically, they manage networks of third parties – architects, engineers, contractors – who cooperatively design and construct a building for the firm's customers. The roles of account managers and internal personnel are again very similar to these roles in the other two firms.

The corresponding social networks (often referred to as account management systems) consist of 36, 39, and 42 individuals, respectively. After intensive communication and frequent site visits, we achieved to obtain a 100% response rate for each firm. From the individual employees we collected data on (1) friendship ties, (2) strategy-influence ties, (3) information ties, and (4) attitudes related to dealing

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with colleagues and with strategy. From managers qualified to rate these individual employees, we obtained performance ratings for each individual employee.

Measurement

We obtained the relational data by asking each actor to value his or her friendship, strategy-influence, and information ties using a complete roster approach. The descriptions of the three types of relational ties are provided in Table 1.

< Insert Table 1 about here >

In the friendship and strategy-influence matrices, we followed standard approaches to detect social subgroups in each firm (see for example, Scott, 2000; Wasserman & Faust, 1994). Each actor was asked to value the strength of his or her friendship and strategy-influence ties with all other actors in the firm on scales ranging from 0 to 3. Given our interest in identifying a limited number of cohesive social subgroups, we distinguished strong ties from weak ties by using a threshold value of 2 for strong ties (Wasserman & Faust, 1994). In view of our interest in cohesive subgroups and in order to remove the few asymmetries in the friendship and strategy-influence matrices, we hence codified all (3,3), (3,2), (2,3) and (2,2) ties as "strong ties". Based on the resulting symmetric and binary strong ties matrix, we then identified all 2-cliques in all 6 relational matrices (one friendship and one strategy-influence matrix for each of three firms) following standard approaches (Luce & Perry, 1949). A 2-clique consists of actors located at a maximum distance of 2; i.e., actors in a 2-clique are connected either directly or indirectly through a maximum of one other actor (consistent with the first defining characteristic of a social circle identified by Kadushin, 1968). Using the software package Ucinet (Borgatti, Everett, & Freeman, 2002), we identified large numbers of cliques in each of the 6 social networks. In view of the relatively high degrees of overlap between these cliques, we applied cluster analysis to reduce the number of cohesive groups by combining 2-cliques based on a similarity criterion reflecting the overlap between 2-cliques. More specifically, we used a hierarchical clustering method based on the complete linkage algorithm, as this algorithm identifies dense clusters in line with our objectives of identifying social circles: the complete linkage algorithm guarantees that all 2-cliques that belong to one cluster have an overlap

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exceeding a critical value. We used a critical value of 30% overlap, which reduces the number of social groups per firm to a workable number while also ensuring a significant overlap between 2-cliques within each cluster. While the number of 2-cliques varied between 5 and 30 per social network per firm, the number of clusters or "social circles" varied between 3 and 8 per social network per firm (in line with perceptions of managers in each of these firms). We verified the robustness of our findings by estimating our models using different critical values for clustering 2-cliques (ranging from 20 to 40%): there were no substantial changes in effects.

As a measure for friendship circle membership, we divided the number of friendship circles actor A belongs to by the total number of friendship circles in A's firm (which allows us to compare the circle membership index across firms). Similarly, our measure for strategy-influence circle membership equals the number of strategy-influence circles actor A belongs to divided by the total number of strategy-influence circles in A's firm. In other words, these indices vary between 0 and 1.[iii] Attitudes were measured using multiple-item scales. Given the considerable time investment required from our respondents for the sociometric data (friendship, strategy-influence, and information ties) and in view of our explicit objective to obtain a 100% response rate, we were obliged to limit the number of scale items for our attitudinal measures. As a consequence, we measure rather complex attitudes with few items only, which is a limitation of our dataset. We tried to capture the essence of the constructs using terminology that our respondents are familiar with. For example, in our measure for ambition we capture both the strategic investments to advance in the firm and the long-term perspective that is inherent for ambition. As the measurement appendix indicates, the reliability of our scales is still within acceptable levels despite few items per scale and a relatively small set of observations (it has been shown recently that Cronbach's coefficient alpha increases with sample size and with number of scale items, see Duhachek, Coughlan, & Iacobucci, 2005). Also, factor analysis identified the different attitudinal constructs as independent and separable factors. Finally, for each scale the inter-item correlations were significant at 1% level (using two-tailed tests). [for two-item scales correlation makes more sense?] Table 2 lists the items for the four attitudinal measures: empathic concern, instrumental disclosure, long-term ambition,

short-term calculation. The scale items were derived from the extant literature: empathic concern (Batson, et al., 1991; Berg & Archer, 1982), instrumental disclosure (Miller & Berg, 1984, items were rewritten so as to make the items more instrumental), long-term ambition (inspired by Bacharach and Lawler, 1998), short-term calculation (Bacharach & Lawler, 1998). Note that we opted for a weak formulation of the instrumental disclosure variable, in view of the risk for socially desirable answers.

Finally, we used management ratings, rather than self-reported ratings, for measuring each actor's performance. We contacted the management team of each firm and asked the relevant managers to rate their employees on the basis of different items ranging from 1 to 10. As an extension to prior work on the relationship between social circle membership and individual performance (e.g., Seibert, Kraimer & Liden, 2001), we distinguish, conforming to Brass (1984), between employees who are active within the boundaries of the firm (who are evaluated on the basis of their internal performance) versus employees who are active at the boundaries of the firm (who are evaluated on the basis of their external performance). In account management systems, account managers are evaluated on their performance in the relevant customer markets (external performance), whereas other members of the account management system that operate within the boundaries of the firm are evaluated on their internal performance. Table 2 lists the items for performance for boundary personnel and performance for internal personnel respectively. The boundary personnel performance scale was adopted from the boundary spanning literature (Behrman & Perrault, 1982); the internal performance scale was self-constructed, based on our interaction with managers at the three firms. We obtained information on individual performance for 100 out of 117 employees.

< Insert Table 2 about here >

Analysis

Reciprocity. Before turning to the formal tests of our hypotheses, we devote some attention to reciprocity. Closure of social circles enhances trust (Coleman, 1988), which in turn enhances reciprocity (McEvily, Perrone, & Zaheer, 2003). The close link between reciprocity, trust, and shared interests has been subject of study in recent work (Leana & Van Buren, 1999; Paxton, 1999). As a validity check of

our operationalization of social circles, we calculated if the level of reciprocity of information requests within social circles exceeds the overall level of reciprocity of information requests at the firm level. Our reciprocity measures are based on respondents' evaluation of the frequency of information exchange with other actors in their respective firms on a scale ranging from 0 to 3 (see Table 1). This resulted in an asymmetric information exchange matrix, in which we coded each tie (i,j) as a "reciprocal tie" if both $i >$ 0 and $j > 0$.[iv] We calculated reciprocity in a social circle as the number of reciprocal information ties within the social circle over the total number of information ties in that circle. Overall firm reciprocity was calculated as the number of reciprocal information ties within that firm over the total number of information ties in that firm. As we can learn from Table 3, reciprocity in information exchange is indeed higher than the firm average in 20 out of 22 friendship circles and in 12 out of 13 strategy-influence circles. On average, the level of information reciprocity in friendship and strategy-influence circles is respectively 52% and 78% higher than the firm average. Compare means tests indicate that these differences are significant at 1% level. This suggests that the social circles as identified in friendship and strategy-influence networks serve as an extra layer that stimulates information exchange (Coleman, 1988). Note that we cannot exclude rival explanations of inverse causality or more complex patterns of iteration over time between information exchange and social circle membership (see limitation and future research section). Nevertheless, our findings provide evidence for a positive association between reciprocity in information exchange and social circle membership. Note that this finding is consistent with the related literature on organizational citizenship behavior (OCB). OCB are neither expected nor part of the job-description, but nevertheless directly promote the welfare of colleagues and indirectly benefit the overall character of the organization (Coyle-Shapiro et al., 2004; Organ and Paine, 1999)—particularly through stimulating a *willingness to share information* (e.g., Bolino et al., 2002; Constant et al., 1996).

Further, even though we could empirically distinguish friendship circles from strategy-influence circles, an interesting question relates to whether the boundaries of these circles can be clearly determined

or whether they are fuzzy. Fuzzy boundaries would mean that the information exchange that occurs in friendship circles can at times be related to the strategic direction of the firm. The degree of overlap in content areas between friendship circles and strategy-influence circles is unlikely to be very large, given the need for empathy and genuine disclosure for friendship circles and the need for ambition beyond short-term self-interest for strategy-influence circles, but nevertheless the boundaries and fuzziness of social circles is worthy of future research.

< Insert Table 3 about here >

Model specification. We estimated the attitudinal equations using censored models, because the dependent variables (social circle membership indices) vary within the interval [0,1]. In view of the continuous character of the dependent variable, this truncation at zero is problematic (in our data set, values equal to one do not occur). The inherent difficulty lies in the interpretation of the zeros, as zeros might represent actors that are not motivated to be accepted into cohesive social circles in the first place. In other words, the zeros may represent a different regime and therefore should not be considered a natural outcome of the continuous dependent variable. We specified censored estimation models for the two attitudinal equations in order to avoid this problem of zeros (see Maddala, 1983), hence the number of observations available for each equation is limited by the total number of zeros in the sample. Based on Schwarz' Bayesian Information Criterion (1978), we chose censored extreme value maximum likelihood estimation models over alternative specifications (such as censored normal, which, however, provides similar results). The variables included in both the friendship equation and the strategy-influence equation are a constant term, the four attitudinal variables, and two firm dummy variables[v].

The performance measures vary on a scale ranging from 1 to 10, which allows for estimating the performance equations using ordinary least squares. As mentioned before, we distinguish between internal and boundary personnel. In our empirical context, the first are active at the centre of a firm's account management system, i.e., without direct contact with customers. The second are the account managers themselves, who maintain contacts not only internally but also with customers external to the firm. For the first group of respondents we specified an internal performance equation; for the second

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group we specified a sales performance equation. The variables included in the performance equations are a constant term, *friendship circle membership*, *strategy-influence circle membership*, two firm dummy variables, and the four attitudinal patterns as control variables (to account for any additional direct effects on performance).

Findings. Let's first consider the association between attitudes and social circle membership. As indicated in Table 4, we find support for H1a and H1b, in that empathic concern is positively associated with friendship circle membership ($\beta = .09$; $p < .05$), while instrumental disclosure is negatively associated with friendship circle membership ($\beta = -.04$; $p < .05$). We also find support for H2a and H2b related to strategy-influence circle membership: attitudinal patterns that reflect long-term ambition are positively associated with membership of strategy-influence circles ($\beta = .06$; $p = .01$), whereas short-term calculation is negatively associated with membership of strategy-influence circles ($\beta = -.08$; $p < .05$). All p-values are based on two-sided tests and are therefore conservative values. The firm dummies are both strongly significant.

< Insert Table 4 about here >

We now turn to the performance equations (see Table 5). For each performance variable we report 2 models. The first model incorporates only the linear terms of social circle membership, while the second model also incorporates the quadratic terms. In order to avoid problems of multicollinearity, we applied the standard approach of residual-centering (Lance, 1988): we first regressed the quadratic term on the linear term and then incorporated the corresponding residuals in the equation. Results do not change when applying mean-centering. Our results show mixed support for H3. Let's first consider the equation for boundary personnel. According to model 1, with only linear terms, both friendship circle membership ($\beta = 1.56$, $p < .01$) and strategy-influence circle membership ($\beta = 1.51$, $p < .05$) positively influence performance of boundary personnel. In model 2, we find the hypothesized inverted-U effect for the influence of strategy-influence circle membership on sales performance (linear term $\beta = 2.81$, $p = .001$; quadratic term $\beta = -9.19$, $p < .05$). While the quadratic term for friendship circle membership has the

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correct sign (β = -3.59), it is not significant (p = .29). This finding suggests that the negative effect at high levels of social network membership is specific to strategy-influence circles: as suggested, this may be caused by the fact that multiple strategy-influence circles may not be compatible in terms of long-term orientation and strategic approach and may cause credibility problems. As to the internal performance equation, according to model 1, only friendship circle membership (β = .85, p < .10) positively affects internal performance (yet, only weakly). We do not find a significant effect for strategy-influence circle membership. From model 2, we can conclude that we find no support for the inverted-U effects on internal performance; friendship circle membership has a linear and positive effect on internal performance; strategy-influence circle membership does not affect internal performance. The significance of strategy-influence circle membership on performance for boundary personnel but not for internal personnel appears to indicate that strategy-influence circles serve a purpose that benefits boundary personnel more than internal personnel. Possibly, strategy-influence circles provide the boundary actor with information that he can use effectively in aligning long-term contracts with external partners according to the firm's long-term strategy. We elaborate on this and other findings in the discussion section.

< Insert Table 5 about here >

Discussion

Overall, our findings appear to sketch the following picture. Intra-firm social circles, both casual friendship and more political strategy-influence circles, are inhabited by employees whose attitudes display fit with the circles' *raison d'être*. Employees whose attitudes display misfit, instrumentalism in the case of friendship circles and short-term calculation in the case of strategy-influence circles, find access to less social circles than their counterparts. These findings reveal the inherent paradox to social circles, namely that while membership contributes to individual performance, employees should display and signal genuine alignment with the group interests rather than seeking membership for the sake of its social resources. These social circles seem to serve as an extra layer on the information exchange network, in that they embed reciprocal information exchange. Hence, it is not surprising that social circle

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membership influences employees' individual performance (even though more research is needed to exclude rival explanations). The pattern of influence is more intricate than a simple linearity, with a linear effect for friendship circle membership but an inverted-U effect for strategy-influence circle membership (the latter only for boundary personnel).

We perceive mainly three implications for this study. First, what is striking in the data is the strictness of the criteria by which people move into and occupy social circles: only those who are genuine are elected, while those who display ambiguity are rejected. This mirrors Granovetter's (1999) observations:

> As Blau (1964) once stated, one of the complexities of social exchange is that the community does not reward an actor's behavior towards a social community if that behavior is perceived as seeking reciprocity, but only if the recipient thinks it to be "sincere," i.e., without expectation of return. Since most people are on the lookout for those who are merely "collecting social contacts," it is difficult to argue that people can optimize individual investments in social capital so as to maximize personal payoff (p.160-161).

Note that our implicit assumption is that the attitudes that are associated with social circle membership are reflections of past selection behavior. For example, while we observe that friendship circles are inhabited by individual employees that signal empathy and non-calculative disclosure of information, we assume that this is the result of how new members are allowed into or blocked from the friendship circle over time. While we deem this a fair assumption, a longitudinal study would allow us to formally validate it, as we discuss in the next section. Another question raised by our findings is the following: if social circles are inhabited by individuals that share individual traits such as empathy or ambition, then does this imply that social circles are by default internally homogenous? This question cannot be answered based on the current study, but it would be worthwhile to investigate whether commonality in terms of empathy or ambition also implies homogeneity in terms of other personal traits such as background, tenure, and gender. Especially in environments that would benefit from cooperation between employees with diverse backgrounds, it is important to examine if the occurrence of social circles allows for such integration of minds or if it stands in the way of diversity.

Second, while we find that moving in friendship circles enhances individual performance in a linear fashion, moving in strategy-influence circles has a non-linear effect on the individual performance of boundary personnel. Particularly boundary personnel benefit from insights into the firm's strategic perspectives. They span the boundary between their own firm and external partners, such as customers in the case of account managers, and can use their insights into their own firm's strategic perspectives to optimally align the interests of external partners with their firm's interests. In our empirical context, the better account managers can communicate the strategic intentions of their own firm the better they might in turn influence a customer's strategic intentions (Dawson, 2000). For internal personnel, we find that membership of strategy-influence circles does not affect individual performance, which seems to indicate that the main performance advantage of strategy-influence circles is related to alignment of external parties with the strategic directions of the firm. Further, the quadratic nature of the effect indicates that membership of multiple strategy-influence circles may harm the individual's credibility. Strategy-influence circles may not be compatible in that they may pursue different strategic directions. By selectively seeking access to a limited number of strategy-influence circles, the employee avoids being the jack-of-all-trades and so preserves her integrity. As a cautionary note on the link between social circle membership and individual performance, our lack of consistent support for hypothesis H3 may also be due to our lack of control variables. Arguably, several other factors may affect an employee's performance that may or may not be related to social circle membership. Such factors include innate ability or intrinsic motivation. Finally, it is interesting to note that our findings with regard to friendship circles seems to reconcile theoretical arguments related to both closure (Coleman 1988) and brokerage (Burt 1992). Our approach to identifying social circles based on 2-cliques and overlap criteria leads to high closure within a social circle and little overlap between different social circles. On the one hand, closure in friendship circles allows for more reciprocal information exchange. On the other hand, employees benefit from being member of *multiple* friendship circles, which relates to the structural holes argument and the benefits of having non-redundant contacts. In sum, being member of multiple friendship

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circles combines the advantages of both closure (within each circle) and brokerage (linking different circles). Brokerage versus closure provides an interesting avenue for future research (see Burt 2005).

Third, we observe that the level of reciprocity in information exchange within social circles substantially exceeds the firm average. Information refers to advice or information about work-related matters, which underscores the work-related benefits that can derive from social circle membership. Our finding is in line with prior research that has described reciprocity as a dominant principle that explains the sustenance of social groups (Gouldner,1960). It is a group norm that regulates the expectation and behaviors of group members (Uzzi, 1997) and eliminates the need for third-party enforcers (Paxton, 1999). Attempts to violate the reciprocity norm by altering the behavior it controls such as refusing to share information with group members will typically be met with sanctions within the group (Bettenhausen & Murnighan, 1991). Our finding also has implications for managing intra-firm information flows. Recently Gilmour (2003, p. 1) pointed to a widely discussed 'cause' of poor collaboration: 'People guard their information and selectively release this. This tendency to hoard knowledge is often cited as a core problem of corporate culture and the cause of poor collaboration. But in fact, hoarding and meting out information result from an important positive impulse, the desire to appear valuable to the company.' Information flows can thus hardly be managed by simply imposing IT solutions such as information systems. Rather, our findings suggest that reciprocal information exchange is stimulated in social settings characterized by a shared identity or group interest (Brown & Duguid, 1991). These social settings, operationalized as social circles in the present study, serve as an extra layer which promotes reciprocal information exchange, arguably thanks to the emergence of resilient trust (in friendship circles) or enlightened self-interest (in strategy-influence circles).

As an extra validation of our interpretation, we presented our findings to two groups (n=24 and n=23) of managers in an executive education program. Managers had no problems distinguishing friendship and strategy-influence circles within their respective firms. They also agreed that membership in such circles goes hand in hand with ease of asking each for information and help. They showed particular interest in the ambidextrous nature of moving into both friendship and strategy-influence

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circles: on the one hand, one should build and sustain friendship circles but on the other hand, one should also make the right political moves in selecting and contributing to strategy-influence circles. How individuals handle such ambidextrous behaviors is a topic for future research. Based on our empirical study and our discussion with 47 managers, two managerial implications stand out:

- The insight that social circles entail more reciprocal information exchange poses both an opportunity and a restriction. On the one hand, managers would benefit from stimulating social interaction among their employees. On the other hand, social circle membership cannot be imposed but follows subtle rules that can lead to employees being barred from social circles. The subtlety of accepting and rejecting members requires a subtle approach by management. Rewarding empathy or altruism explicitly would undermine its effectiveness as such behaviors might then be interpreted as instrumental.

- Employees benefit more from being member of more friendship circles, probably due to accessing non-redundant information. This finding indicates that managers should increase the interaction between social circles and avoid social circles from becoming isolated in the social network. One way would be to form heterophilous teams that cross not just across functional departments but also social circle boundaries.

Limitations and future research

In our conceptualization, we considered social circles as basins in which information exchange is embedded, in line with Uzzi's (1997) notion that social ties exist before exchange of resources. Nevertheless, we cannot exclude an alternative explanation. For understanding the emergence and dynamics of social circles, longitudinal data would have been more appropriate than cross-sectional data. Even though we measured behavioral patterns that serve as signals to be adopted in social circles, the relation between information exchange and social circle membership may be more intricate. Some authors have argued that social circles tend to be coupled around specific exchanges: when people exchange resources, friendships emerge; and these in turn reinforce knowledge exchange (Nahapiet & Ghoshal, 1998). Also with respect to the performance equations, a more intricate pattern cannot be excluded. As

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people perform better in an organization, they may become more attractive as members of social circles, particularly strategy-influence circles, and hence have more opportunities to enter into more social circles. Or, as they become member of a social circle, they might find social support which in turn makes them comfortable by the customer. A longitudinal network approach, though a very challenging undertaking, may shed light on such intricate patterns. Such an approach would also allow for incorporating adaptations in social circles as members enter or exit. Our cross-sectional approach did not allow us to validate our assertion that fit is a rather stable concept, and that specific attitudinal pre-conditions (such as empathy and genuine disclosure of information for friendship circles) are robust over time despite minor adaptations as members enter/exit.

We only studied a limited set of possible antecedents to social circle membership, while other antecedents cannot be excluded. For example, whereas we find that long-term ambition is a relevant attitude in the context of strategy-influence circles, other antecedents such as value fit between the individual and the social circle may be as important. Future research that focuses on one of the different types of social circles may provide more in-depth insight into the different alternative antecedents to social circle membership. Similarly, we only included a limited set of possible drivers of individual performance with a clear focus on social circle membership. However, several other factors can explain differences in individual performance, not accounted for in this study. In order to understand the relative importance of social circle membership for individual performance, a more elaborate study that includes more alternative drivers is in order. Also, if social circle membership leads to informational advantages which affects individual performance, then it would be interesting to study the exact type of information that is exchanged. Our finding that higher levels of reciprocity occur in the exchange of work-related advice and information within social circles provides a first insight into the type of information access that can be derived from social circle membership. However, it would be insightful to shed more light on the exact information items that are actually exchanged in a friendship circle versus a strategy-influence circle. Another interesting area for future research is the link between social circles and team performance. Interestingly, Luo (2005) found that friendship ties do not influence team performance. We

find, however, greater reciprocity of information exchange in friendship circles than is average for the firm, which may be beneficial in terms of team performance (were those people to form teams). Even if friendship circles do not contribute directly to team performance (as per Luo, 2005), the greater reciprocity of information exchange may ultimately benefit the firm. Moreover, a similar improvement in terms of reciprocity of information exchange is found in strategy-influence circles, which makes it worthwhile to also examine the link between strategy-influence circles and team performance in more depth.

Inspired by Coleman (1988) and Kadushin (1968), we focused on close-knit social groups, where group norms are likely to emerge and where members more easily ask each other for information. Yet, as prior research has amply demonstrated, weak ties can also be beneficial (e.g., Granovetter, 1973). We have, in an exploratory fashion, included the number of individuals' weak ties in each of the above equations but found this variable to be insignificant. The insignificance of weak ties may be a particularity of our research context, account management systems, in which actual information sharing (and the associated need for group norms) is crucial. Weak ties may be more important in contexts where knowledge search is relatively more important (see Hansen 1999), such as in larger and more complex network settings. Our study is also restricted to intra-firm networks. Yet, if social circles extend to beyond the boundaries of the firm, this may have implications for *inter*-firm knowledge absorption and leakage, similar to communities of practice described by Brown and Duguid (1991).

As to the method used in this study, we cannot completely rule out common method bias. Yet, we tried to limit common method error by (1) clearly distinguishing the sociometric (friendship, strategy-influence, information exchange) matrices from the attitudinal measures in the survey and (2) gathering individual performance data from a different respondent, namely the responsible supervising manager.

Finally, we chose to gather complete sociometric data in account management systems at three different firms. A first limitation of this data set is the rather limited number of observations per equation. This was unavoidable in the setting we chose to investigate, because of (1) the intensive data gathering effort required for obtaining complete network data (100% response rates); (2) the need for censored

models for addressing our research questions related to social circle membership; and (3) the need to differentiate between boundary and internal personnel in the performance equations. Despite the rather low number of observations per equation, we were able to present a number of interesting findings consistent with our conceptualizations. It would be worthwhile, however, for future research to test one or more of our hypotheses using larger samples, applying network-sampling methods. A second limitation is our focus on three firms that were similar in terms of organizational culture and structures. The formation of social circles might be a function of the cultural context as well as of the firm's formal organizational structures (Ibarra 1992; Krackhardt, & Hanson, 1993). The question to what extent the relations we found are contingent upon organizational culture and formal organizational structures, is left for future research.

Table 1

Measures -- Social network data

Friendship ties

Not only do colleagues encounter each other face-to-face, by phone or by e-mail concerning their work, they also do so concerning social matters. They make appointments to do sports together, they meet each other for dinner, they talk with each other at work about their family and personal matters, they undertake social activities (by this we mean those activities not organized by the firm). Please indicate for every person hereunder how frequently you talk with him/her about social and personal matters during and after work.

Strategy-influence ties

Colleagues talk a lot with one another about the future of the firm and how they can anticipate future changes (in other words, about politics and management). For instance, you talk about new plans and developments within the organization and what they mean for you as well as for other people in the firm. Please indicate for every person hereunder how frequently you talk with him/her about these topics.

Information exchange

Everybody at times asks advice or information from colleagues about matters concerning work, for instance concerning financial products or the fit between products and customer needs. Please indicate for every person hereunder how frequently you ask him/her about such information.

Scale used for all three networks:

	A couple of times a week	A couple of times a month	A couple of times a year	Hardly ever	
1	(3)	(2)	(1)	(0)	Colleague 1
2	(3)	(2)	(1)	(0)	Colleague 2
…	(3)	(2)	(1)	(0)	…
N	(3)	(2)	(1)	(0)	Colleague N

Table 2
Measures – Attitudinal measures and Performance

Construct	Items	Cronbach-α (mean;variance)
Antecedents friendship circles		
Empathic Concern	1. When a person needs me, I always try to help him/her. 2. I experience a feeling of fulfillment when I can be of assistance to someone.	0.65 (5.78; .48)
Instrumental Disclosure	1. When I tell others about myself, I can more effectively work and form a team with them. 2. When at times I chat with my colleagues about things outside work, I can more effectively work with them.	0.74 (5.05; 1.83)
Antecedents strategy-influence circles		
Long-term ambition	1. In time I build my reputation and credits, because that gives me the opportunity to advance into the position I have chosen for my career. 2. I make a distinction between who is important for my short-term career and who is important for my long-term career and approach them accordingly.	0.61 (2.79; 1.55)
Short-term calculation	1. When I do something for others, I expect them to immediately do something back for me. 2. My maxim at work is "when I give something then I need something back." 3. I only do something for others when they will do something back for me.	0.77 (2.23; .83)
Performance boundary personnel (1 = very bad; 10 = excellent)		
Rate how well the following sales people perform in terms of:	1. Obtaining a large share of the market in which (s)he is active 2. Selling those products/services that have the highest profit margins 3. Gaining new challenging customers (gaining new knowledge) 4. Gaining new customers that have a good reputation in the market	0.70 (7.21; .51)
Performance internal personnel (1 = very bad; 10 = excellent)		
Rate how well the following employees perform in terms of:	1. Performing his/her specific job tasks; 2. Professionalism within the firm; 3. Interaction with colleagues.	0.77 (7.72; .67)

Table 3

Reciprocity in social circles

Firm A (42 actors; overall reciprocity .37)					
Friendship Circles			**Strategy-influence Circles**		
Circle	# Members	Reciprocity	Circle	# Members	Reciprocity
1	8	.62	1	4	.67
2	12	.68	2	5	1.00
3	10	.67	3	4	.80
4	11	.74	4	5	.78
5	9	.82	5	3	.67
6	11	.69	6	3	.33
7	7	.67	7	5	.88
8	4	.60			

Firm B (39 actors; overall reciprocity .51)					
Friendship Circles			**Strategy-influence Circles**		
Circle	# Members	Reciprocity	Circle	# Members	Reciprocity
1	19	.55	1	10	.63
2	11	.67	2	8	.64
3	12	.57	3	8	.88
4	11	.59			
5	4	.25			
6	4	.83			
7	9	.42			

Firm C (36 actors; overall reciprocity .52)					
Friendship Circles			**Strategy-influence Circles**		
Circle	# Members	Reciprocity	Circle	# Members	Reciprocity
1	8	.67	1	9	1.00
2	5	.78	2	6	.93
3	7	.60	3	5	.70
4	5	.67	4	5	.88
5	3	1.00	5	4	1.00
6	4	1.00			
7	3	1.00			

Table 4

Estimation results Social Circle Membership equations

Censored Extreme Value Maximum Likelihood estimation:

Variable	Friendship Circle Membership	Strategy-influence Circle Membership
	Coefficient (Std. Error)	Coefficient (Std. Error)
Constant	-.13 (.35)	.03 (.29)
EMPATHIC CONCERN	**.09 (.04)** *	.05 (.04)
INSTRUMENTAL DISCLOSURE	**-.04 (.02)***	.00 (.02)
LONG-TERM AMBITION	.01 (.02)	**.06 (.02)****
SHORT-TERM CALCULATION	.00 (.04)	**-.08 (.04)***
Dummy firm 1	.18 (.07)	-.21 (.07)
Dummy firm 2	.13 (.07)	.13 (.07)
	N = 80	N = 62
	R^2 = .17	R^2 = .33

* $p < .05$
** $p < .01$

Table 5

Estimation results performance equations

Variable	Boundary personnel		Internal personnel	
	Model 1	Model 2	Model 1	Model 2
	Coefficient (Std. Error)	Coefficient (Std. Error)	Coefficient (Std. Error)	Coefficient (Std. Error)
Constant	8.58 (.82) ***	7.51 (.81)***	7.40 (1.24)***	7.52 (1.27)***
FRIEND. CIRCLE MEMBERSHIP	1.56 (.52)**	1.58 (.62)**	.85 (.47)†	.71 (.60)
(FRIEND CIRCLE MEMBERSHIP)^2	/	-3.59 (3.31)	/	.95 (2.57)
STRAT. CIRCLE MEMBERSHIP	1.51 (.62)*	2.81 (.74)***	-.20 (.48)	-.32 (.60)
(STRAT. CIRCLE MEMBERSHIP)^2	/	-9.19 (3.39)**	/	1.55 (2.16)
Empathic concern	-.33 (.11)**	-.26 (.10)*	.12 (.18)	.12 (.19)
Instrumental disclosure	-.10 (.07)	-.13 (.07)†	.03 (.07)	.03 (.07)
Long-term ambition	.00 (.08)	.07 (.07)	-.15 (.09)†	-.16 (.09) †
Short-term calculation	-.16 (.11)	-.22 (.11)†	.08 (.12)	.09 (.12)
Dummy firm1	1.20 (.27)***	1.48 (.26)***	-1.23 (.29)***	-1.25 (.29)***
Dummy firm2	.53 (.36)	1.25 (.39)**	-.66 (.23)**	-.64 (.23)**
	N = 40 R^2 = .62	N = 40 R^2 = .72	N = 60 R^2 = .28	N = 60 R^2 = .29

† $p < .10$
$*$ $p < .05$
$**$ $p < .01$
$***$ $p < .001$

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Endnotes

[i] To avoid socially desirable answers in our empirical study, we chose to measure (a weak form of) instrumental disclosure rather than genuine disclosure.

[ii] Note that this also restricts the number of strategy-influence circles to which an individual can credibly belong. We take up this issue when hypothesizing on the individual performance implications of social circle membership.

[iii] Mean and variance of friendship circle membership index: .21 and .04; mean and variance of strategy-influence circle membership index: .16 and .04.

[iv] This operationalization of a reciprocal tie can be considered a weak-form operationalization since ties such as (2,1) or (1,3) are also considered reciprocal ties. We consider this operationalization theoretically more just and empirically more correct. Yet, for testing the robustness of our results, we also calculated a strong-form version of "reciprocal ties" according to the more restrictive conditions [$i > 0$ and $j > 0$] and [$i = j$]. The empirical results are completely similar to the weak-form operationalization; or, in other words, our findings are strongly robust compared to alternative operationalizations of reciprocity.

[v] Sign and significance of the theoretically relevant parameters are robust for the inclusion of alternative explanatory variables such as the individual's work experience at the firm.

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