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The Reflexive Mechanism of a Living Lab Platform for Self-sustaining Co-Creation Activities

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Abstract (max 200 words)

As multifaceted societal problems are barriers to true advancement, there is urgent need for industry, government, academia, and citizens to work together to solve complex social issues and revitalize communities. While various co-creation activities are being continuously generated, the underlying values and mechanisms of the living lab Platform that enables such activities remain underappreciated. This complicates rational investment decisions and hinders the legitimate evaluation of the Platform's long-term impact. In response, this study investigates the mechanisms of a Platform that has been sustainably generating activities. Specifically, as our case study we use the Project to Connect Towns to Future Generations (Tsunapro) in Kamiyama-Town, Japan. Our findings identify the core dynamism provided by three main



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mechanisms: (1) Continuing dialogues and vision concordance, (2) Enriching resource diversity, and (3) Acting on vision responsibility.

Key words (4 to 6 keywords)

Co-creation Platform, Living Labs, Long-Term Evaluation, Social Innovation ecosystem, Local and Regional Development, System Transition

Subtitle

-A case study of a Platform in a mountainous region of Japan that increased the population through effective co-creation projects –

1. INTRODUCTION

Due to wicked problems (Rittel and Webber, 1973), co-creation activities should be based on the Quadruple Helix Model (Carayannis & Campbell, 2009). Co-creation Platforms (European University Association, 2019) are being developed on technologies including Living Labs (Hossain et al., 2019) and Collective Impact (Kania and Mark, 2011).

The direct results of projects are straightforward to evaluate, and the viability of the Platform used is, most often, judged solely by these results. This ignores the indirect outcomes of Platforms. For example, they may include connections, transformations in personal attitudes, and the discovery of ignored resources.

“We shape our tools, and thereafter our tools shape us.”

— John Culkin, summarizing Marshall McLuhan (Culkin, 1967)

Tools (i.e. Platforms) are not inanimate/neutral. They mediate experience. A smartphone encourages certain actions and discourages others. Over time, using a tool changes the habits, perceptions, and worldview of the person applying it.

These indirect outcomes are not explicit, not shared, and not easy to quantify. This oversight is one of the reasons why such projects are not sustainable (Hossain et al., 2019).

The Platform in Kamiyama Town, Japan, which is the subject of this study, is a prominent example of this very problem. In 2015, Kamiyama Town launched “the Project to Connect Towns to Future Generations” (hereafter referred to as TsunaPro) and established “the Kamiyama Tsunagu Corporation” (hereafter Tsunagu Corp.) to implement TsunaPro. As of 2024, there was concern as to whether TsunaPro would continue to receive local government investment. Although TsunaPro has increased the population, the Kamiyama Town Office, the source of TsunaPro funding, initially felt it was unable to arrive at a clear-cut judgement.

This study focuses on the Kamiyama history, as a preliminary step in the evaluation of a valid Platform; it details surveys conducted to clarify the Platform mechanism.

2. RELATED WORKS

Living Lab is a methodology that helps creators and consumers to address service needs (Ogonowski et al., 2013; Leonardi et al., 2014; Schwartz et al., 2015). Unfortunately, most Living Lab efforts are Project-based, constrained by a specific budget and period (Hossain et al., 2015). Indeed, many scholars have pointed out the difficulty of long-term and sustainable Living Lab operation (Gualandi & Romme, 2019; Mastelic et al., 2015; Santonen & Julin, 2019; Santonen et al., 2020; Veeckman et al., 2013).

a. Tools for Living Labs Project

Early studies developed various tools to support Living Lab operation. The introductory stage of Living Lab saw the release of guidebooks (Evans et al., 2017, Habibipour et al., 2020, Stahlbrost & Holst, 2012), and the number of studies targeting Projects and Platforms continues to increase (Verhoef & Bossert, 2019, Zimmermann et al., 2023, Schuurman et al., 2019, Zimmermann et al., 2023).

b. Tools for Living Labs Platform

Platform-level Living Lab Canvas (Akasaka et al., 2024) makes it easier to identify the elements necessary for improving Platform effectiveness. In addition, the Living Lab Harmonization Framework (Konstantinidis et al., 2024) offers effective and convenient access to the Living Lab infrastructure.

However, they target individual elements because elements are extracted in a reductionistic manner through interviews; clearly the primary focus is on direct Project outcomes, not the long-term impacts (indirect outcomes). In other words, the reflexive mechanism by which Platform activities affect the stakeholders and the co-creation Platform itself is not considered, which makes it impossible to understand the co-creation Platform as a whole and understand what actually works.

c. Addressing Long-Term Impact of Platform

4th Generation University Indicators (Elsevier, 2024) are important elements characterizing ecosystems that can create sustainable innovation. In understanding a Platform, the governance dimension and sub-analysis perspectives are useful, however because they are reductionist, they fail to elucidate the complete mechanism in a holistic manner.

Existing related research has identified the elements that make up Platforms along with innovation ecosystems and enhanced Platform management. However, they downplay the importance of developing a common understanding among all stakeholders, including residents and local government officials, about the reflexive mechanism needed for creating a sustainable sequence of effective co-creation activities. To achieve this, a mechanism model is needed that provides a clear understanding of the "dynamism" of stakeholder interdependency.

3. METHOD

To understand the "dynamism" of Living Lab-Platform, we adopted Developmental Evaluation (Patton, 2011). Designed to assess subjects such as social innovation, where the objectives themselves change rather than being fixed, and where the time frame is fluid and forward-looking rather than predetermined, it seeks to elucidate innovation and change rather than determine external accountability.

The following steps were taken:

Step 1. Analyse the situation as of 2015 in Kamiyama-town,

Step 2. Confirm the principles of TsunaPro actions,

Step 3. Analyse the situation as of 2024 in Kamiyama-town,

Step4. Identify Platform features that impacted the difference between the situations of 2015 and 2024.

a. Data collection

Kamiyama Town, known as a touchstone for regional revitalization, has been undertaking new activities since 1990s, including artist-in-residence programs and work-in-residence programs. Information about Kamiyama can be found on IN Kamiyama (11.Green Valley NPO Corporation, 2008), a website launched in 2008 to promote the charms of Kamiyama Town both domestically and internationally. In addition, the TsunaPro plan, which is the focus of this article, contains a multifaceted description of the town's issues and policies for the future.

For this study, we conducted a document analysis of the project plan for TsunaPro and the website “IN Kamiyama.” Additionally, we analyzed books and other media articles derived from these activities and communications. Furthermore, to clarify information that remained unclear after the document analysis, we conducted interviews with relevant parties both within and outside the region. The following sections will explain these in order.

****TsunaPro Plan****

In 2015, the mayor declared, “The town will invest in people who have the motivation and ability to tackle issues that will connect the town to future generations.” The plan that began with this declaration consists of the following pages: recognition of issues based on facts such as population vision and analysis of financial and regional economic conditions; basic policies for aligning the assumptions of stakeholders and the town; a rough logic model for changing the town toward a desirable position (setting of 6 policy areas); an implementation system for promoting public-private partnerships; numerical targets and 25 specific policies.

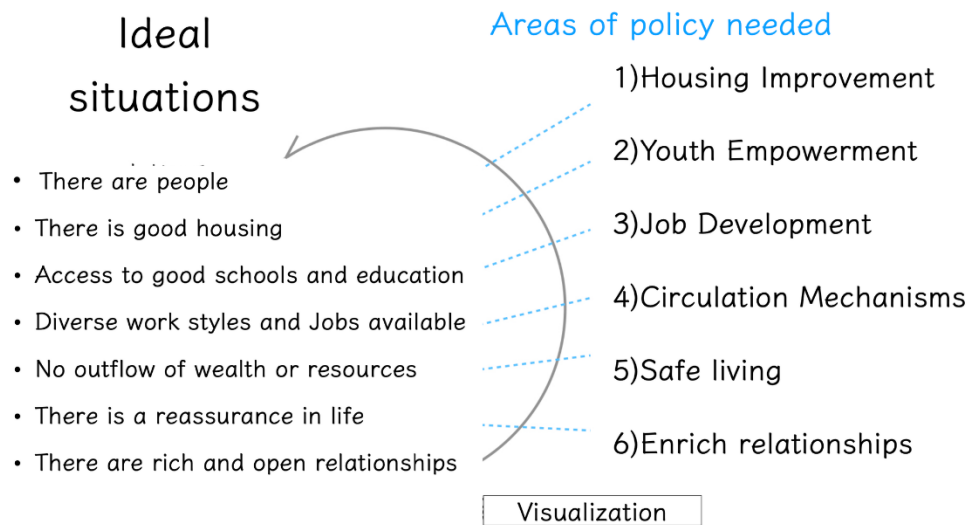


Figure 1: 6 policy areas to realise ideal situations (rough logic model for future)

****Kamiyama's website "IN Kamiyama"*****

The user-friendly homepage of the website, which does not impose or convey abstract messages, consists of the following elements. The Kamiyama Diary, which reports on people and events in the words of those involved. "Almost Monthly Report," which regularly updates on projects taking place in Kamiyama, such as art, housing, work, learning, maintenance, food, and agriculture. "Working in Kamiyama," which connects people who want to be involved in Kamiyama (job seekers) with those who want their involvement (employers). "Special Feature Pages," which describe the perspectives of foreigners staying in Kamiyama, children, and the elderly in a narrative-based format. Some sections are also available in English.

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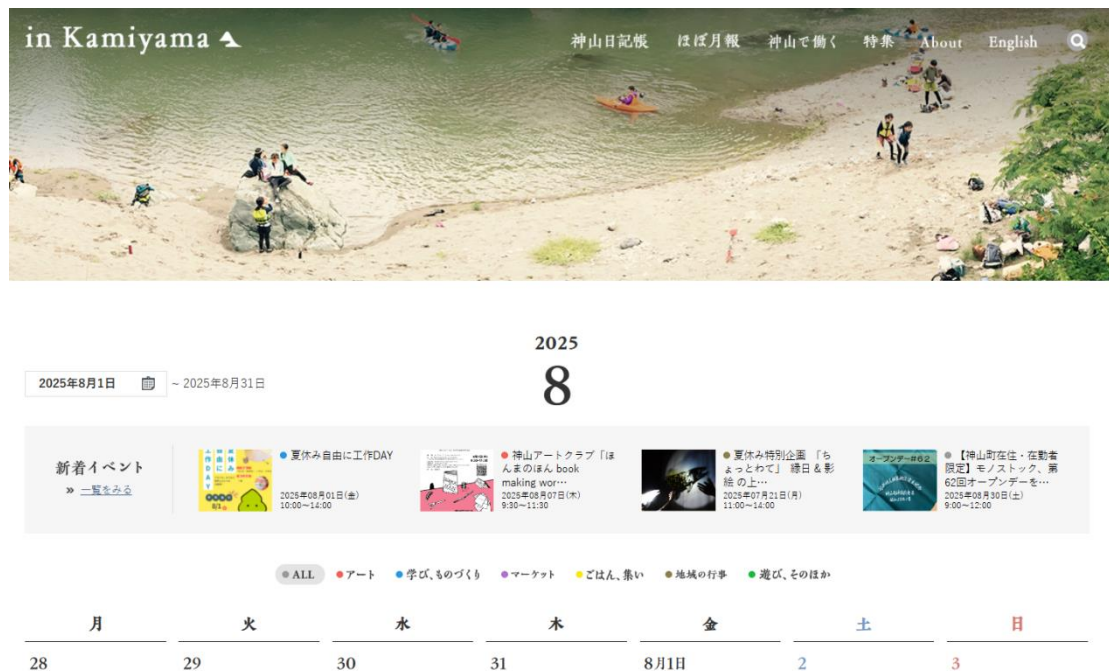


Figure 2: Top page of IN Kamiyama

** Books and other media articles **

Influenced by Kamiyama Town's activities and communications, more than six books on Kamiyama's co-creation Platform and projects have been published, some of which have been translated for overseas markets. These books consist of interviews with related parties conducted by the authors, as well as writings based on the authors' own experiences in Kamiyama. In addition, numerous articles about Kamiyama have been written by media outlets in Japan and overseas.

**Interviews with related parties **

We interviewed 12 members of the Tsunagu Corp. in an Input-Output-Outcome Review workshop (Sakakura et al. 2016) over 2 days. They visualized indirect outcomes by themselves through group interviews and dialogues. Eleven outside stakeholders underwent semi-structured interviews (Barriball & While, 1994), each lasting 120 minutes. All interviews were recorded with the interviewees' consent. We recorded and transcribed the interview data. All materials were photographed and annotated.

b. Data analysis

We analysed all data using a qualitative text data analysis technique to extract the elements important to the "dynamism" of Living Lab-Platform.

We first transcribed all the recorded data and then coded the transcriptions based on the Modified Grounded Theory Approach (Japanese GTA Version (Kinoshita, 2003)). We used data-driven inductive

coding rather than deductive coding. After coding, they were semantically categorised into groups using MAXQDA (Rädiker & Kuckartz, 2020).

By structurally integrating the extracted elements, we developed a mechanism model of Platform.

4. ANALYSIS RESULTS

a. Condition analysis of 2015

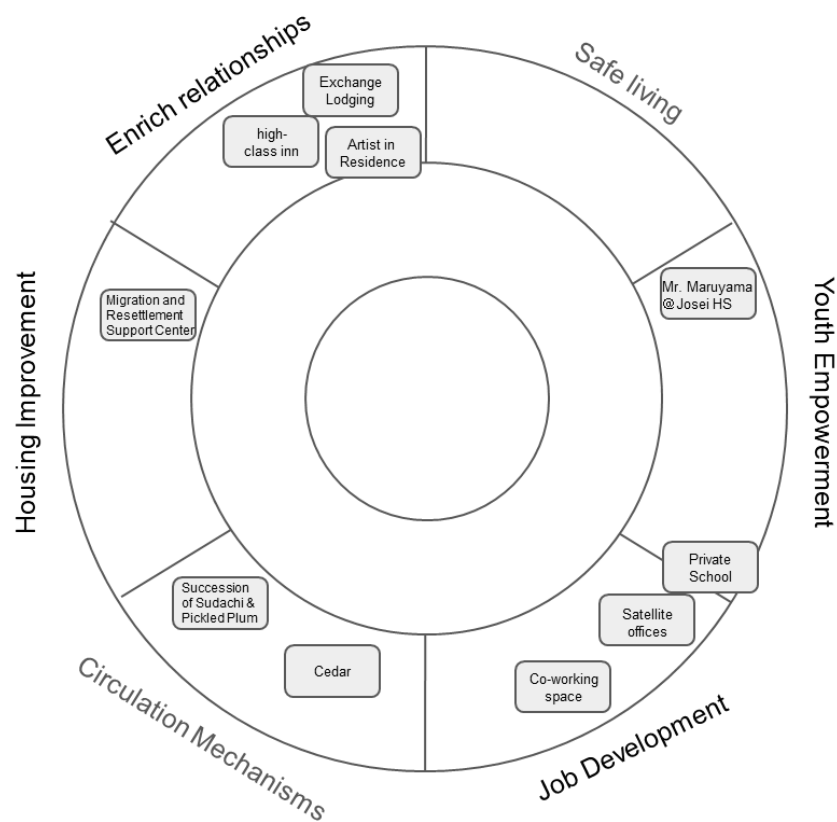


Figure 3: Activities in Kamiyama- town as of 2015

We first investigated and visualized the number of actors, activities, and initiatives in the town before TsunaPro was formulated. The inner circle in Figure 1 lists the initiatives undertaken by TsunaPro. The outer circle lists initiatives other than TsunaPro taking place in the town. These activities were mainly composed of bottom-up activities by the civil sector and small private businesses in Kamiyama Town, as well as volunteer activities undertaken by high school teachers.

b. Identifying the principle of action

In order to confirm the principles of action for Kamiyama's co-creation Platform, we analyzed the collected written and interview data and conducted a two days workshop focusing on indirect outcomes that could not be expressed in words. The principle is that, while the town as a whole has set the grand goal of “connecting the town to future generations,” key stakeholders were sincerely confronting the questions of what to ‘connect’ and how to “connect,” and were constantly asking themselves these questions. The Japanese word “connect” has multiple meanings, but its nature seems to be well applied here.

Specifically, "As the time axis concept, connecting the town's culture to future generations". "Maintaining the status quo but changing ourselves". "Fostering new commons through proactivity and cooperation". "Connecting with not only individuals horizontally from various sectors but also vertically across generations". "Assuming that the agents included not only humans, but also natural resources including forests and rivers".

The Japanese word “Tsunagu” allows for different definitions depending on the context and field (flexibility of meaning), while providing flexibility toward the common goal of “connecting the town to future generations” (shared core). In other words, it can be interpreted that a boundary object (Star & Griesemer, 1989) is being developed to promote co-creation in Kamiyama.



Figure 4 : Two day workshop focusing on indirect outcomes

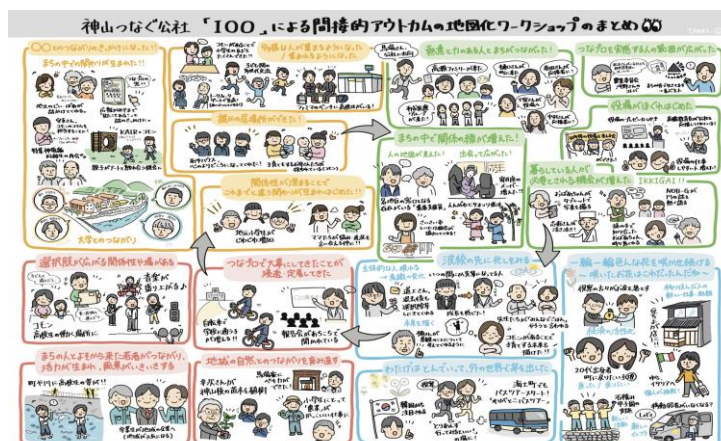


Figure 5 : Output map of indirect outcomes

c. Status Analysis as of 2024

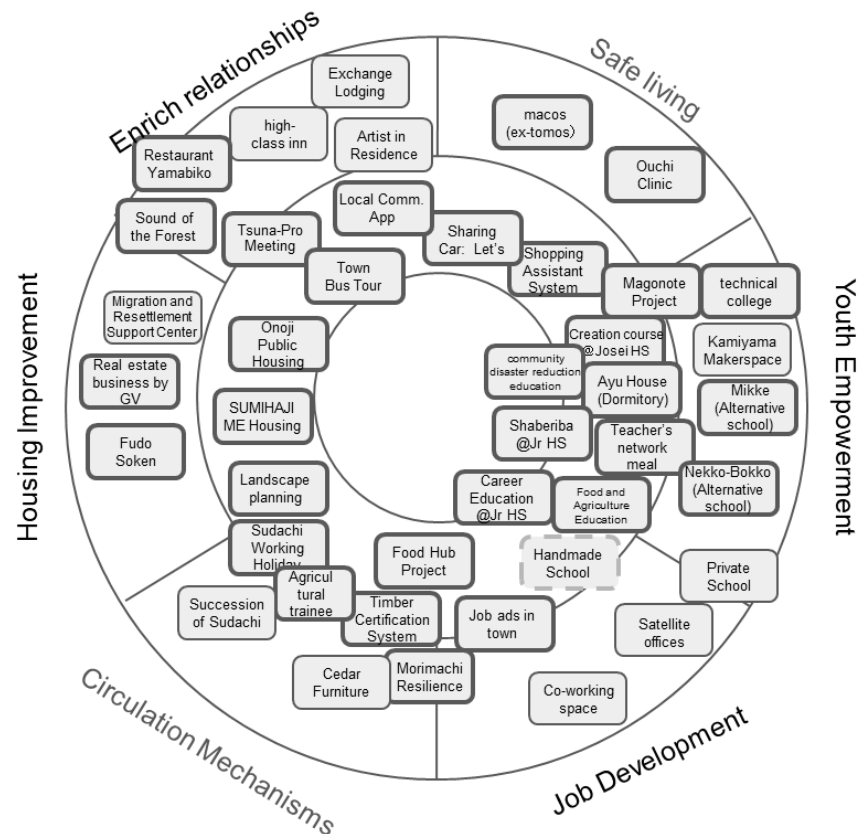


Figure 6: Activities in Kamiyama- town as of 2024

A similar survey was conducted in 2024. Starting in 2015, multiple projects were launched under the leadership of the public corporation. From there, they developed into multifaceted projects involving stakeholders across different sectors. As a result, both public corporation-centered projects (inside) and projects led by organizations other than the public corporation (outside) have produced numerous results as shown in Fig. 6 (Activities in 2015 are written in small print. Activities added up to 2024 are written in heavy boxes. Activities that have started but have been suspended as of 2024 are written in bold dotted boxes.).



Figure 7: A view of Kamiyama Town. The Onoji apartment complex is located in the center.

One typical Project is Onoji Public Housing Project. Facing a scarcity of available rental properties, especially for young families and immigrants, the town launched this project to offer housing as not just physical infrastructure, but also as a Platform for nurturing new social ties among neighbors, sectors and future generations. This yielded eight wooden buildings comprising 20 rental units for families with children. However, this initiative went far beyond conventional housing construction.

Unlike the typical public housing approach in Japan—which often involves outsourcing to large, non-local contractors to build low-cost, concrete structures—the Onoji project was deeply rooted in Kamiyama’s local context. Inspired by discussions in the TsunaPro working group, local actors voiced their desire to create opportunities for young local carpenters who were forced to work outside the town due to a lack of construction projects. In response, the town revised its procurement procedures: instead of building all eight units at once, they allowed for phased construction (two buildings at a time) so that local builders could participate.

Moreover, the town emphasized qualitative requirements—not just functional ones—in their tender, valuing landscape, materials, and collaborative processes. A significant aspect of this initiative was the relationship-building between town officials, local contractors, and young employees in plumbing and electrical companies. They engaged in study tours to other towns and co-learning sessions with residents to explore what kind of housing should be built to support Kamiyama’s future. When a certain expertise (e.g., architectural oversight) wasn’t available locally, the town proactively recruited external professionals to be stationed on-site, enabling real-time support and skill transfer. This blend of place-based learning and external expertise enriched the project.

As a result, the project didn’t just produce buildings—it revitalized the local workforce, offered hands-on training opportunities, and boosted confidence among young tradespeople to stay and contribute to their hometown. Many of the carpenters who worked on Onoji are now active in other Kamiyama projects, showcasing how one initiative can generate ripples in skill development and engagement.

The project also connected deeply with Kamiyama’s natural resources and environmental heritage. Though once a logging town, Kamiyama’s forestry sector has struggled due to aging labor and falling timber prices. Recognizing this, the town designated locally grown cedar as official public-use timber, enabling public projects to source local wood and revitalize the forestry ecosystem.

Lastly, to strengthen the attractiveness of the learning environment, the TsunaPro involved local high school agriculture students in collecting seeds and cuttings from native trees, nurturing them, and planting them around the new housing site. The landscape thus becomes a living memory, passed forward to future generations.

The Onoji Public Housing Project exemplifies how public infrastructure can, both directly and indirectly, serve as a social and ecological catalyst, integrating housing, local employment, education, and resource use into a cohesive model for sustainable rural futures.

However, as of 2024, the Kamiyama Town Office was unable to make a clear decision on whether to continue investing in TsunaPro. This was because, although TsunaPro contributed to population growth and the success of numerous projects, it was unable to perceive and appreciate the mechanisms behind these achievements and explain them to residents and the town council. This prompted the members of the Kamiyama Tsunagu Public Corporation to commission us to conduct this study: our joint research project began in 2024.

d. Analysis identifying Platform features

We analysed all survey results to identify as many indirect outcomes of TsunaPro as possible, see Table 1.

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Main Items	Sub Items	Main Remarks
About Vision	Diversifying activities through process transformation	We wanted many people to experience that when you change the process or the relationships, the results and the view you see change.
	Creating multifaceted outcomes	I think it was also important to learn that there are different ways of creating architecture and work. There are always good jobs that come out, and they start because there are people there. For example, in a school, it's the school motto, and everyone always goes back to that. And then, people are connected there, and activities take place.
	Return to the vision	If I keep going back to it, the keyword of connecting the town to future generations is always on my mind. It feels like I'm doing it for that purpose. It's ingrained in me.
	Realizing the vision	I really feel like this has become true over the past few years.
	Proposals needed by the town	Whether it's the structure of apartment complexes or the high school, these weren't just ideas handed down from the town hall; we made suggestions saying, "No, but we think it's necessary for the town," and they were agreed, and we've been moving forward with them ever since.
About Connections	Deep understanding of local resources	Everyone was worried about things like, "Is the kid still shy when playing dodgeball?" or "That stone wall over there just collapsed." That kind of genuine attention to detail is really nice. It's so loving. We put a lot of thought into what kinds of things we wanted to do and what kind of needs there might be.
	Ability to create cross-sectional contact opportunities	The town office was involved in the "Teachers Meal Together" and "Study Tour," so members of the nursery school and teachers also participated, and of course the high school, and the corporation that connects them was responsible for creating this network. They have been very involved in connecting different types of schools, and have produced great results. They are also doing community studies.
	Multiple measures to promote understanding of TsunaPro	He always says, "My job is this part of this." Umeda-san always brings out that diagram and says, "My job is this part of this." When we were building Akiyama Common, they came to ask us about what kind of needs the school would have and what the children's routes on their way home would be like.
	It is easier to consult with someone than the town hall	I made requests to the public corporation for things I wanted to do like this. I asked them quite a bit, but I think it's becoming easier to do things like that. I think that's progress.
	New activities, new players emerge	After all, immigrants have a fairly wide range of activities, so they have connections with people in the Jinryo area. The PTA members have a lot of ideas about what they want to do. The many people who move to Kamiyama, the people who really want to live here, have gone out of their way to overcome, or rather, overcome, these odds, which are several times greater than their chances.
	A chain of connections	Over the past few years, people who can naturally connect with others have started to realize that it would be fun to interact with other people. It's spread in a good way.
	Qualitative change in communication within the town hall	The town hall staff who were directly involved with TsunaPro and worked on projects with us probably have completely different ways of working. I think that process really improved the presentation skills of the people at the town hall.
	The presentation style has become part of the town's culture	The students at the technical college were really fascinated by the Tsuna Pro Reporting Conference. They had policies like that, they made something happen, and they explained it properly to people. They wanted to run the school and the dorms in the same way. It also helped to create a culture of reporting meetings in the town. I think it's a great asset for the town.
	The ability to fine-tune and connect with related parties	Mr. Komagata is at the center of it all, and it seems like there's a lot to learn. Kamiyama Maker Space. They also connect you with people from other fields, and you learn something, and then afterwards we all get together and talk. The Talk Folk Dance was able to come together thanks to the public corporation, who came up with the setting and called for people to participate.
	Ability to work together with the main body	Without a facilitator, a teacher at school might be able to imitate it, but I don't think it would work very well. (Not just designing and advising, but actually going to the classroom and teaching alongside the students). The ones doing amazing things are the ones that have members from the corporation. The teachers at the Kamiyama school are really supportive.
	High mobility to travel to sites both within and outside the region	There aren't many people in the office, and they spend most of their time working somewhere in town. He's talking about policy-like things, so I thought he was the type of person who thinks about these things, and that he was a little different from the people who actually take action, but it's more like he makes a plan, puts on his gloves and goes out there.
	Ability to provide support in various areas and at various levels	It really feels like it's part of the land, that it blends in so well, that you're moving along at the same level as everyone else, and you get a sense of the town. "Yacchan came to talk to us and listened to us." From there, the taxi thing really became a policy for the people of the town.
About Activity	Exploratory driving force that leads to realization through trial and error	The public corporation just said, "Why not just do it?", and they tried it out, and moved forward while saying this and that, which was a really good thing, and it really made it clear that it was something that was necessary.
	The ability to create ambiguous results	For example, a student studying abroad in the Netherlands. I wondered what the student was going to do, but when they came, the children and staff there were really stimulating, and they had a lot of interactions and some students went abroad, which really broadened their world, and those students had an impact on the children around them, which sparked conversation. If we talk about improving schools in isolation, we tend to think of good education and adopting cutting-edge programs, but if we think about it across fields, the possibilities suddenly expand, like trying to do something like a seed bank function that the private sector can't do or using the schoolyard. I learned a lot about this way of thinking while working at Tsunagu Corporation, and it's a really interesting one. They also include activities promoted by the corporation that connect the area to local learning.
	The ability to find the seeds of activity and bring out potential	They'll talk to various stakeholders during the planning stages of the project. Akiyama-san and Kusanagi-san have been working together with us on the project of helping out university students. But rather than thinking about what we want to do, we think about what we can do with the university students.
	Officially recognized by the town hall	The fact that the town hall is present gives me the sense of security that the Board of Education is also involved. It's the corporation that brings all kinds of events. Rather than the town hall bringing them, it's easier to accept them because the corporation is there.

Table 1: List of key indirect outcomes of TsunaPro

This table contains the elements of mechanisms that contributed to the successful dynamism of TsunaPro. These elements are reflexive, meaning that they intricately intertwined and influence each other, but in order to provide an easy-to-understand explanation of the mechanism, they are broadly classified here into three topics (Vision, Resource, and Activity), see Chapter 5. In other words, one of the characteristics of co-creation Platforms is that their mechanisms are complex and demonstrate emergence. It is reasonable then that our survey confirmed that, unlike direct outcomes, the indirect outcomes of TsunaPro Platform were difficult for all parties involved (even the members of the Platform operator) to recognize.

Another characteristic is that the mechanisms of the co-creation Platform are not discussed in practice (i.e., they are not verbalized). The operators of the co-creation Platform consciously support the project, but they place importance on being involved behind the scenes. They say that they want the project layer participants to take the lead and avoid taking the spotlight themselves. On the other hand, project layer participants recognize that their activities are being supported, but in many cases, they were unable to articulate the mechanisms through which this support is provided. These results indicate that while all participants can see the co-creation Platform as a fundamental infrastructure supporting the generation of direct outcomes, the fact that its mechanisms remain unarticulated is a problem.

5. MECHANISM MODEL of PLATFORM

a. What happens without any Platform

Before explaining the mechanism of Kamiyama Town's TsunaPro Platform, we will first explain the situation when there is no co-creation Platform like TsunaPro. Without a Platform, there is no opportunity for the people of the region to engage in dialogues about a common vision for the future of the town. Without opportunities for dialogues that transcend the boundaries of the public, private, academic, and citizen sectors, activities aimed at achieving a common vision for the future will not emerge. Next, in mountainous areas where population outflow is occurring, resources do not present themselves. Without efforts to motivate local residents, recognize the value of the region's natural environment and buildings, or attract interested individuals from outside the region, resources will not become abundant. Finally, even if activities toward a shared vision are initiated using existing resources, many activities will stagnate or face failure. Without the means to sustain the will, organizations, and resources to overcome stagnation and create effective activities, it is difficult to achieve significant outcomes.

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Vision:
Cannot see

Activity:
Interrupted and unrealized

Resources:
Insufficient and not rich

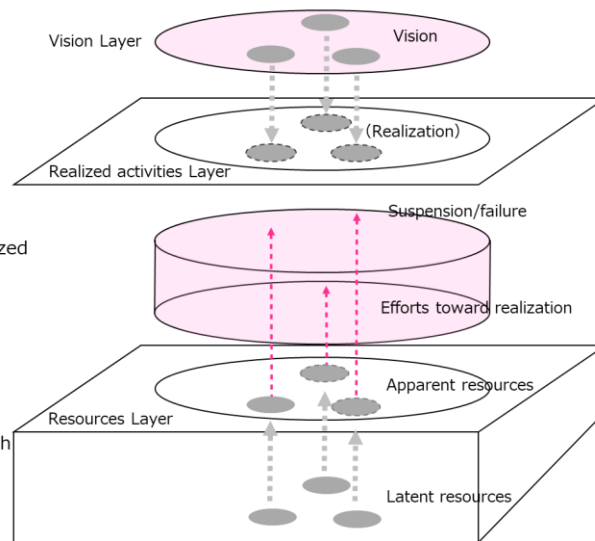


Figure 8: What happens without any Platform

Next, based on the elements of the mechanism shown in Table 1, we will describe the overall flow of the mechanism centered on three topics (vision, resource, and activity).

b. Mechanism 1: Continuing dialogues and visionary concordance

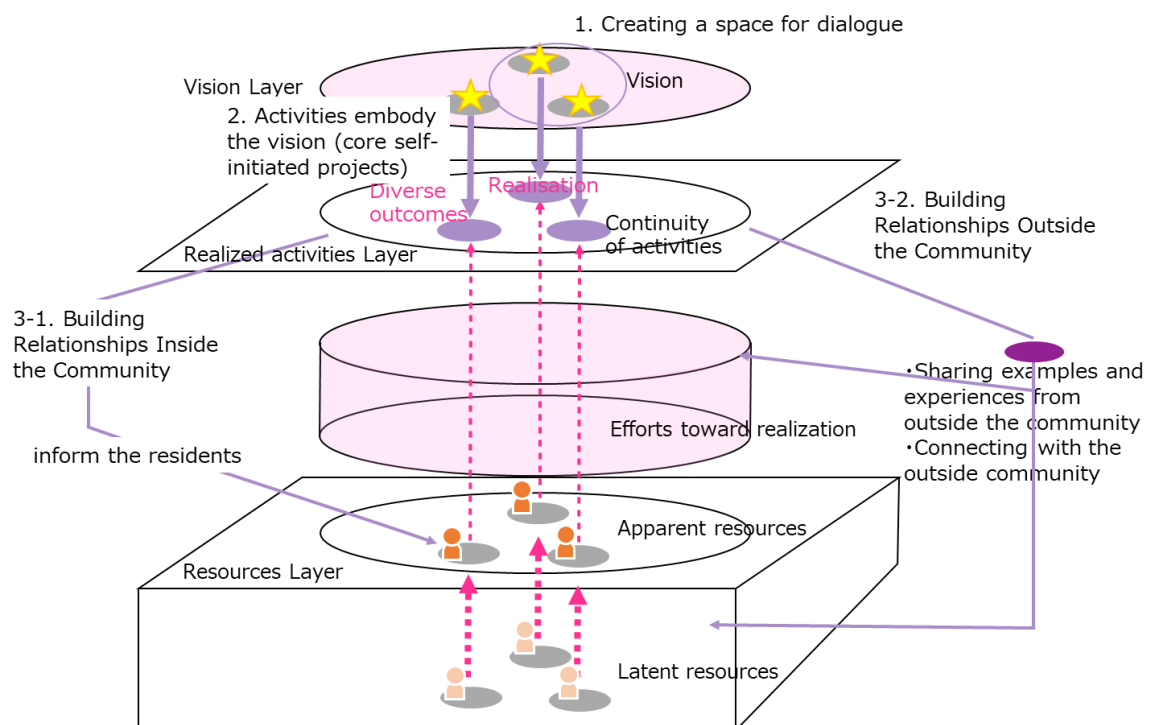


Figure 9: Mechanism of continuing dialogues and visionary concordance

In Mechanism 1, people from across sectors and regions gathered to discuss the future vision of the city (1 in Fig.9), which led to the current vision being developed and shared among stakeholders and concordance was gradually fostered. As these united individuals engaged in activities, those activities came to embody the vision, leading to the emergence of multifaceted, long-term projects aimed at realizing the vision rather than one-off projects (2 in Fig.9). Furthermore, through the dissemination of these activities and outcomes, connections were formed among stakeholders both within and outside the region who were interested in the future vision, leading to the emergence of diverse perspectives from the gathering of diverse individuals (3-1, 3-2 in Fig.9).

Specifically, starting in June 2015, a core team including the mayor and key figures from the private sector gathered to establish a vision for the future of Kamiyama, “connecting the town to future generations,” and planned opportunities for dialogue about the future of Kamiyama. Approximately 30 town hall employees and residents under the age of 49, representing various positions in industry, government, academia, and the community, were invited to participate in order to consider future generations. To ensure that many people could share a common understanding of the issues, discussion materials were prepared, including stories such as “Kamiyama Branch School will close in 2020,” “The bus route will be discontinued,” and “Elementary and middle schools will also close by 2040,” as well as factual data based on future population projections, such as the number of new residents needed. These materials were analyzed and shared to facilitate meaningful discussions.

Based on these underlying factual data, stories about daily life were shared, and then, emphasizing the process of dialogue with local stakeholders, an approach was adopted in which projects that specific individuals could commit to implementing were selected as investment targets for the town. This is very distinctive in that it represents a shift from the existing approach of Japanese local government planning, which is based on what should be done, to a planning method that emphasizes the importance of having players who want to do something.

In this way, an environment has been created in which it is easy to share a vision for the future of the town, and, based on that vision, local people (including Tsunagu corp. members) identify areas of current shortcomings, consider ways to address them, and link them to concrete activities that will lead to the future vision. Additionally, these activities are promoted to local residents through town bus tours, and to those outside the region through content creation on the media Platform “IN Kamiyama” and study tours.

Furthermore, rather than simply holding one-off working groups and dialogue opportunities, the fact that public corporation members practice “realizing the vision and connecting it to multifaceted values” in their daily activities provides an opportunity to share a tangible sense of what Kamiyama's vision is, and also contributes to increasing the number of potential supporters.

c. Mechanism 2: Enriching resource diversity

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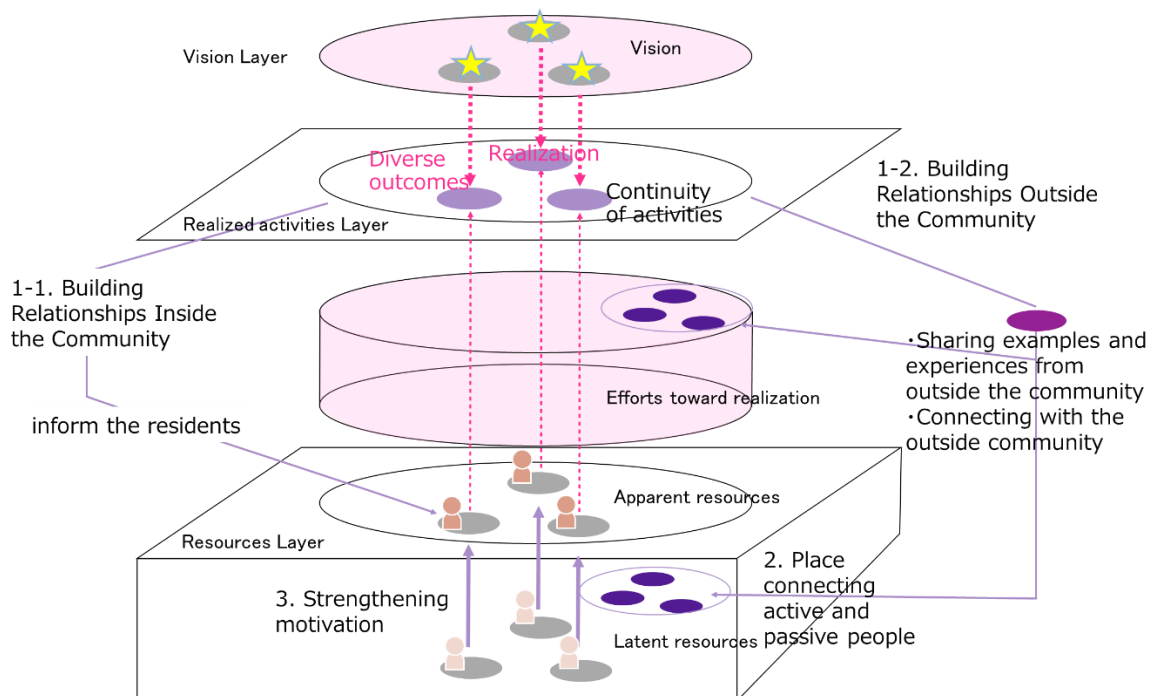


Figure 10: Mechanism of enriching resource diversity

In Mechanism 2, rather than focusing on the few resources that were already apparent, the stakeholders worked extensively on other potential resources, taking time to nurture them and gradually bring them to fruition, laying the groundwork for new projects. Efforts prior to 2015 were highly flexible activities centered on the citizen sector, such as town residents and small local businesses. In other words, there was little interaction with government policies or companies operating large business models that form the foundations of life in the town. In contrast, in the 2015 TsunaPro initiative, the government also committed to activities across the entire town, expanding communication beyond the previously active civil sector to include experts from outside the town, university researchers, and large corporations, thereby broadening the scope of potential resources.

Specifically, within the community, bus tours and the publication of a town newspaper (1-1 in Fig. 10) were initiated to inform residents about activities, while outside the community, exchanges through IN Kamiyama and site visits (1-2 in Fig. 10) were conducted. This also served as a means to connect people actively involved in the town with those who were still passive (2 in Fig. 10). Through the encounters and dialogues that took place there, each individual experienced inspiration in their lives, and the motivation of those involved in TsunaPro was strengthened (2 in Fig. 10).

As mentioned earlier, TsunaPro differs from typical administrative plans in that it focuses on “what can be done now = the presence of people who have the desire and ability to do it.” This officially emphasizes the importance of people with desire and ability, and creates an environment where Tsunagu Corp. members can easily support the motivation of stakeholders both inside and outside the region.

d. Mechanism 3: Acting on vision responsibility

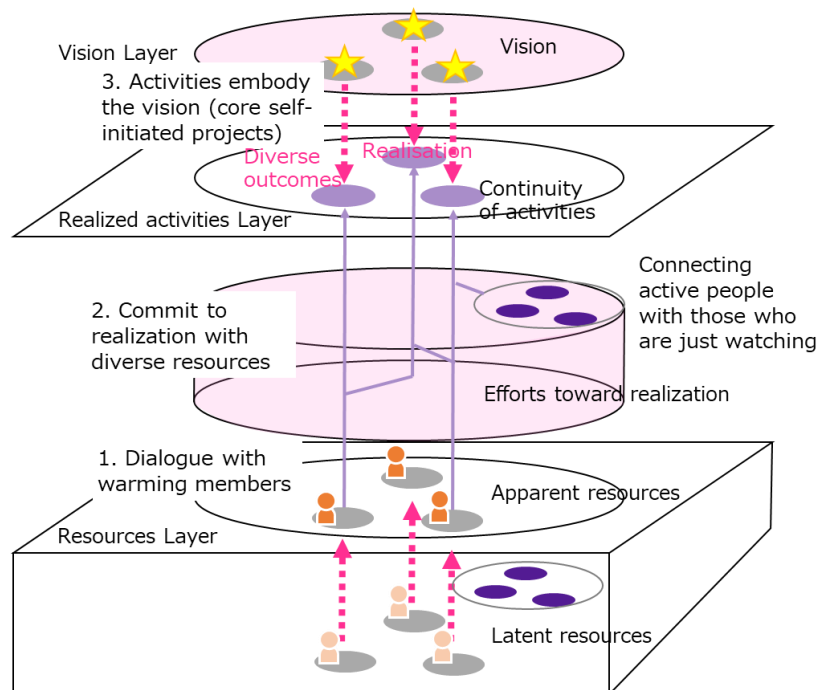


Figure11: Mechanism of acting on vision responsibility

Mechanism 3 was elucidated by observing behind-the-scenes efforts committed to connecting activities to results (phenomenal aspects) by employing various strategies in conjunction with Mechanism 1 (Visionary Solidarity) and Mechanism 2 (Diverse Resources). When enthusiasm was lacking, the stakeholders engaged in dialogue to raise it; when resources were insufficient, they sought out new resources (1 in Fig. 11); when specialized knowledge was needed, they sought it externally; when time was required, they set it aside temporarily and waited, but restarted at the appropriate timing (2 in Fig. 11); and when the vision started to deviate from the original intent, they corrected it while remaining involved, aiming for activities that embodied the vision (3 in Fig. 11).

For example, the Onoji Public Housing Project's initiatives to "create jobs for local carpenters," "utilize local cedar trees," and "grow seedlings with local high school students" tended to stall because they required the hacking of existing systems to create new operations and complex consensus building. However, it was the behind-the-scenes efforts of the public corporation members that made it possible to realize each project in line with the vision.

In other projects as well, the Tsunagu Corp. has acted as a behind-the-scenes facilitator, taking the lead as a private-sector and public-sector organization to promote policy measures quickly and carefully, addressing areas where existing industry-government-academia-community players tend to stagnate due

to gaps in their roles and incomplete relationships. In cases where there are no players, the Tsunagu Corp. has taken the lead in the projects itself, delving deeper into issues and expanding them into multifaceted projects with more stakeholders and shared responsibility.

To collectively exemplify those 3 mechanisms, our model consists of Sunlight, Roots and Trunk as shown in Figure 6.

Mechanism.1 like Sunlight

Continuing dialogues and
visionary concordance

Mechanism.3 like Trunk

Acting on vision responsibility

Mechanism.2 like Roots

Enriching diverse resources



Figure 12: Reflexive Mechanism of a Platform

6. DISCUSSION

a. Contribution

This paper has clarified the three key mechanisms of the co-creation Platform. While we have not been able to describe all mechanisms, we have been able to grasp the key mechanisms that continuously generate projects directed towards implementing vision. This knowledge serves as a reference for the functions required at the Platform layer for co-creation within the social and cultural environment of Japan. By referring to these mechanisms, co-creation Platform operators can assess their own Platforms and identify any missing mechanisms or functions.

b. Limitation

On the other hand, since this study analyzed Kamiyama Town in Tokushima Prefecture, one of Japan's most famous regions for social innovation, it can be said that it analyzed various co-creation practices that occurred in the region, and so was limited to one region. In the future, in order to increase our understanding of these mechanisms and enhance their versatility, we will analyze co-creation Platforms in other regions.

c. Implications related to the 4-Helix model

We examine here the relationship between this mechanism and the quadruple helix model. As is obvious, the platform played a role in “loosely mixing the four sectors.”, in all three mechanisms, vision, resources, and activities.

For example, the vision of “connecting the town to future generations” functioned as a boundary object (Star & Griesemer, 1989) between the four sectors, providing an opportunity for each stakeholder to consider how to connect to Kamiyama and enabling cross-sector dialogue.

To offset the scarce resources, Tsunagu Corp. focused on informal, temporary networking (knotworking (Engestrom et al. 1999)) with townspeople who were not yet interested and people outside the region who had begun to take an interest in Kamiyama. In this context, sector distinctions were irrelevant, and communication based on individual motivation and awareness of issues was prioritized.

Activities that tend to stagnate under existing systems and norms were compared with the logic behind the vision and new systems and norms were created. If activities remain constrained to existing sectors (Dominant System (Wheatley & Frieze, 2011)), such changes are difficult to achieve. By starting with cross-sector dialogue, members who felt uncomfortable with existing systems informally formed networks, which led to the creation of visions and activities, ultimately resulting in the construction of new systems and norms (Emergent System).

Looking at it this way, the three mechanisms of the co-creation platform did not simply mix sectors, but provided the essential movement in living labs development, which is to “experiment with the future of the region and create their own lifestyles” as follows;

- 1. It freed them from an objective, partial awareness of issues and shifted their focus to a subjective, long-term awareness of issues centered on the lives of future generations and regional identity.**
- 2. It freed them from their attachment to their roles or sectors under existing systems (modern society) and shifted them toward redefining their roles in line with the visions they had set for themselves.**
- 3. It shifted them away from improving and preserving existing systems toward reconstructing their own lifestyles by themselves.**

Democracy in Japan has developed through the introduction of Western models, and there are criticisms that the modern entities that should support this system have not been sufficiently established in Japanese society (Maruyama, 1963). Similarly, one reason why many living labs in Japan face practical obstacles is that they have been promoted based on mainly academic knowledge, and are therefore constrained by formal aspects such as stakeholder involvement and on-site implementation. Many technology-driven and enterprise-driven living labs in Japan are operated with a lack of citizen autonomy.

Associated with this, there have been few opportunities to share knowledge gained from the tradition of social democratic movements such as the participatory design in Europe (Nygaard & Terje, 1975) in the promotion of living labs in Japan. (Recently, a series of genealogies have finally been introduced in the Living Lab textbook (Kimura & Yasuoka, 2025).)

The mechanisms identified in this paper could be a hint for offsetting the lack of individual initiative among citizens, which is the most serious issue with regard to Japanese living lab operations.

d. Implications related to the 5-Helix model

The analysis of Kamiyama Town also provides insights into a 5-Helix model (Carayannis & Campbell, 2012). For example on the Onoji Public Housing Project, the cedar trees and the seedlings of Kamiyama are important stakeholders in connecting the town to future generations.

Non-traditional entities such as cedar forests and rivers have enabled diverse and long-term discussions beyond economic rationality. And Kamiyama's practical activities are a sign of the reconstruction of traditional systems established in modern society.

These suggest that the influence of animism in Japan extends beyond ways of thinking to cover institutional design and operation. This implication is connected to recent academic discussions on "regenerative" (Lyle, J. T., 1994) or "Multi-species anthropology" (Kohn, 2013).

7. CONCLUSIONS

This study investigated the Co-creation Platform that has been continuously creating projects in a Japanese rural town. The mechanisms by which the Platform continues to create valuable activities can be interpreted as the Platform members continually asking themselves how to "connect the town to future generations" and fostering a vision of concordance (5.a), and in the process of nurturing individuals' motivation and connections in various sectors (5.b), on top of that, Tsunagu Corp. remains committed to the town's vision; it is working behind the scenes to make it a reality (5.c). Our research helped the Kamiyama Town Hall, a key investor to the Platform, to understand the effectiveness of its activities and to invest in the next phase.

Going forward, we plan to analyze the mechanisms and steps leading to those mechanisms with higher resolution and versatility by adding the results of collaborative Platform analyses from other regions to the findings of this mechanism survey. As a result, co-creation Platform operators will be better able to assess the status of their own Platforms using this framework and propose candidate actions appropriate to their situation.

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