

# Creating Innovative Business-Friendly Regional Cities

By Takashi Yamamoto\* and Masahiko Fujimoto

Preliminary paper as of May 30, 2016

## **ABSTRACT**

Regional cities in Japan face challenges such as depopulation, aging society, shrinking market, outflow of employment, and mismatch in labor demand and supply. Challenges are greater in cities in Tohoku Region, which were severely affected by the devastating tsunami and earthquake in 2011. This paper introduces two strategic measures to help small- and medium-scale enterprises (SMEs) in regional cities promote business innovation. One is “Economic Gardening”, which was originally developed in Littleton, CO, and has been implemented nationwide in the US and cities in Australia, Canada, and Japan. The other is a “Quadruple Helix” relationship among academics, business, government, and banks that support new business development and innovation by local SMEs. This paper examines educational programs, which were initiated and developed by a research center of Tohoku University: the Regional Innovation Producers School (RIPS) and the Regional Innovation Advisors School (RIAS). The former intends to train local SME management, and the latter aims to educate local bank officials so that they can support local businesses. Organically implemented, both the RIPS and the RIAS have promoted local business without spending large amount of public budget.

Keywords: economic gardening; innovation; quadruple helix; regional ecosystem; small- and medium-scale enterprises (SMEs).

(Note)

Parts of this paper come from Yamamoto T. and Fujimoto M. (2016), which is published in Japanese.

\*Corresponding author. E-mail: ytakashi@ner.takushoku-u.ac.jp

## **Introduction**

Regional cities in Japan attempted to ensure the employment opportunity since 1960s by attracting production factories of large manufacturing companies. They developed industrial sites, offered low cost labor force, and provided financial benefits to win in the competitive game of company attraction. It was in the mid 1980s that the rule of the game became different. Production factories in automobile and electronic industries started to move out of the county because of the strong appreciation of yen and international pressure to reduce exports. This accelerated the outflow of production factories in regional cities, causing the loss of employment opportunity. Shrinking market and loss of employment opportunity has been one of the common challenges for regional cities in Japan. Without various types of employment, a vicious circle continues more aggressively: the outflow of young workers, accelerated depopulation and aging, and the decline of the regional economy. Now that the company attraction is not a reliable option, the only way to increase jobs is to make local small- and medium-scale enterprises (SMEs) more innovative so that they can create employment opportunity. The challenge is what various actors in regional cities should do so that local SMEs can become more competitive and sustainable.

### ***Motivation of this paper: an anatomy of measures for innovative business-friendly cities***

Japanese national government is interested in establishing innovative ecosystem. The Ministry of Economy, Trade, and Industry (METI) issued a report on the prospect and possible measures on creating innovative regional ecosystem in Japan in 2011. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) started this year funding for attempts to create innovative ecosystem by the collaboration among regional governments, business groups, and universities. While such movement is helpful for local economies, it is further important for key organizations and persons to get committed and involved at the municipality level.

It is an urgent challenge for regional cities to identify and nurture persons who are willing to create and / or to develop their business. It is needed to improve the quality of and to expand the quantity of new projects. SMEs in regional cities, however, do not have enough resources such as personnel, supply lines, capital, and information, and it is difficult for them to create and develop new business. Construction of human network for business creation and development is crucial so that businesspersons in different industries can cooperate for new projects and they can receive new effective advice from non-business sectors. Business innovation germinates in an ecosystem where motivated persons in different business can cooperate, and where business owners and supporters can closely work together. Creation of innovative and business-friendly ecosystem is the key for the economic development in regional cities for the next decades.

## **Issues and Background**

### ***Absence of local business leaders***

Regional cities in Tohoku Region, has been identified as places where start-ups and business innovation by local SMEs have been low and inactive. Some attribute such attitudes to passive and resigned conservatism, reflecting their tough climate and the history of subordinate status over centuries. Even these days, business owners in the regional cities say, in a half self-deprecatory manner, that they are in a “branch economy”. The phrase means that Tohoku branches of strong nation-wide companies, as well as Tohoku bureau of national governmental organizations, are more influential than local governments and SMEs. Simply stated, regional cities in Tohoku have been lacking a system of business leadership development at default.

### ***Absence of business development policies***

Business development policies by local governments were limited. They offered concessionary loans and subsidies for physical investment. They did not attempt to create a favorable business environment for business owners and start-ups. This has been so partly because local governments depended on fiscal subsidies from the national government and they did not have to develop their own economic policies.

### ***Absence of project assessment by local banks***

SMEs in regional cities in Tohoku rely on local banks as sole financiers. There is only one venture capital firm in Sendai, and none in other cities. Local banks in Tohoku, therefore, have been indispensable partners for SMEs. It is strongly expected that local banks can provide timely and sufficient financing for new business development by local SMEs. Loan officers at many of the local banks, however, do not have skills to assess the potential performance of new business projects. They tend to pay most of their attention to the evaluation of the collateral when they are asked for a loan. This was partly because their manual did not put importance on project appraisal. So-called “relationship banking” approach for deeper involvement of local banks with their customers has been recommended by the Financial Service Agency since 2003, but loan officers lack skills to deepen the business relationship with their customers. They have to develop their capacity to assess performance and risks on new business projects, and to provide suggestions and advices as “escort advisors”.

## **Solution Set (I): Economic Gardening**

“Economic Gardening” is an entrepreneurial alternative to traditional economic development strategies. This new approach, created in the City of Littleton, Colorado by Christian Gibbons and his supporters in response to massive corporate layoffs, uses high end corporate-level tools and cutting edge scientific concepts to help entrepreneurial

growth companies identify markets, monitor competitors, track industry trends, locate customer clusters on maps, and use search engine optimization / Google Adwords / social media for marketing and various customized research.

Economic Gardening is not an application of specific economic theories, while its creators had conversation with David Birch (jobs and SMEs), Paul Romer (endogenous growth), and researchers at the Santa Fe Institute (complexity science) in developing the strategy.

Economic Gardening was created in 1987 and implemented from 1989, and some best practices were starting to emerge by the late 1990s. Littleton has outperformed in employment growth when Economic Gardening was in operation. US Small Business Administration (2006) introduces outstanding performance of Littleton in job creation. "Since its introduction of economic gardening principles in 1989, the number of new jobs in Littleton has grown from 14,907 to 35,163, or 136 percent. This numbers include wage-and-salary jobs plus self-employment. This growth is approximately twice the rate of the Denver region, three times that of Colorado, and six times that of the United States." The performance in job growth continued to be high even during the recession just after the turn of the century in the US. "Littleton's 35 percent job growth between 2000 and 2005 well exceeds that of comparable inner suburban Denver communities of similar size: Englewood (7.3 percent), Northglenn (6.2 percent), and Thornton (21.4 percent)."

Economic Gardening has been picked up by a number of US states including Wyoming, Oregon, and Florida. Currently, cities in the US, Australia, Canada, and Japan implement different approaches of the Economic Gardening, while they employ its common principles. This is because their "local business ecosystems" are different with each other, and their approaches respond to their own ecosystems. American and Australian Economic Gardening focuses on growing firms, while Japanese Economic Gardening includes both potential growing firms and long-life firms.

There was an urgent need to maintain the authenticity of Economic Gardening because some economic development consultants might have had temptation to imitate Economic Gardening and damage the brand image. Gibbons and his team in Littleton had official duties to serve their clients and could not travel across the country so often in spite of the growing interests for Economic Gardening. The Edward Lowe Foundation established the National Center of Economic Gardening in 2009. The Center now operates training programs for certified Economic Gardening managers, and provides professional services for state centers or regional centers conducting Economic Gardening.

The primary beneficiary of Economic Gardening is certainly the entrepreneurs and firms in their community that conducts the program. In addition, Economic Gardening has been serving the community itself because it makes the community more economically resilient through diversifying businesses, developing connection among

businesses, universities, and other supportive organizations, and making the businesses more informed and intelligent.

Regional cities in Tohoku would be suitable for Economic Gardening. Implementing successful SME-friendly policies requires good staff, broad support from leaders, and sufficient time. There is no specified way to start Economic Gardening in a city, but it is recommended to follow the sequence mentioned below so that the program can be successful and sustainable.

- 1) A leader in the city (usually the city mayor) declares that the city starts preparing Economic Gardening. At this stage, it is not necessary that all the leaders in the city agree on implementing Economic Gardening.
- 2) A feasibility study for Economic Gardening. The study will confirm whether the city has personnel and financial capacity to implement Economic Gardening, and identify potential opportunities and challenges for Economic Gardening.
- 3) Leaders in the city agree that Economic Gardening will be implemented, understanding that it takes time before the program will bring visible results. They also agree that they will cooperate so that Economic Gardening will be conducted in a timely manner.
- 4) Detailed survey on industrial structure, supply chains, inter-firm relationship, social capital and profiles of major firms in the city. This survey intends to provide necessary information to design specific programs to support local firms.
- 5) If necessary, administrative staff in charge of local economic development will be trained so that they can implement SME-friendly policies.
- 6) Formation of specific programs to support local firms.
- 7) Test-drive the programs for selected firms. There is a chance to modify, improve, add, or stop specific components of the programs, depending on the results of the test drive.
- 8) Full implementation of the firm support programs.

It should be emphasized that each city must uniquely design programs to support local firms. Each city has its own background such as history, geography, natural resources, human resources, economic structure, and social capital. Therefore, the programs should be designed so that they are consistent with the background.

### **Solution Set (Ii): Quadruple Helix**

Leydesdorff and Etzkowitz (1997) introduced the concept of a “triple helix” of university-industry-government relations as a new strategic framework for innovation. The triple helix model provides a mechanism of endogenous economic development, where sources and propellant of innovation come from inside of the economic ecosystem. In this paper, we use a concept of “quadruple helix”, focusing on the relationship among university, industry, government, and local banks. We find that the

role of regional banks is different from that of other industry actors, and it should be highlighted as an independent entity.

The Regional Innovation Research Center (the Center) at Tohoku University initiated to develop the “quadruple helix” structure for creating innovative regional ecosystem when it started designing educational programs for local businesspersons and business development advisors. The former was launched as the Regional Innovation Producer School (RIPS), and the latter started as the Regional Innovation Advisor School (RIAS) in May 2015. In addition, the Consortium for the Regional Innovation Promotion in Tohoku was established among the representatives from business organizations, universities, banks, and national and local governments in August 2015. The Center serves as the Secretariat of the Consortium. The purpose of the Consortium is to continuously explore and examine effective measures to support business development and innovation at local SMEs. The following sections explain how the Center started to create an innovative ecosystem.

### ***Regional Innovation Producer School (RIPS)***

The Center started to design the curriculum of the RIPS in August 2011, with owners of the local SMEs with the assistance of the Youth Division of Sendai Chamber of Commerce. The curriculum intended to educate local business leaders, as well as to solve the issues of the SMEs. The experiment version of the RIPS was implemented from May 2012 through February 2013 with 12 students. The full-fledged 6-month program of the RIPS officially started in September 2013.

As of March 2016, the graduates of the RIPS increased to 101. Most of the graduates are in the age of 30s and 40s. Among 101 graduates, 45 are in the 30s and 40 are in the 40s. In industrial classification, 38 graduates are in various service industries, followed by 27 in manufacturing industries, 13 in retail, and 10 in construction.

The purpose of this program is to create new business and job opportunities in the local economy. To fulfill this purpose, the curriculum of the RIPS aims to achieve something more than providing educational opportunities. The RIPS intends to realize (1) the development of innovative human capital, (2) new and innovative business development, and (3) the follow-up in commercialization of the business ideas.

Team of instructors for the program includes faculty members of the Graduate School of Economics at Tohoku University, local SME owners, experts in various fields, and business development consultants. Graduates of this program with excellent achievements have been and will be invited to join the team. This makes it possible to present business development models implemented by local SMEs, and to provide incentives for the participants.

The RIPS annually selects 5 to 6 projects by the graduates for continued support, and provides quarterly follow-up seminars and ad hoc coaching for three years.

This approach was partly supported by the Prudential Foundation (totally 100 million dollars from 2014 through 2016). The RIPS also organizes two research groups so that the graduates can learn from each other. With requests, instructors at RIPS can provide assistance when the graduates intend to apply for grants and subsidies, or to start international business.

The RIPS contributed to the business development of about 100 firms as of March 2016 since the full-fledged version of the program started in 2013. The RIPS sent inquires to 46 graduates among the classes of 2012 and 2013 about their business development performance one to two years after the program, and received 35 effective responses (effective response rate of 76.1%) in 2014. The responses show the graduates improved their performance:

- 20 firms (57.1%) reported increase in sales;
- 22 firms (62.9%) reported increase in pretax profit;
- 16 firms (45.7%) reported increase in employment (92 persons became newly employed);
- 9 firms (25.7%) received new loans or investment (total loans of about 400 million yen (approximately 4 million dollars), investment of 50 million yen (approximately 500 thousand dollars).

The statistics show that the program successfully produced positive results. However, it is still unclear whether the effect is temporary or sustainable. Continued research is still needed so that the program successfully keeps producing meaningful contribution to local business development.

### ***Regional Innovation Advisor School (RIAS)***

Business development assistance at the RIPS only was not sufficient to create an innovative business-friendly environment, partly because the RIPS graduates at scattered places do not constitute a critical mass for innovation. It is therefore necessary to establish another mechanism so that synergy of business creation and innovation by various firms can happen.

The Regional Innovation Research Center identified that local banks would serve as an important catalyst for the business innovation at SMEs. Local banks have already had business relationship with promising SMEs, providing loans and investment. Business innovation and development would be more easily achieved if loan officers at local banks become “escort advisors” who provide good suggestions and coaching to local business owners. However, the loan officers are not necessarily good at providing advices, and additional training is needed outside daily work activities. The Center organized a preparatory research since October 2013 to examine effective human capital development program for training loan officers.

Reflecting the finding of the research, the Center organized a new program, the Regional Innovation Advisor School (RIAS), for business supporters and advisors. Its

Basic Course was offered from May through July 2015, and the Advanced Course from October 2015 through January 2016. The Basic Course consists of theories and case studies of business development assistance. The most effective training at the RIAS occurs at the Advanced Course, where participants provide case-based advices for actual business owners.

Employees of local bank recommended by their companies can participate the RIAS program. 25 participants took the Basic Course, and 7 did the Advanced Course in 2015. A graduate of the RIAS can receive an official recognition of “Regional Innovation Advisor”, and names of graduates and their affiliations are listed at a website of Tohoku Local Finance Bureau, a regional branch of the Ministry of Finance.

### ***The synergetic effects of the RIPS and the RIAS***

The most prominent characteristics of the educational programs initiated by the Center can be found in the synergetic effects of the training provided by the RIPS and the RIAS. Participants of the both programs share the curriculum, and learn from each other. The number of the participants at these education programs in 2016 is 41 for the RIPS, and 32 for the RIAS. These participants are divided into 10 groups. Participants of the RIPS in each group, as business innovator trainees, create and present their plans for business development and innovation. Participants of the RIAS in each group, as advisor trainees, collect and analyze data of competitors, market size, and potential customers, and they provide suggestions and advices on the new business opportunities to the RIPS participants. The business innovator trainees provide feedbacks to the advisor trainees, in return, on how much effective (or ineffective) their suggestions and advices were.

The exchange of views is beneficial for the participants of the both Schools. The RIPS participants (SME owners), who do not have enough time or good employees to collect and analyze market data, can obtain meaningful suggestions from their counterparts. The RIAS participants (loan officers at local banks) do not usually have opportunities to function as business advisors, and they obtain first-hand experience to relate with SME owners, and receive positive acknowledgement, even after they get straightforward demanding feedbacks at the first time.

The Center already observes that a number of new business projects were created by joint monetary and personal investment among the RIPS participants. It expects that more business development and innovation will become realized through the interactions among participants of the RIPS and the RIAS. The Center will be able to accelerate regional business development and innovation by educating local business owners and bank officials, and by retaining them in an active network. As shown, the quadruple helix approach contributes to create innovative and business-friendly ecosystem.

## Conclusion

Regional cities in Japan face challenges such as depopulation, aging society, shrinking market, outflow of employment, and mismatch in labor demand and supply. Challenges are greater in cities in Tohoku Region, which were severely affected by the devastating tsunami and earthquake in 2011. This paper introduced two strategic measures so that SMEs in regional cities can promote business innovation.

One is “Economic Gardening”, which was originally developed in Littleton, CO, and has been implemented widely inside and outside the US. Cities in the US, Australia, Canada, and Japan implement different approaches of the Economic Gardening, while they employ its common principles. This is because their “local business ecosystems” are different with each other, and their approaches respond to their own ecosystems.

The other is a “Quadruple Helix” relationship among academics, business, government, and banks that support new business development and innovation by local SMEs. This paper examined educational programs, which were initiated and developed by a research center of Tohoku University: the Regional Innovation Producers School (RIPS) and the Regional Innovation Advisors School (RIAS). The former intends to train local SME management, and the latter aims to educate local bank officials so that they can support local businesses. Organically implemented, both the RIPS and the RIAS have promoted local business without spending large amount of public budget.

Finally, this paper expects that this approach will be effective as sustainable and creative regional development even after the experience of the natural disaster.

## References

Leydesdorff L. and Etzkowitz H. (1997). A Triple Helix of University–Industry–Government Relations. Etzkowitz H. and Leydesdorff L. (eds), *Universities and the Global Knowledge Economy* (pp.155-162). London: Pinter.

The US Small Business Administration (2006). Economic Gardening: Next Generation Applications for a Balanced Portfolio Approach to Economic Growth, Chapter 6, *The Small Business Economy for Data Year 2005: A Report to the President* (pp.157-193).

Yamamoto T. and Fujimoto M. (2016). Chiiki Kigyo no Jigyo Kakushin Shien (Business Innovation Assistance for Local Firms. Research Project on Reconstruction of Regional Industries, Graduate School of Economics, Tohoku University (ed), *Shinsai Fukko ha Tohoku wo Do Kaetaka? (How did the Post-disaster Reconstruction Change the Tohoku Region?)* (pp.259-277). Sendai: Nanboku-sha.