

# GLOBAL COLLABORATION AND TECHNOLOGY IMPACT FOR REGIONAL DEVELOPMENT -A Successful Case in Japanese Flower Industry-

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**ABSTRACT:** Knowledge spillover on advanced technology is thought to be one of the most significant measures for encouraging regional industries as well as forming regional industrial cluster. However, in many rural areas, it is not easy to produce spillover itself because of lack of effective knowledge source and lack of capability of surrounding regional enterprises for utilizing spilled out knowledge/technology, in addition to the difficulty of forming an effective industrial cluster.

The case researched here is one successful example of local business on lily bulbs, in Kochi. Kochi is a warm, mild climate, rural area in Japan, suitable for growing lily bulbs. However, one problem for this industry was the difficulty to ship/grow lily bulbs in winter because lily bulbs cannot be cropped in cold seasons. The company's unique idea was to import lily bulbs to Japan, located in the north hemisphere, from some countries in the southern hemisphere by using freezing containers and large freezing compartments and ship the bulbs to the flower farmers after warming them up. By this measure, they could monopolize the winter bulb market in Japan.

This case implies us significance of finding a competitive business model in rural regions. Here, global collaboration is one very important element to find such a business model. Even by using conventional technology (what we call low-tech), not by using advanced technology (high-tech), regional industries can be effectively encouraged by adapting technologies to such a suitable business model.

**KEYWORDS:** global collaboration, technology impact, regional development

## 1. INTRODUCTION AND BACKGROUND

Recently, regional disparity has been one of the most serious social issues in Japan. How to develop and encourage regional industries is a nation-wide urgent issue, and particularly it is a very, daily life matter.

What we call "Cluster Theory" proposed by M. E. Porter (1984) has been known as a most popular theory for regional development. The main idea is

to encourage regional industries by making a kind of industrial cluster in the rural regions with knowledge link among many competitive regional enterprises and with knowledge spillover from regional laboratories/universities on advanced technologies. However, the reality in many rural regions in Japan is that they lack of such regional competitive enterprises and also lack of knowledge source of edged technologies. Even if there is some knowledge source of advanced technologies in rural

area, most of the surrounding regional enterprises cannot utilize such technologies effectively, because most of them are involved in what we call low-tech industries.

In such reality, one of the clues to encourage regional industries may be alliance with some other companies over seas. Because most of the other domestic enterprises in the same industries are competitors rather than partners, some foreign enterprises far from domestic market may be more easily collaborative for business alliance, on the contrary. A. C. Inkpen (2006) pointed out that, in the last decay, global alliances are more than a price-driven, financial, relationship shaped by contractual details. Some distinct elements distinguish alliances from other inter-firm relationships, and one of them is “The relationship involves the exchange of knowledge associated with technologies, skills, or products,” he mentioned. The global alliance between enterprises in different countries may become one of the elements that compensate regional knowledge spillover.

In this paper, one successful case of regional business by utilizing global collaboration on technologies and products is introduced to find a clue to solve the stagnated regional economy and the regional disparity issue. The case itself and the analytical view for their outstanding business success will be very suggestive for many other rural enterprises and people who are making effort for regional development.

## **2. OVERVIEW OF NAKAMURA-NOEN**

Nakamura-Noen is a unique bulb trading/growing company. They are involved in trading and growing flower bulbs and nurseries, mainly on lily. Their uniqueness is shown as their business model depending on global collaboration and their utilizing

manner of technologies. This section introduces overview of their company itself and their business scheme.

### **2.1 Business overview**

The business of Nakamura-Noen Co., Ltd. is to transact (trade and grow) lily bulbs and its' nurseries, for cut flower business industry. They are also handling the bulbs and nurseries of some other flowers, like tulip, freesia, and so forth

They are dealing with about 34 million lily bulbs (32 million bulbs were imported from foreign countries). They have a top one market share of lily bulbs in Japan. They also are dealing with about a half million freesia bulbs and a hundred thousand tulip bulbs.

They have over fifty year's history on lily business. And now they have been grown to be an excellent global company with fifteen employees, annual sales amount of about 2.3 billion Yen (in May 2007) and the capitalization of 99 million Yen.

### **2.2 History**

The founder of the company was the father of the current president, Mr. Hiroshi Nakamura. He was a high-school teacher on biology and much curious about growing lily flowers.

In 1955, he established a business of selling lily bulbs in Kochi Pref. The business was transferred to the current president, who had been worked for insurance company for twelve years. He became a president of Nakamura-Noen in 1998.

In 1984, the former president initiated selling lily bulbs imported from Netherlands. That was the first trial for Nakamura-Noen to deal with foreign bulbs. The reasons why they initiated dealing foreign bulbs were the variety of flower kinds, the lower prices, and much amount of items, comparing to the domestic bulbs. However, there were some strict government regulations for importing foreign bulbs at that time, therefore they need much amount of effort to grow foreign bulbs in a special regulated

manner.

In 1987, they constructed the refrigerating storehouse system to keep foreign bulbs. Fortunately, in the next year, the rule on imported bulbs was deregulated for the market. So, in 1989, they sent a delegation team to Netherlands to learn the advanced technology on lily bulbs in Netherlands as a preparation to enlarge the business of importing foreign bulbs by using the refrigerating technology.

In 1990, Nakamura-Noen became a cooperation to enhance the financial power.

In 1992, they built a warm green-house to testimony grow bulbs to flowers to research the best conditions of growing. They also built a facility for warming bulbs cooled down in the refrigerating storehouse.

In 1999, they initiated a new business model to import lily bulbs from the southern hemisphere countries, such as Chile, and New Zealand, in order to develop a new lily flower market in winter season in Japan. Before that, there was no custom and no business of growing lily bulbs in those countries, but Nakamura-Noen taught them how to grow bulbs and collaborated with them to develop winter bulb business in Japan. By this effort, finally they could launch their new business by transferred lily bulbs from opposite climate countries.

### **2.3 Business Model and Technology**

Their business model strongly depends on some conventional technologies.

One key is the technology of refrigerating natural products. They did not use any special advanced technology, like biotechnology or else. They only utilized a conventional refrigerating technology for their purpose to transfer the foreign bulbs by ship without decomposition. Nowadays, in every day, they receive amount of foreign bulbs of about 200,000 ton at the importing harbor, and they store those bulbs inside the compartment with refrigerating system inside the company. The

compartment is kept at a low temperature with 0.1 degree range preciseness, and the thermal system is completely maintained with self power generation by heavy oil even when electric power is stopped by typhoon or earthquake. They induced those systems by purchasing from a refrigerator firm, not by developing it by themselves. However, they made much effort to develop the technology to warm up the cooled bulbs by themselves. They developed a specific warm bath system for thawing bulbs and encourage their germination.

The second key is a technology to grow bulbs to nursery or followers. They built a large greenhouse of about 1620 square meters in 2007. The greenhouse is maintained from 15 to 24 centigrade and completely controlled its daylight, ventilation, temperatures, water supply, and fertilizer conditions by computers. By using computer data system, they analyze the suitable conditions to grow bulbs. Because they are dealing with thousands kinds of foreign bulbs and the bulbs suitable for Japanese customers (flower agriculture farmers) are very limited as less than one percent of all, they have to research the best growing conditions of bulbs and to provide such information to the customers. In such a sense, they are selling not only bulbs themselves but also the information of bulb growing. That is one key of their business success, because their information on growing bulbs is very precious for the customers and this is a strong differentiation and competitiveness of Nakamura-Noen comparing to the competitors.

That is, they are not using any specific advanced technology (high-tech) but they are developing the utilization of conventional technologies (low-tech) by adding their created specific tacit and explicit knowledge. This is their innovation style. As J. Schumpeter (1900) mentioned, innovation is produced not only by creating a new product by new technology but also by some new combinations of

business elements, like logistics, organization or business manners. In this case, the key is the combination of new business model and conventional technologies.

#### **2.4 Organization Management Style**

The average age of total fifteen employees is 32.8 years old. The average salary of the employees is almost twice of that of the average income of people in Kochi Pref. Among fifteen employees, one is staying in Netherlands, ten people entered to this company after 2001. There is no employees quit the company. In the present, for their recruiting a new employee, there came many applicants from many other areas in Japan and the competition ratio to enter this company is about one hundred. As shown in such a phenomenon, this company is very popular for younger generation.

The president, Hiroshi Nakamura, emphasizes that the basis of management is how to grow people. He urged the employees to be autonomous and encouraged them to judge by themselves. Because every employee can behave by themselves with autonomy, it produces the best service to customers, he thinks. All of the employees join in research in the greenhouse to learn how to grow bulbs, along the policy of this company.

Even located in a rural area, the company is involved in international transaction and has foreign visitors every day. The employees are encouraged to improve their foreign language capability. Relationship and friendship with foreign countries are most significant mission in this company.

The president also makes it important to contribute to the local community because the local community and the human network surrounding the company are also the basis of business, he thinks. Therefore, the company is holding a community festival for the local residents, supporting the elementary school education, joining in some other community activities.

#### **2.5 External Circumstance on Flower Industry**

Basically, globalization is not always good for many domestic enterprises, because it brings more and more hard competition to the domestic market. Even in the flower industry, the law on importing foreign bulbs was deregulated in 1988. After that, in 1990's, the price of flowers has been getting down. For example, a high price lily was sold at 3000 yen in 1980's, but now the same lily is sold at one third of the previous price. From now on, the low price foreign cut flowers will be imported much more, and the flower farmers should go into a hard survival game.

Nakamura-Noen, however, utilized the change as a business opportunity on the contrary, and made a unique business model by utilizing refrigerating technology and freedom of importing bulbs.

### **3. ANALYSIS AND DISCUSSION**

#### **3.1 Factor 1.: Global Collaboration for New Business Model**

The current business of Nakamura-Noen strongly depends on importing lily bulbs as described before. Over 90 percents of total amount of lily bulbs that they are dealing with are imported ones. This success story is a very symbolic story which indicates how rural industries overcome the circumstances. The point is that they arranged their business model to utilize globalization positively.

Particularly, the most outstanding business model of Nakamura-Noen is to import lily bulbs from southern hemisphere countries. By this business model, they could monopolize and got the top share in the winter lily market in Japan. In the past, there was small market on lily flower in winter in Japan, because of the difficulty to grow lily flowers or lily bulbs in winter. The idea that Nakamura-Noen came up to developed the winter

market itself on lily flower. This is a good example that globalization bring us market innovation. The difference between the conventional business model and the new one in their transaction is schematically described in the figure 1.

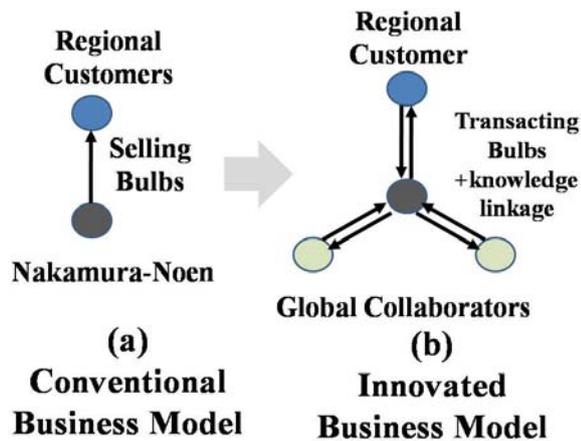


Fig. 1. Business model and global collaboration

Here, in the new business model, they are transacting not only bulbs but also knowledge on bulbs through global collaboration. This is an important key of their business success because this knowledge linkage became their core-competence in this field.

### 3.2 Factor 2.: Technology Impact for Regional Business

As described in the previous section, they were not using any specific advanced technology (high-tech) but they were developing the utilization of conventional technologies (low-tech) by adding their own specific tacit and explicit knowledge. For example, after using refrigerating system, they needed to develop their own technology to warm up the bulbs by the specific bath system and also they needed to research the detailed conditions of sunshine, humidity, temperature, watering, fertilizing, and so forth to grow bulbs to flowers. All of these technologies were developed by themselves with sharing the related tacit knowledge among global

collaboration. They provided these technologies and knowledge to the regional flower farmers when they sold the bulbs. This produced their core-competence in this market.

In this case, they did not need specific edged technologies (what we call high-tech) like advanced biotechnology, molecular biology or else, and therefore, they also did not need to develop these things by themselves. The basic technology for their business model was conventional refrigerating technology. The question is that, if they used some very advanced technologies, whether some related tacit knowledge regarding the key technologies could easily transferred to them or their customers, or not. It cannot be said so simply, but it may be said in some degree that, if the key technologies are well-known conventional technologies and not so difficult/specialized, the barrier to transfer or share the tacit knowledge surrounding the technologies may be smaller. Usually, most of the regional enterprises don't have very advanced technologies, but if they have a suitable business model to utilize conventional technologies, it may be easier to establish their core-competence by combining their tacit knowledge and conventional technologies than by utilizing advanced technologies, as schematically shown in the figure 2.

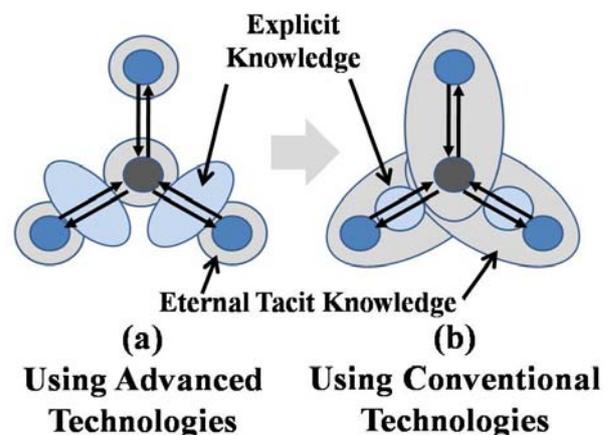


Fig. 2. Technology impact in business model

#### 4. CONCLUSION AND REMAINED ISSUES

The case of Nakamura-Noen showed us a good example of successful local business. The success of their business depends on the following two points.

- 1) Building an excellent business model based on global collaboration
- 2) Combining conventional technologies and their own tacit knowledge to establish the business model

The case implies that, most of the rural enterprises without competitive, edged technologies (high-tech), can establish a successful business by utilizing conventional technologies (low-tech) and their own tacit knowledge, if they have an excellent business model. The important key is to build a suitable business model, and global collaboration may be a very significant factor to find such a business model particularly in current globalized world. To encourage regional industries, the urgent issue may be to have a good business leader to find a suitable business model in perspective of the global world. Also, many suggestive cases should be introduced to provide a clue for regional people. This kind of research shall continue to contribute them in this aspect.

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