Peer Capitalism:
Parallel Relationships in the U.S. Economy*

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Abstract

We gain insight into the reasons why capitalists maintain social relationships with one another by analyzing a largely unexamined type of relationship -- that which links “parallel peers” or non-competing enterprises in the same industry-- and an institution -- the industry peer network or IPN-- that is specifically designed for supporting small, exclusive groups of parallel peers. A wide array of qualitative and quantitative data show parallel relationships in general, and IPNs in particular, to be surprisingly prevalent, especially in light of the focus of past research on horizontal and vertical relationships and institutions. In addition, analysis of parallel relationships and the institutions that cultivate them sheds light on key mechanisms by which capitalist enterprises learn from one another and motivate one another to achieve high performance.
I. Introduction

One of modern economic sociology’s greatest achievements is its demonstration that “social relationships” between capitalist enterprises are prevalent and consequential (e.g., Baker 1990; Granovetter 1985; Gulati and Garguilo 1999; Macaulay 1963; Uzzi 1996, 1997, 1999). But while considerable research has documented the pervasiveness of “embeddedness” and its effects on behavior and valued outcomes, less attention has been given to the question of why capitalists maintain social relationships with one another. Understanding which pairs of capitalists are more or less likely to pursue such relationships (and when efforts to build such relationships are likely to fail; Azoulay 2004) is important because social relationships cannot be understood as stemming solely from “primordial affiliations” (Zuckerman 2003) such as ethnic or religious attachments that pre-exist economic roles and interests. Even if a pair of capitalists has a pre-existing relationship, the tendency for it to persist, atrophy, or strengthen in a way that is nonrandom with respect to change in the parties’ interests renders it at least partly endogenous. And many social relationships between capitalists do not draw on a pre-existing bond at all (e.g., Baker 1990; Uzzi 1999; Uzzi and Lancaster 2004). Why then do capitalists actively pursue social relationships?

Existing approaches to this question focus on two principal locations in the economic structure where social relationships are expected to be most prevalent: between “vertical” exchange partners and between “horizontal” competitors. The former type of relationship is generally understood as serving long-term projects of mutual interest, perhaps as a way to reduce malfeasance when dedicated investments must be made (e.g., Baker 1984; DiMaggio and Louch 1998; Williamson 1996; cf., Baker 1990; Pfeffer and Salancik 1978; Burt 1983) or as a way to increase the value created through the relationship (Uzzi 1996, 1997, Uzzi 1999). The typical explanation for horizontal relationships among sociologists (e.g., Pfeffer and Salancik 1978; Baker and Faulkner 1993; Burt 1982; cf., Merton 1957, pp. 116-117) as well as economists is collusion, as captured in Smith’s famous dictum about relationships among “people in the same trade”

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1 While there is no accepted definition for what constitutes a social or embedded relationship, most analysts focus on ties that reach a level of strength beyond that of anonymous, arm’s-length encounters, where tie strength may be roughly defined as some combination of the time and degree of emotional closeness or attachment devoted to it (see Granovetter 1973; Marsden and Campbell 1984).
inevitably leading to “a conspiracy against the public, or in some contrivance to raise prices.” In fact, many activities pursued through relationships between competitors can be regarded as collaborative rather than collusive because the common interests pursued are not necessarily antithetical to those who buy from or sell to the competing enterprises (see also Ingram and Roberts 2000). Examples of such collaborative activities include the main initiatives undertaken by trade and professional associations, such as lobbying the state, setting industry standards, and developing joint marketing and public relations programs.

Thus, there are good reasons to expect social relationships to be prevalent among capitalist enterprises that share common interests due to the proximity of their positions in the flow of exchange-- either because one is the customer for the other or because they have customers in common. By contrast, existing theory provides little reason to predict relationships between pairs of capitalists who are neither exchange partners nor competitors. Consider in particular, the “parallel relationship,” which may be defined as a social relationship between non-competing capitalists in the same industry. The distinction between parallel relationships and vertical and horizontal relationships is displayed graphically in figure 1. The main structural precondition for the existence of a parallel relationship is the division of an industry into (regional) submarkets such that, for an enterprise in a given industry, there are other enterprises that operate in the same industry (i.e., draw on the same or very similar inputs to provide similar goods or services) but which vie for different sets of customers.2 We term any pair of such enterprises “parallel peers.” And with this definition in hand, we may ask the main question that animates this paper: Why might parallel peers maintain social relationships with one another?

FIGURE 1 ABOUT HERE

There are two reasons why students of capitalism should regard this as an important question. First, as we show below, parallel relationships are quite prevalent in the U.S. economy, and they are certainly more common than is implied by the virtual

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2 They may, however, compete for the same inputs to the extent that they are in short supply. While competition for inputs may sometimes be important, we would submit that competition for sales to customers is generally the most salient form of competition (though see Baron 2004, Sørensen 2004 for studies that focus on competition among employers for human resources).
absence of past attention to them. Second, the principles used to explain vertical and horizontal relationships are of little help in accounting for parallel relationships. After all, since parallel peers do not buy or sell from one another, the reasons given for vertical relationships are clearly not germane. Nor can collusion be the motive since parallel peers do not share customers. And while parallel peers often participate in the types of industry-wide collaborative projects sponsored by trade associations, many parallel relationships are evidently formed and maintained for quite different reasons. Consider the thousands of U.S. firms in dozens of industries that participate in an institution we label the “industry peer network” (IPN) and define as a small (typically twenty or fewer), exclusive group of parallel peers who gather regularly in an atmosphere of significant intimacy and disclosure. We describe the IPN in detail below. For now, it is worth noting that since IPN membership is limited to a small number of firms, the IPN necessarily sacrifices the economies of scale and scope enjoyed by the trade association in sponsoring industry-wide collaboration. Indeed, IPNs are often sponsored by trade associations and promoted as an additional service that provides a distinct source of value that cannot be obtained by mere membership in the association.

If IPN participation is not about exchange, collusion, or collaboration, what is the source of its appeal? We argue that the parallel relationship in general, and the IPN in particular, holds appeal for two interrelated reasons. First, it provides a potential opportunity for acquiring knowledge useful for achieving higher performance (“learning”) that is hard to obtain either through the market or through other social relationships. Second, it provides a potential stimulus to initiate changes aimed at achieving higher performance (“motivation”) that is distinct from, and often experienced as a supplement to, the stimulus provided through more anonymous market mechanisms. We do not argue that parallel relationships are the only types of social relationships from which capitalists can learn or from which they draw motivation. However, since vertical and horizontal relationships have other foundations, the importance of parallel relationships for facilitating learning and augmenting motivation is clearer. In addition, several features of parallel relationships make them particularly well-suited for facilitating learning and for providing peer pressure. In particular, the degree of
disclosure among parallel peers at IPNs and related institutions is almost unthinkable (and illegal) among competitors.

Our twin objectives in this article are to show parallel relationships to be an important feature of the U.S. economy and to shed light on their foundations. After introducing our data sources in the next section of the paper, we focus on the first objective in section III, in which we present results both from fieldwork on IPNs in two different industries and from cross-industry survey data. These results document the prevalence of IPNs and indicate their main features and key differences among them. In section IV, we address the second objective by analyzing our fieldwork, as well as survey data from one IPN, to develop an interpretation of the foundations for IPN participation. In section V, we move from the IPN to parallel relationships generally through a discussion of the wider set of institutions in the economy that foster parallel relationships and the presentation of survey data on egocentric networks of enterprises in an industry composed of parallel submarkets-- residential remodeling contractors. These results speak to both of our objectives, by showing that parallel relationships are prevalent (even when outside of the IPN) and that they are salient along the dimensions of learning and motivation. We conclude by considering the implications of these foundations for parallel relationships. Just as vertical and horizontal relationships reflect limits to what can capitalists can accomplish by relying on impersonal market mechanisms, parallel relationships suggest limits in the capacity of such mechanisms (as well as the other types of relationships) for transmitting performance-relevant knowledge and, perhaps most surprisingly, for motivating efforts at achieving higher performance.

II. Data Sources on IPNs and Parallel Relationships

We use four main sources of original data to on IPNs and parallel relationships in the U.S. economy. The first data source consists of field work that we have conducted among three different IPNs in two different industries. The IPN for which we have gathered the most data is Business Networks (BN), a private consulting firm based near Eugene Oregon that organizes “networks” of small, private residential construction firms that focus either on home remodeling or disaster restoration. As of spring 2005, there were eighteen networks in BN, with a mean membership of 10 firms. From 1999 through
the present, our research on BN has included visits to five BN meetings, as well as interviews with Les Cunningham, the founder and CEO of Business Networks, five other facilitators, over forty current members, and over twenty former members.

Since 2001, we have also conducted fieldwork in two the two largest IPNs in auto retailing: a private consulting firm named NCM (originally, Nichols, Campbell, Morrow) located in Overland Park, Kansas; and the “twenty group” division of the National Association of Auto Dealers (NADA). While our choice of BN as a research site was serendipitous, we selected auto retailing as a research site after having conducted Internet searches for other IPNs in the U.S. economy and learned that IPNs have a very high penetration rate among auto dealers and have been widespread for many years. NCM and NADA each report more than 150 twenty groups, or total memberships exceeding 2,000 dealerships. Since there are at least two other consultancies that sponsor auto dealer IPNs and there are about 20,000 auto dealers in the United States, it appears that at least one-fourth of all U.S. auto dealers (and a greater percentage by revenue since the largest dealerships are reported to be overrepresented) belongs to a twenty group. By contrast, estimates of the number of residential remodeling general contractors typically exceed 50,000 and the total number of IPN participants (in BN and at least two competing IPNs) numbers a few hundred. Our research on NCM and NADA twenty groups has consisted of interviews with more than ten facilitators and over fifty auto dealers and visits to two NADA meetings and one NCM meeting.

Our second source of data on IPNs in the U.S. economy is a survey of U.S. industries during the 2002-2003 academic year, which we conducted to gain a systematic sense of the prevalence of and cross-industry variation among IPNs than can be obtained through Internet searches. We know of no prior attempt to survey an entire economy the size of the contemporary U.S. to gauge the prevalence of an institution. Working without such a precedent, we followed a strategy that we thought would provide rough, but useful, guidance as to the distribution of IPNs. In particular, we conducted a stratified random sample of four-digit SIC codes in the U.S. economy in the manufacturing, distribution, retail, and services sectors. After attempting to eliminate all codes that included “other,” “miscellaneous,” or “support” in the industry descriptions, we were left with 872 SIC codes, of which, 49% were in manufacturing, 7.6% were in wholesale or
storage, and 29.1% were in retail or services. We then took one or more random samples from each of these three sectors in proportion to the number of codes, beginning with a sample of 49 manufacturing industries, four samples of 29 retail or services industries, and three samples of 7 wholesale and distribution industries. For each, undergraduate students conducted database and Internet searches and then made phone calls to trade association representatives in an effort to find out whether they sponsored IPNs or knew of consultancies or firms that did. The students used the following definition of an IPN: "groups of typically 10 to 20 non-competing industry peers from different regional markets who gather on a regular business to learn from one another." When the students found groups or networks that seemed to resemble IPNs, the authors followed up with interviews with informants, who provided a wealth of information on IPNs and related institutions in the U.S. economy.

Our third source of data is an annual web-based survey of BN members conducted in 2002 and 2003. These surveys, which achieved quite high response rates (158 of 183 or 86% in 2002; 172 of 194 or 89% in 2003), elicited data on several issues that bear on the objectives of this paper. Below, we analyze BN members’ stated reasons for joining and continuing to participate in BN, and their attitudes regarding appropriate norms for participation.

To recall, our research strategy is to gain insight into the parallel relationship by analyzing the IPN, which is perhaps the main institution in the U.S. economy that is dedicated to facilitating parallel relationships, and then examine whether those insights generalize to parallel relationships more generally. We thus use the foregoing data sources in the next two sections to describe the IPN, its prevalence, and why it appeals to

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3 This definition was designed to distinguish the IPN from two other common institutions that also can be defined as comprising small, exclusive groups of non-competing peer firms, though with peering defined differently from our definition of parallel peering. The rationale for the first type, which includes the many sales-lead or referral sharing groups sponsored in the U.S. by local chambers of commerce, and extends to “service clubs” such as Rotary, Kiwanis, or Lions (see Charles 1993), is straightforward: since local firms sell into the same market, there are economies of marketing that can be obtained by trading referrals and sales-leads. The second type, which can be labeled a “general business peer network,” is designed to exploit the potential for learning between firms that are role-equivalent (see Burt 1990; Wasserman and Faust 1994) in the sense that they have similar types of relationships to different third parties (whereas parallel peers use the same or very similar inputs and thus are in the same industry). Examples of the latter include The Executive Committee (TEC), The Alternative Board (TAB), the Young Presidents’ Organization (YPO), and the Inner Circle, each of which organizes small networks of executives or entrepreneurs from different industries in which common business challenges are discussed (see Egge and Stoehr 1997; Henricks 1998; Updike 1999).
participants. We then turn to in section VI to address the larger question of why parallel peers might find value in social relationships. The data source we use for this purpose is a 2003 survey of residential remodeling general contractors (GCs). While focused on a single industry, this survey is unique in that it included items designed to characterize the typical egocentric network of remodeling firms and, in particular, the prevalence of vertical, horizontal, and parallel relationships according to the two dimensions of value we discuss below as being central to IPN participation—learning and motivation.

The remodeling industry survey was a phone survey of roughly 15 minutes administered by survey research firm Northwest Survey and Data Services and funded by the National Association of the Remodeling Industry (NARI) and designed to be representative of U.S. remodeling GCs. The sample included a main sample (N=387) and oversamples for six multi-state regions. The survey achieved a relatively high response rate for an organizational survey (32%) and a quite low refusal rates (6.8%). The universe for survey was a random sample from the 62,000 GC subscribers to the industry trade journal *Remodeling*, which is published by Hanley Wood, Inc. While subscriptions to *Remodeling* are free, subscribers are required to be GCs who specialize in remodeling. Indeed, Hanley Wood executives report that they strive to ensure that its subscriber base consists only of GCs who specialize in home remodeling and they place an emphasis on the larger GCs that are most attractive to advertisers. In addition, the probability of inclusion in the sample was proportional to the number of subscriptions held by a given GC. Since the number of prescriptions is correlated with GC size, this implies that the survey overrepresents larger GCs. In particular, Zuckerman and Sgourev (2003, p.8) estimate that about twice as many respondents had 2002 revenue of more than $1 million (31%) as was true for the industry generally.

III. The IPN: Description, Prevalence and Variation

The cross-industry survey did not uncover any IPNs in the manufacturing or distribution industries that we sampled. The absence of IPNs in manufacturing is unsurprising and

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4 NSDS used the CASRO (Council of American Survey Research Methods) method no. 3 for their calculations of response and refusal rates.
5 Using projections from the 1992 and 1997 Census of Construction Industries, Zuckerman and Sgourev (2003, p. 5) estimate that about two-thirds (37,000 of 58,000) of remodeling U.S. GCs with at least one person on payroll subscribed to *Remodeling* in 2002.
became quickly apparent through informants’ responses: competition in manufacturing industries tends to cross geographic boundaries such that they generally do not contain the structural preconditions necessary for parallel peers to exist. The absence of IPNs in distribution is more surprising since distribution territories are typically regional. However, as we discuss below, the role of the IPN seems to be played by related institutions.

IPNs appear to be most common in retail and services. We took three additional samples (without replacement) of 29 retail and service industries and found institutions that meet or come very close to meeting our definition of an IPN in 10 of the 105 where we could find responsive industry informants. Since five of the industries in our samples consisted largely of non-profits, we estimate that ten percent of U.S. retail and service industries have one or more IPNs, with penetration rates varying from about one percent (e.g., residential remodeling) to at least one-fourth (e.g., auto retailing). Examples of industries with IPNs are advertising agencies, car rental agencies, community banking, healthcare, office furniture distribution, graphic arts and printing, and motor vehicle dealerships of various kinds. Common terms include “share groups” (e.g., grocers) “peer forums” (e.g., printers) and “executive roundtables” (e.g., healthcare). The most common term appears to be twenty groups, which reflects diffusion from its origin in auto retailing (primarily into other franchise businesses, especially vehicles such as RVs and boats) and the use of size caps that restrict membership to roughly twenty members.

Each of IPNs we identified (as well as several dozen identified in Internet searches) share five key characteristics. First, they comprise multiple groups or networks, each of which is restricted in its membership (usually twenty or fewer members) and in its composition, with each member being comparable in size and strategy and no two members of a given group or network competing in the same local market.7 Second, each gives considerable control over group boundaries to existing

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7 Accordingly, when a dealer is acquired by a network of dealerships that includes a competitor to a fellow twenty group member, the dealer must leave the twenty group and join a different one within the IPN. Examples of strategic differences that form the basis for different groups is the division of auto dealer twenty groups by franchisor (e.g., Chevrolet dealers are in different twenty groups from Honda dealers) and the division of BN networks into those dedicated to remodeling contractors (whose client is the homeowner
members, with admission of a prospective member typically requiring unanimous consent of the existing members.\textsuperscript{8} Third, they convene face-to-face meetings among owners and key staff members that typically last for two to three days and are held two to four times a year.\textsuperscript{9} Fourth, the focus of the meeting is on detailed discussions of management practice such as organization design (e.g., how to allocate responsibilities across functions), personnel issues (how to hire persons into particular functions), marketing and sales (e.g., how to select clients that will be most profitable), accounting (e.g., which metrics are most useful for forecasting and guiding investments), information systems (e.g., which software packages are most useful), strategic scope (e.g., should the contractor restrict focus to remodeling or expand into new home construction?) and goal-setting (e.g., should one focus on revenue growth or profitability? What financial objectives are appropriate for the owner?). And finally, almost all IPNs facilitate the sharing of confidential financial data that are presented in formats that afford peer-to-peer benchmarking.\textsuperscript{10} Members are typically required to send data according to standardized formats before each meeting and upon arrival, each member receives a booklet that includes their own data alongside and ranked with data from the other members of the network, and group averages as they compare with other groups within the wider IPN. In BN, thirty to forty variables are collected and presented. In auto retailing, members receive a “composite” that exceeds one hundred pages and includes hundreds of variables on the members’ performance.

\textsuperscript{8} Such control over group boundaries also applies to prospective visitors. For example, one of the authors of this paper was asked to leave an auto dealer twenty group meeting when, despite a strong endorsement from the group’s facilitator, a few members objected to having an academic observe a meeting.

\textsuperscript{9} Networks among large firms often have several levels of meetings for different layers of management. For instance, auto dealer twenty groups often include different sets of meetings for the managers of the main divisions of an auto dealership-- new car sales, used car sales, service, body shop, and finance and insurance-- as well as the owner and general manager.

\textsuperscript{10} We found one exception to this rule. In particular, the “share groups” of grocers organized by the Food Marketing Institute (FMI), which are IPNs in every other respect, do not share financial data. An informant from the FMI reported that an experiment in the sharing of such data failed because, “while [members] thought it would be a revealing exercise,” it turned out to be “frustrating [because] members operate under different accounting principles [and have] different components built into their cost structures” due to variation in store formats even within groups that are restricted to similar firms. Other networks typically address this problem by ensuring that the members of a given network are closer in strategy than is typical for FMI and that they report their numbers in standardized fashion.
The inquiries conducted during the course of the survey suggested two major sources of variation across IPNs and sometimes across the groups or networks within a single IPN. First, IPNs vary in the degree to which the administration of a network is in the hands of members or the facilitating organization. BN represents a relative extreme of significant oversight. The agenda for a BN meeting is largely set by the BN facilitator and meetings are also conducted in a highly orderly fashion with the facilitator regulating the turn-taking in speaking roles. It is noteworthy that members of some BN networks, particularly those comprising long-standing members, have chafed under these rules. Such tensions seem less common in other IPNs because the individual networks are granted greater autonomy. Networks in many IPNs elect rotating chairman who help administer meetings with the facilitator. In addition, group members often work out a distinctive “charter” that defines how the meetings will be conducted (e.g., at a resort location or as a critique of a host member) and the criteria for membership (e.g., size and strategy of member firms, and the qualities of new members that allow them to “add value” to the network). Finally, while IPNs vary in the degree of sovereignty enjoyed by members, members of all networks appear to have significant control of group boundaries.

IPNs also vary in the extent to which network meetings are organized around a focused critique of a particular member’s business. In many IPNs, and particularly in most auto dealer twenty groups, members meet in a resort location and concentrate on a pre-chosen theme for each meeting (a particular operational, strategic, or industry issue), sometimes inviting an outside speaker with expertise on that theme. Participants typically spend the morning in discussions such as described above as well as a review of each member’s business (during which time members report on the state of their business on the basis of the data presented, accept suggestions, and describe their progress on implementing past suggestions). The afternoons and evenings are then devoted to golf or other leisure activities. The auto dealers (who are almost universally male) often bring their wives, who spend the day involved in joint leisure activities.

While all IPNs include significant time for socializing (e.g., dinners at local restaurants or an excursion to a local site of interest) as well as thematic discussions and reviews of each member’s business, some IPNs convene not in a resort location but in a
member’s hometown and devote much of the meeting to an in-depth audit of that member’s business. At BN, the meetings are known as “critiques.” During the critique, network members inspect the host’s business, interview employees and subcontractors, and then give extensive feedback to the host. The host then agrees to undertake a significant number of the changes suggested by the network within a specified timeframe. In many BN networks, a member that fails to make the agreed-upon changes within the allotted time must undergo a previously-agreed-upon, “consequence” which typically comes in the form of a symbolic, public humiliation. In other BN networks, members who do not meet their objective must pay a fine (e.g., $100) to a kitty which is then used to fund group activities. Repeated failure to adopt changes recommended by the network generates strong peer pressure and carries the threat of expulsion, though actual expulsion is rare.

To give a flavor for the nature of the feedback provided a critique, we present in table 1 the list of suggestions for improvement made to the host at a meeting. Of these, six were accepted to be implemented by the host and his staff. As is readily evident from these suggestions, BN critiques (as well as the one critique we observed among auto dealers) are no-holds-barred affairs that address a wide array of issues of both a personal and managerial nature. While the willingness to confront the owner on issues of personal character is unlikely in a network’s first few meetings, this style of interaction seems quite common in IPNs. A vivid example was witnessed during a short review of an architect who had temporarily assumed administrative responsibilities of his wife’s remodeling construction firm while his wife, a network member, received treatment for cancer. The architect reported that, since he was running the construction business as well as his architectural firm, he had become overextended. Two members reacted with concern and suggested that he needed to achieve a better balance between work and family in his schedule:

Member 1: "Your wife happens to be a very good friend of mine. And I know you're working too many hours."

Member 2: "Your kids are saying: where's dad?"

TABLE 1 ABOUT HERE
Attention then turned to a review of the progress the architect had made on goals set at the previous meeting. At that meeting, he had committed himself to review and rewrite the job description for a new production manager and to hire new office managers for the construction company. When the architect reported that he had hired a new production manager, the other network members challenged him:

Member 3: "You haven't had much luck in hiring production managers in the past, have you?"

Architect: "That's a fair statement"

Member 4: "What makes you think it will be different this time?"

Architect: "The new guy is someone I can trust."

Member 3: "I guarantee that the new guy will do something that will make you lose your trust."

Member 4: "The question is whether he's strong enough to pull it from you."

These exchanges illustrate the deep knowledge that the IPN members often have of one another on both a personal and a business basis as well their willingness to challenge each other on these dimensions.

III. The Industry Peer Network: Dimensions of Appeal

Having described the IPN and established its importance for fostering parallel relationships in many industries with the necessary structural characteristics, we next turn to the question of why IPN membership holds appeal and then to our larger question of why parallel peers maintain social relationships. To recall, there are two reasons why an analysis of the first question is helpful in making progress on the second. First, the reasons given for forming vertical and horizontal relationships are ill-suited for explaining participation in IPNs, which suggests that parallel relationships have distinctive foundations. In particular, IPNs cannot support collusion because the members are not competitors; they are ill-designed for facilitating collaboration because they sacrifice scale and scope economies (and do not have a collective output); and they are clearly not about enhancing the value in long-term transactions since parallel peers do not transact with each other. Second, IPN participation is not a primordial affiliation that
can be regarded as exogenous but a *choice* that entails the investment of significant resources. For example, BN members pay their food, lodging and transportation expenses as well as an annual fee of $3600 for two annual meetings ($2200 for new networks that meet for two days as opposed to three). In addition, participants must make expenditures of time and business foregone that tend to be more significant than the financial costs, which are tax-deductible business expenses. Why do IPN members make these investments?

We argue that the appeal of IPN participation lies in two interrelated dimensions of value: an opportunity for acquiring knowledge useful for achieving higher performance (“learning”) and a stimulus to initiate changes aimed at achieving higher performance (“motivation”). We next discuss these dimensions of value and the mechanisms that seem to support them. We then turn to the question of how applicable these dimensions of value to understanding participation in parallel relationships beyond the IPN.

Learning. The most straightforward reason for participating in an IPN is to take advantage of an opportunity to obtain in-depth knowledge regarding the practices and results of similar firms. Members typically report that, as one auto dealer twenty group  

11 Our cross-industry survey indicated that these investments are often prohibitive for firms in a given industry, thus preventing the emergence of IPNs even when the industry has related institutions. For example, an association called the Independent Photo Imagers (IPI), which organizes online list servers of one-hour photo developers across the United States in which a broad array of operational and strategic issues are discussed, has looked into the possibility of starting IPNs. But a key stumbling block is that “We’re dealing with people who are netting $150k a year, not the same level of business … as car dealers.”

12 Removal of the owners and several key staff for four to six days per year is a significant consideration for small firms. For the host company of a BN critique, the preparation is reported to take weeks by several staff members who would otherwise be attracting and servicing clients. The host of a critique also incurs additional costs from organizing and securing space for the event. Finally, all members must take the time and effort to report extensive financial results in advance of each meeting.

13 Several considerations suggest that “purely social” considerations are less important in explaining participation than are the two dimensions of value we stress here. First, IPN members tend to downplay the importance of friendship in relation to other factors, as indicated by the proportion of BN respondents who mentioned that the “desire to make new friends” was an important consideration in deciding to join BN and the fact that the departure of “members to whom [they] feel close” is the least important factor in continuing membership (though 70% say that it is important). Accordingly, our analysis of attrition from BN (Sgourev and Zuckerman 2004) provides no evidence that the number of friendships attrition, while learning and (especially) motivation ties are significant factors. Finally, to characterize the IPN as a “purely social” experience is to beg the question of why capitalists in competitive industries are able and willing to expend significant resources on a seemingly wasteful activity.
member told us, “You cannot really get [the] information from other sources” such as rivals or the auto manufacturers. Rather,

   With these guys [i.e., twenty group members], in informal conversations and in meetings we talk frankly about what’s going on in the industry and this helps get on an earthly basis, so to speak, takes you down to Earth, because let me tell you, there are a lot of us that are day-dreaming about their sales and market share..

The sense that the knowledge obtained through IPN participation is not available through other sources was echoed by a probationary BN member who appealed to existing members for admission to a network by saying that:

   We … are on the beginning of a huge learning curve. We are relieved to find BN and to not have to work in isolation any more. We (want) to learn about making better business decisions.

That this entrepreneur expressed feelings of “isolation” is noteworthy because it is unlikely that he actually has no relationships with others. Rather, there seems something about the parallel relationships in the context of an IPN that provides a valuable connection that is otherwise hard to obtain.

   That BN members understand BN’s value in these terms is clearly demonstrated in table 2, which gives the results from the 2002 survey of BN members. We see that, when asked to describe their original reason for joining BN, all respondents agreed (95% strongly so) that they had sought to “improve the performance of [their] company,” and virtually all (99%) agreed (87% strongly) that they had desired to “obtain new knowledge and skills.” Similar sentiments on these dimensions were expressed when respondents were asked to rate their importance for continuing membership (asked prior to the questions on the motivation for joining), though fewer than 70% reported that continued performance improvements are “very important.”

   TABLE 2 ABOUT HERE

   Insofar as IPNs succeed in increasing members’ capacity for acquiring knowledge on how to improve their performance, three mechanisms seem most important. First, IPNs are clearly designed to overcome rivals’ (and exchange partners’) reluctance to

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14 Results from the 2003 survey were virtually the same. However, since we did not ask questions 9-15 in 2003 for those who took the 2002 survey, we present results from the year in which all twenty-six questions were asked.
disclose key information (and tendency to distort it). As BN CEO Les Cunningham states:

We're in such a raw industry … that there's just not valid information out there. Here there's no B.S. You know exactly what someone is doing and they like that. We give them real compensation numbers. A competitor wouldn't dare give it to them.

In this sense, the information received about peers is a substitute for that which capitalists would most like to have given its impact on their profitability: information on rivals. And indeed, while horizontal relationships are usually explained as serving collusive or collaborative aims, there is a small but growing literature that identifies knowledge-sharing as an important reason for such relationships, albeit with limits on what competitors are willing to share (see Appleyard 1996; Ingram and Roberts 2000; Schrader 1991; von Hippel 1987, 2001). The IPN plays a similar role, though it facilitates more extensive sharing than can occur among rivals who are truly competing.

Two other features of IPNs that facilitate learning are even more distinctive from the knowledge-sharing among competitors. First, IPN participants are seemingly exposed to a wider variety of possible models than are available through one’s local market. As Baum and Berta (1999) suggest, parallel relationships have the potential of allowing firms to exploit successful exploration undertaken by other firms (Levinthal and March 1993, p.104; cf., March 1991). Second, IPNs seem to have advantages for helping firms acquire and absorb complex knowledge that would otherwise be difficult to absorb and assimilate. IPN members do not simply gain an in-depth view of one another’s businesses. They *critique* one another, asking searching questions that challenge one another’s premises and thereby provide greater (if hardly still limited) clarity on why a given firm is behaving and performing as it is. While such processes hardly guarantee that effective learning will take place, they seem more likely to support such learning than mere observation of other firms’ activities in the market or even hiring away an employee from another firm.

*Motivation.* The second dimension of IPN appeal relates to the first in that it is fundamentally about increasing firm performance. However, it is distinct in that it lies less in the acquisition of knowledge than in stimulating a member to make changes aimed
at improving performance by incorporating and applying the knowledge she has acquired through the IPN or from other sources. Consider, for instance, how an auto dealer twenty group member described the benefit of membership in terms of its motivational force: “… the peer pressure… give[s] you an extra kick… you don’t want to be seen as a loser you know.” Strikingly similar sentiment was expressed by a member of a twenty group run by a rival facilitator: “…the pressure, it is tremendous…you don't want to be on the right side of the book [i.e., below the group median on the performance ranking]."

Results from the 2002 BN survey reinforce this interpretation. In particular, note from table 2 that the item that commands the second highest importance rating as a factor in continuing to participate in BN is the “enhancement” of the “company’s commitment to improvement.” The remarkable implication is that, absent such enhancement, commitment to improving performance would be less than complete. Perhaps even more striking is the respondents’ ascription of nearly the same level of importance to the commitment to performance-improvement by the other members of one’s network (item 7) and the importance that this issue receives as a consideration for admitting a candidate into the group (item 20). Clearly, BN members believe that they gain more from BN when each of the participants is pushing the other to make performance-enhancing changes in their respective organizations.15 Relatedly, more than 90% of the respondents reported that it is important that “membership [give them] a greater sense of accountability.” Since only about 60% agreed that “get[ting] accountability before a group” was an important consideration when they first joined BN, BN members seem to place increased value on such accountability as a result of membership.16

Insofar as IPN participation enhances members’ motivation for undertaking changes aimed at enhancing performance, two processes seem most important in producing this effect: the financial rankings within and across networks, and the mechanisms for holding members accountable for their commitments. First, the introduction of rankings and the heightened sense of competition that apparently ensues is a well-known stimulus for inducing change on the part of the ranked subjects in the

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15 This sentiment was echoed in the comment of an auto dealer twenty group member who expressed satisfaction with the progress of one of the other members: “We have been pushing the girls (sic) for some time and they finally showed some improvement… this is good.”

16 At the same time, the relatively low level of agreement with item 24 suggests that they cut one another some slack in honoring their commitments.
direction of the criteria used by the evaluator (e.g., Anand and Peterson 2000; Carruthers and Cohen 2002; Elsbach and Kramer 1996; Phillips and Zuckerman 2001).

Accordingly, BN CEO Les Cunningham described the stimulation of informal status competition among BN members as a key component of the BN framework, which is also reflected in elements such as having subgroups compete to provide the most useful feedback to the host of a critique. Similar principles underlie the “best practice” contests common in other IPNs, whereby each member describes an innovation that they have implemented and the group votes on which idea seems the most useful. In general, there seems to be an effort to create an environment in which IPN members are stimulated to improve their performance so as to gain esteem in the eyes of their peers.

Of course, a low-ranked member may reject the implication that she is underperforming by challenging the standard of comparison as irrelevant, perhaps because the other members are drawn from different markets (cf., Anand and Peterson 2000; Elsbach and Kramer 1996). However, it appears that members generally regard the other members’ experiences and perspectives as quite relevant. The following comment from a long-time BN member (who has since left BN) is highly revealing:

You see the same weaknesses that you have in every company you critique, it’s just a matter of degree, and so once you realize that this is not your personal problem …. then you can depersonalize the comments and think this is a process that can be changed, and you see other people doing it more successfully than you ….[and] you think, well, they can change, we could change”.

More generally, the stronger a member’s identification with other members-- i.e., the stronger the tendency to see the others as having “appropriate[ed]” and “commit[ed]” themselves to the same identity to which she herself is committed (Foote 1951, p.17), the more psychologically difficult it is simply to reject invidious comparisons as illegitimate. Thus, identification with IPN peers potentially creates a strong motivation to enhance business performance insofar as the member comes to recognize the other members as legitimate peers and sees a rise in the performance ranking as the route to achieving higher status (cf., Deci and Ryan 2000, p.236).

In addition to the rankings and related mechanisms for inducing status competition, it is also worth noting the mechanisms for producing a sense of accountability, which are most elaborate in BN. These practices seem to rely on the
intuition, which is supported by a series of experimental studies (see Lerner and Tetlock 1999 for review), that individuals who anticipate having to render an account of their decisions tend to avoid cognitive shortcuts and both process information in a “more vigilant, self-critical” way and retain more of that information (Tetlock 1983, p. 286). The psychological mechanism attributed to this effect is the enhanced motivation supplied by a feeling of accountability. To the extent that cognitive heuristics reflect a desire to “minimize mental effort,” holding a person accountable for their decision compels them to increase their effort to learn (Tetlock 1985, p. 229). Accordingly, the former member who attributed the increase in gross profit to BN membership explained that:

[The reason was] the goal-setting aspect of the every six-month interaction and to (create) accountability and then that’s a function of seeing other people actually doing that, you know, like having a higher GP than we have, and then going, having committing to raise it some amount, and performing, bringing back the numbers and that sort of thing.

The probationary member BN quoted above echoed this keen desire to be seen as a full-fledged member by showing themselves to be honor their commitments to change:

We want to be pushed to work towards a higher level of performance… If you accept us into the group, we will feel motivated by the responsibility of meeting our goals and are aware that members get kicked out of BN if they do not meet their goals… We will do what needs to be done and make the group proud of us.

Note that this statement suggests how the two mechanisms hypothesized to raise motivation may reinforce one another: the owners identify with a community of peers among which they wish to be a well-regarded member and demonstrations of accountability are the route to achieving such status. Indeed, whereas experimental

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17 A related interpretation is that the processes for holding members to their commitments are a form of "self-binding" (Elster 2000) or "precommitment" (Strotz 1956; Laibson 1997) whereby social control reinforces self-control and thereby induces actions that serve the actor's long-term interests rather than those that fulfill a short-term temptation. For example, IPN commitments may compel a member to make changes in the interest of long-term profitability rather than rest on his laurels. The operation of such a mechanism would reinforce our argument about the role of IPNs in heightening motivation as well as the implication that a high level of market competition may not be sufficient to produce maximal motivation. At the same time, we do not believe that the discipline exercised by IPNs is strong enough to view IPNs commitments solely as devices for offsetting self-defeating behavior. By contrast, the mechanism highlighted in Tetlock's research relies only on the anticipation of having publicly to justify one's actions as an impetus for changing behavior in the direction preferred by the audience.
research on accountability has shown that merely having to explain one’s actions spurs more cognitive effort, such motivation should presumably be enhanced to the extent that one cares deeply about the audience in question. The melding of the two mechanisms for enhancing motivation is also seen in the comment by an auto dealer twenty group member:

We make fun of each other all the time: “How can you be losing money selling used cars?” If … you lose money doing a certain thing or you don't make very much money and another member is a wealthy guy making $1,000 doing that, what's your problem? You go in next month and we make fun of you again. The motivational force of such hazing practices is evident. That capitalists, who would seem to have sufficient motivation to succeed without participation in parallel relationships or IPNs, sometimes choose to enhance their motivation in such a fashion is striking.

IV. Parallel Relationships Beyond the IPN

The foregoing two sections establish the importance of the IPN in the retail and services sectors of the U.S. economy and suggest that the source of the IPN’s appeal lies along two dimensions that have received little attention in past research as principles underlying social relationships: learning and motivation. But to what extent do these results establish that the parallel relationship is an important social relationship in the capitalist economy and that its foundations lie in its capacity to facilitate learning and motivation?

There are at least two reasons for doubt. First, while there are thousands of IPN members in the U.S., the majority of enterprises are not IPN members, even in industries that have IPNs. Second, even if some enterprises participate in parallel relationships, the importance of these relationships may be minor when compared with horizontal, vertical, and other relationships.

Why So Few IPNs?

Regarding the first issue, we must stress that the IPN is hardly the only institution in the economy that facilitates relationships among parallel peers. Rather, there is a wide variety of such institutions, and the advantage of focusing on the IPN is that, as an institution that is dedicated to parallel peers, it provides a useful lens through which to view the foundations of parallel relationships. Another such glimpse is provided by the
one other institution dedicated to parallel peers that has been documented in previous research: the *jishunken* groups among Toyota suppliers both in Japan and the U.S. (where they are termed PDA/Core groups; see Dyer and Nobeoka 2000). Each of these groups comprises five to eight parallel peers within the larger Toyota supplier association (cf., Sako 1996). Despite the fact that all of Toyota’s suppliers share a common customer, Toyota’s practice of using a single supplier for a given component over the life of a car model creates a defined period of time during which suppliers may be considered parallel peers because they produce very similar parts from very similar inputs but do not compete for the same business. As described by Dyer and Nobeoka (2000), members of these groups visit one another’s place of business and develop social relationships with one another in an atmosphere of openness that closely resembles what we have observed at IPN critiques.

In addition to such institutions dedicated to parallel peers, there are also numerous institutions that facilitate a mix of relationships, of which parallel relationships are an important component. The most prominent example, as discussed above, is the trade association. In industries that are segmented into parallel submarkets, national conventions and meetings provide many opportunities for parallel peers to meet, share knowledge, and compare themselves against one another—albeit to a degree that is typically less extensive than at an IPN. For example, the National Association of Wholesaler-Distributors (NAW), which acts as an umbrella for several associations devoted to more specific distribution industries, organizes conferences that include as their main feature break-out “discussion groups that enable [participants] to benchmark with non-competing peers.” These groups are billed as “rare opportunit[ies] to network with non-competing peers representing various commodity lines, enabling [participants] to establish valuable business relationships and solve pressing business problems.”

While the groups formed in such sessions are temporary, they undoubtedly facilitate the formation of longer, deeper parallel relationships.

Our cross-industry survey also indicated many additional examples of institutions that facilitate parallel relationships. For example, after discovering no IPNs in distribution industries (despite segmentation into parallel submarkets) in our cross-

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18 See www.naw.org.
industry survey, we initiated a set of more in-depth inquires that indicated that the most important factor limiting the prevalence of formal and informal IPNs in distribution is that distributors have a number of alternative forums for interacting with their parallel peers. In addition to the NAW and specific trade associations, many distributors belong to manufacturers’ advisory councils, in which the distributors from different regions who represent a particular manufacturer gather and discuss market trends and common challenges and opportunities. National marketing and buying cooperatives are another example. In addition to pooling purchasing power and developing common services such as e-commerce platforms, these groups also provide vehicles for discussion among parallel peers. Moreover, several of these groups subdivide their membership into smaller groups that closely resemble IPNs. For example, each of the 350 members of Affiliated Distributors, which is a reputed to be the largest marketing group in industrial distribution (encompassing four industries and representing approximately $18 billion in annual sales), belongs to an “Affiliate Network,” which consists of “approximately ten to twelve non-competing, same industry companies…[that] meet twice annually .. [to] share successes, challenges and best practices on topics of mutual interest and provide direction and feedback to A-D management.” Thus, there is good reason to believe that the IPN is just one of a family of institutions in the U.S. economy that fosters parallel relationships.

Parallel Relationship vs. Others in Remodeling

But despite the prevalence of such institutions, it is still questionable whether the parallel relationship is really comparable in importance to vertical and horizontal relationships. After all, there are certainly many institutions that foster relationships among exchange partners and competitors. Moreover, enterprises naturally encounter exchange partners and competitors through the market without a facilitating institution and such relationships seem quite compelling as sources of learning and motivation. In particular,

19 These inquiries included phone and email interviews with about thirty trade associations and consultants to distributors. The initial names and contact information were obtained from the website of the industrial distribution trade magazine Progressive Distributor.

20 This quote is from Affiliated Distributor's website, which may be found at http://www.adhq.com. Another marketing group that includes similar network subdivisions is the Imark group (see http://www.imarkgroup.com/).
since a firm’s success and survival depend on maintaining competitive parity in its local market, its motivation should derive first and foremost from its rivals, and it should also be keen to learn from any product or process innovations that the rivals introduce (e.g., Appleyard 1996; Ingram and Roberts 2000; Schrader 1991; von Hippel 1987, 2001). Vertical exchange partners can also be expected to be key sources of learning, especially if exchanges require specific investments whose value is realized through close collaboration. And they may provide a motivational boost as well (Uzzi 1996: 502). Thus, while parallel relationships may be sources of motivation and learning, it is reasonable to ask how important they are, especially in relation to the other relationships that capitalists maintain. And this question cannot be answered by asking capitalists about their parallel relationships (e.g., as in our surveys of BN members) but requires data on the full set of social relationships that capitalists maintain and how parallel peers figure in such networks.

Our remodeling industry survey provides such data. In what appears to be the first survey of its kind (cf., Tomaskovic-Devey, Zimmer, and Harding 2003), respondents were asked how they distribute their relationships across five types of contacts: “competitors,” “suppliers,” “subcontractors,” “peers from another market,” and all others.21 The surveys also provide insight into the content of the relationship between enterprises. In particular, the name-generating questions used in the surveys were designed to tap the two dimensions of value that we identified in our fieldwork as important to IPN participation:

1. Please think of 5 or fewer business contacts and associates outside your own company that you turned to the most for help or advice in solving a difficult business problem in the last 6 months. These could be competitors, suppliers, peers, or companies in other industries (italics added).

2. Successful businesses often look to others whose performance or business practices represent a source of inspiration or motivation. These could be

21 A 2002 survey of NARI members broke out the other category to include “customer” and “company in another industry.” These categories were dropped from the 2003 industry survey due to space constraints and because very few respondents to the other surveys classified contacts in these categories. We do not discuss the NARI survey here because the results are not representative of the industry generally and because respondents to this survey were asked both name-generators whereas the NARI survey randomly assigned one of the two name-generators to each respondent. In addition, the number of contacts elicited from the NARI survey seems to have been artificially deflated. Once respondents learned that they would be asked for contact information for the people they were named (this was not done on the industry survey), they were reluctant to give additional names. Thus, the mean number of names given for the learning (motivation) roster in the NARI survey was 1.28 (1.47) as against 2.71 (1.77) in the industry survey.
competitors, suppliers, peers, or companies in other industries. Please think of up to 5 business contacts or associates outside your own company you looked to most often as a source of inspiration and motivation in the last 6 months (italics added).

As shown in table 3, results from the industry survey indicate that, at least in the remodeling construction industry, parallel relationships are generally as important as horizontal (“competitor”) and vertical (“subcontractor” or “supplier”) relationships. These results are noteworthy on several levels. First, prior to the present paper (but see, Baum and Berta 1999; Dyer and Nobeoka 2000), research on social relationships among capitalists had focused on horizontal or vertical relationships, or at least some other relationship that involves exchange. Indeed, the natural tendency to expect key relationships to follow the routes of exchange is reflected in Podolny and Page’s (1998, p.59) definition of the “network form of organization” as “any collection of actors (N≥ 2) that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange.” This definition would seem to exclude institutions such as the IPN that comprise parallel relationships since they are not conducive to exchange-- unless we broaden the definition to include social exchange. Thus, it is surprising that parallel relationships form such an important part of remodelers’ egocentric networks. Furthermore, since so few remodelers participate in IPNs but so many have parallel relationships, the maintenance of parallel relationships seems to be much broader than is participation in IPNs, most likely because such relationships are fostered through other institutions such as trade associations.

We also see clear evidence that parallel peers are important sources of learning and of motivation. Comparing results from the two name-generators indicates that remodelers tend to cite more people as sources of learning than of motivation. In addition, we see that, while each of the four contact-types tends to attract about one-fifth to one-third of each type of relationship, the learning relationships are more likely to be
vertical and the motivation contacts are more likely to be peers and competitors.\textsuperscript{23} We regard this to be a striking result. The standard assumption that capitalists derive motivation from the prospect of gaining (avoiding) competitive (dis)advantage implies that rivals are the main source of motivation. That parallel peers are regarded as having comparable importance is thus quite surprising. Finally, it is worth noting that an emphasis on parallel relationships seems more common among larger firms. In particular, the mean proportion of learning relationships devoted to parallel peers by firms with more than $1 million in 2002 revenue was 0.32, and 0.45 for motivation relationships. The latter figure suggests that firms’ horizons become wider as they grow larger such that the \textit{modal} tendency is to draw motivation or inspiration from parallel peers. The comparable mean proportions for smaller firms were 0.20 ($t=2.60$) and 0.28 ($t=2.71$). The differences for the other three types of contacts were not statistically significant. In sum, while these survey results apply only to a single industry, they provide strong initial support for the claim that parallel relationships are important components of many firms’ networks even when they do not participate in an IPN. Furthermore, parallel peers seem quite salient along the dimensions we identified in our analysis of the appeal of IPNs: as sources for new knowledge and, perhaps especially, as sources of motivation.

\textbf{Discussion}

We pursued two interlocking objectives in this paper: to show parallel relationships to be an important feature of the U.S. economy and to shed light on their foundations. In addressing the first objective, we have presented an array of evidence that suggests that the parallel relationship to have broad significance in the United States economy. While many industries do not have the structural preconditions that create parallel peers, those that do often have institutions for linking them, whether they be trade associations, manufacturer’s advisory councils, or such dedicated institutions such as the IPN. Indeed, that IPNs themselves are found in roughly 10% of retail and service industries suggests that parallel relationships deserve our attention. And our finding that parallel relationships are important components of many firms’ networks even when they do not participate in an IPN provides strong initial support for the claim that parallel relationships are important components of many firms’ networks even when they do not participate in an IPN. Furthermore, parallel peers seem quite salient along the dimensions we identified in our analysis of the appeal of IPNs: as sources for new knowledge and, perhaps especially, as sources of motivation.

\textsuperscript{23} T-tests for differences in the proportion of contacts in a given contact type that are learning vs. motivation were significant at the $p<.01$ level for all four contact types.
relationships are as important as horizontal and vertical relationships in the residential remodeling industry reinforces this conclusion. Indeed, while these findings apply to a single industry, this is the only industry for which any data afford comparisons of the importance of the different types of social relationships.

Our fieldwork and surveys among IPNs among residential remodelers and auto dealers have allowed us to make progress in meeting the second objective. In particular, we have seen that IPNs appear to possess distinctive mechanisms for transferring knowledge to members and for stimulating members to make changes aimed at improving performance by incorporating and applying the knowledge she has acquired through the IPN or from other sources. We believe that the two dimensions of value that we have identified as salient in the IPNs we have studied—learning and motivation—provide useful guidance for understanding participation in IPNs and in parallel relationships generally. And results from the remodeling industry surveys provide strong validation for this belief. These results suggest that parallel relationships have an importance that rivals that of vertical and horizontal relationships, and that the reason they are important is because they are salient along the specific dimensions that we identified in our study of IPNs.

**Implication: From Whom Do Capitalists Learn?**

What are the implications of the suggestion that parallel relationships are important sources of learning and motivation? Let us first consider learning, which we may define as the transfer of knowledge about business processes from one capitalist enterprise to another. Standard neoclassical economics considers learning in capitalist economies to be unproblematic—in equilibrium, all capitalist enterprises have converged on the same production function. As Winter (1987, p.545) puts it, “The orthodox view comes down to the assertion that all productive knowledge is freely available to one and all—perhaps it is in the public library.” The rationale for this assumption relies partly on the sense that prices convey all relevant information (Hayek 1945) and partly on the idea that the penalty faced by a capitalist who falls behind her competitors is so severe that she will make every effort (e.g., by hiring a competitor’s employees; by reverse-engineering their
products, etc.) to ascertain how they are able to achieve particular levels of quality and cost.

Quite clearly, the rapid flow of information through the market and the powerful incentives for keeping up with rivals make the market an environment that greatly facilitates learning. Yet this does not mean that there are not limits to the market’s capacity for transferring knowledge, at least in the short to intermediate term. Indeed, recent literature identifies three such limits, which map neatly into the three learning mechanisms that we have noted as central to IPNs and which may be at work, perhaps in weaker form, in other institutions that support parallel relationships. First, scholars have argued that market-based knowledge transfer is limited for certain types of valuable knowledge. The common premise behind the “resource-based view” of the firm in business strategy (see e.g., Barney 1986, 1991; Cohen and Levinthal 1990; Henderson and Cockburn 1994; Nonaka 1994; Peteraf 1993; Teece, Pisano, and Shuen 1997; Wernerfelt 1984, 1995; cf., Penrose 1959; Selznick 1957) is that the inner workings of an organization are so opaque and socially complex that it is often difficult for competitors to clarify the causal mechanisms responsible for a firm’s distinctive capabilities and thereby to match them. Accordingly, and as stressed above, the IPN’s critique processes and the encouragement of an environment where premises are challenged and probed seem to facilitate a deeper understanding of cause and effect and therefore a more effective transfer of knowledge. Indeed, related mechanisms seem at work in some horizontal relationships (e.g., Appleyard 1996; Ingram and Roberts 2000; Schrader 1991; von Hippel 1987, 2001).

Two additional weaknesses in the market’s capacity for transferring knowledge seem to be less easily addressed through horizontal relationships as they are through parallel relationships, particularly in the context of an institution such as the IPN. First, to the extent that the knowledge held by an organization supports a competitive advantage, it is straightforward to expect the firm to try to prevent such knowledge from leaking. Such efforts, which include limiting employees’ ability to take trade secrets with them to jobs at rival firms, sometimes fail but are often quite successful (Liebeskind 1996; Cohen, Nelson, and Walsh 2000; Moser 2002). As such, the IPN’s exclusion of rivals and inclusion of relevant peers seems suited for helping firms obtain knowledge
that they could not otherwise obtain as easily. A final limitation on market-based knowledge transfer derives from the common failure to make use of the heterogeneous array of models that the market presents. Owing either to intrinsic socio-cognitive tendencies (Levinthal and March 1993) or competitive pressures (Barnett and Hansen 1996; Barnett and Sorenson 2002; cf. Van Valen 1973), there appears to be a strong tendency for capitalists to fixate on the local environment and ignore more distant developments that are likely to be important as sources of learning for the longer-term. And as we stressed above, the basic design of an IPN, which includes representatives from a wide array of markets, seems well-suited for overcoming such myopia.

Thus, the existence and practices emblematic of IPNs and related institutions that support parallel relationships provides strong indirect support for the importance of these limits on the market’s capacity for transferring knowledge discussed in recent research. After all, IPNs and parallel relationships more generally would have little appeal as sources of learning if the search for performance-relevant knowledge were easily obtained through the market. Moreover, while research on knowledge sharing in horizontal relationships (e.g., Appleyard 1996; Ingram and Roberts 2000; Schrader 1991; von Hippel 1987, 2001) has described relationships and networks that play a role in addressing the first of three limitations on market-based knowledge transfer, the present research suggests that parallel relationships may play a unique role in responding to the second and third limitations. We have seen that many capitalists actively look beyond their local markets to obtain knowledge that they feel they cannot obtain through market interaction or even relationships with their exchange partners or competitors. More generally, our results suggest that the transfer of certain types of valuable knowledge between capitalists may occur less through mere observation of competitors than through relationships in which the parties gain a deep exposure to one another’s practices and are able to query one another about the underlying premises. Put differently, a key form of learning in the capitalist economy resembles the seminar classroom more than it does the web search.
Implication: Whence the Capitalist’s Motivation?

Just as the importance of parallel relationships as sources of learning reflects limitations in the market’s capacity for transferring knowledge, the importance of parallel relationships for augmenting motivation implies the existence of limits in the market’s capacity for motivating capitalists. Yet there exists little or no scholarly work that identifies such limits. Indeed, while there is some question whether capitalists are driven by profits or survival (e.g., Meyer and Zucker 1989; Pfeffer and Salancik 1978; cf., Dutta and Radner 1999), and there have been extensive debates as to the implications of the separation of ownership and control for the motivation of managers who are not owners (e.g., Jensen 1986; Shleifer and Vishny 1996; Zeitlin 1974, pp. 1094-1097), there does not seem to be an alternative to the standard neoclassical assumption that the motivation of the owner-manager (“capitalist”) is very high. This view is supported by the evolutionary argument that, over the long run, “those who enjoy positive profits are the survivors; those who suffer losses disappear (Alchian 1950, p.213, italics in original; cf., Enke 1951; Friedman 1953).” Assuming that unmotivated firms will be less profitable, the process of natural selection inherent in market competition seems to guarantee the removal of unmotivated capitalists from the market.

This view of the matter seems unassailable. Ceteris paribus, the more a social situation approximates the conditions of perfect competition, the less room it will have for actors who are less than fully motivated. At the same time, it bears recalling that few real markets can be described as perfectly competitive. As a result, to say that the question of the capitalist’s motivation is moot because it is uniformly high under perfect competition is to beg the more germane question-- i.e., What are the sources of motivation in real markets and how different are these from the capitalist’s primary motivation, which is to maintain competitive parity so as to ensure survival?

We believe that our results provide useful leads for beginning to address this question. Let us consider the first process that we identified as important in heightening the motivation of IPN members: the financial rankings. One could argue that this process relies on a form of market mechanism and, therefore, does not suggest a source of motivation that is distinct from that which is native to competitive markets. Yet if such rankings augment motivation through market-based mechanisms, it is because they create
identity orders that resemble White’s (2002) oligopolies rather than the anonymity of perfect competition. Whereas the motivational force due to perfect competition derives from the need to match a generalized standard of performance (e.g., industry-wide marginal cost), IPNs are designed to help members clarify their relative standing by allowing each firm to calibrate itself against comparable, specific others.

Why might an institution that produces such identity frames be attractive to a capitalist who already competes within such a frame in her local market? One possibility is that the local market in fact lacks such a frame. While the market landscape is relatively clear in some markets, such as the oligopolies studied by White, many markets are too disaggregated, opaque, and turbulent to produce clearly defined frames by which capitalists can orient their strategies. Indeed, when we ask IPN members why they cannot find what they obtain from IPN participation in their local markets, they typically say that they have only a very weak sense of who their competitors are and how they operate. And this experience of the market as opaque may be quite common. Consider, in this regard, the observation that the introduction of public rankings into a market heightens and redirects competitive efforts in the direction of the standards used in formulating the ranking (e.g., Anand and Peterson 2000; Carruthers and Cohen 2002; Elsbach and Kramer 1996; Phillips and Zuckerman 2001). Such rankings would have no effect if the players and their audience were certain where they stood relative to one another in the market that surely existed the introduction of rankings. Any motivational force they exert derives from how they clarify and (re)frame a competitive landscape that would otherwise be somewhat nebulous. The IPN rankings appear to operate on similar principles. Yet since IPN members are parallel peers rather than market rivals, a more general lesson emerges: that capitalists derive a distinct source of motivation via comparisons with similar others, and that these “others” need not have a direct impact on the capitalist’s performance as do rivals, but must be peers with whom the capitalist identifies as facing challenges and opportunities that resemble those she faces.

There is an additional sense in which an IPN-like institution may provide motivation in a way that is distinct from that provided the threat of falling behind one’s competitors. Recall that the second mechanism that we identified as important in heightening the motivation of IPN members stemmed from the peer-review and
disciplinary processes designed to provide a greater sense of accountability. These processes rely on members’ willingness to sacrifice some degree of discretion in order to participate in the group and to meet its standards for conduct and performance. As one auto dealer said to his fellow twenty group members in response to their suggestions that he adopt a particular policy for inventory management, “Is this required or not? If so, we’ll do it.” This capitalist’s willingness to forgo some autonomy makes sense only insofar as we recognize the motivational force exerted by the desire to gain acceptance by a valued audience or group. This sense of accountability felt by an IPN member derives from her anxiety that peers, whom she knows well and with whom she identifies strongly, are sitting in judgment of her actions (Foote 1951).

Why might participants in an IPN or a similar institution seek a greater sense of accountability? One possible reason is that they are typically owners of small, private firms who do not face public scrutiny by analysts and the media, or by boards of directors. Yet such institutions are typically considered (imperfect) solutions for “agency problems,” which are produced by the separation of ownership and control in publicly held firms (Jensen and Meckling 1976), but which do not plague the owner-managers of the private enterprises that tend to belong to IPNs. Moreover, IPN members tend to locate the need for accountability not in a dilution of the owner’s prerogatives but in a lack thereof. As one BN member told us, “Owners are the last people to hold themselves accountable.” This statement, and similar sentiment expressed by many others, reflects a belief that since people become set in their ways, too much autonomy may prevent an owner from making difficult but necessary changes. Again, a general lesson is suggested-- i.e., that the issue of accountability is not solved by fusing principal and agent in the same person because, in the absence of an interested audience, the principal is too apt to leave himself off easy.

The foregoing discussion is not intended to challenge the premise that the primary motivation of the capitalist is to maintain competitive parity, or that the prospect of material rewards is a powerful motivator for going beyond the competition. Rather, we have argued that even when one takes such sources of motivation as given, and especially when one begins to focus on market environments that cannot be described as perfectly competitive, the question of the capitalist’s motivation is far from moot but demands
further inquiry. And our analysis has provided several leads for such research. In particular, we have argued for the motivational force of a series of related mechanisms that are analytically and experientially distinct from those associated with competitive markets. Rather than anonymity, these mechanisms are based on the increased clarity of identity that emerges in certain concentrated markets but is elusive in many others. And these mechanisms supplement the autonomy that is legally granted to a firm with the social control provided by a salient peer group. While we suspect that these mechanisms have broad significance for understanding the motivation of capitalists, confirmation and refinement of this suspicion must remain for future research.

Conclusion: Functionalism and the Firm

In closing, we note two challenges that one might raise to our argument. First, if parallel peers perceive there to be so much value in being linked, why do they not formally merge and become single firms? A short answer to this question is that parallel peers sometimes do merge and attempt to exploit the greater capacity for learning that results. Examples of corporate processes that are designed to transmit learning from parallel subunits are abundant (e.g., Darr, Argote, and Epple 1995; Bartlett and Ghoshal 1998; Baum and Ingram 1998; Greve 1999; Podolny, Roberts, and Berzins 1998; Sorenson and Sørensen 2000). And indeed, several of the consultancies that organize IPNs among parallel peers also facilitate similar meetings for subunits of large firms or franchisees in large franchise systems. At the same time, it is not clear if the prospect of increased learning (and enhanced motivation) from being in the same firm with parallel peers is sufficient on its own to provide a strong rationale for merger. After all, if parallel relationships can develop among legally separate firms, it is not clear what is gained from integrating them. Moreover, while there has been significant consolidation among auto dealers in recent years, our informants tell us that megadealers are in fact more likely than the typical dealer to belong to an IPN (consisting of other megadealers). Thus, while placing parallel peers under the same corporate roof may have a similar effect as cultivating a relationship between them, it is not clear why the latter would be inferior to the former

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24 Indeed, one could argue that, to the extent that organizational subunits no longer face strong market incentives, their motivation would become weaker (cf., Baker et al., 2002).

A second challenge is metatheoretical. In particular, by emphasizing the largely instrumental nature of parallel relationships, have we not merely extended the (manifest) functionalism associated with neoclassical accounts of the market and applied it to explain social networks? We offer two responses to this question. First, as we argued in the introduction, sociologists must recognize the importance of instrumental considerations in the formation and dissolution of social relationships if we are to develop a distinctive and robust account of the social institutions of capitalism. This hardly means that non-instrumental commitments do not develop from these relationships. For instance, we show elsewhere that the parallel relationships that develop in BN, and particularly those that are sources of motivation, keep members in BN for longer than would be expected on the basis of the members’ own calculations of BN’s value for them (see Sgourev and Zuckerman 2004). Moreover, participation in IPNs and similar institutions is likely shaped by broader social and economic forces. In particular, we suspect that in delegitimizing horizontal relationships, U.S. antitrust law has played an important indirect role in stimulating the creation of IPNs. It is also important to stress the entrepreneurial creativity that was involved in the creation and development of the IPN. The mere existence of latent demand for a relationship or institution does not ensure its existence. Nor are such institutions always successful in meeting this demand. At the same time, it is difficult to explain why a capitalist would participate in an IPN if it did not at least appear to be a compelling vehicle for fulfilling a business purpose.

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25 Thanks to Mark Granovetter for emphasizing this point to us.
26 In the course of our research, we have identified several factors that may limit their value, particularly as the tenure of a participant and a network increases. For example, a key challenge for some IPNs involves keeping the more successful, longer-tenured members engaged even when they may be learning less than are newcomers. In addition, many informants describe a process in which a role structure crystallizes whereby each member gains a reputation for repeatedly stressing certain issues and voicing particular opinions. This then leads their peers to ignore their comments as reflecting personal prejudice rather than the objective critique of a neutral third-party (cf., Simmel 1950). Another damaging tendency that has been reported to us occurs when group members feel too close with one another to voice trenchant criticism. Finally, a process of homogenization may take place over time as a group converges on a set of practices its members think are “best,” but which leaves them with a lower capacity for absorbing and responding to new ideas.
In addition, by conceding that capitalists often pursue relationships to further business goals, we indirectly gain deeper appreciation for the limits of markets. Such limits become particularly clear when the goals in question are assumed to have no value if markets are functioning well. In particular, the recognition that parallel relationships are cultivated as sources of learning and motivation implies both that such relationships have a functionalist aspect to them and that the market is less than fully efficient in fulfilling its purported functions. As in other recent research (see e.g., Zuckerman 2004; Zuckerman, Kim, Ukanwa, and von Rittmann 2003), the market emerges as a crude functionalist device that generally works well enough to reproduce itself and the practices undertaken by participants, but is also characterized by systematic limitations that, to some degree, undercut the very purposes it is supposed to further. For example, the conditions characteristic of highly competitive markets generally ensure that capitalists will be highly motivated and will thereby emulate one another’s innovations, which should generally facilitate— if hardly guarantee— the diffusion of useful practices. However, such conditions also lower the likelihood that capitalists: (a) will trust rivals and exchange partners to provide reliable information; (b) will expose themselves to a wide array of models for conducting business; (c) will be able to receive constructive criticism; and (d) will feel the distinctive stimulus to initiate change that is provided by the pressure of peer scrutiny and evaluation. In sum, by recognizing functionalist aspects to social relationships among capitalists, the limited functionalism of the market is thereby revealed.
References


Table 1:  
Example of List of Suggestions for Improvement

1. Complete job package vacuum. Include design, estimate, sales, and production staff in the pre-planning process.

2. Bill’s (owner’s) choice to control the tasks he hates such as estimating, scheduling, and packaging. Can only lead to a work life of unhappiness and lack of joy. Hire and nurture those who can fill these positions. They are your ticket to retirement.

3. Schedules create win win-with all. Include leads, sub, sales, design, production and clients by writing schedule before the job starts. Create schedules with systems and differentiate signed work, pending work, and designs.

4. Improve employee hiring by differentiating the job descriptions. Create and include job descriptions at interviews, have collaborative interviews with related personnel, check references, and have annual reviews.

5. Sales management! Add sales management to Gary’s (general manager) job description without selling responsibility. Supervise designers, estimators, and sales personnel.

6. Estimate numbers: Gary to share and educate your production team about the estimate. Create job costing for feedback and evaluate the final numbers to improve the estimating procedures.

7. Trust your employees. They are worth it. What worked in the past is not working today. Inform and educate so as to empower them. This will break the cycle of lack of trust and lack of information.

8. Hire an industrial psychologist. Ask him to help (host company) to take full advantage of every human resource in order to heal the company culture and create a healthy functioning team.

9. Owner free yourself. Let new estimator prepare sales package including specs, plans, contracts, pricing, payment schedule and preliminary production schedule.

10. Clean up production packages. Have a baton pass after it sells, before it starts.

11. Management style: Micromanaging is not delegating or demonstrating trust. To lighten your load, release your burden. Delegation is letting others do their job.

12. Paranoia: Some fears are unfounded. For example, employees do not feel management has bad intentions. Owner should consider outside counseling.


15. Humorless Company Culture. A negative attitude is pervasive throughout the company and the community. Pats on the back go a long way. Humor can break down barriers. Who is the Nurturer?

16. Redefine receptionist position. Combine higher level admin/reception/sales-leads call into one position under Office Manager.

17. Define Gary’s position and future with the company. Bill and Gary should plan for the future by agreeing on a job description and discussing it with employees.

18. Management can improve jobsite morale. When visiting a jobsite, find the lead carpenter immediately upon arrival, say Hello, talk with the staff, and then tour the jobsite.

19. Pre-delegation by Owner. Write down every function and duty you do in detail, post it, then delegate.

20. Set people up for success. Give authority along with responsibility, and recognize success.

21. Bill - Has to manage Sales Department for 1 – 2 years.
   Gary - Generate a “fill in the blanks system” for the different types of sales.
   Bill - Agree to be held accountable for using system and to consequences.

22. Production Managers need to be advocate for field employees. Act as intermediate for information link between field and office.

23. Bill move office to back. Focus on sales and ownership issues. Say goodbye to the receptionist and the UPS guy and Hello to the sales team.

24. Benefits improvement. Explore new solutions for fuller employee health benefits. Cash is not the only answer. A cafeteria plan may help keep the tax man at bay.

25. Production has right of refusal. Allow production to return job package to the sales/design team until it is acceptable to production.

26. Empower Heidi and Lance equally. As a design team they are unstoppable. Management should come from Sales not Design.

27. Standardize specifications: Formulate a pool of project specifications to create a standardized system and standardized level of quality.

28. Company vision - Revisit and recreate the vision for the company with all the employees input.

29. Get entire Sales department on the same page: Provide independent sales training for design/sales team.

30. Boss card. Each time you play it, you cut your team off at the knees. Your success depends on a full deck of players.
Table 2. BN Members’ Rationale For Participating: 2002 Survey

<table>
<thead>
<tr>
<th>... in continuing to be a BN member, how important is it that...?</th>
<th>Proportion Answering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
</tr>
<tr>
<td>1. Your company's performance improve?</td>
<td>0.68</td>
</tr>
<tr>
<td>2. You get an opportunity to interact with friends?</td>
<td>1.36</td>
</tr>
<tr>
<td>3. The costs of membership fees remain the same?</td>
<td>0.69</td>
</tr>
<tr>
<td>4. Your commitment to improve your company's performance be enhanced?</td>
<td>0.68</td>
</tr>
<tr>
<td>5. You obtain new knowledge and skills?</td>
<td>0.00</td>
</tr>
<tr>
<td>6. BN members to whom you feel close to might leave the network?</td>
<td>0.68</td>
</tr>
<tr>
<td>7. Other members be committed to improving their company's performance?</td>
<td>0.68</td>
</tr>
<tr>
<td>8. Membership gives you a greater sense of accountability?</td>
<td>2.72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>.. Importance of the following... in your decision to join BN at the time that you originally joined.</th>
<th>S.D. Disagree Neutral Agree S. A</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Desire to obtain new knowledge and skills</td>
<td>0.00 0.00 0.67 12.08 87.25</td>
</tr>
<tr>
<td>10. Desire to make new friends</td>
<td>2.68 17.68 47.65 16.78 2.68</td>
</tr>
<tr>
<td>11. Desire to improve organization in your professional life.</td>
<td>0.00 1.34 5.37 28.19 65.10</td>
</tr>
<tr>
<td>12. Desire to get accountability before a group.</td>
<td>4.70 4.70 30.20 32.89 27.52</td>
</tr>
<tr>
<td>13. Desire to improve the performance of your company.</td>
<td>0.00 0.00 0.00 5.37 94.63</td>
</tr>
<tr>
<td>14. Desire to have clearer performance benchmarks.</td>
<td>0.00 2.01 8.05 32.89 57.05</td>
</tr>
<tr>
<td>15. Endorsement by someone you trust.</td>
<td>3.33 5.41 25.00 42.57 23.65</td>
</tr>
</tbody>
</table>
## How strongly do you agree or disagree with each of these possible requirements of granting membership.

The candidate should...

<table>
<thead>
<tr>
<th>Requirement</th>
<th>S.D.</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>S. A</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Be willing to share information with members</td>
<td>0.00</td>
<td>0.00</td>
<td>0.67</td>
<td>3.36</td>
<td>95.97</td>
</tr>
<tr>
<td>17. Be recommended by a member.</td>
<td>4.03</td>
<td>12.08</td>
<td>53.69</td>
<td>23.49</td>
<td>6.71</td>
</tr>
<tr>
<td>18. Have a company in good financial standing.</td>
<td>2.01</td>
<td>16.11</td>
<td>30.87</td>
<td>36.91</td>
<td>14.09</td>
</tr>
<tr>
<td>19. Be sociable and friendly.</td>
<td>0.00</td>
<td>6.71</td>
<td>19.46</td>
<td>58.39</td>
<td>15.44</td>
</tr>
<tr>
<td>20. Be highly committed in his/her business pursuits.</td>
<td>0.00</td>
<td>0.00</td>
<td>2.01</td>
<td>21.48</td>
<td>76.51</td>
</tr>
<tr>
<td>21. Abide by the culture of the network.</td>
<td>0.00</td>
<td>0.67</td>
<td>7.38</td>
<td>33.56</td>
<td>58.39</td>
</tr>
</tbody>
</table>

## Indicate your level of agreement with these appropriate criteria for deciding why a company should be dismissed from your network. The candidate for dismissal...

<table>
<thead>
<tr>
<th>Reason</th>
<th>S.D.</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>S. A</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Violates group sharing principles</td>
<td>0.00</td>
<td>0.00</td>
<td>5.37</td>
<td>32.21</td>
<td>62.42</td>
</tr>
<tr>
<td>23. Keeps a low level of participation in the group.</td>
<td>0.00</td>
<td>1.34</td>
<td>18.12</td>
<td>48.99</td>
<td>31.54</td>
</tr>
<tr>
<td>24. Fails to follow the group's recommendations.</td>
<td>1.35</td>
<td>3.38</td>
<td>34.46</td>
<td>44.59</td>
<td>16.22</td>
</tr>
<tr>
<td>25. Reveals no desire to improve his/her performance.</td>
<td>0.00</td>
<td>0.00</td>
<td>6.04</td>
<td>28.19</td>
<td>65.77</td>
</tr>
<tr>
<td>26. Seeks increasing personal gain from the group's activities.</td>
<td>2.04</td>
<td>8.84</td>
<td>35.37</td>
<td>31.29</td>
<td>22.45</td>
</tr>
</tbody>
</table>

| Response | 2 | 3 | 1 | 3 | 1 |
Table 3a: Number of Learning Contacts and Distribution of Contacts Across Relationship Types, 2003 Industry Survey (N=369)

<table>
<thead>
<tr>
<th>Number of Names Listed</th>
<th>Frequency (Mean=2.71)</th>
<th>Mean Proportion* who are Competitors</th>
<th>Suppliers</th>
<th>Subcontractors</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20.60</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1</td>
<td>7.32</td>
<td>0.02</td>
<td>0.50</td>
<td>0.12</td>
<td>0.36</td>
</tr>
<tr>
<td>2</td>
<td>13.82</td>
<td>0.19</td>
<td>0.35</td>
<td>0.22</td>
<td>0.24</td>
</tr>
<tr>
<td>3</td>
<td>20.33</td>
<td>0.24</td>
<td>0.43</td>
<td>0.18</td>
<td>0.16</td>
</tr>
<tr>
<td>4</td>
<td>14.63</td>
<td>0.17</td>
<td>0.37</td>
<td>0.18</td>
<td>0.29</td>
</tr>
<tr>
<td>5</td>
<td>23.31</td>
<td>0.21</td>
<td>0.36</td>
<td>0.23</td>
<td>0.20</td>
</tr>
</tbody>
</table>

0.19 0.39 0.20 0.23

* May total more than 1.00 because some respondents (10.84% of the respondents giving names for learning contacts and 8.29% for the motivation contacts) apparently assigned one or more contact to both lists.

Table 3b: Number of Motivation Contacts and Distribution of Contacts in Relationship Types, 2003 Industry Survey (N=362)

<table>
<thead>
<tr>
<th>Number of Names Listed</th>
<th>Frequency (Mean=1.77)</th>
<th>Mean Proportion* who are Competitors</th>
<th>Suppliers</th>
<th>Subcontractors</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>35.64</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1</td>
<td>10.50</td>
<td>0.49</td>
<td>0.07</td>
<td>0.11</td>
<td>0.33</td>
</tr>
<tr>
<td>2</td>
<td>20.72</td>
<td>0.36</td>
<td>0.22</td>
<td>0.15</td>
<td>0.27</td>
</tr>
<tr>
<td>3</td>
<td>17.13</td>
<td>0.23</td>
<td>0.19</td>
<td>0.13</td>
<td>0.44</td>
</tr>
<tr>
<td>4</td>
<td>6.35</td>
<td>0.24</td>
<td>0.31</td>
<td>0.17</td>
<td>0.29</td>
</tr>
<tr>
<td>5</td>
<td>9.67</td>
<td>0.30</td>
<td>0.23</td>
<td>0.18</td>
<td>0.29</td>
</tr>
</tbody>
</table>

Total 0.32 0.20 0.15 0.33
Figure 1: A Vertical Chain with Two Branches