

Chapter 13

Toward Promoting Regional Industries Through Cross-Sectoral Collaborations

ABSTRACT

This study aims to elucidate how to facilitate the self-organization process toward cross-sectoral collaborations for business creation with the medium- to long-term objective of promoting new regional industries. To explore this research theme, 1) a regional system to support such promotion, 2) a management to facilitate cross-sectoral collaborations, and 3) a management body to implement the management are considered. As the chapter for concluding this study, first, the study is summarized. Second, focusing on the study in Sections 2 to 4, wherein the regional system, the management, and the management body are examined respectively through the analysis of the case studies, the significance of the findings on the theory building is discussed. Then, the practical implication of the findings is considered. Finally, after explaining the limitations of this study, future research issues are shown for further development of the study.

SUMMARY OF THIS STUDY

Section 1: Introduction

The aim of Section 1 is to introduce the overall picture and the approach of this study, which views that facilitating cross-sectoral collaboration is indispensable for promoting competitive new regional industries.

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Chapter 1 shows that this study explores the effective promotion of new regional industries through collaborations. Next, collaboration, the subject of this study, is defined to be established between organizations with different functions that are equal and complementary to each other, with the objective of both parties benefiting from the new business opportunity. Moreover, it is clarified that collaboration is formed through a self-organization process among people belonging to different organizations, wherein the parties involved in the process interact by communication, and it is required to implement intervention to facilitate the process. In order to consider the effective promotion of new regional industries through cross-sectoral collaborations, it is proposed to explore the theme by focusing on the regional system, management, and the management body to implement it. Then, the relevant literature is introduced. Finally, the need for a case study that enables us to learn lessons from the practice is discussed, and it is suggested to conduct a comparative analysis of the cases by focusing on the efforts to promote the medical technology industry in the three states of Germany.

Chapter 2 explains the overall picture and the background of the case study by focusing on the economy and industry of Germany. After the mid-2000s, the country has been performing well in the economy, displaying steady growth and strength in innovation capability. However, in the late 1990s and early 2000s, it faced severe economic stagnation, and the government implemented policies to recover from it. One of the main policies is the growth strategy, intended to strengthen innovation capability and increase labor productivity. This aims to promote competitive industries across the country, including SMEs, which are the backbone of the economy and play a significant role in industrial development. One of the core measures toward this goal is promoting cluster programs supported by the federal and state governments. The notable feature is that Germany has a long tradition of decentralization, and each state is authorized to implement the policy for industrial promotion. Therefore, each state government provides its own support for cluster initiatives in its region (i.e., facilitating goal-oriented interaction for promoting regional innovation processes) to increase location-based competition. In contrast, the federal government provides support (i.e., evaluating and providing incentives to sort out the excellent cluster initiatives) by maintaining the coherence of policies between the state government through dialog and coordination. The medical technology field, which has a high potential for growth and leading the economy, is one of the industries targeted by a number of the state government for its promotion.

Chapter 3 explains the research design of this study, that is to elucidate 1. how to build/operate the regional system, 2. how the management is to be implemented for facilitating the self-organization process toward cross-sectoral collaborations, and 3. how to build/rebuild the management body to support this process. The approach is to build a comprehensive theory by proposing the conceptual model with a review

of the previous studies, then conducting a detailed examination of multiple case studies and considering the model's validity. Next, the importance of selecting the target case is explained. The criteria for selecting case studies are listed, and the cases in three German states are explained to fulfill them. Finally, data collection and analysis were described. Data collection for conducting the case studies is promoted through collecting the secondary data, then conducting semi-structured interviews with the parties concerned. Regarding analysis, a qualitative comparative analysis method based on several case studies is used to analyze the data, and process tracing for each case study is conducted by focusing on the chronology of events to clarify the causal chain and "how" and "why" issues that are the mechanism of leading to the results of each case study.

Section 2: Regional System to Promote Competitive Industries Through Cross-Sectoral Collaborations – How to Build and Operate

Section 2 explores R.Q.1, which aims to elucidate "a management approach to build and operate a regional system for facilitating the self-organizing process of cross-sectoral collaborations to promote new competitive regional industries."

Chapter 4 reviews the literature and proposes the conceptual model on R.Q. 1. First, the region is discussed as the best level to consider processes and patterns of innovation and construct competitive advantage, and the literature about the drivers and goals for competitive regional industries is reviewed. Then, based on the concept of "Constructed Advantage," approaches and key dimensions of "Constructing Regional Advantage (CRA)" are discussed. Here, it is suggested that each region is required to seek its own solution with consideration of initial conditions and interfacing of various directions. Moreover, a platform policy, which includes various actors, agencies, and structures, creates more scope and flexibility and is introduced as a suitable approach toward CRA. It is proposed that a platform policy should be deployed by building a regional innovation system (RIS) based on the Triple (Quadruple)-Helix model. Finally, actors and their roles are clarified, and it is indicated that the business environment is created by involving actors from the two subsystems composed of firms and research institutions, etc., then feedbacked by the environment for further development. These cycles occur as a self-organization process toward cross-sectoral collaborations. Conversely, government public policies are implemented to create a regional environment for facilitating these cycles. Based on these arguments, the conceptual model of R.Q. 1 is depicted. The model describes that, first, policymakers in the public sector should understand the initial conditions and identify the sector (industry) to be promoted. Moreover, they also have to approach and involve the local stakeholders. This is to build RIS based on the triple (quadruple)-helix model

for implementing platform policy and seeking the own solution, then facilitate the self-organization process toward cross-sectoral collaborations. The regional system is built and operated through interaction between top-down public forces (i.e., public sector) and bottom-up creative forces (i.e., firms and R&D institutions, etc.). The building process also includes experimentalism for evolution.

Chapter 5 illustrates the result of the case studies. The study scrutinizes the experiences of NRW, Bavaria, and BW in Germany. In these three cases, regional systems have been built and operated with trial and error, and today, cluster programs are promoted through interaction between the state government and regional stakeholders. This aims to strengthen innovation capability and promote regional industries by facilitating cross-sectoral collaborations. After explaining the overview of the economic and industry background of each state with the SWOT framework, the movements toward building the regional system are described wherein they promoted the effort either by reflecting and learning from the experience of the precedent program or gradually introducing the policies through conducting a survey and the interaction between regional stakeholders for pursuing their own solutions. These efforts result in the establishment of present regional systems. Regarding the structure of the regional system, industrial fields to be promoted are defined wherein the state governments (and the affiliate organizations) support launching cluster organizations and their activities. In addition to these overall movements, the case study focuses on the movements in the medical technology industries. First, the industrial background of each state is clarified with the SWOT framework. Then, the feature of the medical technology cluster of the three states is introduced. In all cases, the cluster organizations provide services to the members, such as networking and matching opportunities for collaborations, support for the application for competitive funds, and consulting for projects and training. It is also found that the state governments (or the affiliated organizations) supported the bottom-up movement of industry-academia (and local authority) to establish cluster organizations. Moreover, through observing the efforts in the medical technology field, it is found that the state governments direct the activities of the cluster organizations utilizing various measures to operate the regional system.

Chapter 6 conducts the comparative analysis of the result of the case studies based on the conceptual model and clarify the similarity and difference between the cases. Then, each case is analyzed with a process tracing approach wherein events observed are chronologically clarified, and the causal mechanism is examined by focusing on the efforts of 1. understanding the initial condition and exploring own solutions, 2. building and strengthening the regional system, 3. direction by the state government to operate the regional system. The result of the case studies shows the difference in paths to build the regional systems, their structures, and operations between the states. These differences are described in the comparative analysis and

are clarified more concretely in the analysis of each case. In contrast, the following are generally observed as the similarities between the cases. First, all three states focused on the concept of the industrial cluster for their goal, then understood initial conditions and pursued their own solutions. Here, it is found from the case study that the initial condition is learned through the interaction between the public sector and the two subsystems composed of industry and academia. Second, in the process of building the regional system, experimentalism is observed in terms of the interaction between the public sector and the two subsystems with trial and error, either through experiencing a precedent program or gradually implementing policies. The public sector also supports the self-organization (therefore, bottom-up) process of industry and academia to establish and strengthen the structure of cluster organizations. Third, to operate the regional system, it is found that the state governments try to direct the self-organization process of cross-sectoral collaborations toward regional priorities by influencing the activities of cluster organizations. With these findings from the case study, a certain validity of the conceptual model proposed in Chapter 4 is corroborated.

Section 3: Managing the Facilitation of Cross-Sectoral Collaborations – The Intervention in Complex Self-Organization Processes

Section 3 explores R.Q.2, which aims to elucidate “the management approach of facilitating the self-organization process toward cross-sectoral collaborations.”

Chapter 7 reviews the literature and proposes the conceptual model on R.Q. 2. First, inter-organizational collaboration, which has its nature as a type of network organization, is argued that its strength of flexibility and innovativeness is derived from the loose coupling and its formation through self-organization; however, it is characterized by complexity. Therefore, intervention by the management layer is required to facilitate complex self-organization processes toward collaboration. Second, since complexity theory and Lewin’s planned approach to change are identified as having common ground, the latter is scrutinized to consider further how complex self-organization processes can be facilitated. Here, action research-based intervention is proposed for performing leadership under complexity. Moreover, the initial conditions, fields, and emerging interactions are identified as the targets of management through intervention. Each target is clarified in detail. Then, the management, which is implemented through intervening in the targets to facilitate the self-organization process toward collaboration, is considered. Here, intervention in the initial conditions aims to facilitate participatory learning of the situation and to foster the felt-need for cross-sectoral collaborations. The purpose of the intervention in the field is to facilitate emergent movements of members for the establishment/

refinement of the field. Intervention is also implemented to facilitate emerging interaction toward collaborations. Based on these arguments, the conceptual model is proposed as a comprehensive management framework to facilitate complex self-organization processes toward cross-sectoral collaboration. The model illustrates the self-organization process of learning the initial conditions and fostering/sharing the felt-need, establishing/refining the field, and emerging interaction toward cross-sectoral collaboration. The process is cycled based on the felt-need fostered by the change in the business environment and feedback from members. Moreover, it also shows that the management layer implements the action research-based intervention to facilitate the process.

Chapter 8 illustrates the result of the case studies. The study scrutinizes the experiences of cluster organizations in NRW, Bavaria, and BW. After reviewing the socioeconomic environment and regional systems in the three states, the cluster organizations subject to the case studies (InnovativeMedizin NRW, Forum MedTech Pharma in Bavaria, Mannheim Medical Technology Cluster in BW) are introduced. The three cluster organizations have staff and members, and the former provides service to the latter to facilitate cross-sectoral collaborations. Then, based on the proposed conceptual model, the targets of intervention and the interventions of the three cases are scrutinized. First, the initial conditions of each case are clarified based on the category of positive and negative factors of the macro-environment, social network, and micro-environment. Intervention in the initial conditions is observed in the actions in the initial period, such as conducting surveys, fostering and sharing the felt-need among the founding members, and expanding the sharing of the felt-need with the regional stakeholders through approaching and inviting them as board members. This results in the foundation of cluster organizations. Second, the established and refined field of the three cases is clarified. Here, all the cases experienced the establishment of the field, then the refinement of the field after a certain period of activities. These are implemented through the intervention, wherein characteristic manners are observed in each case (e.g., recruiting members based on the value chain impact by Mannheim Medical Technology Cluster). The implementation of the intervention is determined through the survey (e.g., technology scouting in the case of Forum MedTech Pharma) and communication with stakeholders. Finally, intervention in the emerging interaction toward collaboration is also examined in each case. It is found that the intervention is implemented based on the established/refined field, and each case has a characteristic manner (e.g., the structured method in the case of InnovativeMedizin NRW).

Chapter 9 comparatively analyzes the result of the case studies based on the conceptual model and clarify the similarity and difference between the cases. Then, each case is analyzed with a process tracing approach wherein events observed are chronologically clarified, and the causal mechanism is examined by focusing on 1.

initial conditions and intervention, 2. intervention on establishment and refinement of field, and 3. intervention on emerging interaction. The result of the case studies shows differences in the path, methodology, and intervention's focus. In contrast, similarities are also observed in the following. First, the founding members intervene in learning the initial conditions by involving the parties concerned. It fosters a felt-need among them toward cross-sectoral collaborations in the medical technology industry, followed by the intervention in organizing the management layer (i.e., cluster organization) and establishing the field. Moreover, the management layer implements interventions to facilitate emerging interaction toward cross-sectoral collaborations based on the direction of the established field. Second, the management layer implements intervention for learning through surveys on the change in the business environment (including the change in the initial conditions), communicating and consulting with members and stakeholders to receive feedback/advice, and experienced activities. This leads to modification of the felt-need and intervention in refining the field that shows new direction. Then, the management layer implements interventions to facilitate emerging interactions based on the new direction. This facilitation of the cycle of the self-organization process of the collaborations by the management layer displays continuous adaptability and robustness in a dynamic environment to create innovative businesses through combining deliberate and emergent planning. These findings from the case study verify a certain validity of the conceptual model proposed in Chapter 7 with some modifications.

Section 4: Building and Rebuilding a Management Body for Facilitating Cross-Sectoral Collaborations

Section 4 explores R.Q.3, which aims to elucidate “how to build and rebuild a management body to display the organizational competence for facilitating the self-organization process of cross-sectoral collaborations toward promoting regional industries.” As explained in Chapter 10, the management body is equivalent to the management layer, discussed in Section 3, that implements intervention to facilitate collaborations.

Chapter 10 reviews the literature and proposes the conceptual model on R.Q. 3. First, studies on network governance are examined by focusing on network effectiveness and types of governance. It is clarified as a distinctly separate administrative entity called “Network Administration Organization” (NAO; equivalent to the “management body” in this paper) is the most suitable type to consider the subject of this study that premises facilitating a large number and variety of autonomous, and mutually dependent actors toward the goal of forming cross-sectoral collaborations aimed at promoting regional industry. Based on this argument, the role/effect and organizational

competence to be displayed by the management body are explored. It clarifies that the core role of the management body is (1) fostering the felt-need of concerned parties toward the collaboration and (2) facilitating the cycle of self-organization toward the collaborations, which displays the role of continuous formation of cross-sectoral collaborations that create innovative businesses and promotes regional industries. Then, the component competence and architectural competence of the management body are clarified. Here, component competence is clarified and classified based on the targets of intervention to facilitate collaboration (i.e., initial condition, establishment/refinement of field, and emerging interaction). Moreover, architectural competence is identified as (1) sensing the change, then changing itself, and (2) altering and integrating component competence to generate new value-creating strategies through facilitating collaborations. Finally, the argument is further developed to examine the methodology for building and rebuilding the management body. First, antecedents, attributing factors contributing to organizational competence, and adaptation through a quality management approach are clarified as issues to be examined. Based on these arguments, to consider “how to build/rebuild the management body,” three phases composed of initial, building, and rebuilding are examined. Then the conceptual model of how to build the management body is proposed.

Chapter 11 illustrates the result of the case studies. The study scrutinizes the experiences of cluster organizations in NRW (MedEcon Ruhr), Bavaria (Forum MedTech Pharma), and BW (Mannheim Medical Technology Cluster). After outlining the three management bodies (i.e., cluster organizations), the following are scrutinized based on the proposed conceptual model. First, the antecedents to be considered in building the management body in the initial phase are examined. Then, the guiding principles and activities are clarified. Here, in all cases, it is found that the guiding principles are sustained until today, and the scope of activities has been reviewed and redefined. Moreover, the details about the attributing factors contributing to displaying organizational competence are examined. It is clarified that these factors are configured (or reconfigured) under the guiding principles and activities (and their redefinition). Finally, how to rebuild the management body is examined. Here, first, investigation and learning of the necessity for rebuilding are conducted through surveys, feedback from the stakeholders, and other approaches (e.g., benchmarking with other cluster organizations, etc.). In this stage, performance indicators (e.g., revenues from events and projects, composition and number of members, etc.) are also referred to. The results of the investigation/learning and the performance indicators are reviewed by the top manager and discussed as an agenda in the general meeting. Then, the scope of activities is redefined. Moreover, based on the redefinition, new organizational competences are identified (e.g., providing more appropriate fields for implementing the new scope of activities or promoting/expanding cross-sectoral interactions and collaborations). Based on the

newly required competence being identified, the attributing factors are reconfigured (e.g., new managerial practices, physical place, etc.).

Chapter 12 conducts a comparative analysis of the result of the case studies based on the conceptual model and clarifies the similarity and difference between the cases. Then, each case is analyzed with a process tracing approach wherein events observed are chronologically clarified, and the causal mechanism is examined by focusing on 1. antecedents in the initial phase, 2. building/rebuilding phase. The case studies show the difference in approaches and methodologies between the cases. In contrast, the following similarities are observed. First, the founding members and key stakeholders identify, learn, and share the antecedents in the initial phase. It is found that facilitation to establish the management body is reinforced by some antecedents. Second, guiding principles and activities, which are the fundamental attributing factors, are defined by the founding members and key stakeholders, then shared with the enrolled members. The guiding principles and activities show the direction and ways of the management body. Moreover, the organizational competences required for realizing the guiding principles and activities are identified, and the rest of the attributing factors are configured. Here the contributions of the attributing factors to component and architectural competences are discussed. Finally, in the rebuilding phase, (as far as observed in the case studies) scope of activities is redefined by considering the result of the change in the business environment, the intention/situation of members and other stakeholders, and the performance measurement. This leads to the reconfiguration of the attributing factors for displaying the newly required competence. These findings from the case study corroborate a certain validity of the conceptual model proposed in Chapter 10 with some modifications.

FINDINGS FOR THEORY BUILDING

Significance of the Achievement

The significance of the findings on research questions described in Sections 2, 3, and 4 is the contribution to the academic value (theory building) of the research theme “How to implement the management for facilitating the establishment of cross-sectoral collaborations to promote new competitive regional industries through business creation, and with what kind of regional system and competence of the management body to facilitate it?” Here the achievement is, first, the contribution to the theory building concerning the management to facilitate self-organization toward cross-sectoral collaboration that is featured by complexity. Moreover, this study also elucidates the management approach for building and operating the regional system and building and rebuilding the management body that facilitates collaboration.

This study considers collaboration between organizations that are equal and complementary to each other, with the objective of the participating parties benefiting from the new business opportunity. Here, to promote the new regional industry, the facilitation of cross-sectoral collaboration is promoted through interactions among many, diverse, independent, and interdependent entities. With this premise, based on the viewpoint of theoretical sampling discussed in Chapter 3, the experience of the three states in Germany are selected wherein regional systems for industrial promotion are built and operated, and the management bodies are established for implementing the management to facilitate a self-organization process toward the cross-sectoral collaborations. These cases are comparatively analyzed. Moreover, the individual case is further analyzed based on the process tracing approach to clarify the causal relationship more clearly. Then, the validity of the conceptual models is considered. This is the challenge and the achievement to overcome the situation wherein empirical studies that comprehensively cover the research theme are scarce and to propose a highly credible theoretical framework.

Findings on Each Research Question

More concretely, the proposed conceptual models on R.Q.1 to 3 are validated with some modifications through the case study.

Regarding R.Q.1, the conceptual model describes the management approach to building and operating the regional system for promoting competitive regional industries through cross-sectoral collaborations. Here, the public sector learns the initial conditions through interaction with the two subsystems (i.e., private firms, research institutions, etc.) and pursues their own solutions. Then, the regional system is built through interaction between the public sector and two subsystems with trial and error. Moreover, the public sector also supports establishing and strengthening the entity (i.e., the management layer/body discussed in Sections 3 and 4) that facilitate the collaborations. Finally, the operation of the regional system is implemented by the public sector by directing the self-organization process toward collaboration.

The conceptual model on R.Q.2 shows management to facilitate the self-organization process of cross-sectoral collaborations. The model proposes that through the management by intervening in learning the initial conditions (including the change in the business environment), establishing and refining the field, and the emerging interactions; the cycling process of the self-organization process toward collaboration is facilitated. Moreover, the process displays continuous adaptability and robustness in a dynamic environment to create innovative businesses by combining deliberate and emergent planning through collaborations.

Concerning R.Q.3, the conceptual model describes the approach of building and rebuilding the management body to facilitate cross-sectoral collaborations. The model shows that the cycling processes comprise the initial phase to learn antecedents, the building phase of the management body, and the rebuilding phase of the management body. The last phase is promoted based on the intention/situation of members and stakeholders, changes in the business environment (including the antecedents), and performance indicators. The process is continuously promoted, enabling the management body to be adaptable and competent in providing the required service in the dynamic business environment.

Integrated Viewpoint on the Findings

Finally, considering the relationship between the findings, these theoretical frameworks can be integrated as follows.

Management and Building/Rebuilding

Considering the management to facilitate the collaborations and building/rebuilding the management body, these two are implemented in parallel.

First, the management is begun by learning the initial conditions and fostering the felt-need for collaboration that is shared by the core parties. This is followed by building the management body. Here, the antecedents are identified, learned, and shared by founding members and key stakeholders; some are similar to the elements to be considered as the initial conditions (e.g., political support, need for the system, and institutional, industry, market, or technological factors, etc.). Then, the guiding principles and activities are defined, and the organizational competence is identified, which directs the configuration of the attributing factors for building the management body. Moreover, in conjunction with the fostered felt-need among the core parties, the guiding principles and activities and the required organizational competence also influence the management body to implement the management by intervention through involving the additional stakeholders (i.e., board members) and fostering/sharing the felt-need, establishing the field, and facilitating emerging interactions.

Second, from the next stage and after, cycling processes are deployed on the management to facilitate collaboration and rebuild the management body. Concerning the management, change in the business environment, feedback from members, and experienced activities modify the felt-need, and it is reflected in the refinement of the field with a new direction. Then, the intervention on emerging interactions is implemented based on it. Similarly, rebuilding the management body is reflected by the change in the business environment, the intention/situation of members and stakeholders, performance indicators, etc. Then, the guiding principles and activities

are redefined, and newly required organizational competence is identified, which leads to the reconfiguration of attributing factors for rebuilding the management body. Here, the elements considered for the rebuilding significantly correspond to what is learned, analyzed, and understood in the cycling process of the management above because both are identified for providing better services to facilitate cross-sectoral collaborations. Moreover, the redefinition of guiding principles and activities and identification of newly required organizational competence influence intervention in the refinement of the field (i.e., the field for the new scope of activities) and emerging interactions. Therefore, except for the minor revision of the management that does not require the redefinition of the guiding principles and activities, the management reform and the rebuilding can be promoted in parallel.

Regional System

Looking at the regional system, initially, the public sector needs to understand the situation (such as potentiality) of industries and the bottom-up movements of industrial promotion in the region to identify the prospective fields of industries to promote. This is implemented through the survey or based on the experience of the relevant precedent programs. Moreover, the regional stakeholders from industry and academia, etc., of the identified fields above are approached by (or approach to) the public sector, then involved in jointly pursuing their own solutions for promoting the industries and building the regional system.

For the promotion of each industry, while the bottom-up (self-organizational) movement toward founding the management body is deployed by the core parties from industry, academia, etc., the public sector can facilitate the effort through support such as providing a platform to interact (e.g., conference, events) and financing. Furthermore, in the context of operating the regional system, the self-organization process of cross-sectoral collaborations is directed through evaluating and monitoring the management body by the public sector or the interaction between the two. In other words, the management to facilitate collaboration and the building/rebuilding, which are implemented by the management body, are influenced by the direction of the public sector.

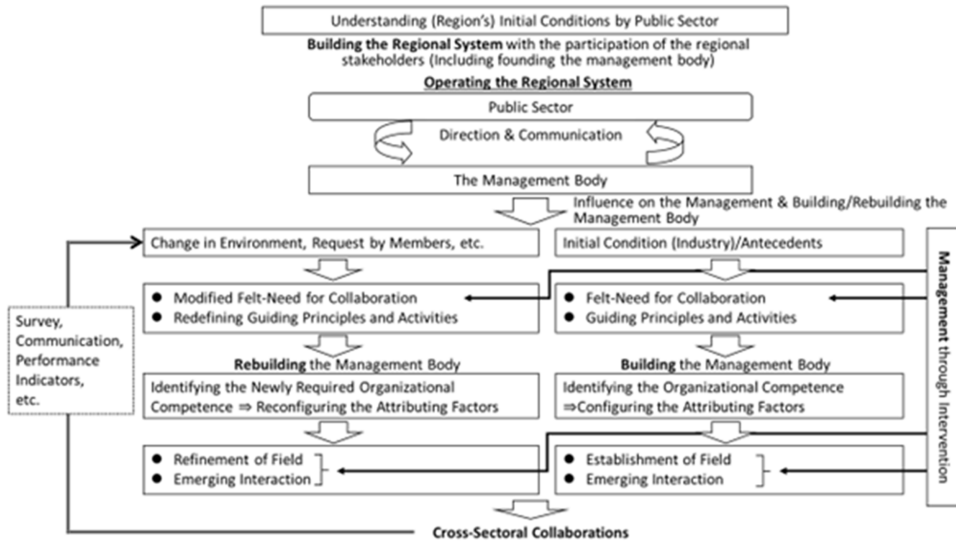
The Integrated Framework of the Study

The arguments above clarify the organic relationships between the findings on the research questions, and that can be depicted as follows (Figure 1).

Toward Promoting Regional Industries Through Cross-Sectoral Collaborations

Figure 1. Integrated framework of the study

Source: Drawn up by the author.



PRACTICAL IMPLICATIONS

In addition to the theory building, based on the findings from the case study, this study also obtains the implications for practitioners involved in the management approach to facilitate cross-sectoral collaborations toward promoting regional industries. More concretely, the implications can be suggested for officials of the public sector (e.g., officials of a regional government and its affiliate) and facilitators (e.g., managers/staff of the management body like cluster organizations) who intend to promote regional industries through collaborations.

Implications for the Official of Public Sector

Concerning the implications for the officials of the public sector who consider promoting the regional industry through collaborations, first, it is necessary to identify the industries with growth potential to be targeted for promotion. This is implemented through the survey and the relevant precedent experiences. Moreover, it is also required to grasp the bottom-up movements of the industrial network in order to identify the parties concerned to be supported. Furthermore, from the early period, the platform (e.g., events, workshops, etc.) for interacting between the public sector and these parties should be set up to promote understanding and sharing of the initial conditions and jointly pursue the solutions.

Second, to build the regional system, the platform can be utilized to jointly consider how it is built in terms of its structure and functions. Moreover, the management body that facilitates collaborations to promote certain fields of the industry should receive support from the public sector for its foundation or to strengthen its organization.

Finally, the critical point for operating the regional system is not to interfere but support the self-organization process toward collaboration through direction to achieve regional priorities. The public sector can implement this through communication with the management body, evaluation, and accreditation programs. In addition, the platform (like Cluster Dialogue in the case of BW), wherein stakeholders from various industries, academia, and the public sectors discuss and exchange/share information and goal, contributes to fostering the regional consensus and generating synergies between the different sectors/industries toward new dimensions of innovations.

Implications for the Facilitator

The study provides valuable concepts such as action research-based intervention and the concept of support that are beneficial approaches to practice management to facilitate collaborations. Moreover, as is discussed in “Integrated Viewpoint on the Findings” above, the implications for the facilitator are withdrawn on the management and building/rebuilding the management body wherein these two can be combined and synergized.

In the launching period of the management body, the initial conditions to consider the collaboration and the antecedents to build the management body are clarified by conducting the survey. Both should be learned and shared by the founding members and key stakeholders (i.e., public sector officials providing support, etc.). These have to be promoted through parallel efforts and can be utilized to justify founding the management body. Moreover, with the definition of guiding principles and activities, the organizational competence required for the management body must be identified to clarify the attributing factors and build the body. Furthermore, toward launching the activities, the founding member needs to recruit staff, approach and invite the board members and collaborators by sharing felt-need, and recruit the members openly/selectively by showing the benefit of participating. Finally, the staff must lead workshops, events, and meetings to establish the field to interact and promote matching potential partners for collaborative projects through accelerating the emerging interaction.

The major management reform that requires the redefinition of guiding principles and activities can also be promoted in a parallel effort. First, change in the business environment and feedback (i.e., request, intention, situation) from members and stakeholders, which are the drivers both for the rebuilding of the management body and the management reform, should be scrutinized through the study of the

business environment and communication with members and stakeholders, etc. Then, through the discussion at the general meeting and forming the consensus with members and stakeholders, redefining the guiding principles and activities, and rebuilding the management body (by identifying newly required organizational competence and reconfiguring the attributing factors) are taken the lead. Then, to facilitate collaborations in the new topics and activities, intervention is implemented to refine the field (i.e., new events, workshops, spaces, etc.) and accelerate emerging interaction.

In addition to the above, as an implication for top managers of the management body, communication with the public sector and playing as a liaison are also required to share the direction toward promoting regional industry and keep access to the public sector's support (including resources such as financing, physical assets, and information, etc.).

FOR FURTHER DEVELOPMENT OF THE STUDY

Limitations and Challenges of This Study

As discussed above, this study could achieve a certain contribution to theory building and withdrawing practical implications on the research theme. However, there are some limitations and challenges attributed to the focus and approach of this study.

Firstly, since the scope of this case study is confined to certain regions and industry, the findings may have room for the refinement of theory building. In response to this, it is required to continue the case study by expanding the scope of regions of different backgrounds in the structure/authority of the public sector (i.e., national and regional governments) and industrial structure. Then, the applicability of the proposed conceptual models needs to be considered. Moreover, the effectiveness of the practical implications discussed above has to be evaluated through the survey on the practitioners (i.e., officials of the public sector and facilitators) of various regions/countries and industrial fields, then revised based on the result. These efforts may find the additional factors, such as the key characteristics of the region, that influence the outcome of collaboration and promotion of regional industries, then contribute to the further development of theory through modifying the conceptual model.

Second, in order to elucidate the research theme and the research questions, the case study focused on the practice of the parties that facilitate cross-sectoral collaborations (i.e., the management bodies that directly work on the facilitation) and the parties that support the activities (i.e., public sectors that support the facilitation). Conversely, the experience and the viewpoint of the members who participate in

the collaborations (i.e., firms, universities, etc.) are not sufficiently discussed. In response to this, it is required to conduct a case study on the participants of the collaborations who belong to different fields and have different resources, scales, structures, and cultures, then to clarify how the facilitation effectively contributes to the formation of the collaborations. This contributes to clarifying more clearly the micro-macro loop mechanism of the effectiveness of the management activities and their support. Since a number of entities have to be examined for that study, it is also essential to consider the suitable research methodology.

These proposed efforts further enhance the validity of the theory building and the practical implications.

Future Research Issues

In addition to the above, the author envisages the following future research issues for further development of this study.

First, in Section 4, employees of the management body are examined by focusing on their “role” because they are seen as one of the attributing factors related to the structure of an organization. However, looking back at the study in Section 3, employees of the management body are required to display sophisticated skills (e.g., implementing action research-based intervention to enhance self-reliance efforts toward collaborations, etc.). Moreover, looking back at the study in Section 2, it can also be pointed out that the public sector officials involved in building and operating the regional system play a role that requires professional skills. As Taatila (2004) situates that the attributing factor related to individual employees is one of the main contributors to organizational competence; the skills of these human resources are also essential for pursuing the goal of promoting regional industries through cross-sectoral collaborations. Based on this awareness of the issue, it is necessary to examine these human resources to elucidate the required skills, how they are cultivated, and how they are evaluated.

Second, this study explores the management approach of how to facilitate the self-organization process of cross-sectoral collaborations toward promoting regional industries by focusing on the regional system, management to facilitate, and the management body. Through the study, for further development, the author realized the need to study how to build the governance frameworks that can be effective means for directing, controlling, and coordinating autonomous entities toward a certain direction, thus, enhancing the effectiveness of the management above. Moreover, it is also recognized that the governance, which is deployed in multilevel (i.e., region, industry, and the management organization), is co-evolved through sustaining the organic linkage between the different levels to promote the regional industry. This view is supported by the argument that the concept of governance

is fundamentally about steering the economy and society toward collective goals (Pierre & Peters, 2016). Moreover, Morçöl (2014) discusses the complex governance network of self-organizing actors. Furthermore, Chandra and Hillegersberg (2017) study the dynamism of governance. These studies help to consider the governance that increases the effectiveness of the management for promoting the regional industries through cross-sectoral collaborations and explore how the governance is structured and co-evolved.

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