

“Theory & Research”

**INTERNET-BASED ENTREPRENEURIAL NETWORKING TO EVOLVE
THE JAPANESE INDUSTRIAL STRUCTURE**

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EXECUTIVE SUMMARY

The aim of this paper is to analyze the recent emergence of Internet-based entrepreneurial networks which are now causing an evolution of the Japanese industrial structure. The number of Internet-based entrepreneurial networks in Japan is rapidly growing, particularly because they are expected to provide new opportunities to business by linking various knowledge-bases beyond the borders of firms. They are considered as reliable and capable tools for promoting business start-ups.

Through a comprehensive study of the Greater Boston area, Kanai (1995) discusses the evolution and function of personal networking which covers the area and pointed out that the personal networking plays an essential role for the inter-firm networking.

Our intensive observations of the situations in Japan, however, suggest that though both the personal and inter-firm networking should be a driving device for evolution of the industrial structure, we should distinguish one from the other, since (1) they work at different level, and (2) the personal networking is critical to empowers each business start-up while the inter-firm networking assists firms to set up new business in practices.

The main findings of this study are as follows: First, we found that entrepreneurial networking on the Internet were categorized into four types. We picked up a particular case and conducted a detailed case study of it. Then we revealed that the degree of interdependency of the networking is crucial to characterize it and proposed two types of interdependency in the networking, that is, "the mutual aid" type and "the market" type. We found networking of the mutual aid type, in particular, leads to a new type of inter-firm networking. Second, we pointed out the Internet plays a dual roles to manage networking. It, on one hand, loosens networking by allowing infinite linkage to other individuals, while, on the other hand, it can tighten networking by supporting the mutual share of past and ongoing experiences through, for example, home pages and mailing lists. Due to these two tendencies, which are conflicting each other, the Internet becomes a dynamic and powerful device to manage networking. The failure of usage of these tools may cause the dissolution of networking.

1. INTRODUCTION

In this half a decade Japanese industrial structure has matured and has been struggling in a long term recession. Though major big firms cannot succeed in restructuring by M&A and try to avoid cutting redundant employees, the industrial structure is almost stifled by inertia. It contrasts successes in Silicon Valley, for example.

Recently, however, two kinds of change has emerged to increase dynamism in the Japanese industrial structure. One is the reorganization of inter-firm relationship (IIF, 1995) while the other are various efforts of encouraging entrepreneurship. As far as the latter is concerned, the number of Internet-based entrepreneurial network is now rapidly increasing.

In this paper , we will focus on Internet-based entrepreneurial network and examine how entrepreneurial networking accelerates business setups.

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In the following sections, we, inspired by the observations, try to analyze the behaviors of the people involved in the networking through a case study of an Internet-based entrepreneurial networking. Then, we will discuss the impact of the usage of Internet on entrepreneurial networking.

2. PREVIOUS STUDIES

2.1 Definition of Entrepreneur

Bull and Willard (1993) surveyed the literature with regard to the definition of *entrepreneur*, and concluded that Schumpeter's definition included every essence of entrepreneurship:

“An entrepreneur is the person who carries out new combinations¹, causing discontinuity. The roll is completed when the function is completed. The person may be an employee within an existing organization or may start a new venture. An investor per se only risks capital for a return. A manager who operates an existing business, perhaps even with continuous adjustment in small steps, does not cause discontinuity and thus, by definition, is not an entrepreneur” (Bull and Willard 1993, p.186).

Schumpeter (1926) argued that entrepreneurship is the source of energy for economic evolution, and that a new combination, rather than succeeding the old, might emerge beside it. This brings into consideration entrepreneurial networking, since entrepreneurial networking is

¹ New combination include five cases: (1) the introduction of a new good, or new quality of a good, (2) the introduction of a new method of production not necessarily based on scientific innovation, (3) the opening of a new market, (4) the conquest of a new source of supply of raw material or components of (5) the reorganization of any industry (Schumpeter 1926; Bull and Willard 1993).

the primary mechanism for accelerating entrepreneurs (Kanai 1993, 1994; Dubini and Aldrich 1991). This is especially true in Japan, where large firms have failed to restructure by the merger and acquisition methods of such successful models as General Electric. In this paper, the term *entrepreneurs* is inclusive of both expected and intra-firm types.

2.2 Entrepreneurial Networking

Kanai (1994, 1995) has constructed a taxonomy of entrepreneurial networking through a comprehensive field study of networking in the Greater Boston area (region around Route 128). It can be help to design networking. Two types are identified: the Forum type (hereafter cited as *Forum*) and the Dialogue type (hereafter cited as *Dialogue*). Each type has contrasted and complex attributes: (1) basis of ties and connections; (2) benefits; (3) entry and membership; and (4) basis of operation and procedures (Table 1).

TABLE 1 The Taxonomy of Networking Organization: Forum and Dialogue as Ideal Types

At the initial state of networking, there might be only a random interaction of people; in other words, individuals interacting in an informal organization have no common purpose (Barnard 1938). Forum and Dialogue are considered alternative states of more formed interaction. The Forum state is characterized by “people passing,” the Dialogue state by “people staying.” The essential function of the Forum state is to “widen knowledge,” and of the Dialogue state to “deepen knowledge” (Kanai 1994, p.419). Most attributes in Table 1 are rules and procedures created by each state (Figure 1). In this paper, the terms Forum and Dialogue are used at the level of a the dimension of network dynamism.

FIGURE 1 The Dimension of Networking Dynamism, Forum - Dialogue

2.3 Inter-Firm Networking and Learning

Although personal networking is the essence of the dynamism of entrepreneurial networking (Kanai 1994), we also believe that inter-firm networking itself is crucial to an understanding of today's industrial evolution. Saxenian (1994) revealed that Silicon Valley has taken regional advantage since the 1980s because of a regional network-based industrial system that promotes collective learning and flexible adjustment among specialist producers. By contrast, Boston's Route 128 region is dominated by a small number of relatively integrated corporations, and its industrial system is based on independent firms that internalize a wide range of productive activities. Although both Route 128 and the Silicon Valley have been effective centers of electronics entrepreneurship, their growth has been differentiated by inter-firm learning capacity.

If, as Kanai (1994, p.36) has argued, inter-firm networking is a fiction, then the above difference cannot be easily explained.

3. THE EXTENDED ENTREPRENEURIAL NETWORKING

By introducing an additional dimension to Kanai's taxonomy, i.e., the dimension of Personal and Inter-Firms, we propose to extend the entrepreneurial networking model as shown in Figure 2. In this extended framework, Silicon Valley's collective learning occurs between

Personal and Inter-Firms, while that of Route 128 occurs only at the Personal level and that of Japanese manufacturing occurs only at the level of Inter-Firms. Kanai's investigates networking only at the Personal level (Kanai 1994, p.36-37). Here, we consider the Smart Valley Consortium as the model for Silicon Valley (Imai, Kato, and SVM forum, 1995), though we have no definite information about Silicon Valley Dialogue.

FIGURE 2 Extended Entrepreneurial Networking Diagram

4. INTERACTION BETWEEN PERSONAL AND INTER-FIRM NETWORKING

Personal networking helps business startups survive both as Forum and Dialogue, and allows mature firms to be aware of the technological change and their changing speed relative to other firms (Figure 3).

FIGURE 3 Interaction between Personal and Inter-Firm Networking

Newly emerging industries, such as multimedia, electronics, or information services, might especially need inter-firm collective learning (Saxenian 1994). By linking firms, personal networking will be extended to (Dubini and Aldrich 1991) and accelerate inter-firm collective learning. We will later use this framework to consider a case in more detail.

5. JAPANESE ENTREPRENEURIAL NETWORKING ON THE INTERNET

The Japanese Internet reveals various networking efforts for entrepreneurs. Among home pages, we select twenty-four sites where entrepreneurial networking can be recognized, excluding those sites that merely provide information for entrepreneurs. The chosen sites are classified into the four groups below (Table 2). More detailed information is given in Table 3.

TABLE 2 The Groups of Internet-Based Networking

TABLE 3 Entrepreneurial Networking Appearing on the Internet

We can represent these four groups in the quadrants of the Extended Entrepreneurial Networking Diagram (Figure 4). The Educational Background Group represents alumni networking stemming from entrepreneurial training programs, such as those at universities or private schools. Membership in this group is closed. The Voluntary Group grows by informal interaction among entrepreneurs. Here, the relationship is reciprocal. The formal Institutional Supported Group represents networking for incubation of selected startups. Examples of formal institutions include local governments and NGOs permitted by government. Mostly they provide funds, facilities, and information as catalysts. Lastly, the Business Matching Group represents networking by marketing. People join this group as a member of a firm.

FIGURE 4 Four Groups in the Extended Entrepreneurial Networking Diagram

Japanese typical integrated manufacturing has been in the Inter-Firm and Dialogue quadrant (see Figure 2). Although the firms collectively learned well, their relationship has become relatively fixed--that is, too static, or Dialogue-oriented. To deal with the problem, the Personal and Forum quadrant should be discussed as a contrast. Therefore, it is worthwhile to closely examine the Voluntary Group as a starting point.

6. THE CASE OF THE 246 COMMUNITY

The 246 Community (hereafter cited as 246C) is emerging spontaneously among people, some of whom are software engineers and others of whom are entrepreneurs. Members join the networking as individuals. The community began around ten years ago as a closed regional community, namely Dialogue, and has since evolved to Forum and Personal networking with various experiments on the Internet. We take this single case study as our starting point for the following reasons.

- (1) This is one of the initial cases of Voluntary group networking on the Internet.
- (2) This case typifies the relationship between Personal and Inter-Firm networking. Most members are from the electronics, software, or contents industries and interested in the Internet business. This predilection leads naturally to Inter-Firm networking.
- (3) Through involvement in this case, we can closely observe the process and results of their experiments, that is, we can learn (Checkland 1994) even from one case.

This case study is described in two parts: structure and activities, and the growing process.

6.1 Structure and Activities

246C Constitution

The 246C home page clearly states the organization's constitution as follows:

- 246 Community is a voluntary organization for the “electronic entrepreneur,” by the “electronic entrepreneur,” of the “electronic entrepreneur.”
- The missions of 246 Community are “Co-creation,” “Coexistence,” and “Contribution” through business as the human's most basic social activity.
- The 246 Community uses the Internet for communication and venture business creation.
- The 246 Community allies with and supports foreign companies and individuals who want to expand their business in Japan.
- 246 Community members, in Japan and overseas, collaborate with each other for the aims above.

Members

Members can be divided into three groups of people: engineers (electronics, software), specialists (management consultants, marketing consultants, CPAs, lawyers), and entrepreneurs (already succeeded and expected to be). Many people come from the Japanese Major Company (Electronics, Computers, and Communications). Some people join from the Silicon Valley.

Most people work for information-technology-related businesses and join the 246C as individuals. There are several leading members who formulate opinions and moderate via mailing list communication, and who function as chairpeople in off-line meetings. Through experimentation, they invent the rules of the networking management.

Activities

Mailing list conversation and discussion on the Internet and off-line meeting are currently two major activities. Via the mailing list, two or three discussions progress simultaneously. The major themes concern technical information (hot but not too advanced for sharing), business chance information, and overseas information. Off-line meetings are conducted for seminars and entrepreneurial studies.

Entry Rules

Currently, there are no special entry rules or charges. Entrants are required only to send a self-introduction detailing their expectations of and potential contributions to the 246C community.

6.2 Growing Process

Origin

The core members of this network came from a neighborhood community in the Setagaya area in Tokyo. They first met for reciprocal baby-sitting for their children.

Trigger for Growth

In October of 1995, an individual entrepreneur attended a party held by a member of the 246C community at the Internet-Cafe in Setagaya. The individual had a business plan for Internet Commerce. After talking together, the community members decided to help him. By June of 1996, the number of members had increased to forty via PC communication. At that time, the community titled themselves the 246 Community and declared their purpose of providing networking support for “electronic entrepreneurs” interested in starting up an Internet business. The Internet home page was also created at this time. In July of 1996, the 246C was introduced in *Nikkei Shinbun*, the leading Japanese economic newspaper. As a result of this publicity, the number of members had increased rapidly to a hundred by September 1996. Currently (January, 1997), it is a hundred and twenty.

Mailing List

Although there are more than a hundred members, the group's mailing list operates well and without any conflicts. Members tend to discuss one theme at a time in a highly focused manner, individuals speaking voluntarily when they have something to contribute.

The “Give and Given” Rule

The “Give and Given” rule was created during a discussion of the mailing list. The email portion of the discussion was published separately on the home page. The discussions were initiated by an opinion leader, but in the end the rule was invented by the members. The flow of the discussion was as follows.

Question (opinion leader): For a new type of electronic community, a volunteer spirit is needed. That means a “giving” spirit. Can people give before taking?

Opinion 1: My business life has always based on “give and take” or profit and loss, and I am exhausted to seek taking. We can collaborate in the electronic community by “give and give.”

Opinion 2: “Give and take” is not always business, but sometimes information sharing. A person only taking might also want to give. Give when one can, take when one can. Moreover, giving will cause taking unexpectedly.

Opinion 3: “Give and give” cannot develop society even for coexistence.

Opinion 4: We need “give and given,” not “give and give”. Anytime someone can help me.

Thereafter, people used the term “give and given” on the mailing list.

Entrepreneurs' School

In addition to the review of business plans, the startup experiences of entrepreneurs are discussed. Entrepreneurial knowledge is organized as a whole. Potential entrepreneurs then share their models of success and failure. Sometimes a CPA advises with regard to taxation.

Electronic Publishing

One of the 246C members conducts an electronic publishing service on the home page. The page features information for the group's engineers, and numerous interviews of experienced entrepreneurs, including their background and startup stories.

Inter-Firm Networking of Entrepreneurs

Because Internet-related business is the theme of the 246C, startups begin to form Inter-Firm networking. Some use the same facility. An Internet IC board producer acquires the customer base from the networking.

Networking with other Networks

246C communicates with people from other networks, such as student networks and Smart Valley Japan, that model Silicon Valley's networking. The networks share information on entrepreneurship and learn from each other.

7. THEORETICAL AND PRACTICAL IMPLICATIONS

7.1 Growth of Networking

246C moved from the origin along the arrow (A) in the past (Figure 5). Some parts of the 246C will go to the right as (B) shows, while other parts will follow the arrow (C) .

- (A): The 246C comes from the origin of regional community that is Dialogue. After receiving newspaper publicity and formulating an Internet home page, the network acquired attributes of a Forum. Membership increased steeply over a short period.
- (B): The 246C keeps some dialogue part among initial members for leading networking.
- (C): Some parts of 246C begin to form Inter-Firm networks for their business.

FIGURE 5 Growing Process of 246C

Expected Subgroups

The 246C has not yet suffered any harm from its rapid growth. Networking, however, may have to be organized to sub-groups that may easily create by electric forum on home page. Thus the group might run a risk of networking dissolution.

7.2 Interaction Between Personal and Inter-Firm Networking

Survival of Startup (see Figure 3)

The 246C is a voluntary and reciprocal network. Startups are not special in the 246C at all because many people are entrepreneurs and people often spin out. People accelerate to start business in this environment, which is different from ordinary societies in Japan. Moreover, startup firms are assisted in a timely fashion by other entrepreneurs' experience and knowledge. Management skill is spread from experienced entrepreneurs. Lastly, technical information is shared and validated among members.

Awareness of change for Mature Firms (Figure 3)

Many members are from major Japanese companies. Some people join the network to give and be given technical information. Others are just preparing to spin out. Because large firms hesitate to cut employees in Japan, spinout may be the most effective way to move employees among industries. After spinout, personal networking will be able to support the displaced employees.

Inter-Firm Collective Learning (Figure 3)

Certain interdependencies sometimes spring up between firms, such as the shared use of computer services or office space. Since many 246C members start their business using the Internet, it is likely that inter-firm collective learning occurs easily. Although it needs more time and critical mass to grow, a good start of networking can be found here.

7.3 Two Types of Interdependency

Interdependency is a feature of both Silicon Valley (Saxenian 1994) and 246C networks. They both need interdependency for exchange and create knowledge. However, this feature takes different forms among the two groups. The rule of the 246C is “give and given,” namely some kind of mutual aid. The constitution of the 246C also explains this. On the other hand, at the YVBC, one of the most successful venture clubs in Japan (the club existed eight years), the rule was “give and take” and the problem was benefit seeking by members (Kanai 1995; Yanagida 1991). Silicon Valley's interdependency can also be stated as “give and take,” according to an interview of a thirty-year resident of Silicon Valley. In an individualistic society such as the United States³, people must be educated to the benefits of a “Give and Take” policy, while in a collectivistic society such as Japan³, “give and given” is easier for people to understand. There must be another challenge of entrepreneurial networking. Accordingly, we designate “give and take” as “Market” and “give and given” as “Mutual Aid” as a new dimension (Figure 6).

We will have to wait for further growth of the 246C community, or choose a new case in order to see precisely how interdependency influences the relationship between personal networking as a social community and inter-firm networking as a business.

FIGURE 6 Two Types of Interdependency

7.4 New Effects of Internet-Based Communication on Networking Dynamism

³ The United States is very individualistic country, while Japan is collectivistic near intermediate on the scale of collectivistic - individualistic (see Adler 1991).

Many features of the Internet have a good influence on personal networking. However, it should be noted that these same features increase the risk of network dissolution. Personal networking is subtle because it relies on the trust of members.

Use of the Home Page

Through the home page, the Internet effectively lowers the entry threshold. On the other hand, the larger the membership becomes, the more the differentiation of members into sub-groups is required. Second, each member can introduce themselves explicitly on the Internet home page. This increases the number of chances to encounter various network resources. Third, by opening up the discussion process on the home page as in the case of 246C, the past process of creating new rules can be shared among members without bias. In other words, organizational culture can be strengthened via electronic communication which is weaker than face-to-face interaction. However it mostly relies on leading members' editing capability deciding what should be shared.

Mailing List Discussion

It is generally said that mailing list discussions suffer from a number of limitations. In the case of 246C, however, such discussions work well among the more than one hundred members. The discussions are not only used to provide general 246C news, but for the focused debates consisting of only two or three themes at a time. Whether this is done unconsciously or results from the humble quietness of the members, it can be said that such sharing, focused discussions strengthen the culture of networking and undermine the risk of dissolution by rapid growth.

Forum Effects of the Internet

The Internet accelerates personal networking to be Personal and Forum in two ways. First, various people can meet easily at anytime, from any place on the Internet. Second, in the relatively collectivistic society, there is a considerable effect on people to act as individuals.

In conclusion, the Internet has had unique effects on network management. It has loosened networking to a Forum basis, allowing for infinite linkages between individuals. On the other hand, it has also been used to tighten networking to a Dialogue model, by supporting the exchange of past and ongoing experiences through such media as the home page and mailing list. Because these two states, the loose and tight, are on opposite poles of the major dimension of personal networking, the Internet can be regarded as powerful tools in the management of networks.

8. CONCLUSIONS

According to previous studies (Kanai, 1994; Dubini and Aldrich 1991), entrepreneurial networking is the major tool encouraging entrepreneurship. In this study, we developed quadrants matrix used the Personal - Inter-firm dimension and the Forum - Dialogue dimension (Kanai, 1994). Then entrepreneurial networking on the Internet was classified into four groups in the matrix. We picked out a particular case among them and conducted a detailed case study.

Findings of the case study lead following conclusions. By the quadrants matrix, the dynamism of growing networking could be depicted clearly. Second, the influence of personal networking to inter-firm is revealed practically, which are survival of startups, aware of change by mature firms, and inter-firm collective learning. Opposite influence, from Inter-firm to Personal, remained to be discussed, because the inter-firm networking was just emerged. The

Japanese manufacturing companies learning collectively were supposed to be suitable for the further study. Third, two types of interdependency for knowledge exchange was distinguished. One type of interdependency was characterized by the “give and take” rule, the other the “give and given” rule. The former was designated “the market” and the latter was “the mutual aid”. Fourth, it was revealed that the Internet had the power both to loosen networking to a Forum basis and to tighten it to a Dialogue model. The Internet could be regarded as powerful tools in the management of networks.

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