

**Local Potential Fostering IT Venture Companies:
An Analysis of Programming–Community in Japan**

January 2016

Kazuki FUKUI

This study aims to clarify the forming process of the programming–community that fosters IT venture companies. In this study, "IT ventures" are defined as "IT companies founded after 1996". Relatively older IT venture companies, which have already established by 1996, are excluded in this study, because the internet was not available at that time. As the term "IT companies" includes various types of organizations, it is difficult to provide an exact definition. This study also analyzes the programming–community itself, which includes numerous workers of IT venture companies. Accordingly, we observe that regarding whether each company falls within the IT category or not is based on self-identification of each informants.

The "programming–community" refers to a place where IT programmers collaborate on electronic or face–to–face meeting for the purpose of some kind of objective achievement.

In this study, greater attentions are paid to "IT-meetings (hereafter referred to as just "meeting")" that face–to–face contacts are common. Furthermore, in this study, "local potential" that connects such elements as IT venture companies, IT programmers, the programming–community and IT-meetings locally yields profit in local IT venture companies.

Today, the Japanese economy is in a state of stagnation. Schumpeter pointed out that the essential factor to overcome economic stagnation was "creative destruction," which referred to new business creation and destruction of the existing economic system. Drucker and Baumol et al., both were affected by Schumpeter, who pointed out that economic stagnation of advanced countries showed a limit of large company–led economic system and insisted that a shift into an economic system led by venture companies was demanded in these countries.

On this topic, economic geographers have investigated regional factors and systems that promote the creation, inducement, and growth of venture companies. It is recognized that the existence or acquisition of resources such as skilled labor, technologies, and capital forms an environment that fosters venture companies. Nijkamp also indicates an important point: venture companies grow by utilizing the various relationships that form on an individual level, and later become resource acquisition channels by a process of "foundation" as well as "continuation." The resource acquisition channel is considered from two viewpoints: formal relationships between companies and informal relationships among individuals. In studies on the former point, it has been recognized that the construction of regional relationships among

customers, suppliers, subcontractors and venture capitalists was connected to creation and continuation of venture companies. On the other hand, social relations of the entrepreneur become resources acquisition channels and lead location choices and agglomerations of venture companies. Furthermore, the areas where non-public institutions such as individual relationships are more substantial in venture company growth than areas where the public system built by government promotes venture company creation.

In the example of the IT industrial clusters in Silicon Valley, US, the customs to value failures of businesses has been cultivated in personal relationships of people in the area. This quickly developed "the culture of the risk" which is the source of the innovation that the area is known for. In addition, the culture of risk of Silicon Valley was spread in Taiwan and India through the ethnic network of Chinese and Indian IT programmers, and it promoted formation and reinforcement of new IT industrial clusters in these countries.

Hence, contracting of informal relationships among individuals, which eventually develop into resource acquisitions channels of area venture companies, plays an important role as one of the preconditions to form local potential and foster IT venture companies. These relationships eventually become the resource acquisition channels of venture companies.

However, how informal relationships are built and how the relationships form local potential and foster the growth of IT venture companies differ between the communities of foreign countries and those of Japan. In order to understand the process fully, it is necessary to grasp the state of "the concrete place" where the informal relationships develop into venture companies and begin to generate profits. This study pays specific attention to both relationships and profitability in venture company development, and how they are affected by the geographical area and local elements involved in their development. Therefore, the author analyzes the actual condition and significance of the communities in Tokyo and the surrounding provincial areas.

IT programmers establish places for voluntary face-to-face meetings such as the "study meeting" (benkyo-kai) and "engineer's meeting" (gijyutusya-kaigi). They conduct technical activities such as programming, make speeches about latest technical themes, and promote friendship among the individuals there. Most of these meetings are held after hours in the Tokyo metropolitan area or in the center of Tokyo reflecting the Tokyo centralization. However, some meetings are also held in provincial

areas such as Shimane Prefecture. Thus, the author analyzed case meetings of what is known as the sacred "Ruby community" in Tokyo and Shimane.

Meeting F, the case meeting of Tokyo, is a large-scale meeting considered to be the most important in the Ruby community. Participants from IT venture companies and IT programmers in Tokyo have recognized Meeting F as a place that yields profits such as acquisition of abstract knowledge and human resources, and arousal of motivation through face-to-face contact.

Meeting F is a large international conference which is regarded as the most important one in the Ruby community. One of the reasons for this is that on a global scale, Japan is viewed as a Ruby's Mecca. IT programmers from not only the Tokyo metropolitan area, but also from the provincial areas and from abroad participate. Meeting F occupies a special place in the Ruby community, not just for IT programmers from the Tokyo metropolitan area, but also from the provincial areas and from abroad.

IT programmers attending Meeting F ask for the acquisition of not only 'concrete knowledge' on industry and technologies, but also 'abstract knowledge', which is hard to obtain without face-to-face contact at a meeting. Furthermore, another important objective in participants is the increase of motivation through personal interaction with other attendees in face-to-face contact. For other participants the objective is to contribute to the community.

The sense that Meeting F is a forum that is participated in as a representative of one's workplace or company one belongs to is by no means commonly shared by IT programmers. A little under 40% did indeed have a sense of participating as a representative of the company they belonged to, but a little under 30% of attendees replied 'I can't make the distinction.' However, the on-site field survey obtained several responses that they were attending as an individual, but since their workplace treated it as a business trip and covered the attendance fees, they replied that they were attending as a representative of the company they belong to, or opted for 'I can't make the distinction' for similar reasons. Furthermore, some participants responded that they 'had never considered' the difference in attending as a public or private individual. Based on these responses, it seems that, at least amongst IT programmers who are not managers, there is a relatively common feeling that Meeting F is a forum that, even if one's workplace covers the attendance fees, one does not only attend as a company representative. Accordingly, Meeting F is a forum that is attended with a sense that mixes the private and the public.

The main objective of IT programmers who attend Meeting F is, rather than helping the IT venture company to grow or increase their agglomeration, to raise their own technical standard, increase their motivation and contribute to the community. In other words, for participating IT programmers, Meeting F is positioned as a forum where the demand is for the acquisition of non-monetary incentives, namely an increase of one's own technical standard or a contribution to the community and its resulting appreciation by the community, more so than the acquisition of economic incentives such as a wage rise from one's employer or finding a new employer.

On the other hand, IT venture companies that participants belong to regard Meeting F as being of direct benefit to the company, and provide financial support. IT venture companies assess their employees attending Meeting F as being meaningful from the viewpoint of the acquisition of concrete and abstract knowledge as well as the increase of the motivation of their staff.

Accordingly, Meeting F is positioned by IT venture companies as an external resource acquisition channel where various resources required for the company to grow can be obtained. It is for this reason that IT venture companies hope that their employees will shape those external channels and acquire resources on their own initiative, and maintain and further develop those external channels. In other words, IT venture companies respect the personal values held by their IT programmers which regard non-monetary incentives as important, encourage activity undertaken by individuals on their own initiative, and at the same time provide financial support for Meeting F.

Lastly, Tokyo is the largest agglomeration of IT venture companies in Japan, and more IT programmers can participate from prominent and robust IT venture companies which are located near meeting locations and therefore provide excellent access. Furthermore, urban functions in Tokyo, where many meetings are held, are outstanding and offer easy transport access from provincial areas as well as abroad. Against this background, Meeting F provides IT programmers from IT venture companies in provincial areas or abroad with the opportunity of face-to-face contact with people they are unable able to meet at meetings in provincial areas or abroad. Meeting F can therefore be placed as unique to Tokyo, maximizing its benefits as an agglomeration of Japan's largest IT venture companies.

In the case of Shimane, Meeting M, the case meeting of Shimane Prefecture, was established on the initiative of an IT programmer working at a Shimane IT venture company. Meeting M is mainly attended

by young IT programmers working at IT companies. Shimane Prefecture and Matsue City governments are recognized by IT venture companies and IT programmers as a Ruby's Mecca in Japan.

More than is the case for Meeting F, Meeting M is attended by participants as an individual rather than as a representative of their company. They attend with the objective of personal interaction with other IT programmers in the region, their own study of knowledge and technology and contribution to the community. In other words, similarly to Meeting F, Meeting M is positioned as a forum for the acquisition of what Himanen et al. (2001) terms non-monetary incentives through face-to-face contact with other IT programmers in the region. This face-to-face contact at meetings generates the motivation in participants to study knowledge and technology, and produces outcomes such as the development and improvement of new software and the creation of new local meetings within the prefecture. As a result, through face-to face contact, educational activity is engaged in at Meeting M relating to Ruby and programming. Moreover, new local human resource development activities aimed at women and youngsters have developed from Meeting M. In this way a local human resource development system is being built, originating at Meeting M.

IT venture companies in Shimane Prefecture, that have an interest in Ruby, are aware of Meeting M as a forum where their employees can improve their own knowledge and technical standards on their own initiative. Whereas original industry in Shimane Prefecture is small and displaying a downward trend, its IT venture industry is growing. Higher added value IT venture companies from within and outside the prefecture are concentrating in Matsue City specifically.

Both the prefectural and the city government are leveraging the fact that Shimane Prefecture and Matsue City are known as a Ruby's Mecca and have implemented measures to develop the IT industry. Firstly, making use of the feature that Ruby is an OSS which develops through collaboration exceeding individual organizations, they set the development of Ruby as a common target for IT companies and IT programmers within the prefecture. Secondly, because of Ruby's characteristic that, compared to other similar programming languages, it is likely to get high levels of productivity as long as excellent human resources can be guaranteed, both prefecture and city government concentrated their efforts on training and acquisition of human resources.

The method used by the governments of the prefecture and the city to realize these measures, was to provide a concrete arena where IT companies and IT programmers in Shiane Prefecture using Ruby could come together, and to develop human resources. The Open Source Lab set up for this can be freely used without charge by IT programmers in Shimane Prefecture and is used as the venue for Meeting M. The provision of such facilities in a provincial area is an important reason why Meeting M is being held on a continuing basis. Furthermore, according to prefecture and city employees, the knowledgeable support comprising views of Meeting M participants has been indispensable for the formation of various human resources development businesses and the M Conference, all off-shoots from Meeting M.

Since Shimane Prefecture and Matsue City are in a marginal area of the country where conditions for industrial development are unfavorable, local industry infrastructure is weak. Also, compared to other prefectures, direct IT industry incentives in the traditional form of granting subsidies cannot be considered that effective. This forced the governments of Shimane Prefecture and Matsue City to opt for strategies that differed from those of other prefectures, namely that of leveraging local resource Ruby and IT programmers' self-motivation. However, the result of this strategy can be rated to have led to the creation of a more attractive region for IT programmers who ask for non-monetary incentives. It can be said that, due to their unfavorable geographical conditions, Shimane Prefecture and Matsue City have been able to plan and drive the development of a new industry from scratch, without being bound by traditional ideas.

Furthermore, for IT programmers who live and work in marginal areas of the country such as Shimane Prefecture, meetings in Tokyo or the metropolitan areas, however attractive, are not easy to attend. On the other hand, local, easy to attend meetings such as Meeting M have a significance other than those held in Tokyo or metropolitan areas, in that when held in a provincial area, face-to-face contact facilitates the formation of closer associations with fellow participants, the generation of IT programmers' motivation and the creation of off-shoots from these meetings.

Thus, the Ruby community and Meeting M in Shimane Prefecture and Matsue City can be understood as driving the generation of high added value in the IT industry, with a central role for Ruby as the means to overcome the unfavorable conditions of Shimane Prefecture; and as creating a local human resources development system.

These observations may appear that in Tokyo and Shimane Prefecture, IT programmers voluntarily work toward the goal of developing Ruby. IT venture companies and local governments respect the regional and local networks built among IT programmers, and even support their meetings economically. These things promote the growth of face-to-face contact among IT programmers, and the expansion of informal relations among individuals that serve as resource acquisition channels for the growth of IT venture companies. Thus, community, meetings, local governments, individuals, and IT venture companies are working together as one to bring profit to IT venture companies with the goal of developing Ruby systematically and regionally. Namely, the programming–community makes local potential fostering possible for IT venture companies.

This local potential differs between Tokyo and Shimane Prefecture. In Tokyo, local potential forms due to the advantage of being influenced by the biggest agglomerations of IT venture companies in Japan and the prominent city function of Tokyo. In Shimane Prefecture, local potential plays an essential part in the regional environment developed to obtain excellent human resources and strengthen the policy of high-value-added IT venture companies in provincial areas. The local potential-fostering IT venture companies reflect the Tokyo centralization of Japan and have formed a different feature between Tokyo and provincial areas.

In geographical studies about the existing material goods manufacturing industry, the individual employee is treated as a dependent existence. However, IT venture companies produce informational goods, and uncertainty of production is high as IT programmers are employed in a more unstable situation. The abstract knowledge, excellent human resources, and motivations that have been developed from face-to-face contacts in informal relationships among individuals have become resources that fuel the growth of IT venture companies. While the cooperation of companies and local governments plays a role in profit creations for IT venture companies, it is emphasized that the companies were fostered mainly by local potential.

This study exhibited the new economic geographical significance of face-to-face contact that plays an important role in the acquisition of the resources, including abstract knowledge, and creation of motivation that is different from the existing industry.

This study exhibited one answer through the fieldwork at the meeting of programming–community to an issue how informal relationships among individual formed local potential fostering IT venture companies.

The viewpoint of this study that treat the employees as individuals and examine relations with individuals, companies and area would be a new study angle of the economic geography to understand an economic phenomenon under the knowledge economy.