The Effects of Support to Promote Innovation at SMEs by Local Governments in Japan: Market Orientation and Informational Resources

Yoshito MATSUDAIRA*, Takashi NATORI

*Postgraduate School of Technology Management, Ritsumeikan University, Iyakura-Cho, Ibaraki, Osaka, 567-8570 Japan

Abstract

The goal of this study is to clarify the effect of policies for promoting innovation at SMEs by local government Osaka city in Japan. An empirical analysis of an interview and questionnaire survey in a case study of the innovation promotion policy “Osaka Top Runner Project,” indicates the following results: support by Osaka Top Runner Project creates intermediate results such as fostering of market orientation based upon customer orientation, competitor orientation and interfunctional coordination and acquisition of firm-specific informational resources, leading to final outcomes such as making new businesses profitable, prospects of success and business continuity. Based upon this result, we present a hypothesis for a causal model between innovation promotion policy (cause) and its effect.

Keywords: Regional SMEs; Local Government; Innovation; Support Policy for Commercialisation; Soft (Indirect) Business Support; Market Orientation; Informational Resources

1. Introduction

Small and medium-sized enterprises (SMEs) have been the target of public policy for a long time. This study focuses on the policies of local governments for promoting innovation at SMEs. Innovation policy targets promoting the commercial exploitation of new ideas as products, processes, and organizational techniques [1]. The more comprehensive innovation policy approach considers supporting human resources and talent, creating demand for innovative products through public procurement schemes, offering advanced innovation services for SMEs, and promoting novel forms of support for innovation networks and collaborative arrangements [2]. The aim of this study is to clarify the effect of innovation promotion policy through a case study of SMEs. In the past, national policy was central to the discussion of SME policy in Japan. However, since the 2000s, municipalities began to be required to plan and implement their own SMEs policies. In recent years, emphasis has been placed on local government policies for promotion of innovation at SMEs.

In the context of policies for the support of small and medium-sized enterprises (SMEs), a distinction is drawn between ‘hard’ and ‘soft’ business support. Hard (direct) business support refers to support provided in the form of funds (money), as subsidies for research, technology development and the like. Soft (indirect) business support consists of non-financial support: for example, to help an SME solve problems with which it has been struggling. Eshima [3] pointed out that public support policies for Japanese small and medium-sized enterprises (SMEs) focus mainly on subsidies, and that there is little support from outside for knowledge resources such as providing strategic management expertise. In Ueda et al., [4], local-government SME policies remain similar in content, with few municipalities adopting unique SME support policies. According to Natori [5], there are many new business support policies of SMEs by municipalities, but most of them are said that most will only subsidise technology development. From the above it can be seen that support for SMEs still consists mainly of subsidies for research and technology development, meaning direct business support, and that original support policies from local governments play a minor role.

Among the small number of cases of municipalities’ original support policies for SMEs are those of the City of Osaka, which takes a different approach from traditional SME support policies. This is the Osaka Top Runner Project (hereinafter referred to as ‘the TR Project’) which is the subject of this study. This project supports the commercialisation of the growth industry field aimed at contributing to the growth of the regional economies that the City of Osaka Economic Strategy Bureau conducts. Osaka city is developing a policy of supporting SMEs ahead of other cities.

In the TR project, the City of Osaka secures the budget and presents the outline of the project, publicly invites project proposals including operational aspects, and entrusts to the Osaka Municipal Industry Promotion Centre which is a public interest incorporated foundation.

*Corresponding author: gr0326vv@ed.ritsumei.ac.jp

Received: February 27, 2019
Accepted: October 4, 2019
There are three criteria for certification of companies for support by the TR project: (1) a promising business plan, (2) feasibility of the business plan, and (3) contribution to the region. The business fields covered by the TR project consist of growth industries such as the life-related (health, medical care, nursing care etc.) field and the “green” (environment, energy etc.) field. The TR project will support business projects aiming at the development and marketing of new products and services in those fields. From the accreditation of the TR project in 2016, all industrial sectors that can be expected to grow in the future have been eligible for support, eliminating restrictions on specific industrial fields. IoT, big data, AI, tourism, etc. are listed as target projects in addition to the medical, nursing care and health fields. The target projects are said to be novel, to be expected to expand sales, and to be in the stage of market entry or market development.

The TR project differs from conventional support for SMEs. That is to say, a key feature of conventional support is that it focuses on solutions to specific problems, often through the introduction of specialists with particular functions. For example, the service may introduce a solicitor to assist with patent issues or an expert in a technology that can solve problems for the company.

Conversely, the Osaka Top Runner Project is distinguished by its focus on providing support for a single project, through the formation of a support team. To launch a new project, a ‘pace-setting’ approach is adopted, with the team working closely with the SME every step of the way. Under this approach, the project-management method is used to draw up a detailed schedule based on a two-year plan, under the supervision of a project leader. Clear goals are set from the perspective of overall optimisation of each issue and results are developed for each.

The authors searched for examples of SME support approaches similar to the TR project, in which local governments provide comprehensive support through the formation of support teams guided by a project leader. Our search turned up no comparable support programs offered by other local governments.

Areas supported by the TR project include project planning and progress management, formation of business strategy, fund procurement, intellectual property, promotion of development of products and services, marketing and sales channel development, exhibitions, overseas deployment, and implementation of demonstration tests. The TR project is targeted at companies with advanced and highly motivated entrepreneurs who lead the growth industry sector and aims to contribute to the growth of the regional economy in Osaka. The TR project incorporates a full complement of methods of discovering and fostering support projects and educational programmes for businesses and has been put to extensive use in the commercialisation policies of municipalities in recent years [5].

In this study we will clarify the effects of local governments’ policies for promoting innovation at SMEs on cases of companies that were certified for the TR project. In this research, it is assumed that each innovation constitutes a new business.

2. Literature review

So far few studies have been conducted on external support for SMEs by Japanese public organisations. There is little research on municipal SMEs policies, and few studies have theoretically elucidated the effects of SMEs support policies [6]. In the research on the effect of SME support policies, there are studies such as Wren and Storey [7], Ishii [8], Okamuro and Nishimura [9] and Foreman-Peck [10].

For example, a great deal of research has been performed on Small Business Innovation Research (SBIR), which is a support policy for SMEs and venture firms in the United States. SBIR was a U.S. policy response to the competitiveness crisis of the 1970s and early 1980s. The mission of SBIR was to enhance U.S. competitiveness by promoting high-technology and innovative SMEs. To evaluate the impact of SBIR on the commercial activities of SMEs, a large, comprehensive survey was undertaken by the U.S. National Academies of Sciences, Engineering, and Medicine’s Board on Science, Technology, and Economic Policy (STEP) [11]. In addition, some case studies were undertaken on the basis of detailed interviews with the founders, owners and employees of over 50 firms [12, 13]. All of the firms in these case studies had obtained SBIR assistance. These case studies analysed the impact of SBIR in a broad context. Moreover, the results from evaluating SBIR suggested that the benefits of SBIR extend beyond the impact on the individual recipient firm [14].

A considerable amount of research has also been done on Business Link (BL), a publicly-financed delivery system for offering advice to SMEs in the United Kingdom. BL is one network of local operators in England, complemented by a similar group of operators in Scotland and Wales. This structure was initiated in 1993 for the aim of using local delivery points as a means to access and integrate a wide range of central-government small-business services. An element of BL attempts has been to develop the BL, and its advisors as brokers [15]. The brokerage model has some potential advantages for SME support services [16]. Other studies by Thomas et al., [17] and Rajkumar and Thomas [18] have highlighted a number of important aspects of the process of BL service delivery, which causes other concerns. However, these studies target the SME support policies of national governments, not municipalities.

In western countries, the theoretical framework on which much research on external support for SMEs depends is the resource-based view of the firm (RBV). The reason is that, when SMEs and venture companies take on the challenge of launching a new business, they require information on a diverse range of topics, including information on markets, customers, technologies, suppliers and much more. The ability of an enterprise to acquire and assimilate such information and apply it in drafting a strategy for a new business is considered a
The Effects of Support to Promote Innovation at SMEs by Local Governments in Japan:
Market Orientation and Informational Resources

classic example of an internal resource, which is the principal focus of the RBV paradigm. Chrisman and McMullan [19] state that the provision of knowledge to a venture company by outside parties is a source of competitiveness for that company. Elsewhere, Chrisman and McMullan [20] point out that outside support provides SMEs and venture companies with opportunities to cultivate knowledge, reiterating that the provision of knowledge to a venture company by outside parties is a source of competitiveness for that company. Chrisman et al. [21] found that the more an SME receives guidance and prepares for its new business, the greater its sales and employment levels tend to grow. According to Hjalmarsson and Johansson [22], the roles of policy include providing educational opportunities to entrepreneurs and mediating the provision of consulting services to SMEs. Mole et al. [23] note that the RBV approach is most commonly adopted to understand the effects of advice on SMEs’ growth and performance; Bennett and Robson [24]; Chrisman and McMullan [20]; and Chrisman et al. [21] concur. Bennett and Robson [24] find that RBV is the main theoretical approach that can be used at the level of the individual SME.

Based on the above research in western countries, this study assumes that local governments’ innovation promotion policies for SMEs have the effect of cultivating knowledge in those SMEs. Like this study, Natori [5, 6] had studied the effect of the Osaka Top Runner Project. Natori [5, 6] verified the effect of using classification of innovation type by STI mode and DUI mode by Jensen et al. [25]. Jensen et al. (2007) classified modes of generating innovation into two modes: the science, technology and innovation (STI) mode and the doing, using and interacting (DUI) mode. The STI mode consists of innovation conducted within a company, using formalised knowledge that is primarily scientific and technological. The DUI mode comprises ‘needs-driven’ innovation that draws on problem-solving experiences, such as cooperating with customers and negotiating with suppliers, as well as implicit knowledge gained from study.

As a result, the effect was not confirmed in terms of STI mode, R and D versus sales ratio, collaboration with universities and research centres, and R and D personnel ratio. Although the effect was confirmed by the cross-sectional organisation of the DUI mode, the autonomous group and the integrated function, other effects could not be confirmed in terms of quality improvement, gathering proposals, loose authority relationships, and building strong relationships with customers. Therefore, it can be pointed out that the TR Project’s effectiveness in supporting the promotion of innovation could not necessarily be successfully extracted in the measurement using the STI and DUI mode. Presumably other factors are at work that cannot be captured by these two modes. In this study we clarify the effects that previous research could not capture, assuming that the effects of fostering market orientation and acquisition of informational resources had been missing as additional factors. Next, we aim to construct a hypothesis about the TR project and its effects. This study applies two analytical frameworks for evaluating the policy effect of the TR project. One is the theory of market orientation [26], and the other is the concept of firm-specific informational resources [27] explained as ‘invisible assets’ [28, 29] among corporate resources.

This study reveals that it is important to promote the development of market orientation leading to the support of market development in the municipalities’ innovation promotion policy and to enter the provision of firm-specific informational resources. Market orientation has definitions from two perspectives: from an organisation’s cultural perspective [26] and a behavioural perspective [30]. In this study, the following definition by Narver and Slater (1990) [26] is adopted.

Market orientation is the organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business. [26] (p. 21)

Narver and Slater [26] classifies market orientation into three categories: customer orientation, competitor orientation, and coordinated integration. Customer orientation and competitor orientation include activities to acquire information about customers and competitors in target markets and activities to disseminate such information throughout the organisation. Coordinated integration is an activity to put corporate resources to systematic use to create excellent value that targets customers based on information about customers and competitors.

Informational resources are a management resources. However, unlike tangible management resources such as people, goods, and money, it refers to intangible and invisible resources such as technical strength, production expertise, customer's credibility, brand name recognition, control of distribution, management skill, and employee morale [27, 28, 29]. Itami [28, 29] called those resources ‘invisible assets’ and they are just essential for effective operation as the more visible corporate resources. Invisible assets are the most important resources for long-term success of the firm and the real source of competitive power and the key factor in corporate adaptability for three reasons: they are hard to accumulate, they can be simultaneously used in several areas, and they are both input and output of activities by the firm [28]. Itami and Kagono [27] grasp that such informational resources are firm-specific in that they have meaning only for that company.

3. Research content and research method

An example of a new business (innovation) to be analysed is an electric lift wash basin (product name: LAP) which is a new business of I&C Co., Ltd., which is supported by the TR project. The reasons for using the LAP project as
an analysis target are that this project was approved in 2013, when the TR project was launched; it came in the third year after the support; and it is judged to be appropriate as a subject to verify the policy effect.

Our analytical method is to observe the changes after utilising the TR project and clarify the effects after implementation. Market orientation consists of three elements: customer orientation, competitor orientation, and coordinated integration; we measure these changes after implementation of the TR project utilisation. For the questionnaire on market orientation, we used a measurement scale consisting of three action elements [26]: customer orientation, competitor orientation, and coordinated integration for market orientation.

Informational resources consist of the following 15 items: Technical introduction route, technological capability, cross-sectional group, advertising expertise, project execution ability, business plan formulation ability, external network formation, employee motivation, funding procurement capability, product or service development, promotional opportunity, business development speed, route of acquisition of market information, development of marketing route, and creditworthiness and name recognition.

Our study measures these changes after implementation of the TR project utilisation and verifies the effects. This study adopts the case-study approach. According to Meyer [31], case studies have been regarded as a design [32], as a research strategy [33], as a qualitative methodology [34], and as a particular data-collection procedure [35]. Yin [33] and Eisenhardt [36] present helpful insights into the case study as a research strategy. The reason for using the case-study approach in such studies, as Eisenhardt [36] pointed out, is to build hypotheses in many cases. This is the objective in our study. The aim is to construct a theoretical hypothesis about innovation promotion policies and effects for SMEs through a case study.

In our case study we use the main analytical concept: market orientation and informational resources and use semi-structured interviews and questionnaire surveys as a research method for small and medium-sized manufacturing firms in Osaka certified by the TR project. In addition to a questionnaire survey based on two frameworks of market orientation and informational resources, the authors interviewed Mr. Yukio Sada, president and representative director of I&C, at I&C’s Osaka showroom, on 6th June and 7th August 2018, for two hours each. The differences in Mr. Sada’s responses to each item on the questionnaire survey between the two dates was graded on a five-level Likert scale as ‘very different,’ ‘different,’ ‘not very different,’ ‘not at all different’ and ‘don’t know.’

In the interview, we asked the following questions: With regard to the LAP project, which is a TR-project-certified project of a washbasin with automatic raising and lowering function produced by I & C, we outline the following: 1) LAP project outline 2) LAP development history 3) background of utilisation of the TR project and 4) effect of the TR project on the LAP project.

The results of the questionnaire survey are shown in the case outline, case analysis and discussion described below.

4. Case outlines

Founded in December 2008, I & C Co., Ltd. (head office: Osaka, President: Yukio Sada) has 14 employees, capital of ¥125 million and sales of ¥500 million (Fiscal year ended November 2017). In addition to the Osaka headquarters, I & C also has bases in Tokyo; Odense, Denmark; and New York. Business contents include robotics design furniture LAP (electric IoT furniture), housing equipment · building materials development, sales of furniture and interior products, designing, manufacturing, construction of bespoke furniture, designing, manufacturing, construction of wooden fittings, interior · space design.

The reason for using LAP as IoT furniture was to capture, using sensors, the motions of people using an electric lift wash basin (product name: LAP) and store the data in the cloud by connecting LAP to the internet. The company is currently developing a feature that analyses the accumulated data using AI and, when the person uses LAP, adjusts LAP automatically to a convenient height for the particular user while maintaining safety.

Briefly speaking, LAP is a washbasin whose height can be changed by electric power. LAP is a washbasin that can be used by children, adults, elderly people and care takers using electric raising and lowering. A sensor is attached to the LAP, enabling automatic detection and height adjustment. The height is raised and lowered in units of 1 mm from 65 to 110 cm. It is easy to use for everyone adapting to the height and posture of the person using it, so it is useful not only for hospitals and nursing care facilities but also for home care. LAP is a product that improves the convenience of users and also promotes autonomy in bathing for those with bent waist and back and wheelchair users in all situations, such as at home, hospitals, nursing care sites. Mr. Sada explains LAP as ‘a washbasin that embraces people.’ In other words, instead of people conforming to the form of the washbasin, the washbasin’s form conforms to the needs of the people who use it. ‘Embracing people’ has become the key concept of business development of I & C.

The support I & C expected from the TR project was threefold: technology introduction routes, expertise in
demonstration tests and development of overseas markets. Firstly, I&C was faced with the problem of technology introduction route. The problem was that I&C needed to procure parts that are necessary to raise and lower the washbowl electrically and that are easy to maintain. I&C did not have any knowledge of manufacturers’ shares in the industry or which manufacturers are reliable. I&C did not know how to obtain important components such as actuators, so it consulted hands-on support coordinators of the TR project. Immediately the coordinator introduced to them a domestic producer of excellent motors that could be manufactured independently. Although I&C did not reach a deal with the company, the expertise was useful for creating a network for technology introduction. I&C has accordingly solved its problem of selecting motors.

Another technical problem was a motion detector with high added value. Mr. Sada wanted to enable automatically adjusting the height of the washbasin by sensing the movement of a person without troublesome operation such as pushing a button. However, there was no knowledge about the sensor control unit for automation. So, they consulted hands-on support coordinator and received introduction of company specialised in sensors. I&C decided to promote joint development with the company, and the relationship of joint development still continues now. I&C was able to do matching with other companies to complement the weak point, which is difficult in-house development, with TR support.

Secondly, the TR project provided expertise in demonstration tests. The form of the product, a washbasin that can be raised and lowered electrically, was achieved, but the next task was to objectively show the performance and function of the product and to incorporate user feedback. However, I&C did not have expertise in demonstration tests, and it was difficult to search for facilities to cooperate for experiments. The company consulted with the coordinator, received assistance for preparing the experiment draft, received the introduction of the verification experiment cooperation facility through the coordinator, and was able to collect the data. With TR support, they were able to listen to the raw honest voice at the site of the facility user, and that support helped greatly in improving the performance and function of the product.

The third benefit was the development of overseas markets. Mr. Sada had the idea, ‘I would like to create a new business domain for the furniture and interior industry from an original perspective of design and function.’ He thought that the Japanese furniture industry was crowded with companies, tightly focused on price competition and not amenable to selling furniture with high added value. In addition, he thought that it would be difficult for Japanese furniture manufacturers to lead the global market while mimicking Western style. So, instead of fighting with traditional simple furniture, he thought about adding new functions, and even winning in a unique area where development is difficult unless it is in Japan. Ultimately, the firm will create a new furniture market that will respond to the needs of Japan, whose aging rate is advanced. In addition to that, he thought that there would be enough demand from abroad if the furniture could feature the unique technology of Japan.

I & C consulted with the coordinator about the concept to develop the domestic and overseas markets simultaneously. The coordinator picked up the idea and decided that the product would contribute to the elderly, so the coordinator advised the firm to target Denmark, an advanced welfare state, to develop overseas markets. The two support members of the TR project had contacts within the Danish embassy. One of them was acquainted with the investment manager of the Danish embassy. Thanks to that, the Investment Manager of the Embassy was able to visit I&C. The investment manager showed a strong interest and came to visit the domestic exhibition. I&C continued to meet with representatives of Denmark every six months for about three years, and as a result, the firm demonstrated its seriousness about entering the Danish market, built up credibility, and put competitors on notice. I&C’s LAP received a recommendation from the Danish Foreign Ministry’s national project certification. With the support of the Ministry of Foreign Affairs of Denmark, I & C could lease office space cheaply at innovation facilities at a university in Odense city and continues to do so today.

Domestic sales of LAP grew. In 2013, in a retirement facility in Tsu, Mie Prefecture, one unit was installed in each room, so that 60 units in total were introduced. From that start, about 1,600 LAP units were sold by June 2017. The latest model, released in the autumn of 2017, were adopted at more than 400 domestic nursing care facilities and hospitals, etc. as of April 2018.

5. Case analysis and discussion

5.1 Case analysis results

Table 1 shows the change of I&C company after support by the TR project. The contents summarise the results of a questionnaire survey and two interviews to I & C company. In market orientation, our study confirms clear changes of customer orientation, competitor orientation, and coordinated integration after support of TR project. Regarding informational resources as well, clear changes can be confirmed after support of the TR project.
| Construct                  | Item                                           | After support of the TR project          |
|----------------------------|-----------------------------------------------|------------------------------------------|
| Market Orientation         | 【Customer Orientation】                        |                                          |
|                            | Customer commitment                           | Greatly increased                        |
|                            | Create customer value                         | Greatly increased                        |
|                            | Understand customer needs                    | Greatly improved                         |
|                            | Customer satisfaction objectives              | Were met to a much greater degree        |
|                            | Measure customer satisfaction                 | Greatly improved                         |
|                            | After-sales service                           | Greatly improved                         |
|                            | 【Competitor Orientation】                      |                                          |
|                            | Salespeople share competitor information      | Greatly improved                         |
|                            | Respond rapidly to competitors’ actions       | Greatly improved                         |
|                            | Top managers discuss competitors’ strategies  | Somewhat increased                       |
|                            | Target opportunities for competitive advantage| Greatly improved                         |
|                            | 【Interfunctional Coordination】                |                                          |
|                            | Interfunctional customer calls                | Greatly increased                        |
|                            | Information shared among functions           | Greatly increased                        |
|                            | Functional integration in strategy            | Greatly improved                         |
|                            | All functions contribute to customer value    | Great efforts made                       |
|                            | Share resources with other business units     | Greatly improved                         |
| Informational Resources    | Technical introduction route                  | Greatly expanded                         |
|                            | Technological capability                      | Greatly improved                         |
|                            | Cross-sectional group                         | Somewhat changed                         |
|                            | Advertising expertise                         | Greatly improved                         |
|                            | Project execution ability                     | Greatly improved                         |
|                            | Business plan formulation ability             | Greatly increased                        |
|                            | External network formation                   | Greatly increased                        |
|                            | Employee motivation                           | Greatly improved                         |
|                            | Funding procurement capability                | Greatly improved                         |
|                            | Product or service development                | Much more successful                     |
|                            | Promotional opportunity                      | Greatly increased                        |
|                            | business development                         | Greatly increased                        |
|                            | Route of acquisition of market                | Greatly expanded                         |
|                            | information Development of marketing route    | Greatly expanded                         |
|                            | Creditworthiness and name recognition         | Greatly increased                        |

Table 1. Changes after the support of Osaka Top Runner Project (I&C case)

5.2 Discussion

Let’s begin with the market orientation. From interviews, it was confirmed that understanding of customer needs was deepened. For instance, one company brought goods to nursing care facilities, hospitals and day service sites, performing photography, monitoring and verification tests that cannot usually be done. However, I&C was able to carry out demonstration tests at three facilities after being supported by the TR project guaranteed by the City of Osaka. First of all, people who come to the facility use the washbasin at an easy-to-use height. At that time, I&C staff measured the elbow height about 100 people and gathered the data. The reason for gathering the data was that they wanted to grasp the height, whether the waist was bent, the elbow height, and which height was easy to use without burden on the body. When analysing the data, the company made a surprising discovery. It became clear that the numerical value of the height gathered in the higher range. From this fact, it turned out that the assumption that the lower one is easier to use is incorrect, and product development changed at once.

Next, considering the information resources, we can confirm changes after the TR project's support in all items as a whole. As a concrete example, as mentioned above, the support I&C expected in the TR project was the acquisition of technology introduction routes. I&C was able to establish relationships with suppliers that could solve the problems in the motors and sensors that are the core of the products. The effects on creditworthiness and name recognition could be seen domestically and...
The Effects of Support to Promote Innovation at SMEs by Local Governments in Japan: Market Orientation and Informational Resources

As a theoretical contribution of this study, firstly, this study revealed effects not captured by the analysis of Natori [5, 6] using STI mode and DUI mode of innovation form by Jensen et al., [24]. The effect consists of fostering of market orientation and acquisition of firm-specific informational resources. Secondly, this research was able to present a clear theoretical framework for promoting innovation of SMEs by municipalities. The innovation promotion policy yields interim results in terms of fostering market orientation and acquiring firm-specific informational resources, leading to the final result of making the business profitable and continuing business. Therefore, we present a hypothesis about the causal relation between innovation promotion policy and the effect. Figure 1 details a hypothesis for a causal model linking innovation promotion policy (cause) and its effects.

Figure 1. Causal model between innovation promotion policy and its effect

6. Conclusions

6.1 Research Originality: Theoretical and Practical Contributions

This study tried to verify the effect of the TR project from an analytical framework using market orientation and informational resources. As a result, the TR project encouraged change to a market-oriented organisation and rooted the market orientation as organisational culture. In addition, the TR project provided information resources by experts, in particular providing technical introduction routes; provided proving test expertise; and supplemented creditworthiness. In this way the effect of realising the overseas (Denmark) market development for local SMEs was revealed.

In the questionnaire survey, the final outcome was also high. Sales increased ‘to a certain extent,’ but inquiries were ‘very much increased.’ In addition, we got answers that all the prospects for success, turning the surplus into businesses, and business continuity have ‘increased significantly.’ Based on the above verification results, it can be concluded that the TR project is exerting a certain effect as a policy for promoting innovation of SMEs.

As a theoretical contribution of this study, firstly, this study revealed effects not captured by the analysis of Natori [5, 6] using STI mode and DUI mode of innovation form by Jensen et al., [24]. The effect consists of fostering of market orientation and acquisition of firm-specific informational resources. Secondly, this research was able to present a clear theoretical framework for promoting innovation of SMEs by municipalities. The innovation promotion policy yields interim results in terms of fostering market orientation and acquiring firm-specific informational resources, leading to the final result of making the business profitable and continuing business. Therefore, we present a hypothesis about the causal relation between innovation promotion policy and the effect. Figure 1 details a hypothesis for a causal model linking innovation promotion policy (cause) and its effects.

Vol. 11 No. 1 (2019)
resources correspond to the fuel in our analogy. Just as an engine cannot keep running if it is not supplied with fuel, no matter how much an organisation changes its market orientation, if it does not acquire informational resources, it will not be able to drive innovation and it will fail to reach its final result.

Also, if we look at the relationship between market orientation and informational resources, a foundation is established that cultivates market-oriented sensitivity among the members of an SME and, as this market orientation becomes entrenched in the organisational culture, fosters innovative action by its members. With this foundation established, the SME can be supplied with informational resources that provide the enterprise differentiation it had been lacking, thereby stimulating innovative action by the SME. That is to say, if both the market orientation and informational resources are satisfied, the possibility of advancing innovation and achieving the final result increases.

What is important is that innovation cannot be advanced through market orientation alone. The dynamism that promotes innovation only becomes present when informational resources are added. This is because market orientation is an organisational culture. It is the foundation on which action toward innovation can occur, but this organisational culture of market orientation is not itself the resource that spurs actual movement. That resource is none other than firm-specific informational resources.

As a practical contribution of this study, this study showed the importance of soft (indirect) business support such as fostering market orientation and acquiring firm-specific informational resources for municipalities implementing innovation promotion policies to realise diffusion of innovation for SMEs. Certified companies acquire informational resources from the outside through the TR project, enabling them to reach the final result of making new businesses profitable and business continuity. The reason for being able to be linked to the final result is that the support of the TR project accurately grasps the situation in which the target company is located and provides firm-specific informational resources that the company really needs. Firm-specific informational resources are resources that are difficult to procure from the market, unlike versatile financial resources and material resources. Therefore, it is important to not only provide hard (direct) public business support biased towards the technology development stage centred on subsidies, but also to provide soft (indirect) public business support to the market entry stage of products to promote growth of small and medium-sized enterprises and promotion of innovation. These lessons were derived from case studies.

6.2 Limitations and Future Research Directions

The limitation of this study is that it depends upon the analysis of only one project called I&C’s LAP project. Therefore, it is necessary to increase the validity of the hypothesis of the presented causal model by increasing the number of analytical cases by interview and the number of samples of questionnaire surveys in the future. One future task is to verify the relationship between constructs about the hypothesis of the causal model presented in this research. The relationship between constructs is that the cause (the TR project: innovation promotion policy) leads to intermediate results (fostering market orientation and acquisition of informational resources) and then the final outcome (making new businesses profitable, prospect of success, business continuity). One candidate for verification of the causal relationship between constructs is the path analysis method of covariance structure analysis.

References

[1] OECD. Tax incentives for research and development: Trends and issues, Paris: OECD publishing, 2003.
[2] OECD. OECD Reviews of Regional Innovation Regions and Innovation Policy, Paris: OECD publishing, 2011.
[3] Eshima, Y. Gaibu keiei shigen ga chushokigo ni ataeru eikyo bunseki [“Analysis of the Impact of External Management Resources on SMEs”]. Tokyo, Japan Ventures Review, 2006, No.7. (in Japanese).
[4] Ueda, H. and T. Kuwabara. Chushokigo bencha kigyoron gurobaru to chiiki no hazama de [SMEs and Venture Company Theory between global and Region] Tokyo, Japan: Yuhikaku publishing, 2014. (in Japanese).
[5] Natori, T. Chushokigo no inobe-shon sokushin seisaku no kouka [“Effect of Innovation Promotion Policies for SMEs”]. Osaka, Japan: The Kansai Association for Venture and Entrepreneur Studies, 2017, Vol.9, pp.16-25. (in Japanese).
[6] Natori, T. Jichitai ni yoru chushokigo no inobe-shon sokushin seisaku no houhou to kouka [“Method and Effect of Municipalities Promoting Innovation for SMEs”]. Osaka, Japan: The Kansai Association for Venture and Entrepreneur Studies, 2015, Vol.7, pp.32-40. (in Japanese).
[7] Wren, C. and D. Storey. “Evaluating the Effect of Soft Business Support Upon Small Firm Performative”, Oxford Economic Papers, 2002, 54, pp.334-365.
[8] Ishii, Y. Chushokigo bencha kigyo no koteki shiensaku no seisaku hyoka ni kansuru kosatsu [“Evaluation of Public Policies to Support Small and Medium Enterprises and Venture Businesses”] Tokyo, Japan: Sangyo Keiei, 2010, Vol.46-47, pp.53-69. (in Japanese).
[9] Okamura, H. and J. Nishimura. Chiteki kurasuta seisaku no kokusai hikaku to hyoka: Chushokigyo no inobe-shon sokushin no shiten kara [“International Comparison and Evaluation of Intellectual Cluster Policy: From the Viewpoint of Promoting Innovation of Small and Medium Enterprises”] Tokyo, Japan: Annual report of Small and Medium Enterprise Research Center 2012, pp.3-17. (in Japanese).
[10] Foreman-Peck, J. “Effectiveness and Efficiency of SME Innovation Policy,” Small Business Economics, 2013, Vol.41(1), pp.55-70.

[11] Wessner, C. W. (ed.), The Small Business Innovation Research Program (SBIR): An Assessment of the Department of Defense Fast Track Initiative, Washington, D.C.: National Academy Press, 2001.

[12] Link, A. N. and J. T. Scott. “Estimates of the Social Returns to Small Business Innovation Research Projects”, in C. Wessner (ed.), The Small Business Innovation Research Program (SBIR): An Assessment of the Department of Defense Fast Track Initiative, Washington, D.C.: National Academy Press, 2001, pp.275-290.

[13] Link, A. N., “An Assessment of the Small Business Innovation Research Fast Track Program in the Southeastern States”, in C. Wessner (ed.), The Small Business Innovation Research Program (SBIR): An Assessment of the Department of Defense Fast Track Initiative, Washington, D.C.: National Academy Press, 2001, pp.194-210.

[14] Audretsch, D. B. Standing on the Shoulders of Midgets: The US Small Business Innovation Research program (SBIR), Small Business Economics, 2003, Vol.20 (2), pp.129-135.

[15] Bennett, R.J. “Expectations-based evaluation of SME advice and consultancy: An example of Business Link services”, Journal of Small Business and Enterprise Development, 2007, Vol.14, No 3, pp.435-457.

[16] Mole, K.F. International Review of Business Support and Brokerage: A Report for the Small Business Service, available at: www.sbs.gov.uk, 2002.

[17] Thomas, A., Rajkumar, R. and Chadwick, M. “Small business experience of using government services: case study results”, Proceedings of ISBA Conference, 2004.

[18] Rajkumar, R. and Thomas, A. Qualitative Research into Small Business Experiences of Using Government Services, BMRB Social Research, for SBS, available at: www.sbs.gov.uk, 2004.

[19] Chrisman, J. J., McMullan, W. E. “A Preliminary Assessment of Outsider Assistance as a Knowledge Resource: The Longer-Term Impact of New Venture Counseling”, Entrepreneurship Theory and Practice Spring, 2000, pp.37-53.

[20] Chrisman, J. J., McMullan, W. E. “Outsider Assistance as a Knowledge Resource for New Venture Survival”, Journal of Small Business Management, 2004, 42(3), pp.229-244.

[21] Chrisman, J. J., McMullan, W. E., Hall, J. “The influence of guided preparation on the long-term performance of new ventures”, Journal of Business Venturing, 20, 2005, pp.769-791.

[22] Hjalmarsson, D., Johansson, A. “Public advisory services-theory and practice”, Entrepreneurship and Regional Development, 15, 2003, pp.83-98.

[23] Mole, K. F., Hart, M., Roper, S., Saal, D. S. “Assessing the Effectiveness of Business Support Service in England: Evidence from a Theory-Based Evaluation”, International Small Business Journal, Sep. 22, 2009, pp.557-580.

[24] Bennett, R. J. and Robson, P. J. A. “Changing Use of External Business Advice and Government Support during the 1990s”, Regional Studies 37(8), 2003, pp.795–811.

[25] Jensen, M. B. Johnson, B. Lorenz. E. and Lundvall, B.A. “Forms of Knowledge and Modes of Innovation”, Research Policy, 2007, 36, pp.680-693.

[26] Narver, J. and S. F. Slater. “The Effect of a Market Orientation on Business Profitability,” Journal of Marketing, 1990, Vol.54, No.4, pp.20-35.

[27] Itami, H., and Kagomo, T. Zemina-ru keieigaku nyuumon [Introduction to Seminar Business Administration] (3rd ed.) Tokyo, Japan: Nihonkeizaishimbunsha, 2003. (in Japanese)

[28] Itami, H. Shin keieisenyaku no rorriri: miezaru shisan no dainaimizumu [Theory of Management Strategy: Dynamism of Invisible Assets] Tokyo, Japan: Nihonkeizaishimbunsha, 1984. (in Japanese)

[29] Itami, H., with Roehl, T. W. Mobilizing Invisible Assets, Cambridge, MA: Harvard University Press, 1987.

[30] Kohli, K. A. and B. J. Jaworski. “Market Orientation: The Construct, Research Propositions, and Managerial Implications,” Journal of Marketing, 1990, Vol. 54, pp.1-18.

[31] Meyer C. B. “A case in case study methodology”, Field Methods, 2001, 13(4), pp.329-352.

[32] Cook, T. D., and D. T. Campbell. Quasi experimentation: Design and analysis issues for field settings, Boston: Houghton Mifflin, 1979.

[33] Yin, R. K. Case study research: Design and methods. Applied Social Research Series, 1989. Vol. 5. London: Sage.

[34] Cassell, C., and G. Symon, eds. Qualitative methods in organizational research: A practical guide, London: Sage, 1994.

[35] Andersen, S. S. Case-studier og generalisering: Forskningstaktik og design (Case Studies and Generalisation: Research Strategy and Design), Bergen, Norway: Fagbokforlaget, 1997.

[36] Eisenhardt, K. “Building Theories from Case Study Research,” The Academy of Management Review, 1989, 14(4), pp.532-550.

[37] Baum, J. A. C., and C. Oliver. “Institutional Linkages and Organizational Mortality,” Administrative Science Quarterly, 1991, Vol.36, pp.187-218.

[38] Baum, J. A. C., and C. Oliver. “Institutional Embeddedness and the Dynamics of Organizational Populations,” American Sociological Review, 1992, Vol.57, pp.540-559.