

## Trust Building Process in Inter-organizational Networks and Sustaining Social Innovation<sup>1)</sup>

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## I. Introduction

This paper shows that customer organizations that adopt social innovation have a positive impact on sustaining of it if they participate in inter-organizational networks for learning purposes.

Governments and NPOs have managed social innovations over several decades, from their creation until their diffusion by for-profit organizations (Sonenshein, 2016). They are popular as a method for solving social issues. Murray, Caulier-Grice, & Mulgan (2010) defined them as new ideas – products, services, and models – that simultaneously meet social needs and create new social relationships or collaborations. Examples of social innovations are fair trade (Murray et al., 2010), new models of public health (Mulgan, Tucker, Ali, & Sanders, 2007), mosquito net

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distribution in Africa (Brown & Wyatt, 2010), and microfinance (Phills, Deiglmeier, & Miller, 2008). In Japan, social innovations are needed to solve various social issues caused by the advanced age of the society. The following are examples of such issues: increase in accidents involving elderly people, care for the elderly by their family, and the increase in senior citizens living with dementia. In 2017, the Cabinet Office of the Government of Japan published a white paper on the aging society and estimated that one out of every five people older than 65 years old will have dementia in 2025. The Ministry Health, Labor, and Welfare aims to support elderly people with dementia by distributing orange rings to participants in dementia supporter trainings, as well as educational activities involving it. Prevention of dementia and better care for elderly people with dementia require social innovations that change the present situation.

Over the past ten years, a considerable number of studies have been made on the processes of social innovation (e.g., Murray et al., 2010). However, most of them focused on the creation and diffusion process. In general, social issues may not be solved unless they are diffused. In order to diffuse social innovation, I think that it is necessary to sustain it after its creation. In this paper, organizations that created social innovation are called “social innovation organizations”, and organizations that adopted it are “customer organizations”. Sustained social innovation within customer organizations means that they have been accorded as highly trustworthy by that organization. Such innovation may give a favorable reputation to organizations that have not yet adopted it. As a result, those organizations may try to adopt said social innovation. The more these organizations are, the more social issues may be solved.

Only few attempts have been made at focusing on sustaining social innovation (e.g., Murray et al., 2010). The environment surrounding social issues is complex and uncertain. In order to adapt to them, many scholars indicated the necessity of inter-organizational networks among multiple organizations (e.g., Selsky & Parker, 2005). Collaborative relationships among organizations enable value creation through shared knowledge (Doz & Hamel, 1998), and facilitate access to resources that cannot be easily acquired in the market (Oliver, 1990). NPOs particularly depend on multi-stakeholders because they have limited resources (Rupp, Kern, & Helmig, 2014). Social innovations do not have fixed boundaries; they happen in all sectors, whether public, non-profit, or private (Murray et al., 2010). Therefore, inter-organizational networks may be necessary to sustain social innovations. Multi-stakeholder partnerships – along with that on inter-organizational collaboration (Inkpen & Currall, 2004) – are increasingly important mechanisms through which firms seek to solve social issues and improve social welfare (Sloan & Oliver, 2013). However, given the complexity and cultural barriers of inter-organizational

relationships, many of them do not lead to the expected outcomes (Barringer & Harrison, 2000).

Under these circumstances, trust is a key concept in making inter-organizational relationships function effectively and in improving organizational performance (Selsky & Parker, 2005). Inter-organizational communications enhance the predictability of organizational behavior and positively influence organizational performance when cooperation is promoted (Argote, Aven, & Kush, 2018). They form the basis of trust building (Robbins, 2004) and create opportunities for inter-organizational learning. Furthermore, inter-organizational learning promotes trust and activates communication (Uzzi, 1997). As a result, social innovation organizations and their customer organizations are able to solve complicated social issues. Since organizational performance has various aspects, it is necessary to evaluate each issue according to its context (Callen, Klein, & Tinkelman, 2010). In this paper, the sustaining of social innovation within customer organizations means good organizational performance.

The purpose of this paper is to consider the mechanisms of sustaining social innovation in terms of inter-organizational trust on networks. There are two research questions. The first addresses what types of trust are necessary among organizations in order to sustain social innovation. The second addresses how each type of trust that affects the sustaining of social innovation is built. In order to clarify these questions, I take up the case of “learning therapy”, a non-pharmacological therapy for elderly people living with dementia created through the collaborative project of academic-industrial alliance in Japan in the early 2000s. This case is an ideal context of sustaining social innovation for three reasons. First, since 2009, a variety of nursing facilities introduced learning therapy and have built networks for each region in Japan; they are trying to interact among organizations through inter-organizational learning. Second, although social innovation generally does not diffuse in Japan, learning therapy is gradually expanding at present. Third, it is possible to gather a large amount of data on building and development of inter-organizational trust from multiple viewpoints. I collected data from multiple informants with the aim of addressing single informant bias in research on inter-organizational relations (Zaheer, McEvily, & Perrone, 1998). Multiple respondents improved the reliability of the data and gave different perspectives on improving the validity of theorizing (Eisenhardt & Graebner, 2007).

The composition of this paper is as follows. First, I review the process of social innovation and the types of trust required in sustaining it. After describing the research methods, I conduct a qualitative analysis on the case study. Finally, I conclude this paper.

## II. Theoretical background

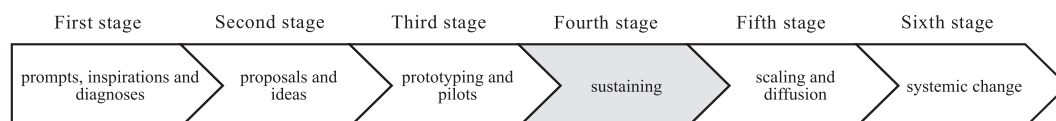
### 1. The process of social innovation

Research on social innovation has increased since 2007. Leadbeater (1997) and Dees (1998) were the first scholars to give much attention to social innovation, social entrepreneur, and social entrepreneurship. The former published a book entitled “*The Rise of the Social Entrepreneur*” from DEMOS in 1997, while the latter wrote a paper on the meaning of social entrepreneurship in 1998. However, only few academic social innovation research achievements have so far been realized, in comparison with business innovation researches. As Mulgan et al. (2007) acutely points out, many social innovations have progressed from margin to the mainstream; several of the most important innovation of the next few decades are set to follow similar patterns, rather than innovation patterns developed in sectors such as information technology or insurance. Mulgan (2006) is one of the leading researchers on social innovation. He explained that business innovations are generally motivated by profit maximization and are diffused through organizations that are primarily motivated by it. On the other hand, social innovation is open innovation that is created by collaboration with multi-organizations and is important to provide for unmet social needs.

Over the last few years, several papers have been devoted to the study of the process. This representative study is the process model presented by Mulgan (2006) and Mulgan et al. (2007). They showed a four-stage process. The first stage is generating ideas. This means understanding needs and identifying potential solutions. The second stage is developing, prototyping and piloting ideas. This indicates that developing, prototyping, and piloting ideas involves taking a promising idea and testing it in practice. The third stage is assessing, scaling up and diffusing ideas. The fourth stage is learning and evolving. This represents that innovations continue to change, for example, learning and adaptation transform ideas into forms that may be different from the expectations of the pioneers. The first and second stages show the creation process. On the other hand, the third and fourth stages indicate the diffusion process.

Murray et al. (2010) developed the idea of Mulgan (2006) and Mulgan et al. (2007) a little further. They identified six stages that take ideas from inception to impact [Figure 1]. There are feedback loops between these stages. Therefore, social innovation processes are not always linear. In the model of Murray et al. (2010), the first to third stages illustrate the creation process. The diffusion processes are found in the fifth and sixth stages. The fourth stage is the sustaining process. This stage means that social innovation becomes everyday practice. The sustaining stage is a novel idea that was not found in the Mulgan (2006) and Mulgan et al. (2007)

models. From this viewpoint, I think that the fourth stage is the key to social innovation process.



**Figure 1** The process of social innovation showed by Murray et al. (2010)

## 2. Necessity of inter-organizational trust at the stage of sustaining

Murray et al. (2010) described the six key aspects to sustain social innovation outside the public sector. One of these six is the network and community model to develop what is referred to as relational capital. This is just as important in sustaining social innovation. Relational capital is knowledge and trust built up between an organization and its staff and volunteers (Murray et al., 2010). They used the concept of relational capital to capture the quality of relationships within which economic exchanges take place. In this paper, I focus on the aspect of trust in this capital.

Poppo (2013) indicated that inter-personal trust differs from inter-organizational trust. A research in psychology and sociology has focused on trust in individuals (Rotter, 1971). On the other hand, some scholars have increasingly focused on the benefits of trust in inter-organizational exchanges (Poppo, Zhou, & Ryu, 2008). Several researches have recognized the importance of trust in economic exchange (Uzzi, 1996), but little research has been done to explain how trust operates to affect the performance of inter-firm exchange (Zaheer et al., 1998). Gulati (1995) asserted that trust in inter-firm exchange is beneficial and can be a source of competitive advantage (Barney & Hansen, 1994). A fundamental challenge in conceptualizing the role of trust in economic exchange is extending an individual-level phenomenon to the organizational level of analysis (Zaheer et al., 1998). However, Zaheer et al. (1998) asserted that inter-organizational trust and inter-personal trust are related, although empirically and theoretically distinct. Inter-personal and inter-organizational trust operate quite differently within relational exchange (Zaheer et al., 1998).

Zaheer et al. (1998) defined inter-organizational trust as ‘the extent of trust placed in the partner organization by the members of a focal organization’. However, in this paper, I defined it as trust between boundary-spanners on inter-organizational relationships. The necessity of trust has been pointed out in various research areas, such as communication, leadership, management by objectives, negotiation, game theory, and implementation of self-managed work team (Mayer,

Davis, & Schoorman, 1995). Thus, scholars from a variety of disciplines, including economics, sociology, psychology, and management, presented many insightful perspectives on trust (Schoorman, Mayer, & Davis, 2007). This multi-disciplinary perspectives on trust brought about various definitions of trust as a concept. For example, Rousseau, Sitkin, Burt, & Camerer (1998) defined trust as psychological state comprising the intention to accept vulnerability based on positive expectations of intentions or behavior of another. Schoorman et al. (2007) and Mayer et al. (1995) defined it as one's willingness to be vulnerable to another's action. In this paper, I quoted this definition of trust.

Some scholars considered the necessity of trust between organizations in economic exchange. For instance, trust reduces conflict (Zaheer et al., 1998) and complexity (Luhmann, 1979), and effects the effectiveness of negotiation and organizational performance (Zaheer et al., 1998). Furthermore, trust creates a foundation for cooperation, facilitating interaction between organizations in networks (Rousseau et al., 1998). The importance of inter-organizational trust has mainly been discussed in the context of inter-firm relationships between buyer-suppliers in the automotive industry (e.g., Sako, 1998) and the electrical equipment manufacturing industry (Zaheer et al., 1998). Therefore, I think that it is necessary to study inter-organizational trust in other contexts. I think that trust in various inter-organizational collaboration networks crossing for-profit and non-profit sectors aiming to solve social issues may be necessary in the future, given that solving social issues has been sought throughout the world.

### **3. Competence- and affective trust building on inter-organizational relationships**

Lewicki & Bunker (1996) described that trust develops in three stages: calculus-based trust, knowledge-based trust, and identification-based trust. The highest level of trust is identification-based trust. This type of trust has a variety of similar concepts. For example, Sako (1998) used the concept of goodwill trust. Chua, Ingram, & Morris (2008) and McAllister (1995) showed affective trust. On the other hand, calculus-based trust is the lower level and rational type of trust, classified as cognitive trust. Although Schoorman et al.'s (2007) model represented a cognitive approach to trust, more recent work has pointed to the fact that trust also involves emotions. Williams (2001) indicated that affective responses influence how people evaluate their level of trust in another party. Some trust scholars have suggested that affect-based sources of trust can supplement more cognition-based sources such as ability or integrity (Rousseau et al., 1998).

Trust includes both cognitive and affective dimensions (Chua et al., 2008). Cognitive trust is based on competence, past experience, sharing of vision, and so on (McAllister, 1995). In this paper, I focus on competence trust, which is the

aspect of competence in cognitive trust. Competence trust is defined as confidence in the ability of others to share work (Mayer et al., 1995). By building competence trust, inter-organizational learning is active, not only improving the quality of services and productivity, but also fostering capabilities to solve social issues from a long-term viewpoint. Inter-organizational learning is necessary for organizations to adapt flexibly to environmental changes (Levitt & March, 1988). It enhances organizational capabilities by absorbing knowledge from participants in inter-organizational relationships and fosters internal values (Barringer & Harrison, 2000). March (1991) divided the inter-organizational learning into exploration and exploitation. Exploration is a discovery of new opportunities for value creation, leading to the creation of innovation and the development of new capabilities. Exploitation is a concept related to capability improvement and cost reduction based on existing standard manuals, and is linked to productivity. The former pursues future feasibility; the latter ensures current execution (Levinthal & March, 1993). The combination of these two types of learning has a positive influence on organizational performance (March, 1991). I think that inter-organizational learning through exploration is effective on the basis of exploitation to solve social issues, while explorative learning develops inter-organizational relationships. Under such circumstances, inter-organizational trust reduces the risk of leakage of knowledge and skills and activates inter-organizational learning.

Affective trust is anchored in the emotion and feeling that people have for one another (Sloan & Oliver, 2013). Furthermore, it reflects genuine care and concern along with goodwill and benevolence for others (McAllister, 1995). The development of affective trust has been linked to both frequent interactions and peer-focused citizenship behavior (McAllister, 1995). Chua et al. (2008) investigated the configuration of cognitive and affective trust in managers' professional networks, examining how these two types of trust are associated with relational content and structure. Affective trust is positively associated with friendship ties, but negatively associated with economic resources ties. Chua et al. (2008) showed that the extent of embeddedness in a network through positive ties increases affective trust. Sloan & Oliver (2013) demonstrated that studies of multi-stakeholder partnerships have tended to overlook the cognitive and affective micro-foundations of inter-personal trust, and the dynamics of trust building in this context over time. The study of inter-organizational trust needs to include dynamics (Poppo, 2013). Sloan & Oliver (2013) explored trust building in multi-stakeholder partnerships. They found that trust building is a dynamic process in which emotionality plays a key role. Critical emotional incidents can unexpectedly punctuate the partnership process, serving as turning points in the development of trust (Sloan & Oliver, 2013). They theorized on the role of that critical emotional incidents and emotional engagement practices

play in multi-stakeholder partnerships. Some scholars asserted that the emotional form of trust emerged in the inter-personal trust concept, but not in the organizational one (Zaheer et al., 1998). However, I suggest that the emotional form of trust emerged from the inter-organizational trust concept. This means that each organization members interacts with multiple others across organizations. These interactions by multiple organization members among the multiple organizations may build inter-organizational trust. In this paper, I focus on affective trust and competence trust between boundary-spanners.

### **III. Method**

This paper is case study on learning therapy. It was developed by Kumon, in conjunction with the nursing care facility of social welfare corporations in Fukuoka and Tohoku University.

I collected both primary and secondary data. The primary data sources are mainly collected through interviews and observations. My main source is semi-structured interviews and in-depth interviews. The interviewees included the president and vice president of Kumon and press officer and area managers and staff at Kumon. Similarly, I interviewed the customer organization leader on network based on learning therapy. The interviews were conducted from October 2014 to September 2017. The total time spent on interviews is 47.5 hours. In addition to interviews, I also observed network activities. The observations were conducted from November 2014 to September 2017, spanning a total of 31.5 hours. The secondary data sources are mainly documents, such as newspapers, magazine articles, and documents distributed at the symposium and network activities.

I collected an unpublished list of customer organizations practicing learning therapy as of September 2017 from a press officer at Kumon. This material contains the names of customer organizations with the experience of practicing learning therapy, their addresses, the date when learning therapy was adopted, the date when it was stopped, and so on. Based on this list, I picked up customer organizations that sustained learning therapy in January 2011 when T-network was born, and those that recently adopted it. Among them, I analyzed 441 customer organizations that have practiced learning therapy for more than one year. The analytical period is from September 2004, when Kumon started offering learning therapy, until September 13, 2017, when I got this list. The data on participation frequency in T-network was processed to analyze based on the participant list obtained from Kumon. The activities of T-network were held 30 times from January 2011 to September 13, 2017.



## IV. Case study

### 1. T-network connected among customer organizations based on learning therapy

In this paper, I define learning therapy for prevention and improvement of dementia as social innovation. I consider the case of sustaining leaning therapy at assisted-living facilities for seniors. The nursing care facilities that adopt learning therapy in this way are customer organizations in this paper. Learning therapy is not covered by long-term care insurance. Kumon, a profit-oriented organization that participated in the research project, has been providing licensing agreements to customer organizations since 2004. In general, nursing care facilities provide nursing care insurance services to elderly people. Typical services are bathing, excretion, and meal assistance. These services are emphasized on care technologies, even if care staff at nursing care facilities do not have a deep understanding of the elderly's background and hobbies. They can execute the services as long as they know the elderly's basic information. However, since learning therapy is a learning program mainly based on conversations between the elderly and the care staff who do the learning, a deeper understanding of them enriches learning care. In other words, deep involvement with the elderly through learning therapy is indispensable for improving and maintaining brain functions, improving the quality of care as a whole. Learning therapy was practiced in about 2,500 customer organizations in Japan from 2004 to September 13, 2017; about 1,400 organizations practice this method as of April 2018.

Customer organizations that practice learning therapy need to accompany it with organizational changes in order to maximize the effects. These organizations create a specialized team of learning therapy within organization, wherein all members practice the method through trial and error. Issues such as shortage of human resources and increase of work burden in Japanese nursing care industry are rampant; therefore, organizational changes to restructure the role of care staff are necessary. These efforts lead to multi-occupational collaborations, human resource development, and improvement of management efficiencies.

In recent years, customer organizations that practice learning therapy for each region have built inter-organizational networks with other nursing facilities. In addition, they voluntarily learn among multi-organizations. These networks were born in the Ehime prefecture in 2009 and thereafter spread all over Japan. As of April 2018, there are about 40 networks based on learning therapy; their size and features are diverse. I focus on T-network across several prefectures, mainly in the metropolitan area that started activities in January 2011. Initially, T-network had not fostered a connection among customer organizations. However, trust relationships

among their organizations were built as network leaders made several opportunities for learning. Currently, it has evolved into an active network.

## **2. Interaction among customer organizations through T-network**

In 2010, Kumon proposed to create a network for customer organizations that practice learning therapy in the metropolitan 'T' area. Then, customer organizations that played a central role in this area held a facility tour. Kumon expected that other customer organizations may take turns touring their facilities and that inter-organizational learning may develop. However, this only happened once. The organizations in the T area appeared to be uninterested in each other and unlikely to keep open contact.

The elderly nursing care system and industry structure in Japan are complicated. Nursing care facilities are divided into several types – special elderly nursing homes (SENH), geriatric health service facilities (GHSF), day services (DS), and group homes (GH) – according to the type of nursing care services. SENHs are low cost and offer deathwatch services. The facilities are operated mainly by social welfare corporations. GHSFs that are operated by healthcare corporations aim to return residents to their home. GHs are only for seniors living with dementia. There are multiple and complex boundaries among these organizations. In fact, nursing care facilities operated by social welfare corporations are often rich in resources. However, they are operated by joint-stock companies are in a harsh business environment. There is little social interaction, such as information sharing and social gathering, within these facilities. There are councils based on the functional category of nursing care services. For example, the Japanese Council of Senior Citizens Welfare Service as collective networks of SENH, and the Association of Geriatric Health Service Facilities as collective networks of GHSF. The purpose of these networks is mostly to conduct workshop and lectures on new information about the nursing insurance institution. Therefore, there are few opportunities for each to share information and plan new activities with the other. Unlike these networks, T-network have had developmental activities. For instance, multiple types of customer organizations that practice learning therapy gather together across their boundaries and share their informal information at study groups, or plan activities for regional developments.

Kumon supports the practice of learning therapy and the efficient operation of T-network. Based on the findings of learning therapy accumulated in contact with various customer organizations, Kumon gives adequate advice to those experiencing problems. Customer organizations that practice learning therapy for Kumon are knowledge sharing partners and are interdependent. Kumon built mutual trust by opening up to many customer organizations. Kumon has created many opportunities

to promote voluntary inter-organizational learning. A typical activity is an annual sponsored symposium and workshops held throughout Japan. The symposium covers customer organizations that practice learning therapy across the country, involves practice reports and groupworks on it, and includes a panel discussion by government staff and scholars. The workshop emphasizes acquiring basic knowledge necessary for practicing learning therapy and exchanging information through group works. These events realized interactions among customer organizations that have not had contacts for inter-organizational learning.

*All customer organizations participating in T-network have same values regarding nursing care. Many participants can share ideals of it and human resource development images. That is why many of them talk with each other. Also, because they have same values, problem consciousness is similar. Therefore, they can learn together. If we did not practice learning therapy, we would not have been able to form such a connection.*

Kumon places emphasis on nurturing the foundation of network creation in each region and creating learning opportunities among customer organizations. When customer organizations practice learning therapy, troubles and tasks come out, so sharing these things with other organizations are valuable experience.

*Since we have interacted with customer organizations that practice learning therapy, we can trust each other, I want them to think that they are good at practicing it. We connect people who are equally afflicted in a similar position. As this manager and the other manager have the same way of thinking, they can support each other when they are linked from the viewpoint of peers practicing learning therapy. As a result, they can increase trustworthiness for it.*

*Participants may change when they join T-network. I feel that they have acquired energy that they cannot get by their organization efforts through the activities of T-network.*

By participating in T-network, customer organizations can recognize the high level of capabilities of other participants who practice learning therapy through common experiences, sharing task consciousness, and collaborating to solve issues. I think that this interaction leads to the creation of competence trust and further promotes inter-organizational learning.

### 3. T-network that support the sustaining of learning therapy

Activities of T-network mainly carry out practical reports on learning therapy and group works by participants at Kumon. Group works are held for one hour in groups of six. Many participants experience inter-organizational learning at multiple places, such as Kumon sponsored symposiums and workshops, so they can exchange information on learning therapy regardless of their affiliation, position, occupation, and so on.

*Participants can share their insights on how to practice learning therapy during the difficulties of nursing care. Participants can talk freely about their shared struggles. They get the stimulus and notice through their group works what they were missing.*

Customer organizations leading practical reports and group works are leaders of T-network. They have abundant careers in practicing learning therapy, accumulate a lot of knowledge, and therefore have high level of competence trust. Such organizations positively express opinions in group works and create an environment in which opinions can be openly expressed even during the first participation. Thus, they can speak their honest opinions in group works because they trust each other with competence and understand that they can solve problems together. They can realize the effect of learning therapy, such as improving the quality and motivation of elderly people's lives, by practicing knowledge acquired in T-network. This is one of advantages of participating in T-network. The following is an excerpt from when a Kumon staff visited a customer organization that practices learning therapy. This organization is practicing it now.

*When I visited this organization about two years ago, I was consulted that the manager may stop learning therapy. That organization has one staff ambitiously working on learning therapy. However, as all the staff are busy every day, so the manager was troubled as to whether to continue learning therapy or not. Last year, that organization participated in T-network. That participant visited where other organizations practiced learning therapy and studied how to practice it like that. Later, the participant immediately practiced it at her organization. She told me that she was very good at learning the important point of view of learning therapy.*

Not all nursing care staff involved in learning therapy within an organization understand the value of it. It is difficult to sustain learning therapy if the staff involved in it cannot find the value in growing together, as well as its effects on the elderly people with dementia. Under these circumstances, T-network is a driving force to continuously utilize learning therapy because network participants who aim

for solution of social issues interact with each other by enhancing the quality of nursing care through practicing of learning therapy.

*When there are places where people with a spirit of welfare gather, they become very energetic. Their direction that they want to realize is the same even if the entities such as day services and special elderly nursing homes are separated. When these people meet, they become happy, they feel that they will try hard on their own.*

Many of participants can reaffirm the significance and purpose of practicing learning therapy through joining in T-network. This is the result of inter-organizational learning based on competence trust. I think that participants in T-network find values in practicing it and continuously utilize learning therapy while getting support from other participants and Kumon.

#### **4. Survival analysis on learning therapy**

This paper analyzed the duration of learning therapy by using survival analysis. This analysis measures the time until the interruption occurs and estimates the survival rate as a time function from the start of the analysis. The survival time data used in the analysis is different from other statistical data. Its main features are that it does not rely on normal distribution and it is data with censorship (Collett, 2003). Survival analysis can estimate survival time without bias even if there is censored data (Grimm & Yamold, 2001). The observation period is the day on which the customer organizations of research target stopped, from the day when they adopted learning therapy, or September 13, 2017 which is the censoring. Since this period data is continuous and requires no specific assumption on the distribution of survival time, the Kaplan-Meier estimation of non-parametric method was performed by SPSS (ver 24).

Kaplan-Meier estimation is used when analyzing survival time data not grouped with a single categorical variable (Collett, 2003). The results of the Kaplan-Meier estimation are shown in Table 2, Table 3, and Table 4, and the survival curve is shown in Figure 2 and Figure 3. Out of  $N=441$ , duration is 239 organizations, the stopped is 202 organizations, and the median survival time is 89.000 months. Figure 3 compares customer organizations participating in T-network with those that are not. I compared the T-network participation group ( $N=114$ ) with the non-participation group ( $N=327$ ). As can be seen from Table 3, customer organizations participating in T-network have sustained learning therapy.

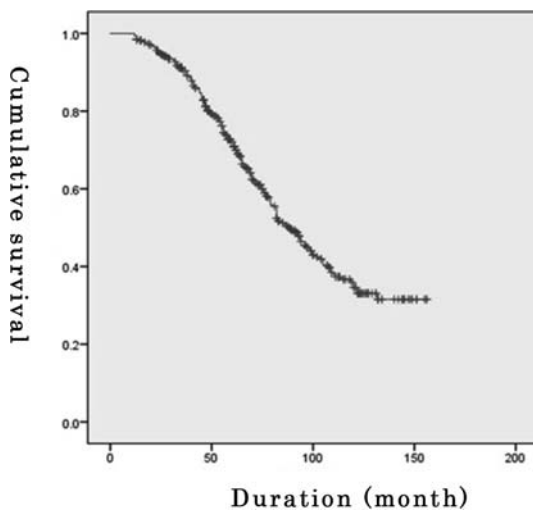


Figure 2 Survival curve

Table 1 Mean and median of duration

Mean				Median			
Estimate	S.E.	95%CI		Estimate	S.E.	95%CI	
96.484	2.701	91.190	101.779	89.000	4.600	79.983	98.017

Month  
n=404 Continuing: n=229, Stop: n=175

Table 2 The number of duration and survival rate

Month	12	36	60	84	108	132
The number of continuity	438	351	240	129	71	21
Survival rate	99.3%	90.4%	72.1%	51.3%	39.7%	31.6%

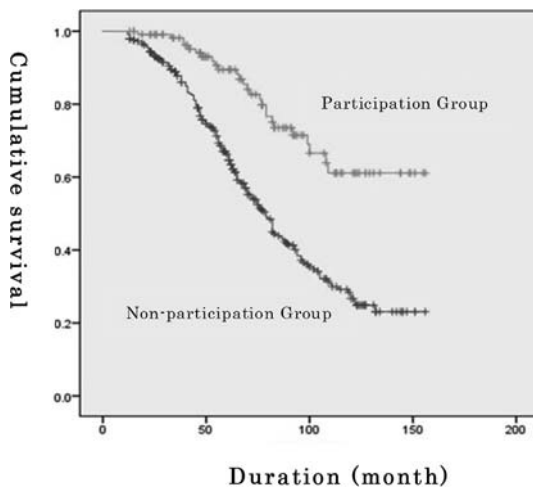


Figure 3 Two groups survival curves in T-network

**Table 3 The number of duration and survival rate on two groups**

	Month	12	36	60	84	108	132
Participation Group	The number of continuity	114	101	75	46	24	22
	Survival rate	100.0%	98.1%	89.5%	73.5%	63.9%	61.1%
Non-participation Group	The number of continuity	324	252	167	85	48	13
	Survival rate	99.1%	87.7%	66.2%	43.9%	32.1%	23.1%

## V. Conclusion

In this paper, I focused on inter-organizational relationships based on customer organizations that have adopted social innovation and clarified that participating in inter-organizational networks promotes the sustaining of it. From multilateral viewpoints through qualitative and quantitative analysis on learning therapy, this paper tried to deeply understand the interactions among customer organizations using key concepts of inter-organizational trust and learning. Theoretical contribution is the expansion of inter-organizational relationships of dynamic interaction based on inter-organizational trust and learning. Moreover, from the viewpoint of sustaining social innovation, challenging organizations to build to a theory closely related to it is a contribution that can lead to future theoretical development.

Since many participants in T-network experience interactions among customer organizations in multiple places – symposium, workshop, group works, and so on –, they can share common experiences on learning therapy among themselves. Common experiences are mainly success and failure. Interaction among customer organizations based on these experiences may stimulate inter-organizational learning. T-network is an innovative learning system that started pioneering activities despite the lack of interaction among organizations that crossed organizational boundaries within the nursing care industry. Inter-organizational learning enhances the motivation for inter-organizational network participants to sustain learning therapy. Participants may learn naturally through practical reports and group works and by participating in T-network that interacts in this manner, even just once. This learning is an opportunity for exploration and acquiring new knowledge and capabilities, unlike learning of exploitation by support of Kumon. Interactions among customer organizations based on this knowledge transfer and sharing built competence trust. I think that as inter-organizational learning becomes more active as a result of the establishment of competence trust, social innovation may be sustained. T-network encompasses a wide area. Despite the lack of advantages of geographical proximity, inter-organizational learning may continue over the long term. Geographical proximity promotes the exchange of tacit knowledge among customer organizations and creates embedded trust (Bell & Zaheer, 2007). T-

network has a geographical distance, but the common foundation of learning therapy so that T-network can be held may make it possible to build inter-organizational trust in the short term. This type of trust is competence trust. By frequently interacting among customer organizations, inter-organizational learning on this network develops into exploratory learning. Therefore, network participants can derive values from it. One of the values is the sustaining of social innovation. Cooperation and learning are the result of continuous interaction (Poppo, Zhou, & Ryu, 2008). It is inter-organizational trust that supports the continuous interaction among organizations.

Participants in T-network often participate with many care staff from their organizations. For Kumon, many staff are involved in the activities of T-network. As a result, multiple participants interact from one customer organization to another. Participants in T-network share passion for practicing learning therapy with Kumon through group works and other activities. They sympathize with each other about the practice of learning therapy. By repeating these, affective trust may be built among customer organizations. I think that the establishment of affective trust may be based on competence trust and may further promote the sustaining of social innovation.

The results of this paper provide new opportunities for future research. The first possibility is to analyze qualitatively and quantitatively how affective trust promotes the sustaining of social innovation. This paper clarified that inter-organizational network based on competence trust and learning promotes the sustaining of social innovation. However, I could not analyze affective trust in detail in this paper. The second possibility is to analyze what roles inter-organizational networks play in linking the sustaining of social innovation to diffusion. By studying these points, I think that social innovation research may further develop theoretically.

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