Designing a Safe City Eco System for "Wandering"

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Abstract: This paper introduces a successful dementia care program in Omuta City, Japan. The program, SOS Training, was not originally designed as a co-design project. It achieved co-design characteristics as a result of trial-and-error practice among public and private enthusiasts for making a better and safer community for people with dementia. As a case of substantial co-design participation of citizens that involves people with dementia, this paper points out challenges and opportunities for making Omuta's program scalable and sustainable. The newly established design team that includes the authors, investigates potentials of the Omuta way of helping people with dementia.

Keywords: Wanderings, Co-design, Citizen Participation

1. Introduction

The growing issue of people with dementia getting lost and unable to return home is pushing more regional communities to establish official as well as unofficial elderly support frameworks at the community level. Recently, the Japanese TV reported a case of a senior with dementia that received a lot of attention from Japanese citizens. The senior woman at the age of 67, suffering from dementia, had gone missing for seven years before the police found her and returned her to her nursing home. During seven years, the police could not identify her name, address or other basic information. Similar cases have occurred on a daily basis. According to the Japan National Police Agency, 15,000 elderly people with dementia were reported missing in 2016, up from 9,607 in 2012.

The Japanese strategy to keep people with dementia safe has just been initiated at national, local and family level. Even though Japanese authorities often are criticized for their slowness, there are several notable cases reported of advanced senior support at regional level. For example, Omuta city, Fukuoka Prefecture, Japan, started a couple of dementia care and support initiatives in early 2000s and have continuously generated successful results. The care and support initiative for people with dementia in Omuta is characterized by its varied level of regional support as well as its wide group of stakeholders and its many program varieties (see fig. 1). The stakeholders range from people with dementia and their families to the whole local community. Programs for supporting people with dementia stretch from official support programs (e.g. regional living support services and regional integrated care and dementia coordinators) to grass root activities (e.g., dementia educational programs and Sunday Cafe). The Omuta regional care eco system has been evaluated to be one of the most advanced and well-organized success cases in Japan.

Figure 1. The Omuta Dementia Care Programs
(Omuta_Dementia_Care_Programs.tiff)

This article aims at discussing future opportunities for citizen participation on solving social challenges related to dementia, based on the case of Omuta city. In spite of a few success cases including the Omuta case, many regions in Japan face difficulties in applying the approach of these success cases to their own areas. Although Omuta City is often reported as a successful case, the practices accumulated in Omuta city are not well articulated and therefore not disseminated widely. Their success to an extend merely a result of struggles with trial-and-error rather than applying a straight forward step by step design process with strategical means and methods: This makes it difficult for other regions to understand and replicate the Omuta approach. Considering scalability and sustainability of Omuta City's success, it is of critical importance to externalize Omuta's lessons into a more visible, tangible and learnable process that enables a systematic replication.

In the beginning of 2017, two core members of Omuta City senior service division, a regional care center manager and a municipality personnel in charge of senior care, invited the authors and three corporate researchers from the tele communication industry to investigate the feasibility of establishing sustainable senior care programs in the Omuta area. After a few meetings, we agreed to establish a cross-sectional design research team to analyze, reorganize and disseminate "the Omuta way". We were confident that it was essential to co-create solutions with citizens and people with dementia strategically to overcome the current challenges in Omuta. We assessed that the co-design approach would be beneficial for the purpose. We also believed that dissemination of the Omuta way and Omuta experiences and failures would contribute to the wider dementia communities.

First, the paper introduces one Omuta case and its unique characteristics from a citizen participation aspect. Then, current challenges are introduced. Finally, we discuss potential contributions of the newly established design team to the Omuta city and the wider dementia community.

2. Omuta City

On a municipal level, many prefectures in Japan are tackling the dementia challenges with a tremendous help from their local communities. The city of Omuta is no exception. Omuta, once a city of coal mining, is a typical rapidly aging city in Japan. Since the last coal mine, the Miike Coal Mine, was closed in 1997, the population has decreased drastically. Currently, the population of Omuta city is 119,098 in October 2016. This is about half of its peak population of 210,000 in 1960 (City Omuta, n.d.). The percentage of the aging population over 65 years was 34.4% in 2016. This is the third biggest aging ratio in Japan. The last decade, local citizens have expressed their worries of people with dementia who lost their way and failed to be found for a long time. Helping seniors with dementia who wanders has become one of the most urgent problems to be solved together with other worries such as an increase in isolated deaths among the city's elderly.

Facing its serious demographic change, the city played a leading role in making a unique political decision. By coordinating with related public organizations, local NPOs and private care centers, the old mining city set the goal to make Omuta a leading dementia care city in Japan. In 2001, the city and all private care centers in Omuta gathered and established a Dementia Care Society concept as a response to an initiative by the citizens and a care center. They agreed to turn the city into a place "where the elderly can feel at ease to wander around (City Omuta, n.d.)." After this top down initiative of Omuta city's Dementia Care Community Promotion Program, varied public and private stakeholders collaboratively created several programs to match the needs of people with dementia and their families.

We investigated current programs in Omuta and found that local citizens in need initiated many initiatives and disseminated them into a wider area of the city with public support. Based on the preliminary investigation, we identified five key pillars of Omuta Dementia Care Community, which contributed to the success. They were: 1) their unique philosophy (normalization person-centered care), 2) educational program of dementia coordinators, 3) establishment of physical space for supporting sustainable senior life, 4) eco system of education, license and public care support regarding senior care, and 5) citizens'

participation. Among these, we focus on the last "citizens' participation" exemplified with one prominent program, *SOS Training*. As one of Omuta Dementia Care Community Promotion Programs, SOS Training depend strongly on citizens' participation. We utilize the case for our concluding discussion on scalability and sustainability of Omuta programs.

2.1. SOS Training

Started in 2004, SOS Training formulates the critical participatory activities for Omuta city's dementia challenge. SOS Training is an annual program, where residents of Omuta city can practice how to approach confused people found wandering in the city. The participants can acquire some fundamental knowledge about dementia through practice and discussion. Before the training, citizens often had to deal with seniors who apparently were lost on a daily basis. Although the citizens often suspected that such seniors were in trouble, their knowledge typically was too limited to take any action and to understand how to deal with the wandering senior. The SOS Training expanded widely soon after its introduction. In 2007, all areas of Omuta city became appointed as training areas by the program, and in 2011 all regional communities started to organize the training sessions collaboratively.

Since a school district often defines the minimal administrative community unit of a Japanese city, elementary and junior high school students participate in the program and often play leading roles. School students with their active mindset often succeed to recruit their family members, friends, local institutions and organizations to the program, and disseminate their learnings and experiences in action, reports and booklets. They often become diplomats of the local community influencing the wider community positively. To this end, the local municipal office has created a network that includes the police, fire department, post office, local companies, local communities and schools. The number of participants for SOS Training which was 311 in 2007, became 3,127 in 2015.

The training is a one day program. Participating residents have role-playing scenarios in pairs, while a few members act as lost seniors. Before going out to look for a senior who wanders, the participants practice a few key approach-phrases such as "Are you OK?" for caring, and soft voice training to avoid scaring the lost person. They also learn the reporting process of a missing person to the police and related senior institutions. After the group training, the participants go out into the city to find persons who play missing seniors. The training session is closed with reflections, interactions among participants and warm dinner.

Through SOS Training, the ability to identify lost seniors in the region has increased. This is important. More importantly, however, the program also nourish an intangible reciprocal support system in the community. Omuta has become a place, where "citizens can watch over each other, and cooperate with people with dementia and their families (Otani, 2015)." Furthermore, the program generates a mindset of ownership of the program among citizens. By having wider participation of citizens, the training framework and its activities have been polished and elaborated along the way. Since people with dementia were also a part of the training, they also have a say. For example, the program name was changed reflected by the voice of people with dementia. Originally, SOS Training was called *the simulation training for the wanderings*. Later, people with dementia claimed it was not *wandering* from their point of view, and renamed the program as SOS Training.

3. Discussion of the Omuta Way

In addition to SOS Training, many other Omuta Dementia Care Promotion Programs were created and promoted as shown in Fig.1. Many of them are innovative and well designed. This has contributed to establish a favourable reputation of Omuta city. The programs influence each other and support each other with a weak-tie. They define an organic eco system that supports people with dementia, their families, and other citizens in Omuta city. The current success of Omuta city is a result of both top-down and bottom-up approaches. After 15 years with trial-and-error practice, Omuta city has involved many local citizens in different generations and at different participatory levels.

However, Omuta city has now questioned whether their dementia care system is sustainable. Although many parts of the Dementia Care Promotion Programs in Omuta were promoted and carried out through participation of citizens, there was a strong leadership of a couple of core members who made extensive efforts to realize the programs. Many of them were professional care givers, and now they are also aging. They stand on the other side of care service after 15 years of practice. In other words, the support community behind the Dementia Care Promotion Programs consisting of private as well as public enthusiasts and citizens with entrepreneur mind-sets are now in need of a generation change. The older members should give way to new and younger citizens. A certain kind of community of practice (Lave & Wenger, 1991) exists, and generation shift in the community is needed. For a sustainable community, it is important to recruit new citizens, educate them in leadership, maintain the programs, and take down practice to the new care citizens to make the support community sustainable.

4. Reflection and Conclusion

Several Omuta Dementia Care Promotion Programs such as SOS Training have strong potential for improvement and empowerment through co-design practice (e.g. (Binder et al., 2011; Hendriks, Slegers, & Duysburgh, 2015; Hillgren, Seravalli, & Emilson, 2011)). As mentioned earlier, some of the programs are already conducted in a co-design style with people who have dementia and other local stakeholders. The practice indicates the limitations of providing dementia care without presence of people with dementia. The approach of the Omuta Dementia Care Promotion Programs is characterized by its co-design mindset generated by trial-and-error experience in practice. People at stake need to have in-depth understanding of local conditions around people with dementia and knowledge from field observations and daily practices. This *practice based problem-solving* approach embodies one of the key aspects of a sustainable design community.

The Omuta case has similarities what European co-design projects for social innovation and social challenges in dementia care. Branco (Branco, Quental, & Ribeiro, 2016) shows the importance of stakeholder participation and the resulting personalization of the design artifacts when collaborating with people with dementia. Hendriks et al. (Hendriks et al., 2015) emphasizes values to involve people even though they are with cognitive or sensory impairments in the process of designing social solutions for their life and within their local community. The Omuta case also exemplifies the necessity to involve local stakeholders since it is an efficient way to provide solutions to societal challenges with high complexity and uncertainty.

Based on the Omuta case, we see a huge potential in reformulating and making a theoretical foundation for the successful programs especially from a co-design perspective in order to sustain and improve their sustainability and scalability. For sustainability, it is an urgent matter to extract the essence of Omuta's practice based problem solving approach and the tacit knowledge behind the success of Omuta. The co-design practices in Omuta were not intentional nor strategically designed with design researchers, but mere spontaneous responses to local needs through trial-and-error practices. In other words, the Omuta co-design mindset and field-based approach was constructed by ordinary citizens and social workers out of necessity. Currently, Omuta faces a generation change challenge. Hence, Omuta has to search for a way to maintain its own eco system without initial entrepreneur minded practitioners. Also for scalability, it would be beneficial to externalize Omuta's approach to make it implementable in other socio-cultural environments. There are many aging cities and communities in Japan and the world with similar challenges. Some Japanese cities have tried to follow Omuta's way, not all successfully. From Omuta's approach, we have learned the importance of stakeholder involvement. However, we do not know clearly what the essence is of the Omuta way, or what kind of methods and approaches that can be utilized to transition this successful story to other communities.

The newly formulated design team in Omuta that include the authors, is going to act for new potentials of sustainability and scalability of the Omuta way. We do so through co-design with senior citizens by

utilizing living labs as a tool (Christiane, Winthereik, Malmborg, & Andersen, 2009; Kareborn & Stahlbrost, 2009). We believe that the advancement of sustainable safe city eco systems resides in co-design with seniors and other public and private stakeholders to which design researcher can contribute.

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Author Bios *Mika (Ph.D. Research Associates, Technical University of Denmark) has directed research projects applied design methodologies, especially stakeholder involvement methods (from in-depth user studies to co-creation) to design advanced IT systems and services for social challenges in collaboration with international universities, industries and local communities.*

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