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### Author

Ibata-Arens, Kathryn C

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# ALTERNATIVES to HIERARCHY in JAPAN: BUSINESS NETWORKS as ENABLING INSTITUTIONS

Kathryn C. Iбата-Arens  
Department of Political Science  
Northwestern University  
kibata@northwestern.edu

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## Abstract

Japan has often been described as a “network society.” Business networks are said to succeed as alternatives to markets and hierarchies through fostering cooperation and competition among members. Interpretations of existing business networks in Japan share two main characteristics. First, studies have focused on networks between the central state and big business. Second, existing theories fail to examine underlying power asymmetries in business networks. These power asymmetries have been masked by assumptions of “trusting” relations between large firms and small. In essence, in Japan most networks are in fact hierarchies.

Contrary to existing interpretations, the most innovative business networks have been those formed by small and medium size firms, independent from both big business and the central state. These networks have been most successful while serving as “enabling institutions” for firms in which local governments play a supportive role.

The paper begins by reviewing sources of network formation. Second, I show that emerging network forms are proving to be an important alternative to hierarchy in Japan. I examine three local business networks: Kyoto’s “Kiseiren,” Osaka’s “TOPS Higashi Osaka,” and Tokyo’s “O-net.” The most successful networks, measured in terms of new product creation and increased sales, are those formed on the initiative of firms, independently of the state and big business. Local governments play an informal, supporting role in these successful networks.

Business networks in Japan exist as hierarchies.<sup>1</sup> These hierarchies have been used in place of horizontal, loosely connected, inter-firm relations - to serve the usual functions of networks.<sup>2</sup> Further, the machinations of bureaucrats and big business representatives have created these hierarchies, with the support of politicians. A number of studies have upheld Japan as a “network society” and as an exemplar of how networks succeed as an alternative to markets and hierarchies in production and innovation.<sup>3</sup> Most argue that a core element of these networks is long-term trust-based relations (in contrast to spot-market, contractual agreements) between large finished product producers and smaller suppliers.

In their ideal form, networks are a communities or groups of interconnected individuals, linked by patterned, reciprocal information flows.<sup>4</sup> A rich literature on economic (business) networks exists in the fields of organizational behavior<sup>5</sup>, institutional economics<sup>6</sup> and sociology.<sup>7</sup> At the firm-level, networks serve a variety of functions by providing a forum for information exchange (on markets, new technologies), technology transfer and so forth.

Political scientists have examined business networks in terms of their role in central state policymaking.<sup>8</sup> Sociologists have paid attention to the role of networks in how individual firms conduct their operations. For example, sociologists find that the social and political environment in which a firm is embedded affects fundamentally the way it can do business and the kinds of networking it is capable.<sup>9</sup> This embeddedness also affects the options a firm has within political space (e.g., access to policymaking channels, impact of industrial policy). When political scientists examine the way politics and economics operate within Japanese business networks and vice versa, it is generally on networks between the state and big business. Studies of industrial policy in Japan have thus highlighted the relationship between the central state and big business in great detail.<sup>10</sup> Research on the role of networks in Japan that have included SMEs, usually incorporate them as a subjugated component of the “larger picture” regarding the primary role of big business.<sup>11</sup>

In this paper I first review factors behind network formation. Discussing the structure and operation of these networks will show how seemingly horizontal, reciprocal relations in Japan are actually embedded within a larger system of intermediating hierarchies situated between the state and private sector.<sup>12</sup> This preponderance of hierarchies over true networks in Japan undermines the long-term potential of its smaller firms.<sup>13</sup> As a consequence, I argue that embedded within a system of intermediating hierarchies, most business networks in Japan have failed to serve the long-term interests of productive society.

Second, I show that emerging network forms indicate small openings in network hierarchies in Japan. Firms both independently and with the support of local government, have established horizontal and reciprocal business networks that have subverted traditional hierarchies and helped firms to maintain and improve their competitiveness and innovation. My findings show that a small number of networks have flourished despite the overwhelming control of the central state and big business over network forms. These networks typically have their origins in local spatially-clustered firms. The persistence of these horizontal networks despite the biases in the system toward hierarchical forms points to the limits of hierarchies in Japan. Recent research on the dearth in Japan of successful business networks, particularly among small firms, supports this claim.

Finally, I examine a network, from the perspective of member firms, in each of the three regions (Tokyo, Osaka, Kyoto), which is representative of the dominant network form in its area.<sup>14</sup> This paper is based on field work among 43 high technology small and medium size enterprises in these three regions. Each network has distinct

relationships with the central state and local government. Each case also illustrates the challenges involved in state-level strategic planning, and local governments' ability to provide an appropriate climate for firm networks. "O net" in Tokyo has the closest links to the central state (and big business), and its structure and level of activity reflects this strong link. Higashi Osaka's "TOPS" is a middle case, having some links with MITI-sponsored network creation programs and informal links with the Osaka regional government, through its sponsorship by the Osaka Chamber of Commerce. "Kiseiren" in Kyoto has the least formal links with either the central state or local government. Each will be discussed in terms of their structure (what they look like from the outside) and what they do (what they look like from the inside and whether or not it works).

Despite the sincere efforts in recent years by central state bureaucrats in both designing and implementing "network creating" policies, the state has largely failed. Instead, the networks with the fewest historical links with the central state have been the most successful in promoting innovation and growth. These findings are confirmed by other research that finds the role of local (city and district) governments more important than the central state in the making and implementation of industrial policy among small firms. Local governments have been best in touch with the needs of local businesses, and subsequently the best positioned to create and implement useful policies (though not necessarily the most skilled at doing so).<sup>15</sup> These networks are supported by local and regional governments in three ways: infrastructure (meeting and testing space), advocacy (at central-state level) and expertise (patent issues).

Theories of networks emphasize various roles for the central state, local and regional governments and large and small firms. Flexible production (a.k.a. Dore's flexible rigidities) arguments stress the role of central state policy interventions, and/or the role for large firms as leaders of production and innovation (Dore, Gerlach). When small firms are addressed, it is usually in the context of how they serve the purposes of (and are integrated into structures serving) the strategic objectives of large "lead" or "core" firms. Flexible specialization-based interpretations highlight the interaction of innovative firms within a supportive environment, created or enhanced by local governments (Piore and Sabel, Friedman). Studies on industrial districts and innovative networks have looked at these productive relations from the perspective of communities of firms (Herrigel, Whittaker, DeBresson and Ames, Saxenian). In these latter arguments, the expressed needs of firms drive supportive governmental policies. Further, this emerging literature recognizes the role of technology in transforming the parameters of determining

which kinds of networks (hierarchical and rigid or horizontal and dynamic) flourish. [See Appendix: Comparison of Inter-Firm Interaction Types]

These theories have laid important groundwork in outlining the new parameters of competition between big and small firms and the changing role of the state in the post Fordist production era. For example, flexible specialization theories have shown how certain communities of firms have adapted to the changes forced by the global production strategies of big business.<sup>16</sup> In recent years, however, a crisis in flexible specialization has occurred. Adaptability and flexibility to big business and central state actions have proven insufficient in providing a basis for innovation, competition and indeed the survival of many communities.<sup>17</sup> Instead, as a growing body of evidence shows, firms must first de-link from these production hierarchies - through for example, expanding client bases and collaborating with SMEs in other locales - in order to become more innovative and competitive.<sup>18</sup>

Newcomers benefit from the lessons learned from the struggles for independence of their predecessors. De-linked firms have contributed to building institutions, including certain forms of business networks, that enable firms to enhance technical skills and innovative potential. It follows that an analysis of successful innovative communities and the enabling institutions that support them, from the perspective of firms themselves will yield better strategies for firms and their local communities.

#### Network formation in Japan: hierarchical, yet “trust” based?

Throughout the literature on networks, a recurring theme has been the role for and necessary condition of trust.<sup>19</sup> Recent research shows that there has been a significant breakdown in trust between the small firms comprising the industrial base and the large firms that control access to the central state. Further, where trust has been said to be present, it has masked a more pernicious tendency to favor the needs of network members who possess the most power. Big business has used this underlying power differential (in its vertical integration of production structures and use of peak business associations) to discourage horizontal networking among SMEs, in favor of complete loyalty and the assimilation of small firms into structures supporting the organizational goals of big firms.<sup>20</sup>

Much research on these inter-firm relations has looked at trust from the perspective of large firms. The evidence here shows that these so-called trusting relations have always been layered on top of a more pernicious presence of power and control.<sup>21</sup> The breakdown, and indeed, absence of trust has been most visible in the context of

contraction of the economy, when subcontractors are pressured to reduce prices, while at the same time being forced into unrealistic J.I.T. scenarios. Other research has questioned how “trusting” these relationships ever were.<sup>22</sup>

Much of the scholarly work on the success of networks in Japan is based nevertheless on these assumptions of long-term, trust-based networks.<sup>23</sup> A closer look, however, at the empirical evidence on which these studies are based betrays the true nature of these supposedly “long-term, trusting relations.” What these studies concede, in not so many words, is that big firms come out on top, while small firms continue to play a subservient (though admittedly fundamental) role in the operation of the system. At the same time, permeable, horizontal, reciprocal networks are critical in fostering innovation and growth, especially in high technology industries. These horizontal networks are also a key factor behind overall growth and business expansion into new sectors.<sup>24</sup>

Factors encouraging network formation include: know-how, the demand for speed, and trust.<sup>25</sup> First, know-how includes not only technical information but “fungible knowledge” that is not limited to a specific task, but applicable to a wide range of activities.<sup>26</sup> Second, in an environment characterized by rapid technological change, firms must be speedy and flexible in keeping up with the demands of new markets and attendant new product and process innovations. For example, the need for timely exchange and application of knowledge is particularly evident in high-tech industries. Finally, member firms must be confident that information and resources given away today will be reciprocated by information and/or resources received later. This trust is most easily engendered within a context of shared norms (e.g., based on ethnicity, geographic concentration of firms, ideology, profession).<sup>27</sup>

Perrow (1992) offers a lengthy list of conditions conducive to trust. These conditions can be summarized into three categories: low power differentials, a shared frame of reference and a sense of community.<sup>28</sup> Power differentials are based generally on the relative size and strategic position of firms. Firms affected similarly by economic fluctuations and who use technology in similar ways in production have low power differentials. Second, network members should feel comfortable in judging others’ behavior. A shared frame of reference allows member firms to evaluate the quality of information received and have confidence that information given away will be applied effectively in recipient firms. This shared frame engenders trust in other partners as well, which is a foundation for long-term reciprocity. Finally, a sense of community, based on shared ethnicity or spatial concentration of firms helps network members to perceive that they are working “on the same team.”

Gulati and Gargiulo (1997) identify an “endogenous embeddedness dynamic” where firms establish new

ties with other firms, and embed them in networks that resulted from prior ties. This suggests the difficulty faced by SMEs of breaking away from existing vertically integrated production networks and their servicing peak associations. The case studies discussed later in this paper illustrate some of the problems, but also potential in creating alternatives to intermediating hierarchies, at the local government and firm level.

#### Limits of hierarchy and emerging network forms

Recent research on Japanese business networks has begun to analyze the failures in existing networks, while attempting to identify replicable characteristics of the handful of successful networks. For example, a 1990s study by Mitsubishi Research Institute charged with identifying factors behind the success or failure of various business networks confirms the findings here. Mitsubishi researchers reviewed thousands of networks in Japan based on success in R&D output, management, production, human resources and information exchange. Thirty networks were selected for detailed case study, based on their successes in these areas. Mitsubishi grouped case studies into three categories: those independently created by firms (9), networks emerging out of producer associations and existing inter-industry groups (10) and networks established by local governments and/or public institutions (11).<sup>29</sup>

The report finds that the most successful networks, in terms of measurable results such as new product development, are those that were formed independently by firms. The least successful have been networks sponsored by government. One reason for failure is that governments, in attempting to please everyone with broad and extensive policies (*soubana teki na tori kumi*) end up doing poorly in each area. This weakness has been exacerbated by the decrease in available resources resulting from the prolonged recession in the 1990s.<sup>30</sup>

In each of the three types of networks in the Mitsubishi study (independent, association and government), a factor behind success has been the “wide area” nature of horizontal ties (*kouiki teki na nettwaaku kouchiku*). First, firms are using networks as an opportunity to establish joint ventures with firms outside their locales. These joint ventures have been the basis for further trust-based relations (*shinrai kankei*) between firms. Network members have reported that long-term collaborative relations have been fostered and that they feel comfortable in openly exchanging opinions with other network members. The author of the study argues that in this context, local and regional governments can be useful in administering the collaborative activities of firms (*unei*) through providing infrastructure such as meeting places, and the like.

The Mitsubishi study finds horizontal network formation to be a critical step toward realizing success potential for SMEs. In order for these networks to exploit opportunities, however, the goals and characteristics of participating firms must be distinct from one another, and clarified at the onset. Several problems remain, mainly in the areas of establishing trust and the barriers to network solidification that distance creates. Table Four lists the main problems firms have reported having in trying to establish networks that include members from outside their locale.



TABLE  
PROBLEMS IN ACHIEVING GOALS OF (WIDE AREA) NETWORK FORMATION

NETWORK GOAL	PROBLEM
establishment of trust	cannot divulge proprietary information  feel resigned to one's own passive mindset ( <i>ukemi no shisei ni amanjiru</i> )
clarifying network objectives	unclear objectives, exchanges take place with firms and people that we do not know
evaluating merits of exchange	if we begin to have our own troubles, we will not be able to evaluate others effectively  over-estimate the merits of doing business with network partners
research and preparation (needed for dealing with network partners)	do not engage in any preparations before dealing with exchange partners ( <i>ba atari</i> )  too busy to prepare in advance
long term engagement (with network partners)	only short-term expectations  only thinking of how to take advantage of other members, not thinking of how partners can succeed together (and have win-win outcome)
existence of point-person (i.e., key person, coordinator of network activities)	no-one available in the area  lack awareness that point-person is necessary
making formal ( <i>teiketsu</i> ) agreements with network partners	no interest in making formal agreements  poor mutual understanding of objectives and contents of agreements

Source: (MRI 1996)

Since the 1990s, much of the Japanese literature on networks has compared network formation in Japan with that in Silicon Valley. These studies have tried to draw lessons from the successes in Silicon Valley networks. A recent study by Kenichi Imai, for example, focused on the need to nurture a venture community as well as the need for the development of a pool of venture capitalists in Japan.<sup>31</sup> Two major weaknesses in Japan that act as barriers to the creation of a supportive environment around firms include the lack of personal networks and institutions that support innovation.

Not only does Japan lack the personal networks that act as a supporting mechanism in capital sourcing (like that in Silicon Valley) it lacks networks of professionals (lawyers, accountants, consultants). Supporters (*shiensha*), advisors, and institutions to support entrepreneurs are few in Japan.<sup>32</sup>

Further, the Imai study finds few people in management who believe in the contributions that technologists make to the profit of firms. This is one reason existing institutions in Japan fail to provide an environment supportive of venture business.

Part of the American culture is that people respect in others what they lack in themselves. For network formation to be possible in Japan, management must develop respect for technology departments. That is, (in Japan) it is easy to support something you understand, and much more difficult to support something you don't.<sup>33</sup>

Another reason behind Japan's failures in encouraging horizontal network formation is the high social sanction for business failure. In comparison, within business networks in the United States, young entrepreneurs can learn from the successes and failures of their seniors. In Japan, failure carries with it not the possibility for learning from mistakes, but an enormous amount of shame. This limits open discussion in obvious ways. The authors conclude that new network formation is more likely within the less hierarchical structure in Kansai than in or around Tokyo.<sup>34</sup>

These failures have not gone unnoticed by policymakers in Japan. Evidence based on fieldwork in Tokyo, Osaka and Kyoto shows the role the state has tried to play in creating networks among SMEs in its attempts to jump-start innovation and job creation among local businesses.<sup>35</sup> In seeking MITI funds, regional and local governments have responded to calls from the central state for network creation by doing just that, at least on paper. Unfortunately, measurable output from these "new" networks in terms of new business creation and product formation has been limited.

#### Firm Experiences

Of the forty three case study firms, thirty two, or 74.5%, were active in at least one network. [See Chart: Network Membership and Use] Of this amount, 65.5% were active in multiple networks. Thirty four percent of those active in networks found them helpful in accessing new clients, while 44% shared orders (e.g., outsourced) with firms within their networks. Measurable network benefits were concentrated in Higashi Osaka and Kyoto. To a lesser extent, firms reported that networks helped them come up with product improvements and new product ideas. Only 20% of Ota firms considered themselves active in multiple networks, despite listing numerous networks in which they were labeled (e.g., by local government) as “members.” At the same time over 77% of firms in Higashi Osaka and Kyoto were active in multiple networks. The key finding about network usage is that active networks enable firms to de-link from production hierarchies - by helping firms in accessing clients and aiding collaboration with firms of similar size for production. Newcomers benefit from the expertise of senior network members, who successfully struggled to become independent in earlier decades - with fewer or no network supports. Members have

cited information exchange on the business practices of large assemblers as a major benefit of network membership.

It was not network membership per se that assisted firms but the structure and quality of interactions with other network member firms. For example, inter-industry networks were helpful while intra-industry subcontracting networks (the kind encouraged by parent firms) were not. Networks in Higashi Osaka and Kyoto were more diverse than their counterparts in Ota, both in terms of membership and source of formation. For example, there were many more active, firm-initiated networks than government or parent firm-led networks in these regions than in Ota. This diversity is perhaps one explanation why firms in Kyoto in particular found de-linking from

(production) hierarchies - or avoiding hierarchies altogether - easier than in other regions.<sup>36</sup> Follows is a comparison of networks representative of the dominant network form in each of three industrial regions: Kyoto, Osaka and Tokyo. After briefly situating each network in its socio-political environment, each is evaluated in terms of what it has accomplished for its member firms.

#### Networks in Ota Ward: O Net

Ota Ward in southeast Tokyo has some of the oldest small manufacturers in Japan. The area boasts the highest concentrations of small manufacturing firms in the nation. Approximately 80 percent of Ota firms produce machinery and metal products. High-tech SMEs in Ota have been firmly assimilated into keiretsu “pyramid” production structures in the post war period. Under the close watchful eyes of the central bureaucracy, Ota firms have been the first and most affected by centralization and rationalization policies of the central government since the days of wartime control associations.

The presence of large, powerful “parent” firms has proved an undermining force against horizontal network formation in Ota Ward. A majority of SMEs in Ota have become exclusive subcontractors for keiretsu groups. That is, most of the sales of a given firm go to one buyer. Large firms have used their monopsony leverage against subcontractors who have tried to organize independently of peak associations and keiretsu-sponsored subcontractor networks. According to Tomohiro Koseki, an outspoken critic of keiretsu practices in Ota Ward, small firms have been intimidated out of forming horizontal networks in the past. Koseki cited interviews with many local businessmen who said that firms around them, “after trying to organize - or merely vocalize the unfair treatment by large keiretsu firms - were forced under.” (i.e., driven into bankruptcy).<sup>37</sup>

In recent years, however, small firms in Ota have begun to break away from exclusive subcontractor relations. Based on what these firms refer to as their “independent technological strength,” these enterprises have begun to “resist existing domination of keiretsu.”<sup>38</sup> Independent technological strength can mean the ability of a firm to protect its proprietary technology from expropriation by large firms. It can also mean establishing a unique product niche based on its own patented technology. Besides an active Association of Small and Medium Size Enterprises (SME Douyuukai), local neighborhood networks are beginning to develop. Recent activities of local business networks have been in forming “buyers clubs,” which help to control the cost of insurance and other overhead costs among firms.

A major initiative by the local government has been establishing an online network for local firms. With backing from the Chamber of Commerce, KDD, NTT, and Fujitsu, among others, “O-net” was incorporated in 1990. O-Net is housed in the “PiO” (Ota City Industrial Plaza) and administered by a board of directors having executives from KDD, NTT, Fujitsu and a few local medium-sized firms.<sup>39</sup> The network boasts 7,000 members - most enterprises in Ota. The sheer size of this “network” of course raises doubts as to how much it can function like a network. The two major objectives of O-net are to provide public relations for local firms and to act as go-between for international trade for local high-tech SMEs. Activities have included the publishing of a detailed trade directory and creation of a web site promoting O-net and local SMEs.

Several interviewees have said, however, that little new business has come as a result of O-net activities. One source said that O-Net was yet another example of the form over substance problem in carrying out MITI policy initiatives. One small manufacturer complained that it was a waste of time for him to get involved.<sup>40</sup> At the same time, interviewees report that informal networks among manufacturers have fared somewhat better. For example, firms that established early ties with other SMEs both within and outside Ota have been less vulnerable to the fallout after the collapse of the bubble.<sup>41</sup>

#### Networks in Higashi Osaka: TOPS

Like Tokyo’s Ota Ward, Higashi Osaka consists of spatially concentrated small manufacturers. Higashi Osaka prides itself for being the center of “supporting products” for Japanese industry. Around half of all firms produce machinery or metal products. Around 10 percent of firms produce plastics. Higashi Osaka firms have somewhat lower technology levels than their compatriots in Ota and Kyoto.

Networks in Higashi Osaka tend to be less formal and hierarchical than in Ota, though the presence of major keiretsu groups is still felt. As of the year 2000, local firms were yet to make widespread use of Internet technologies. On the other hand, known for their sales acumen, SME owners spend most of their day “pounding the pavement” in search of new customers. Since they are always meeting new people, their personal networking skills are high.<sup>42</sup> When asked if networks help firms to obtain new customers, most interviewees said that formal networks, (which are linked to the local government and Chamber of Commerce) do not help in new customer acquisition. Instead, interviewees credit informal personal networks for new customer access.<sup>43</sup>

Networks in Ota are more formal and linked to government services. It is in this respect that Ota firms can get more from the government, like the industrial plaza (PiO). Higashi Osaka networks

are much more fluid (*sugoku yawarakai*) and thus must struggle much more for government services (*junansei ga aru*).<sup>44</sup>

The president of F firm shared his experiences with Higashi Osaka networks. Founded in 1963, F employs 220 people and produces sputtering machines used in thin film application technologies (e.g., for liquid crystal displays) and etching technology. F's president noted that although there are many networks in Higashi Osaka, in comparison, the quality of personal networks in Kyoto is higher. "This is because in Kyoto networks are generally established and run by the owners/managers of small firms. In Higashi Osaka, many are created by bureaucrats, who have the best intentions but do not understand market needs." Although F firm has had many interactions with MITI, F's president finds that bureaucrats in MITI also lack an understanding of the market and the needs of SMEs. He gets the impression that MITI bureaucrats come around not to help in network formation, but instead primarily to look for post-retirement *amakudari* posts.

With the support of the local Chamber of Commerce (CC), Higashi Osaka firms have established a national network of SMEs. Since 1997, SMEs from ten major industrial regions have come together for the annual Small and Medium Size Enterprise City Summit.<sup>45</sup> The local Chamber of Commerce has also sponsored the establishment of fifteen inter-industry exchange network groups. Most of these networks were founded in the late 1980s and during the 1990s. The Chamber of Commerce coordinates these networks under the auspices of the Higashi Osaka Inter-Industry Liaison Council (*Renraku Kyougikai*). At its formation in 1996, the Council set out to achieve four main goals: 1) publish informational materials on Chamber of Commerce sponsored inter-industry network groups, 2) facilitate exchange among local inter-industry networks, 3) provide infrastructural support for the annual General Meeting of sponsored inter-industry networks, and 4) provide for network management and other tasks.

According to outside sources, the most active of the fifteen CC-sponsored networks is the "TOPS Higashi Osaka" network. TOPS was formed in 1997 and is an amalgamation of the top fifty producers in terms of sales, in the area. Most members are either metal goods producers or machinery makers. Yoshihiro Ishizaki, the president of Takako, the lead firm in TOPS, said that this network was created on the initiative of the Chamber of Commerce, based on the sales success of member firms. In terms of public relations for Higashi Osaka firms in general, Ishizaki says that the network has been successful. Ishizaki had little to say about the likelihood of new products coming out of joint activities of network members.<sup>46</sup> Other interviewees confirm that few new products have come out of the

joint efforts of these CC- sponsored networks.

Two exceptional, though much smaller, CC-sponsored networks, however, are the “Gyatech” and “Mekatro 21” groups. Gyatech’s seventeen members are divided relatively equally among metal goods producers, machinery makers and plastics manufacturers. Within sixteen months of its formation in 1996, Gyatech had jointly developed a product: “*Tafupaakingu*” based on technology for recycling industrial materials. This and other product innovations prompted member firms to form a marketing joint venture firm. Also of note is Mekatro 21, formed in 1991. Its twenty three members are mostly electrical machinery producers and metal products makers. Under the guidance of a professor at Kinki University, the group has worked with university students on new product research development. The group has jointly developed a robotic hand. This is one of few local networks in Higashi Osaka having a formal link with a local university.

#### Networks in Kyoto: Kiseiren

Kyoto’s high-tech SMEs are scattered over an area in the southeast portion of the region, in small townships like Kuse and Uji. Kyoto firms have largely avoided hierarchical links with major keiretsu groups.<sup>47</sup> Throughout the region of Kyoto, firms produce high value-added electrical machinery, semiconductor and silicone products. Kyoto firms tend to maintain a good balance among sales ratios (between the largest client in terms of sales and other clients) to customers. Several interviewees noted that small firms in Kyoto have avoided becoming subordinate to parent firms through their unique technological expertise.<sup>48</sup>

Several interviewees (outside of Kyoto) commented on the fact that Kyoto business networks are much less numerous than in other locales. One executive from the Osaka government admitted that although networks in Ota and Osaka are quite numerous, many are inactive. Kyoto networks on the other hand, tend to remain active once formed. Other interviewees alluded to a “form over substance problem” in network formation by most local and regional governments.<sup>49</sup> That is, in response to MITI calls for network formation, local governments have rushed to throw networks together without thinking through organizational goals.<sup>50</sup>

The Kyoto Liason Council for Small and Medium Sized Producers of Machinery and Metals (*Kyoto kikai kinzoku chuushou kigyō Seinen Renrakukai*, “Kiseiren” or KSR) was formed in 1982. Kiseiren was formed through the initiatives of local firms, with infrastructural support from the Kyoto regional government (Kyoto prefecture). In the late 1990s KSR had about 100 members.

The founders of Kiseiren infused the organization with a spirit of “let’s grow up, let’s nurture (our businesses), let’s succeed together” (*sodatou, sodateyou, sodachi aou*).<sup>51</sup> Yasuhiro Ikuta, coordinator of Kiseiren’s activities in the late 1990s commented that this spirit had been maintained throughout Kiseiren’s sixteen year history. In fact, members have consistently striven to become independent of big business and peak associations. These firms have fought to maintain their independence on many levels. Early leaders of Kiseiren built the network based on the principle of open exchange with competitors, as friends (*harawatta*). In the context of Kiseiren’s formation in the 1980s, young managers, lacking the experience of doing business during the high growth period of their predecessors, began to take the helm of existing SMEs and also form new ventures. These new leaders wanted to share their experiences of struggling (*ikizama*) for success in the changing marketplace.

From the beginning, the founders of Kiseiren sought to form an organization unlike the majority of existing business networks. Earlier networks had been formed based on predetermined (and often central state dictated) notions of how firms should interact (i.e., as subordinate members of peak associations controlled by big business (*unmeikyoudoutai*)). Instead, Kiseiren formed a network based on the mutual benefit of members (*kyouseigata*, literally “symbiotic model”). Mutual benefit was the ideal goal, and the organization has done its best to put it into practice. A distinct characteristic of Kiseiren is that individual members “graduate” and leave the network upon reaching the age of forty-five. The rationale is that camaraderie is enhanced and hierarchies are avoided if there exists no significant difference in age among members. “Graduated” members may maintain informal links to the network and volunteer as advisors to current network members.

Yoshinori Nagashima, the first managing director of Kiseiren, was the founder and president of Nagashima Seiko, a leading lathing machinery producer. In the 1970s, Nagashima Seiko was recognized internationally for producing ultra-precision lathing machinery. As managing director for the first two years of Kiseiren’s formation, Nagashima provided a model for members of success based on independence and hard work.

Kiseiren has provided an environment where firms can learn from each others successes and also mistakes. Meetings, held on a monthly basis since the network was formed in 1982, have focused on practical issues. These issues have included: forming a buyer’s group (for sourcing raw materials and other inputs), strategies of overcoming recessionary environments, legislation to end slow payment of debt by big firms, new product development, training technicians, how to start venture businesses, international exchanges (e.g., with Taiwanese



firms), the role of SMEs in the global economy, capital mergers, employee management issues, tax problems, improving the quality of information exchange and developing firms' public relations. Several members said that they had obtained new customers through the Kiseiren web page.<sup>52</sup> One member said that firm sales had increased threefold since joining the network.<sup>53</sup> Another recounted:  
Kiseiren has really helped. During the three years we have been a member, we have obtained a lot of industry and government information that we would not otherwise have received. Information comes into Kiseiren.<sup>54</sup>

One of the main organizational goals of Kiseiren in the late 1990s has been to support the technological ascendancy of member firms, enabling them to take the lead in creating a robust and healthy manufacturing base. In order to support the development of a healthy and prosperous business climate, recent network objectives have included organizing new product research and development on a larger scale than before, establishing a regional network of employment, further develop networks among employees of member firms and support continued trust-based network formation. Though Kiseiren has no formal link to government, several members noted that the Kyoto General SME Center is good at passing on information to local firms.<sup>55</sup> Representatives of the General SME Center have also acted as advocates for local SMEs at the central state-level, as well as promoted local firms and networks nationally and internationally.

K and G firms testified to the way networks like Kiseiren have helped them: K firm was established in 1962 and employs 25 people. K specializes in the production of high tech medical machinery and 30 percent of its sales goes to its top client. K commented on the ways in which intermediating hierarchies in Japan, particularly in terms of the keiretsification of inter-firm relations, have prevented dynamic network formation. He believes the suppression of individuality, especially in large firms (*kosei o osaeteshiyou*) has exacerbated the tendency of Japanese people to "lack strength of expression" and to allow themselves to be "caged-in" by organizational structures (*tojikomeru*). K's president says that the tendency for firms, especially large ones, to erect walls around themselves, within which employees are expected to make the firm the number one priority in their lives--over family, friends, and other social networks--discourages the free flow of information and ideas among all sizes of firms. K firm often uses the Internet to access new customers, and its own web page has helped as well. K's president notes that "until recently, it was very difficult to access information, as large assemblers have had privileged access to information from government programs and industry organizations." Networks like Kiseiren are

one of few alternative sources of up-to-date information.

G firm produces manufacturing machinery and is currently involved in a research and development joint venture with a German firm. Domestically, G firm uses over 30 Kansai area subcontractors. Its largest client takes up 20 percent of sales. G finds that both Kyoto city and the Kyoto regional government have been helpful in obtaining R&D capital for local businesses. A member of a local business network with loose ties to the Kyoto regional government, G has found it much easier to obtain information on government funding programs since joining this network in 1995. G finds that the Kyoto regional government is very effective at acting as a “window” to various government sponsored assistance programs. G has found, however, that government representatives lack the ability to assess the viability of firms’ technology. Consequently, the government still gives money to failing firms, for example in the construction industry, based on those firms’ connections to the central government.<sup>56</sup>

As the experiences of K and G firms have illustrated, Kiseiren and like network member firms continued to operate on the tenet of “open exchange of information.” Ikuta observes that as traditional hierarchies in Japan’s economy breakdown, firms are again asking “who am I?” (*onore wa nani mono ka*). That is, small business leaders are reassessing, and reasserting in public spheres, their structural role in the Japanese political economy. These firms are working hard to develop marketing skills and access new clients, independent of big business-linked distribution hierarchies. For Ikuta these struggles herald a return to a more independent basis for firms, particularly small enterprises, competing in the Japanese political economy.

Like the original founders of Kiseiren, current members are proud of establishing their independence (*ko no jiritsuka*) from both big business and the state. In the recession plagued environment of the late 1990s, firms fostering practical know-how (*sonzaiigi*) and showing that it is possible to realize entrepreneurial dreams independently from existing hierarchies in Japan, have been significant in providing direction for newcomers. Ikuta was impressed by the many young managers enthusiastically participating in a recent Kiseiren “Vision Symposium” on management strategies. In addition, member firms have successfully developed products and secured new clients together with greater frequency in recent years.

I am fifty two years old, and now I see younger people coming in and voicing their opinions. This is a wonderful thing. We have made steady progress over time in nurturing the younger generation of entrepreneurs (*junchou sodateita*).<sup>57</sup>

Kiseiren has been so successful in achieving its organizational goals that it has attracted national attention.

Kenichi Imai, in an article on the critical role of success stories (*monogatari sei*) in encouraging entrepreneurialism and innovation in the Japanese economy - highlighted the efforts of Kiseiren. “Kiseiren has created, independently of other organizations, an environment for its firms that has this kind of linkage (based on mutual success stories).”<sup>58</sup>

Table Three shows how the networks representative of each region compare.

TABLE NETWORKS IN OTA WARD, HIGASHI OSAKA AND KYOTO

Network	O-Net	TOPS	Kiseiren
Year Established	1990	1997	1982 <sup>a</sup>
Formation Initiated by	local government, Chamber of Commerce (CC), large firms	Chamber of Commerce	local firms, supported informally by regional government
Funding	CC, large firms	CC	self-funded
Main Characteristics of Member Firms	location in Ota Ward	top 50 producers in Higashi Osaka	location in Kyoto
Activities	inactive, some trade fairs	public relations for members	marketing, new product development, management training

<sup>a</sup> Though the oldest network form among the three, the Kiseiren policy of “graduating” members (mandatory exit) upon turning 45 years of age continually renews the youth of the network as well as reduces internal hierarchies.

#### Conclusion: Seeds of Change

Unlike the few exemplar networks like Kiseiren, the bulk of networks in Japan are not technology-based (e.g., have one or more high-value added technological lead member firms). Consequently, most existing networks have done little to enhance the value-added technology levels of member firms, or to enhance innovation in general in the SME sector as a whole. This does not bode well for the prospects of the bulk of local business networks, as there are few “technology mentors,” so to speak. There are a few exceptions, however, such as the *Kiseiren* network in the Kyoto area. This successful model deserves further attention in the future.

Participation in local business networks, often supported by local government, has helped small and medium sized businesses to survive, that is, remain in business. These networks have provided a basis for critical information exchange on the market and management techniques. Local networks also provide a conduit for information on practices by large (keiretsu) makers of which to be aware, and wary of.

While maintaining neighborhood ties, business networks have become increasingly fluid in recent years,

expanding across industries, domestic regions and internationally. Kansai networks have been historically more fluid than their Kanto counterparts. Ota and Higashi Osaka firms are likely to participate in one or more local networks. These networks, however, tend to lack higher value-added manufacturers as members, and thus lack “technology mentors,” so to speak. Kyoto networks, in comparison seem to enjoy far greater access to traditional sources of information. For example, networks in Kyoto appear to be more savvy at obtaining information and access to government-sponsored programs. Interestingly, Kyoto manufacturers are also the least likely to have been integrated into a “parent-child”<sup>59</sup> subcontractor relationship in the past - owing to the historical weaker presence of big (keiretsu) firms in the Kyoto area.<sup>60</sup> It is estimated that less than a third of firms in Ota are involved in a local business network., though many firms are labeled by local government as members of certain networks. More firms in Higashi Osaka were active in a network, while Kyoto firms tended to list a small number of networks in which they considered themselves active. It may appear that Kyoto firms do not find networks useful upon superficial comparison. A closer look reveals that though numerous, networks in Ota and to a lesser extent, Higashi Osaka are often inactive.

In sum, most business networks in Japan, particularly those highly linked to central government and big business groups are inactive and lack focus. In a few pockets, however, business networks in Japan have improved in terms of number and substance in recent years. Independently formed (firm-initiated) networks have been the best at delineating and attaining clear and manageable goals for their members, including improving marketing skills and enhancing technical human resources. These highly successful networks have served as institutions enabling member firms to become more innovative and competitive, often with the informal support of local or regional governments. It is in enabling institutions like these local government supported, firm-initiated business networks that the seeds of change lie in the small enterprise sector within the Japanese political economy.



APPENDIX  
COMPARISON of INTER-FIRM INTERACTION TYPES

	FLEXIBLE PRODUCTION (Dore, Gerlach, Morales)	FLEXIBLE SPECIALIZATION (Piore and Sabel, Friedman)	INDUSTRIAL DISTRICTS (Herrigel, Whittaker)	INNOVATIVE (DeBresson and Amesse, Saxenian)	ENABLING INSTITUTIONS (Ibata-Arens, MRI, Imai)
LEVEL of ANALYSIS	economy	communities of firms (regional)	communities of firms (district)	communities of firms (region)	firms
EXPLAINS	success of Japan in weathering exogenous market shocks, maintaining global market share	ability of some countries (Japan, Germany, United States) to adapt production systems from Fordist/mass to flexible/specialized	resilience/survival of certain agglomerations/local clusters of firms over others intra/inter nationally	maintaining innovation and new business creation/innovative communities	best practice in firm-level strategies and institutional supports for de-linking from production hierarchies and enhancing innovation and competitiveness
GOAL	efficiency in production	innovation	community-building	innovation	innovation and competitiveness
STATE ROLE	structuring of production and markets	creation of industrial community that favors innovation	support for inter-firm networks	regional/local level policies to support businesses	regional/local level policies to support businesses
CENTRAL STATE ROLE	key	background, supportive	strategic/shaping of market	negative, drag on innovation (because bureaucratized and formal)	negative, drag on innovation (because bureaucratized and formal)
DEGREE of LOCAL/REGION AL GOVERNMENT ROLE	n/a	key	key (regional, Herrigel)	can support more durable (than international alliances) networks	can enable firms to become more innovative and competitive
LARGE FIRM ROLE	lead	trading partner	exploitative	network partner	exploitative if significant power asymmetries exist
SME ROLE	flexible: in adapting to environment created by large firms	core, innovative	entrepreneurial	core	core

KEY CONCEPTS	J.I.T., flexibility in system, decentralization	trust, embeddedness, reciprocity	shared network norms, entrepreneurial firm	innovation clusters (Schumpeter), learning by doing	de-linking from intermediating hierarchies, associations and networks as enabling institutions
LOCALE	global reach	local clusters	local clusters	regional clusters	local/regional communities









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<sup>1</sup> Recent research in the Japanese business literature supports this claim. See Takeshi Ayuzawa for a discussion of the existence of social stratum-based (pyramid) organizational forms versus true network organizations in Japan. Ayuzawa finds the latter to be few.

Takeshi Ayuzawa, "Netowaakuka O Tsujita Kei Ei Kaku Shin," *Asakigin Souken Repooto*, no. 12 (1995). Wang examines the role of the state and the interaction between the state and business through networks in Taiwan and Japan. Wang confirms the findings here about the hierarchical and bureaucratic nature of intermediating hierarchies in Japan.

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<sup>2</sup> A comparison of the characteristics of markets, hierarchies and networks shows how on each point, so-called network forms in Japan are in reality hierarchical. For example, Powell compares each on normative bases (contract, employment, or complementary strengths), means of communication (prices, routines, or relational) tone or climate (precision or suspicion, formal and bureaucratic, or open-ended and mutual benefits), and so forth.

**DisplayText cannot span more than one line!** See Table 1, p. 300.

<sup>3</sup> See, for example,

**DisplayText cannot span more than one line!; DisplayText cannot span more than one line!** See also Dore 1986, Morales 1994, Smitka 1991.

<sup>4</sup> Kumon dis-aggregates the concept into (formal) network organizations and (informal) societal networks. Kumon 1992. See also Whittaker 1997, p. 227.

<sup>5</sup> See for example,

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<sup>7</sup> See for example,

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<sup>8</sup> Okimoto provides an excellent description of structures and organizations situated in and between state agencies and the private sector in Japan. Okimoto discusses the notion of an "intermediate zone" between public and private sector, comprised of "intermediate organizations" and "policy networks" (based in turn on the work of Kenichi Imai and Peter Katzenstein in this area). Okimoto provides a detailed typology of policy networks in Japan, such as policy networks seen as provided by public corporations (NTT) and organizations such as the Information Technology Promotion Agency. Okimoto pays particular attention to activities of large keiretsu groups. Okimoto (1989).

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<sup>10</sup> See for example,

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<sup>11</sup> See for example,

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**DisplayText cannot span more than one line! DisplayText cannot span more than one line!** See also

**DisplayText cannot span more than one line!** Executives of large firms have been reluctant to admit the extent of their dependence on small firm agility and innovation. The failure of many Japanese ventures in Southeast Asia due to quality control problems has prompted many Japanese firms to establish more equitable relations with domestic

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<sup>12</sup> The term “intermediating hierarchy” is used to indicate: mediated connections among individuals, firms, and public and private institutions that tend to be vertically structured. “Hierarchy” suggests first, the state of being ranked, in terms of having a connection with another person and/or institution in an explicitly superior or inferior position. Second, the “intermediating” nature of these hierarchies indicates the agency of certain persons involved (situated within certain institutions), that is, those that act as mediators/go-betweens. These actors will be referred to as “mediating agents.” Examples of mediating agents include patent agents (*benrishi*) and trading firm representatives. In other words, situated between the state and private sector, an intermediating hierarchy is an institution providing a basis for political and economic interaction between the industrial base and the state. Political and economic interaction in this case includes such things as lobbying for particular industrial policies and maintaining general awareness (and expertise on and resources for) at the state level of macro economic policy needs of the industrial base. Intermediating hierarchies together, comprise the institutional framework around which the productive functions of a given political economy operate. The three main intermediating hierarchies affecting innovation in Japan are the convoy-led financial system, vertical keiretsu group links and the patent system.

<sup>13</sup> A recent study by Keniichi Imai argues that networks in Japan need to be more like those in the United States because of the problems that hierarchy and bureaucracy create.

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<sup>14</sup> Based on a review of numerous networks in each region, interviews with industry leaders (both within and outside of the three selected networks) and consultation with local government officials and government statistics. This finding is consistent with findings of other (Japanese) scholars. See for example,

**DisplayText cannot span more than one line!** Imai 1998a 1998b; MRI 1998.

<sup>15</sup>

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<sup>16</sup> These theories include: flexible production, flexible specialization, industrial district-based, and innovative communities. How my notion of enabling institution compares is outlined in Appendix: Comparison of Inter-Firm Interaction Types.

<sup>17</sup> See for example,

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<sup>18</sup> See for example,

**DisplayText cannot span more than one line!** See also Ritchev and Cole for an analysis of organizational discontinuity and innovation.

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<sup>19</sup> See Granovetter (1992) for a discussion of the problems of engendering of trust. Granovetter, "Problems of Explanation in Economic Sociology."

<sup>20</sup> Indeed, SMEs in Japan have been discouraged from interacting in any way with other firms who supply to competitors of a given keiretsu. In addition, enterprise unionism has undermined the evolution of shared sense of community amongst technicians, and been a further impediment to the open exchange of information across organizational boundaries. Richev and Cole discuss these issues in the context of organizational discontinuity and innovation.

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<sup>21</sup> This situation is nothing new to small firms. See

**DisplayText cannot span more than one line!** See also Ayuzawa 1995. Ayuzawa conducted a survey among 253 firms in March of 1995 and found that over 45% had taken precautions against increasing their dependence on

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<sup>23</sup> See for example, Dore and “flexible rigidities” (Dore 1986); Gerlach and “alliance capitalism” (Gerlach 1992); Smitka and “competitive ties” (Smitka 1991). See also Morales 1994;  
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<sup>25</sup> (Powell 1990, 324-326). For discussion of the need for trust in networks, see Perrow, "Small Firm Networks."

<sup>26</sup> A body of research has been built around the notion of “learning by doing.” See for example, Lamoreaux, Raff, and Temin, *Learning by Doing in Markets, Firms, and Countries*.  
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<sup>27</sup> Perrow (1992) argues that trust can be deliberately created while Sabel has noted that trust emerges within networks only retrospectively and over time (in Perrow 1992).

<sup>28</sup> Ibid., 461.

<sup>29</sup> The author notes that these networks should not be viewed as representative of networks in each area. They are instead exceptional cases. Mitsubishi fn 2-

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<sup>30</sup> Mitsubishi Research Institute 1996.

<sup>31</sup> Kenichi Imai (1998), Venchasu Infura, Paper Nine Human Networks, Panel discussion, Moderator Shingo Yabuuchi, Managing Director, KS Venture Forum; Participants: Motohiro Okazawa, Administrative Director, Kansai Denryoku Inc.; Junpei Morimoto, Director of Engineering, Corporate Office and Corporate Vice Chairman, Obayashi Co.; Michikazu Murakami, Director, Management Planning Department, Sumitomo Electric Manufacturing, Inc. Imai 1998.

<sup>32</sup> Murakami, in Imai 1998.

<sup>33</sup> Okazawa, in Imai 1998.

<sup>34</sup> See

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<sup>35</sup> Policies to support network formation among SMEs were a central focus in 1998 for MITI’s SME Agency. See for example, *Dai Issho Souron Monodzukuri Nettowaaku Shien*,  
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<sup>36</sup> That Kyocera, one of the few independent firms to grow to be a high tech leader rivaling large keiretsu firms emerged out of Kyoto is worthy of note.

<sup>37</sup> Koseki interview 1998.

<sup>40</sup> I interview 1998. Another interviewee commented: “There are countless networks in Japan that have no purpose whatsoever” (Takenaka interview 1998).

<sup>41</sup> An Osaka study found that the greater the firm was horizontally networked the less affected by economic fluctuations in other firms (such as parent or main buyer).

**DisplayText cannot span more than one line!** The study found that Higashi Osaka firms were more effective at networking horizontally, and consequently less affected by industry downturns in the 1990s.

<sup>42</sup> Nonami interview 1998.

<sup>43</sup> Higashi Osaka firms have also established more personal international networks than Ota firms, especially with firms in Asia. In a 1997 study, more than nine percent of surveyed Higashi Osaka firms had international network partners compared to six percent in Ota. See OSBIC 1997.

<sup>44</sup> Nakano interview 1998

<sup>45</sup>

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<sup>46</sup> Ishizaki interview 1998.

<sup>47</sup> Some have argued that Kyoto’s current independent business environment has origins in its historical artisan-based business community. Toshihiko Asai of the Kyoto Regional General Small and Medium Size Enterprise Center (*Kyoto fu chuushoukigyō sōgo sentaa*) noted that between the Heian (794 - 1185) and Edo periods (Tokugawa period 1603-1868) Kyoto was the center of Japanese culture and industry. (Asai interview 1998) The emperor and court of Japan was located in Kyoto for over a thousand years. In 1868, it was officially moved to Edo, now Tokyo.

<sup>48</sup> B said that the technological expertise and independence of Kyoto firms has not gone unnoticed. “We have many large firms coming to see why it is that we have survived and continued to prosper, despite the recession.”

<sup>49</sup> For example, B said that “there may be more networks in Tokyo, but you must look inside, at what (the networks) really can do. That is why you see fewer networks in Kyoto. The number means nothing.”

<sup>50</sup> X interview 1998.

<sup>51</sup> Ikuta interview 1998.

<sup>52</sup> OO interview 1998.

<sup>53</sup> X interview 1998.

<sup>54</sup> Ogura interview 1998.

<sup>55</sup> Kinugawa, Ikuta interviews 1998.

<sup>56</sup> One of the most bothersome things for G is that not only are the procedures for applying for government programs time consuming, many planned programs never come to fruition - making applying for them a waste of time. While G is hopeful about planned bureaucratic reform, he has yet to see a change in central government - SME relations. Instead, he sees paralysis (*kankakumahi*) in these relations.

Final interview 1996. See also Final 1998, for a detailed discussion of the significance of success stories of “monogotarisei” for venture businesses.

<sup>59</sup> Many interviewees took offense to the mention of the term “parent-child” subcontracting relations (*oya-ko gaisha*). Several said that his term has always been a misnomer, as large assemblers have rarely acted in a manner towards their subcontractors remotely resembling the benevolence of a “parent” figure.

<sup>60</sup> In terms of their own use of subcontractors, of the 43 firms, 84% (36) used subcontractors on a regular basis, while an additional 10 (4) used subcontractors on an occasional basis. Only two firms had never used subcontractors. About a third of firms used less than 10 subcontractors on a regular basis while another third used up to 50 subcontractors. Fourteen percent of firms used over 100 subcontractors on a regular basis. Forty four percent of firms used subcontractors in the same city, district or region, while a growing number of firms are branching out to other regions and also internationally (thirty seven and seven percent, respectively).