PERSONAL AND EXTENDED NETWORKS ARE CENTRAL TO THE ENTREPRENEURIAL PROCESS

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FROM A PRACTITIONER'S VIEWPOINT, NETWORKING IS A USEFUL TOOL FOR ENTREpreneurs who wish to enlarge their span of action and save time. Admonitions to "network," however, may not be enough. "Networking" may result in a time-consuming and fruitless effort, and leave potential partners highly frustrated (Turati 1988). From a theoretical point of view, it thus becomes necessary to specify the conditions under which networking contributes to business effectiveness, and to link it to the contingencies facing firms.

In this executive forum, we propose a way of generating networking strategies for entrepreneurs. First, we introduce general network concepts by considering personal networks; thus, we take the role set of individual entrepreneurs as the unit of analysis. Second, we discuss the aggregation of personal networks into extended networks, which in turn can be analyzed within firms (intra-firm relations) or between firms (interfirm relations).

We define entrepreneurship as "the process by which individuals—either on their own or inside organizations—pursue opportunities without regard to the resources they currently control" (Stevenson and Jarillo 1989). Networks are patterned relationships between individuals, groups, and organizations.

Entrepreneurs, in contrast to managers, thrive on unsettling and turbulent conditions. Their greatest gains are made when discontinuities and gaps appear in society's economic fabric, making traditional modes of doing business or traditional products and services obsolete. Even under normal conditions, hidden opportunities for linking new products or services to untapped markets may be available, if only entrepreneurs could obtain information about where they lie. Mobilizing resources to pursue opportunities requires entrepreneurial

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contacts, knowledge, and confidence. Mobilizing resources also involves asking others to raise money, labor, and effort for a venture with an uncertain future. Entrepreneurship is thus inherently a networking activity.

The organization and management theory literature usually makes a sharp distinction between individuals, organizations, and environments. These units are demarcated by assuming strong breaks between each, with people acting "within" organizations, and organizations acting "within" environments. By contrast, a network approach emphasizes the threads of continuity linking actions across a field of action that includes individuals, organizations, and environments as a totality. Organizations are *in* environments, and environments are *in* organizations, penetrating them through the personal networks of boundary spanners and other members (Aldrich and Herker 1977; Weick 1979). Even though "networking" is used as a verb, network concepts themselves depict only a static pattern of relations. Adding *entrepreneurship* to the equation compels theorists to include *process* in their framework, as entrepreneurs and firms pursue opportunities opened to them, or withheld, because of their network positions.

TWO TYPES OF NETWORKS

In theory, any model of entrepreneurial networking should weave a seamless web in which the distinctions between individuals, organizations, and networks are blurred or even ignored. In practice, we have found it necessary to create a language for keeping track of individuals and their context, in order to discipline our thinking when we shift between individuals, groups, organizations and environments. Thus, we distinguish between personal networks—centered on a focal individual—and extended networks, focusing on collectives.

To take a simple example, an entrepreneur's personal tie to a friend not involved in his business may, by chance, lead to contacts with persons with information or resources his firm needs. Searching for these resources via normal organizational channels might cost more time or funds than the organization could spare. So, if the right connections are successfully made across the firm's boundaries into the extended network, two major constraints are cut: time and money (Melin 1987). Other costs related to the assembling of required resources may also be cut if links to them are present within personal or extended networks. In turn, the company itself may become network-oriented by incorporating network concepts in its structure and operating mechanisms, perhaps by creating strategic alliances (Lorenzoni 1983).

NETWORK PROPERTIES

The starting point for studying entrepreneurship through networks is a relation or transaction between two people. Relations between pairs of individuals—entrepreneurs, customers, suppliers, creditors, investors—whatever their content and whatever a person's social role, could be extended indefinitely. A central interest of network analysts, therefore, has been finding ways of setting meaningful limits to the scope of a social unit under discussion. The concepts of *personal network* and *extended network* provide us with some tools for setting such boundaries.

Some aspects of personal and extended networks are embedded in social structures relatively impervious to human intervention in the short term, but many other aspects are readily influenced by personal action. We thus assume that social networks are, in a large measure, enacted by their participants. Accordingly, we can treat networking like any other social skill that can be learned, involving making contacts, building relationships, and activating linkages (Grieco and Hosking 1987; Johannisson 1987).

Personal Networks

A *personal network,* or role set, consists of all those persons with whom an entrepreneur has direct relations (or, for some purposes, indirect relations via direct relations). For entrepreneurs, we could think of partners, suppliers, customers, venture capitalists, bankers, other creditors, distributors, trade associations, and family members.

The simplest kind of personal network includes direct ties linking entrepreneurs with persons with whom they have direct dealings. Typically, these are persons whom entrepreneurs meet on a face-to-face basis, and from whom they obtain services, advice, and moral support.

When we use the term "networking" as a verb, describing entrepreneurial behavior, we are usually thinking of special kinds of relations within personal networks—a network built on *strong ties,* relations entrepreneurs can "count on." By contrast, *weak ties* are superficial or casual, and people typically have little emotional investment in them. Brief examination of this idea gets at the heart of why networks are important for entrepreneurs.

"Networking" is often mentioned because people feel the need to distinguish "networking" behavior from ordinary business behavior. Picture behavior at two extremes: first, one-of-a-kind, quick and dirty, market-mediated transactions between people who never expect to see each other again (e.g., buying a magazine at a corner newsstand in St. Louis); and second, contact between two persons who expect to see each other frequently and who are in a relation "for the long term" (e.g., taking a machine-tool shop owner to lunch in Philadelphia to discuss specifications for a new piece of equipment).

The first kind of behavior is just a straightforward pragmatic transaction between people whose personal characteristics count for very little. It does the job, in most circumstances, and can be an efficient way of doing business. However, there are three problems associated with market-mediated transactions: opportunism, uncertainty, and exit.

First, *opportunism* is always a possibility. The other party, expecting never to deal with you again, may engage in "self-disbelieved" statements of competence or performance (Williamson 1981). Second, the problem of opportunism is heightened under conditions of *uncertainty.* It may be impossible to predict all the conditions under which a contract will have to be carried out, or to know precisely all the specifications a piece of equipment will have to meet. Third, when problems crop up, the other party may simply *exit* the situation, leaving you with a loss (Hirschman 1972).

"Networking," by contrast, refers to the expectation that many times both parties are investing in a long-term relation. Consider three benefits that follow from creating a social context in which people expect to deal with each other frequently over an extended period: trust, predictability, and voice, rather than exit.

First, regardless of what popular fiction says about business, *trust* is an important component of business dealings. Business would grind to a halt if parties to transactions always treated each other the way they are portrayed in works of fiction. Trust is enhanced—purely through self-interest—under conditions in which people feel that there is a good chance of dealing with each other again.

Second, *predictability* is increased when long-term relations are established. The inherent uncertainty in a situation is not reduced, but what *is* reduced is the uncertainty about whether the other party will do something to assist you when things do not go according to plan. Uncertainty is also reduced when someone's network contacts tell them where to go for assistance.

Third, people are more likely to use *voice* rather than exit in response to problems when relations are implicitly long-term. *Voice* means making one's complaints known and negotiating over them, rather than sneaking silently away.

Thus, "networking" with one's direct ties to turn them into strong ones is first and foremost a way of overcoming some of the liabilities inherent in purely market-like transactions with other people. *"Networking" involves expanding one's circle of trust.* In network terms, relations of trust are *strong ties,* as opposed to casual acquaintances, who are *weak ties.*

Trust is the basic element determining the solidity of the link and the permanence of the tie, reducing the risks for the involved parties. Mutual behavior is highly predictable and both parties are initially driven by a strong opportunism, which evolves into shared trust. Relationships evolve in a slow process, starting with minor transactions in which little risk is involved and thus little trust is required, and continuing on through transactions in which both partners can prove their trustworthiness. The accumulation of such acts enables the parties to expand their relation and eventually engage in major transactions (Blau 1964).

The *diversity* of entrepreneurs' networks is crucial to the scope of opportunities open to them. People with whom we have weak ties, such as casual acquaintances, are less likely to know one another than are persons with whom we have strong ties, such as close friends. Therefore, a personal network made up of a person's direct and indirect *weak* ties will be a low-density network, with many persons unknown to each other, whereas a personal network made up of a person's *strong* ties will be a high-density network, with most persons known to each other (Granovetter 1973). Of course, most personal networks will include a mix of weak and strong ties, and it is the relative balance of weak to strong that is crucial.

An entrepreneur may have a small group of friends she knows well, each of whom knows the others quite well. Information known to one person in this group is rapidly diffused to the others, and the entrepreneur learns little from talking to one friend beyond what she already knows from talking to another. She may also have many casual acquaintances, each of whom also has a circle of close friends. These close friends of her casual acquaintances are unlikely to be known to her, and thus her only possible ties to them are through the casual acquaintance. Thus, if these strangers have information of value, her only possible access to the information will be through weak ties.

Individuals with few *weak* ties "will be deprived of information from distant parts of the social system and will be confined to the provincial news and views of their close friends" (Granovetter 1982, p. 106). *Alternatively,* having enough diversity in one's *strong* ties, such that one's immediate network includes strongly linked people who have ties to very different parts of the social system, could provide information channels otherwise unavailable.

Successful entrepreneurs are more likely, therefore, to be found in positions that are connected to lots of diverse information sources (Aldrich et al. 1987). Information about new business locations, potential markets for goods and services, sources of capital or potential investors, and innovations is likely to be spread widely among individuals. Other things being equal, someone with a small set of overlapping ties is at a disadvantage when competing for information with someone with a large set of divergent ties.

In summary, entrepreneurs can increase their span of action through their personal networks and gain access at a limited cost to resources otherwise unavailable.

Extended Networks

Personal networks are constructed from the viewpoint of a particular individual; extended networks are the collective result when interconnected personal networks are examined. Within firms, extended networks consist of all the relations between owners, managers, and employees, as they are structured by patterns of coordination and control. Between firms, extended networks consist of relations between all the members of each firm who fill boundary-spanning roles. Given a bounded system—within a single organization or a set of many organizations—we construct a network by identifying all the relations (of whatever type) between people within the boundaries.

The logical shift from personal networks to extended networks becomes crucial if we are considering very small firms. Small companies are often considered as part of the family, or as "personal property." For a big corporation, by contrast, the difference between a company's set of relations and its shareholders' is quite evident. The need for separating the two concepts is not just formal, as such things as a company's goals, values, culture—all of which have a large effect on the type of linkages a company establishes—might at a certain point conflict with its owner's (Masini 1978; Coda 1988).

If we look at network activity in process, at the beginning of the development of the business idea, the company does not exist, and the object of study is the entrepreneur as a person putting all necessary resources together. However, when the first exchange of goods and services takes place, the focus of the attention shifts to the company itself (Colombo and Dubini 1988). The use of network concepts applied to firms rather than to individuals enables us to study also organizations that, due to their size or to their extreme specialization in the manufacturing process, would not otherwise be taken into consideration. Companies become relevant *because* they are part of a network (Lorenzoni 1983, 1987). This is rather typical in some areas in Italy that are heavily dominated by a single traditional industry (leather, textile, and glass). Through the initiative of an entrepreneur, the network of firms is first created, and then its efficiency and effectiveness are maximized.

The shift from personal to extended networks can be examined through the path followed to reach a final destination. Direct ties, especially strong ones, are significant not only for the persons directly linked, but also for the *indirect* access they provide to persons and organizations beyond the direct contacts. Indirect links can be considered by specifying how many steps removed from the entrepreneur an analyst wishes to include. Including indirect ties takes us closer to the essence of networks, as we begin to see how entrepreneurs and firms can leverage their direct connections by judicious choice of contacts who have access to others. The use of networks allows a firm, not only to increase its span of action, but also to reduce the uncertainty related to other companies' behaviors, because the existence of a relation increases the predictability of the behavior of the firms involved.

Indirect ties enable entrepreneurs and firms to substantially increase their access to information and resources, multiplying by many times over what is available through their direct ties.

Density

The density of a network refers to the extensiveness of ties between persons or organizations, and is measured by comparing the total number of ties present to the potential number that would occur if every unit in the network were connected to every other unit. The simplest measure of density considers just the presence or absence of a tie, but more sophisticated measures take account of the strength of ties. For example, a joint venture is a stronger tie than a gentlemen's agreement.

Reachability

Reachability refers to the presence of a path between two persons or firms, of whatever distance. Persons and firms can be ranked by how many intermediaries a path travels before one person is indirectly linked with another. Some units are completely isolated from others, as no path can be constructed to link them. For most units, however, there probably is a path to many others, although it may be quite lengthy.

Brokers

Brokers are people or firms who link units having complementary interests, transferring information or resources, and otherwise facilitating the interests of those not directly connected to one another. For example, venture capitalists are probably as important for their broker role as for the funds they provide to struggling entrepreneurs, because they bring together technical experts, management consultants, and financial planners to supplement an entrepreneur's limited knowledge and experience.

Some social settings facilitate brokerage, and some associations and organizations are themselves brokers in the role they play. Many voluntary associations, trade associations, public agencies, and other organizations increase the probability of people making contact with one another. The complex pattern of social organization in Silicon Valley illustrates the synergistic effects of brokers, central meeting points (bars and restaurants), and family and friendship networks in supporting high start-up rates (Rogers and Larson 1984). Brokers allow people to forge contacts that help them leap over otherwise unbridgeable gaps in their marshalling of resources.

HYPOTHESES CONCERNING NETWORKS AND ENTREPRENEURIAL EFFECTIVENESS

Personal networks and extended networks are simple but powerful ideas, allowing us to conceptualize the opportunities and constraints facing entrepreneurs and firms in the pursuit of their goals. Applied to the issue of entrepreneurial strategies, they provide new insight into what adaptive strategies entrepreneurs might pursue as they enter business.

Based on our review of network principles, we have formulated two general principles linking network behavior and entrepreneurial success:

- Effective entrepreneurs are more likely than others to systematically plan and monitor network activities
- Effective entrepreneurs are more likely than others to undertake actions towards increasing their network density and diversity.

We elaborate these hypotheses more fully, spelling out sub-hypotheses.

Planning and Monitoring Network Activities

Many of the divisions and barriers limiting the effectiveness of networks are unplanned, institutionalized structures and processes that can be overcome with proper planning (Welch

1980) to use networks as a competitive weapon. With regard to networking, viewed as part of the entrepreneurial process, we have formulated the following hypotheses:

- Effective entrepreneurs are able to *chart their present network* and to discriminate between production and symbolic ties (Johannisson 1987). Viewed in process at the first stages of development of a business idea, they are able to identify key persons, especially brokers, necessary to the start-up. To use MacMillan's (1983) concept, this means that effective entrepreneurs are able to prepare a political plan in addition to a business plan.
- Effective entrepreneurs are able to *view effective networks as a crucial aspect for ensuring the success of their company.* Although saying that networks become part of corporate values is perhaps too strong a statement, what it implies is that networking is a concept general enough to include all dimensions at present considered relevant for success: attention to customers, understanding of the business, market orientation, stress on quality, and so forth. From the entrepreneur's viewpoint, this means that the problem is not simply "to work on personal networks," but rather to work on personal networks *internally* consistent with his or her business idea.
- As a direct consequence of the latter hypothesis, effective entrepreneurs are able to *stabilize and maintain networks,* in order to increase their effectiveness and their efficiency. Because they are so relevant for the success of the company, enabling it to increase its span of action, its efficiency, and its possibility of controlling an unstable environment, good networks become a precious asset for the company. Thus, a shared interest in a prolonged relationship motivates the parties in a relation to solve conflicts that may arise by "voice," not by "exit" (Johannisson 1987, p. 17; Johanson and Mattsson 1987).

Because they are action-sets, inter-firm networks have a division of labor and a role structure, thus resembling small groups. Over time, firms play a variety of roles (Johnson and Mattsson 1987). For firm-based networks, one company initially may take the lead in brokering relations. Then, other firms may begin playing a more active role, creating a more mutually based network. Finally, responsibility for the network is diffused throughout the entire constellation of firms (Lorenzoni and Ornati 1988). As firms accumulate a history of positions within networks, their future activities are increasingly constrained. Thus, the process of network development "is not only a learning process but also an adaptation process" (Johanson and Mattsson 1987, p. 38).

Increasing Network Diversity

The great danger facing all business persons is that the daily struggle to cope with pressing problems and keep up with expected routines gradually eliminates time and energy spent in innovative activity (Mintzberg 1974).

- Effective entrepreneurs set aside time for purely "random" activities—things done with no specific problem in mind. Often joint projects are started between companies quite unexpectedly, just because opportunities arise. We offer this hypothesis to emphasize that personal and extended networks are mixtures of pragmatic, instrumental ties *and* emotional, spontaneously formed bonds.
- Effective entrepreneurs are able to *check network density,* so as to avoid too many

overlaps (because they affect network efficiency) while still attaining solidarity and cohesiveness.

- Entrepreneurs in the process of starting companies are more effective to the extent that they economize on time and energy devoted to networking activity by planning a structure and operative mechanisms, enhancing communication with the external environment. They thus multiply, through extending the reachability of their networks, the stimuli for better and faster adaptation to change.

CONCLUSIONS

Unlike earlier approaches to entrepreneurship, the picture we have drawn focuses on entrepreneurs as embedded in a social context, channelled and facilitated, or constrained and inhibited, by their positions in social networks (Aldrich and Zimmer 1986; Granovetter 1985). We see entrepreneurship as intimately linked to other aspects of life, especially pre-entrepreneurial careers and non-workplace relationships. Not only is networking an individual—i.e., an entrepreneur's—activity, but it can also become part of a company's—as a separate entity—activity and structure. In this way, an entrepreneur is not the sole person responsible for seizing opportunities, as the whole company develops an awareness about its environment that allows it to better monitor its territory (Normann 1977).

So, two networking processes coexist: the extended networks associated with organizations, and the informal, personal networks associated with individuals. Taken together, these two processes affect the fate of entrepreneurs and their companies. Johannisson (1987, p. 7) noted that "formal organizations influence their members much less than, for example, the communities in which the organization members live. This also implies that much of importance to each separate organization takes place *among* organizations, realized through different inter-organizational networks."

We identified two strategic principles from our review of the network literature that apply to personal networks: systematically plan and monitor networking activities, and attempt to increase network density and diversity. As for company networks, organizational structures and operating systems can enhance a company's capabilities to interact with its environment and facilitate change and growth within its competitive arena.

We hypothesized that the most effective firms are those in which the two principles we have previously stated are pursued by the entrepreneurs in their personal networks, in the firm's internal structuring, and in the firm's relations with other firms. These strategies work best if there is an internal consistency between personal and extended network strategies. Thus, it becomes crucial to investigate *how* an extended network is created, developed, and strengthened over time, and how an entrepreneur manages to embed the concept of personal network in the company's "culture," so that the company itself becomes "network oriented."

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