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# Exploring Skills and Qualities of Knowledge Coordinators in Regional Reactivation Projects

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## Abstract

The 21<sup>st</sup> century Center of Excellence (COE) program at Japan Advanced Institute of Science and Technology (JAIST) aims to educate graduate students to be knowledge coordinators through several educational courses. However, the definition of a knowledge coordinator here includes extensive concept. There are still rooms to verify it in several cases. This paper tries to define knowledge coordinators who work in regional reactivation projects: what kind of skills and qualities are required in regional reactivation projects. To fulfill this research, we use a knowledge management methodology called the *i*-System which was developed in JAIST. This is one of the constructivist models for knowledge management. With the *i*-System, we will explore the skills and qualities of knowledge coordinators who work in regional reactivation projects.

**Keywords:** Knowledge coordinator, regional reactivation projects, the *i*-System

## 1 Introduction

The concept of knowledge coordinator was proposed and examined through the COE program "Technology Creation Based on Knowledge Science" at JAIST. In the program, the knowledge coordinator is defined as a person who can make innovation in each different field. However, this definition includes extensive concept, so there are still rooms to explore what kind of skills and qualities are required in some specific cases.

In this paper, we investigate knowledge coordinators who work in regional reactivation projects. The purpose of regional reactivation projects is to activate regional industries and economies using the characters and resources of

the region [1]. In other words, regional innovation is required [2] [3]. Thus, in order to integrate separated knowledge and create a new knowledge, it is necessary to promote the cooperation between independent organizations and communities such as regional government, companies, universities, NPO, etc. [4]. Therefore, knowledge coordinators in regional reactivation projects are regarded as persons who coordinate these knowledge creation processes.

In this paper we try to make clear their skills and qualities. First, we describe the concept of the knowledge coordinator which is proposed by the COE program at JAIST. Secondly we explain a concept of regional reactivation projects and necessity of knowledge coordinators. Finally, we consider their specific skills and qualities using the *i*-System.

## 2 Knowledge Coordinators Proposed by the COE at JAIST

The COE program "Technology Creation Based on Knowledge Science" which is supported by the Ministry of Education, Culture, Sports, Science and Technology at JAIST, Japan has been running several projects. Through those projects, the COE has been implementing human resource development. One of the main purposes is to educate graduate students to be knowledge coordinators.

Here, the knowledge coordinator is defined as follows: the person who can make innovation in each field by an interdisciplinary knowledge, free-thinking and total skill of judgment, deep insight and systems thinking [5]. It is expected that knowledge coordinators work widely in our society. However, this definition includes extensive concept, so there are still rooms to explore what kind of skills and qualities are required in some specific fields.

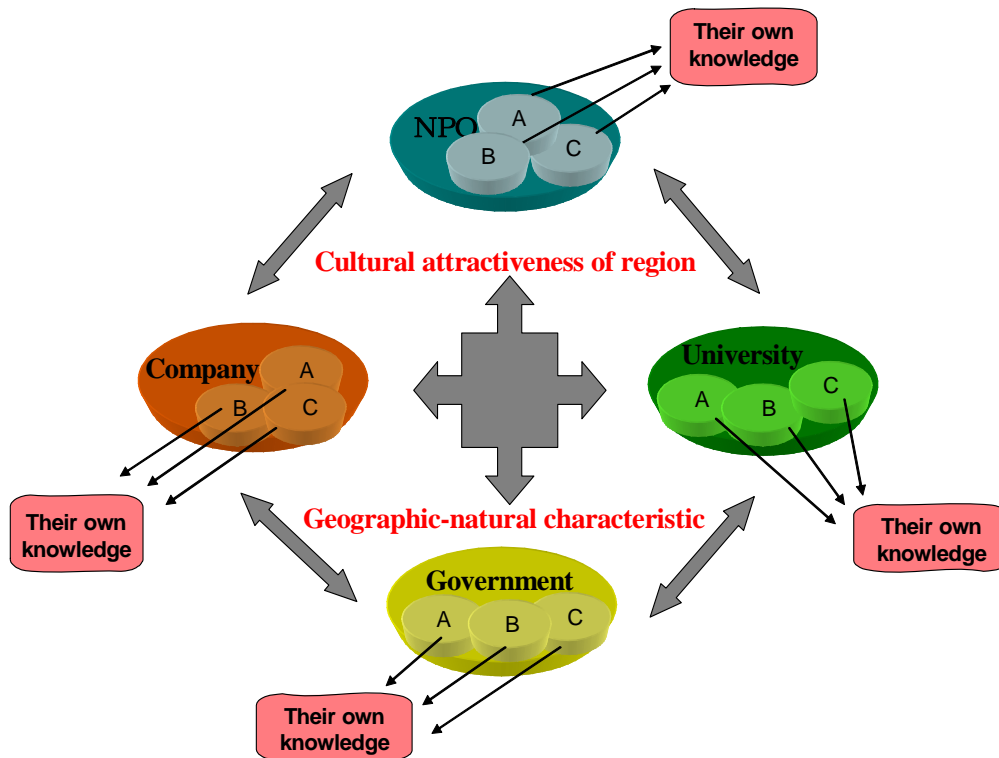


Fig. 1 Cooperation for the project.

### 3 Requirement of Knowledge Coordinators in Regional Reactivation Projects

To explore more specific skills and qualities of knowledge coordinators in some cases, we put here regional reactivation projects since these projects seem to require knowledge coordinators. Regional reactivation projects are the project supported by the central government and its purpose is to activate regional economy and give more opportunities of employment for local people. Scheme of this project is that regional governments propose “Regional Reactivation Plan” to the central government first based on geographic-natural characteristic and cultural attractiveness of the region. Then the central government approves and supports it. Hence regional governments need to know regional character and its situation to effectively use multi-fields knowledge. It will be an important key to cooperate with others such as regional governments, companies, universities and NPO to lead regional reactivation projects to success (see Fig. 1).

In related with this background, a coordinator is needed for each project. Even though people have the same goal such as reactivating their

region, their position and their-owned knowledge are different. These differences make their communication harder. Therefore, we need a coordinator who can work to bridge these differences of actors [6] [7]. It is known that there are persons who have the similar roles with a knowledge coordinator, such as Knowledge Interpreters [8], Liaison [9], or Bridge [10]. They play the similar roles, but we need a knowledge coordinator who can not only bridge differences but also coordinate knowledge to bring on innovation [11]. We need to verify skills and qualities of knowledge coordinators having such roles in regional reactivation projects.

### 4 Analysis of the Knowledge Coordinator in Regional Reactivation Projects Using the *i*-System

#### 4.1 Keywords for the Knowledge Coordinators

It can be thought that there must be a knowledge coordinator in a successful regional reactivation project as a key person who leads it to success. The role of knowledge coordinators in regional reactivation projects might be the same as those

defined by the COE program at JAIST.

Table 1 Answer to our questions.

|                                  |   |
|----------------------------------|---|
| <b>The knowledge coordinator</b> | Sales ability                                   |
| <b>The person who has</b>        | The bargaining ability                          |
| Knowledge                        | Networking ability                              |
| Knowledge about living           | Planning ability                                |
| Knowledge of the problem         | The ability of imagination                      |
| Knowledge on the region          | The total ability as human-being                |
| Thought                          | <b>The person who can</b>                       |
| Local thinking                   | express oneself                                 |
| Idea                             | make a "BA"<br>(place for communication)        |
| Own philosophy                   | see the thing from<br>different positions       |
| Independent-mind                 | fit in with region and people                   |
| Honest mind                      | discover similarity                             |
| Patient mind                     | consider the region as residents                |
| Strong will                      | coordinate different opinions                   |
| Sense of beauty                  | continue the work                               |
| Consciousness                    | modify her-his value flexibly                   |
| Energy                           | discard own prepossession                       |
| Power of conveying               | respond rightly                                 |
| Motivation                       | make others open up                             |
| Enthusiasm                       | listen to others opinions                       |
| Dreams                           | make aware of deep feeling<br>from conversation |
| Good feeling to own job          | <b>The person who</b>                           |
| Confidence from others           | takes a risk                                    |
| Creativity                       | is ready to face all risks                      |

The common roles of both of two are to coordinate knowledge and make innovation in the broad sense. However, it is necessary to redefine it by exploring what kind of skills and qualities knowledge coordinators should have in some specific cases. We limit here the knowledge coordinators who work in regional reactivation projects. We have interviewed twelve experts who have been working in successful projects in Japan. All of them are experts of successful regional reactivation projects and they have familiarity with key persons who lead regional reactivation projects to success.

From these interviews, we got totally forty-four answers to our questions about their skills and qualities. Those all answers are shown in Table 1. It is categorized into three as follows:

- the knowledge coordinator is a person who has ... (keywords in the list),
- the knowledge coordinator is a person who can ...,
- the knowledge coordinator is a person who ....

Through twelve interviews, experts sometimes chose the same skills and qualities required for knowledge coordinators. For example, all experts picked up knowledge to our question as one of the important elements and motivation is also one of the keywords which were selected by many experts. However, we show the all answers without showing the selected number since it is not our purpose to modify those priorities.

Table 2 Categorized answers.

|  |  |
|--|--|
| <b>Networking</b>  | <b>Continuity</b>  |
| • networking ability   | • continue the work  |
| <b>Risk</b>  | <b>Confidence</b>  |
| • takes a risk<br>• is ready to face all risks   | • make others open up<br>• confidence from others  |
| <b>Bargaining</b>  | <b>Compound eye</b>  |
| • sales ability<br>• the bargaining ability  | • see the thing from<br>different positions<br>• discover similarity                               |
| <b>Regionality</b>   | <b>Value</b>   |
| • consider the region<br>as residents<br>• fit in with region and people<br>• local thinking                               | • modify her-his value<br>• flexibly discard own<br>prepossession                                  |
| <b>Motivation</b>  | <b>Enthusiasm</b>  |
| • motivation<br>• energy Power of conveying<br>• consciousness   | • enthusiasm<br>• dreams<br>• good feeling to own job  |
| <b>Communication</b>   | <b>Knowledge</b>   |
| • respond rightly<br>• listen to others opinions<br>• make aware of deep feeling<br>from conversation<br>• express oneself | • knowledge<br>• knowledge about living<br>• knowledge of the problem<br>• knowledge on the region |
| <b>Mind, Philosophy</b>  | <b>Idea, Creativity</b>  |
| • thought<br>• own philosophy<br>• independent-mind<br>• honest mind<br>• patient mind<br>• strong will                    | • idea<br>• sense of beauty<br>• creativity<br>• planning ability<br>• the ability of imagination  |
| <b>Coordinate</b>  | <b>No categorization</b>   |
| • make a "BA"<br>(place for communication)<br>• coordinate different opinions  | • The total ability<br>as human-being  |

We categorized these answers into totally fifteen keywords based on the similarities of the meaning of the word.

The answer that the total ability as human-being is categorized exceptional one. Whole category is shown Table 2.

In order to analyze the relationship of all of the categorized answers and redefine knowledge coordinators, we used the *i*-System [12].

The *i*-System is a system methodology for knowledge integration and creation. It means the *i*-System shows how to integrate knowledge and create knowledge. In 4.2, we introduce the *i*-System.

## 4.2 The *i*-System

The *i*-System is one of the constructivist models for knowledge management. Later, Nakamori and Zhu reconstructed this *i*-System from sociological view (see Fig. 2) [12]. It is divided three social structures. This *i*-System shows specific required skills and qualities of actors in each front. Therefore the *i*-System is optimum model to organize and analyze keywords of knowledge coordinators who need to coordinate knowledge to bring on innovation.

It is considered by three social structures named the scientific-actual front, cognitive-mental front, and social-relational front. In each front, this model requires necessary abilities, skills, and qualities of actors such as Fig.3.

- A scientific-actual front :  
established theories, increasing tech-capacities, information explosion, broader factual and regulatory factors (socioeconomic trends, existing way(s) research is organized and rewarded, etc.)

- A cognitive-mental front :  
structured mentality, frames of reference, habits, styles, schemas, hidden assumptions, dominant logic, paradigms, meta-models, "normal science"

- A social-relational front :  
social norms, values, expectations, power relations, legitimacy

## 5 Consideration

When we put the keywords of the knowledge coordinator into the *i*-System based on these theories, we can see interesting matching as follows:

- A scientific-actual front:  
knowledge, bargaining, regionality, compound eye
- A cognitive-mental front:  
enthusiasm, mind, philosophy, idea, creativity, motivation
- A social-relational front:  
confidence, value, risk, continuity

We put communication, network and coordinate skills in the center of overlapped

three fronts. Because these skills can not put into one front, it seems the total abilities which are related to all of three deeply (see Fig. 4).

As a result of this analysis, we can say that the knowledge coordinator is well-balanced person. Because when we tried to put all fifteen keywords of the knowledge coordinator into the *i*-System, we could divide into each front with well-balanced. Thus, the knowledge coordinator is a person who has four skills and qualities in each of three fronts. In addition these, communication, network and coordinate skills are necessary as total skills for knowledge coordinators in regional reactivation projects.

## 6 Conclusion

In this paper we made clear the skills and qualities of a knowledge coordinator. First, we described the concept of the knowledge coordinator which is proposed by the COE program at JAIST. Secondly we explained a concept of regional reactivation projects and necessity of knowledge coordinators. Finally, we consider their specific skills and qualities using the *i*-System. It is necessary to verify the process how people learn those skills and qualities to be a knowledge coordinator. Therefore we will carry out the questionnaire survey in addition to the interview through the successful cases in regional reactivation projects.

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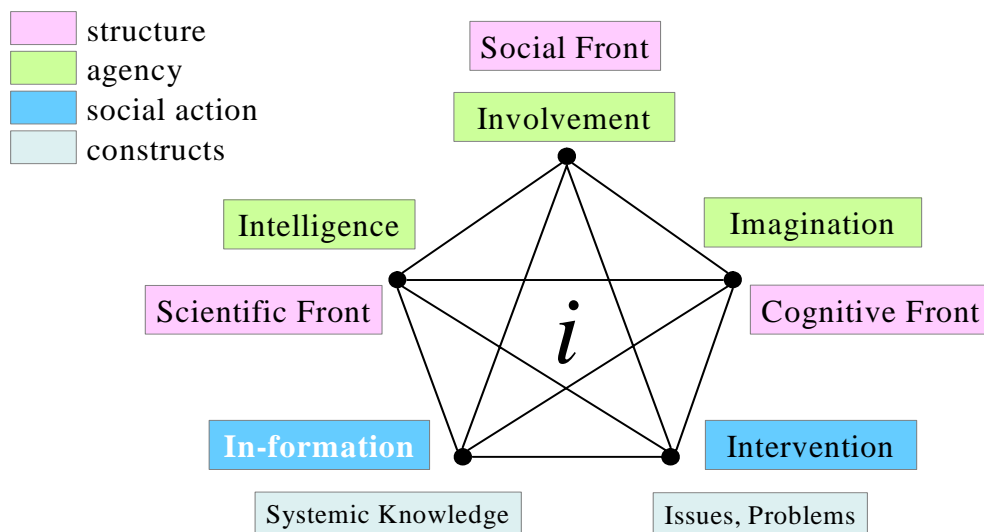


Fig. 2 A sociologist interpretation of the *i*-System.

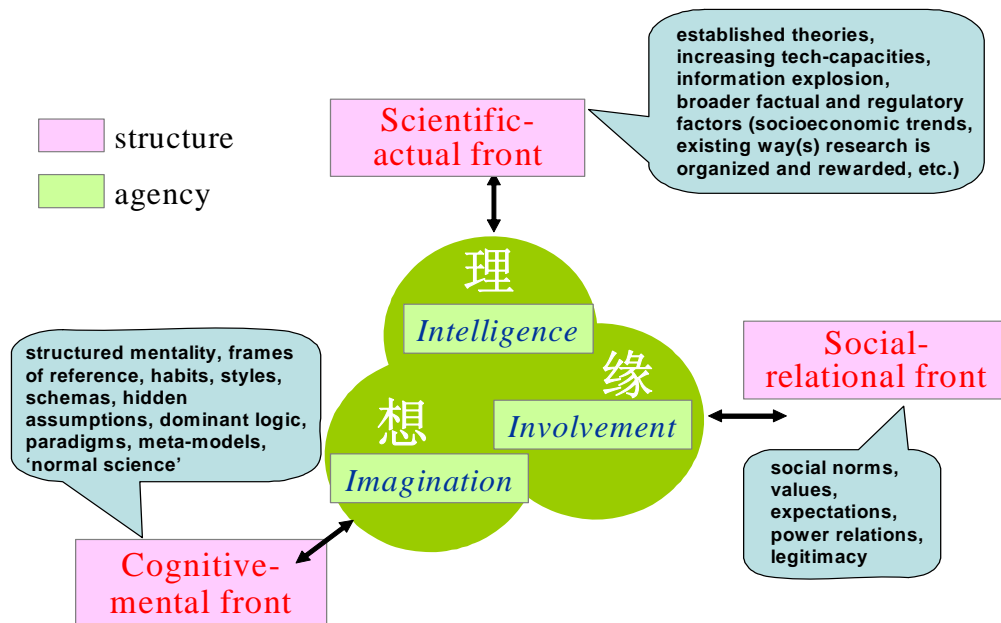


Fig. 3 *i3* as multidimensional agency.

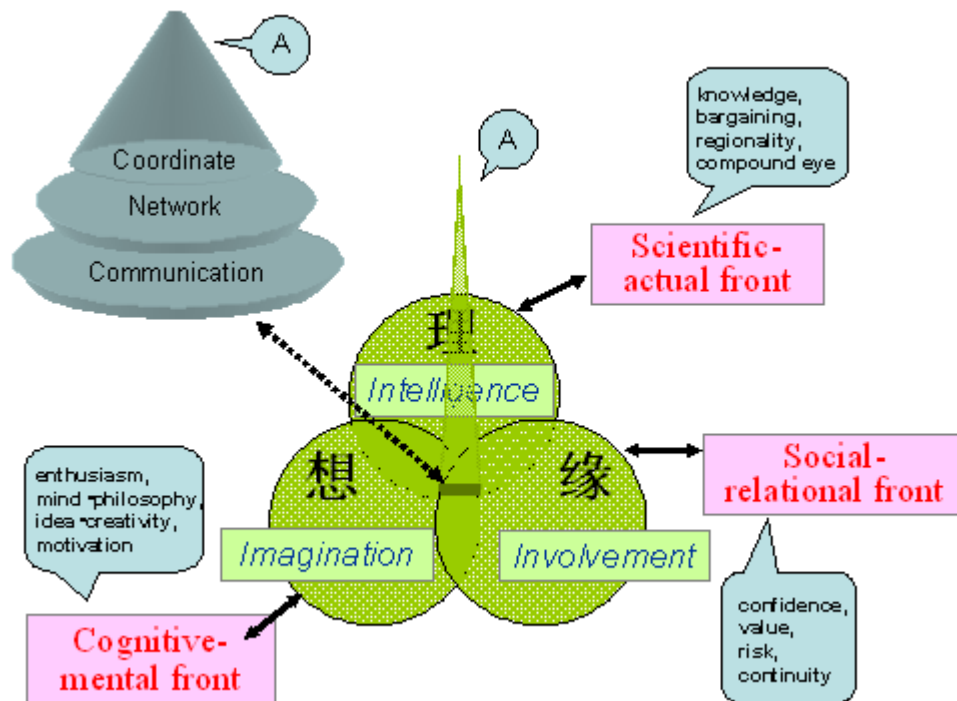


Fig. 4 Skills and qualities of knowledge coordinators.