

The Role of Service Design and Co-design in the Lifecycle of Online Communities: Cases from the Chinese Service Design Community¹

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ABSTRACT

COVID-19 and technological advances have made online communication more common, which has increased the number of online communities. However, online communities tend to rise and fall rapidly, and maintaining active participants is vital to online community survival and development. While online communities connect many diverse participants, they also add to the complexity of the network and challenge participants to collaborate and participate. Despite the widespread use of service design and co-design for collaborating and participating in offline communities, there have been few studies examining their application and contribution online. This study uses participatory action research as a methodology. It takes China's online community, Chinese Service Design Community (CSDC), as a research object, analyses its development process from 2019 to 2022, and combines the online community life cycle proposed by Iriberry and Leroy as an analytical model to illustrate how service design and co-design activities can contribute to the community's transition from "inception" to "maturity" (Iriberry & Leroy, 2009). In addition, it also explores how service design and co-design can help to produce the 'legacy' for the long-term development of online communities by reflecting on the influences of the 'heroes' of online communities.

Keywords: Lifecycle of Online Communities, Co-design, Service Design, Community Development.

INTRODUCTION

During the pandemic, people worldwide had to face the challenge of lockdown. Socialization has shifted from "real" physical interaction to "virtual" platform communication. People gather online, interact, and communicate remotely through social media platforms. Thus, the development of online communities has increased. However, many online communities rise and fall quickly, and online conversations tend to begin loudly but fizzle out without significant progress. Communities evolve as members gather, and the continuous involvement of community members in building and creating new content is an important reference for external judgment of whether a community is "alive" or not. At the same time, online communities have openness, enabling value co-creation among multidisciplinary stakeholders from different backgrounds. Online communities are generally connected by passions and interests instead of explicit benefits, which are different from traditional

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organizations. Therefore, the critical challenge lies in understanding how to motivate participants and integrate these resources to allow the community to grow and flourish.

Service design has evolved from creating service offerings to understanding the needs of different stakeholders, focusing on organizational transformation (Maffei et al., 2015; Junginger & Sangiorgi, 2009; Stickdorn et al., 2018) and exploring an ecosystem perspective (Ostrom et al., 2015; Vink et al., 2021). Existing service design communities, such as Service Design Network, focus on service design as an object of discussion by sharing best practices; however, there is also an opportunity in considering service design as a tool for online community building and collaborating. Service design has the potential to address the complex ecosystem of online communities. It provides a holistic, collaborative, human-centred, and iterative approach (Stickdorn et al., 2018). As a “transdisciplinary design practice” (Penin, 2018), service design adds value to different stakeholders. It also provides tools for visualization and for stakeholders to engage in collaboration. Co-design as an activity can lead to the creation of service and strategy, and co-design prototypes act as a “physical manifestation” of service design (Meroni et al., 2018). As a result, multiple stakeholders can be involved in the creative process by implementing this approach. In addition, it is also consistent with the “collaborative” and the “human-centred” aspects of service design.

This paper explores how service design and co-design are involved in the online community. Why should we introduce service design into online communities? How can co-design help trigger online community dynamics? And how can co-design help online communities to increase actors’ collaboration and growth? These analyses are based on the practical experience of the building of the Chinese Service Design Community (CSDC). This community is an unofficial organization composed of professional Chinese service designers. Emerging due to the rise of service design in China and consequent students’ need for debates around service design. Service design and co-creation as core concepts are consistently used in community projects. CSDC has become an influential youth power gathering place counting more than 9000 followers on WeChat.

The research presented in this paper is mainly based on participatory action research since little exploration of service design applied to online communities has been found in literature. CSDC, the community established by one of the authors, has been the object of observation and analysis. Considering three years of practice within this community and analysis of co-creation activities in four categories, the research shows how service design and co-design can have a positive impact on online community development. This analysis is based on the lifecycle model of online communities, focusing on the co-values and identity-building for starting up the community, the maintenance of relationships, the accumulation and interaction of information in the community, as well as discussing the impact of the core team on the community long-term development.

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1. BACKGROUND KNOWLEDGE

1.1. Lifecycle of Online Communities

Online communities as “cyberspace” (Lee et al., 2003) are becoming increasingly popular due to the growing digital population and transition. In the early stage of development, the discussion about online communities focused on software and programming, such as the IBM AlphaWorks and Linux communities (Sawhney & Prandelli, 2000), and gradually involved

psychology and sociology, which discuss their motivation and collective action (Iriberry & Leroy, 2009). During the pandemic, online communities were frequently used as a supplement or an emergency solution to remote collaboration (Erdogdu, 2022) and are now becoming a recognized practice. Online communities are not developed linearly but iteratively, and “the technology and mechanisms that support and ensure the success of online communities should evolve to match their growth and evolution” (Iriberry & Leroy, 2009, p.18). One of the online community success factors is the active participation and contribution of members to enrich the community (Akar et al., 2019; Følstad, 2008; Iriberry & Leroy, 2009; Luo & Li, 2022). In contrast, little has been done to document online community development processes and provide guidelines to integrate success factors and design choices efficiently. In this paper, our main reference to Iriberry and Leroy (2009) mentions the online community development model with five steps.

1. Inception: because of some motivation and needs, people come together to form online communities.
2. Creation: the initial group of members interacts within the community and communicates outside the community to attract new members.
3. Growth: the common language is established, and the role of different members are starting to diverge.
4. Maturity: formal organization and rules are established to discuss more diverse and specific issues with the transition of old and new members and the change of identity.

Death: poor participation, lack of producing new and quality content, lack of organization, and of clear recognition of membership.

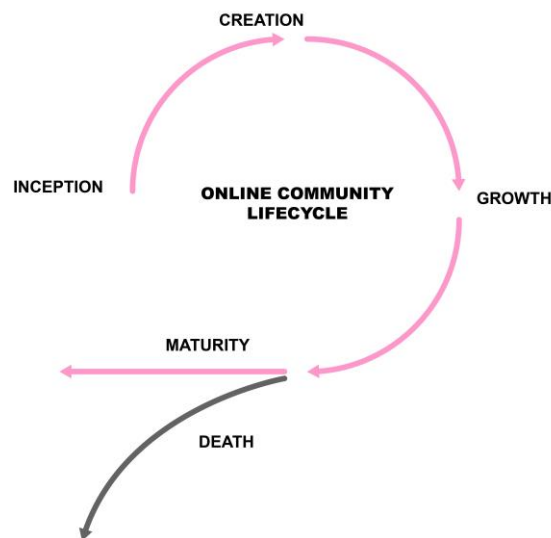


Figure 1. Lifecycle model of online community (Iriberry & Leroy, 2009), recreated by the author.

1.2. Service design and Co-design in the Online Community

Community innovation is regarded as a bottom-up innovation with characteristics of democratization (Tang et al., 2011). Within the community, different actors with complex relationships collaborate to co-create value, which generates an ecosystem (Rodríguez-López, 2021). Managing online communities requires engaging and coordinating with different

actors and maintaining this relationship network. These activities are strictly interconnected to some essential features of the service design discipline and practice. Service is defined as a co-creative practice in which “people collaborate in co-creating value in context by integrating resources through usage, to achieve common and individual goals” (Holmlid et al., 2015, p. 546). Moreover, service design can be useful for coordinating different stakeholders and defining rules to achieve value co-creation (Stickdorn et al., 2018). Penin points out co-production as an intrinsic aspect of the nature of service design thanks to participatory and co-creation attitudes and abilities (Penin, 2018). Hence, in this perspective, service design seems to have a set of fundamental characteristics to support the online community operation.

As mentioned by Ezio Manzini: “... where social media connects people (in digital space) ...Today, surfing the web, we find thousands of websites that propose doing something together” (Manzini, 2015, p.81). Co-design can be seen as a method that brings together people with differing ideas and motivations, from a variety of backgrounds and with different skills to take part in a series of conversations that seek to change the status (Selloni, 2017). It can facilitate the creation of the “third space” (Muller, 2002), which is an overlap between two spaces and their characteristics. In fact, the online community is the overlap space for knowledge sharing (Faraj et al., 2016). This community creates a place for knowledge to flow and highlights the co-creation of content and knowledge (Mozaffar & Panteli, 2022). However, online communities are often used in design projects as a means of last resort service delivery or as a “backdrop” for service delivery, but an exploration on how co-design and service design can support the development of online communities is lacking.

2. PARTICIPATORY ACTION RESEARCH AS A METHODOLOGY APPLIED WITHIN THREE YEARS OF CSDC

Based on existing literature, there is no clear relationship between service design and how it is involved in building online communities. Thus, this research adopted participatory action research as its primary methodology (Avison et al., 1999; Cole et al., 2005; Ozanne & Saatcioglu, 2008) involving participants as part of the research processes, collaborating with them and being sensitive to their needs. It is viewed as a democratic method of analyzing complex systems to gain knowledge for social action.

To address the purposes of this study, action research was conducted within the emerging CSDC established on July 17th, 2019 in China. The subsequent three-year iteration journey constitutes the core of the participatory action research conducted in this study. Additionally, it provides a reference based on the lifecycle of online communities in the service design area.

CSDC has attracted more than 300 young service designers from more than 40 universities around the world (Table 1). In addition to the development of the community, the group of official members from academia and industry is mainly focused on IT and consulting companies. The purpose of this community is to involve young service designers and explore the possibility of localizing service design practices in China. CSDC is an online community focused on service design, mainly operated by the core team, and focuses on co-design as a way to initiate and complete projects with community members and followers. The authors are deeply involved in community building as one of the initiators of CSDC, using the community as a research object.

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Table 1: CSDC members' incomplete university statistics (Zhang, 2022), redesigned by the author.

Country & Region	Number of Universities
Europe	8
United Kingdom	6
United States	4
Australia	2
Asia	24
Total	44

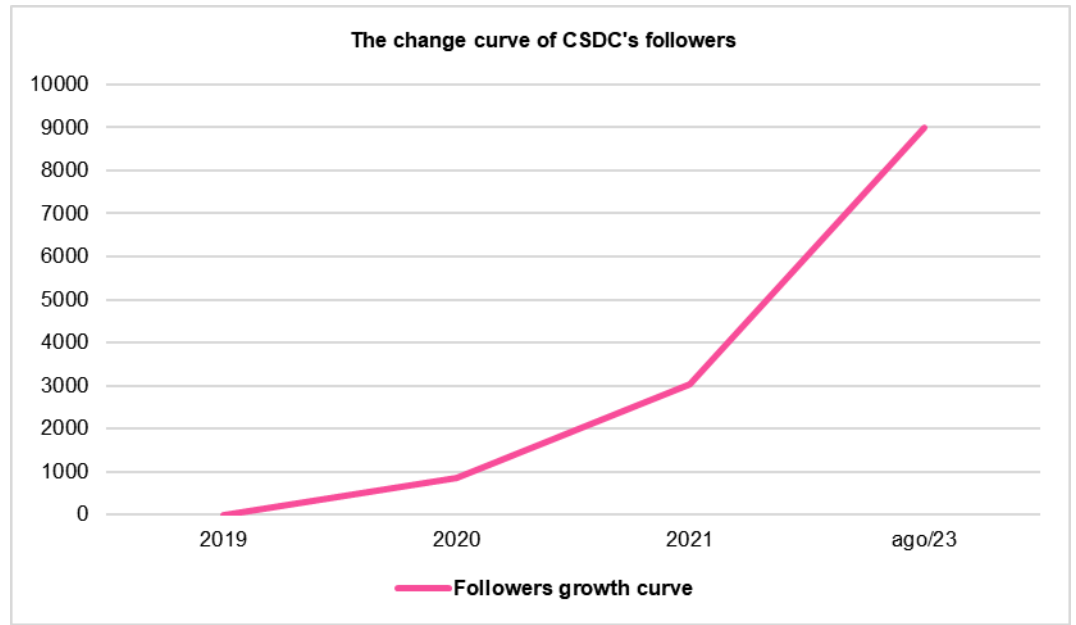


Figure 2: The community followers' information, data from CSDC's core team.

Due to a lack of practical cases for reference, CSDC mainly established preliminary expectations through its actors' hands-on experience. Modifications of the expectations and iterative action plans were made after every project was complete. Since its establishment, CSDC has organized and co-designed more than 42 activities with service designers and students and collaborated with multidisciplinary actors (Figure 2). They correspond to four different kinds of project types: 1) Thematic discussion in Chat, 2) Webinar, 3) Online workshops and events, and 4) Cooperation and collaboration projects (Zhang, 2022). In the paper, we attempt to analyse three selected cases to understand better how co-design and service design tools can contribute to online community development, especially at the 'Maturity' stage, and avoid the 'Death' end.

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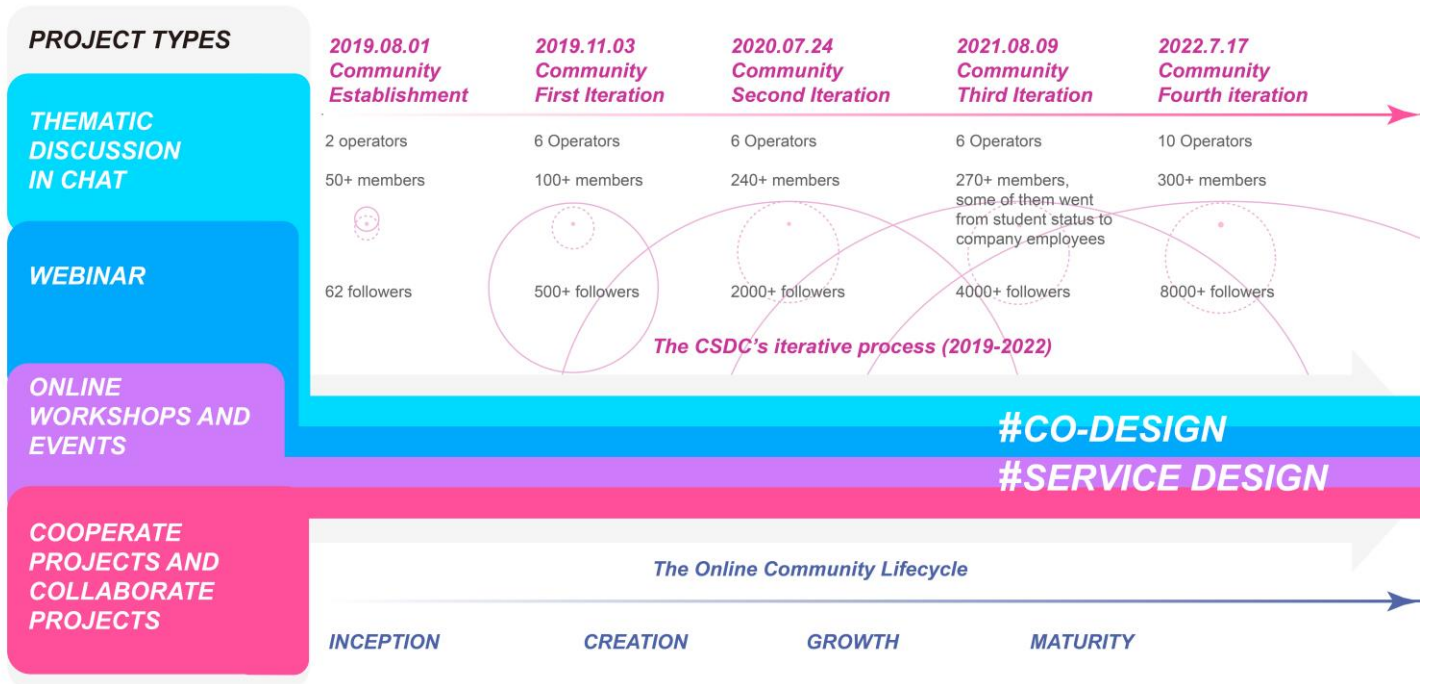


Figure 3. The summary of CSDC's projects and activities (Zhang, 2022), updated by the author.

The data collection and analysis included:

1. Documents: the planning briefings, project plans, internal meeting records, internal discussion records, and release publishing via the official account on WeChat.
2. Participatory observations: the data content related to observations and records from the author as participants or organizations.
3. Digital traces: the brainstorming and discussion track on the Miro board, the digital materials, e.g., poster, postcode, and meeting video recording.
4. In-depth interviews: semi-structured questionnaire form to interview the different actors in the community, including core team members, community members, followers and external cooperation participants.

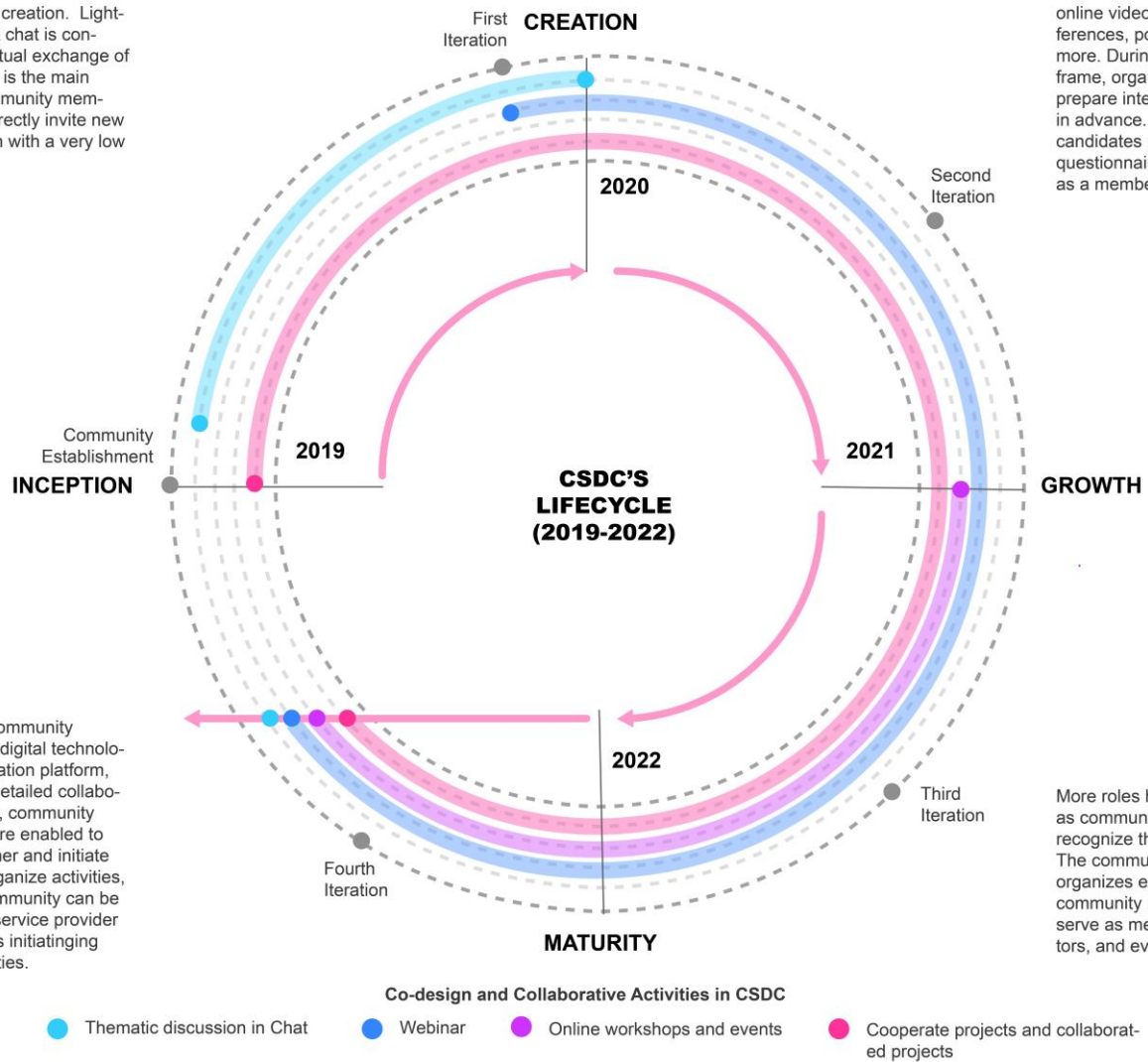
3. CO-DESIGN ACTIVITIES WITHIN CSDC DISCUSSED ACCORDING TO THE COMMUNITY LIFECYCLE FRAMEWORK

Findings present how co-design and service design, embedded throughout this lifecycle, have supported its development. These findings reveal their specific contributions at different stages of the lifecycle. Further, this section discusses the impacts and challenges associated with the roles of the core team members in the long-term development of the community. As already stated, Iriberry and Leroy's community lifecycle framework (2009) was used to summarize the community activity timeline of CSDC. This timeline can correspond to four steps in the lifecycle of online communities.

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Discussions on topics related to the motivation of community creation. Lightweight, text chat is conducted, mutual exchange of information is the main focus. Community members can directly invite new members in with a very low threshold.

An in-depth discussion as webinar is shared via online video and audio conferences, podcasts, and more. During a set time-frame, organizers need to prepare interview outlines in advance. The community candidates must fill out a questionnaire before joining as a member.



With the "community manual", a digital technology collaboration platform, and more detailed collaboration rules, community members are enabled to work together and initiate and self-organize activities, and the community can be seen as a service provider to members initiating more activities.

More roles have opened up as community members recognize the community. The community core team organizes events, in which community members can serve as mentors, facilitators, and event co-creators.

Figure 4. The lifecycle model of CSDC.

- Inception:** community establishment with two core members and over 50 students from five universities. A community was established to foster learning about service design among different schools and to create an environment in which exchange of knowledge on service design can be achieved. Co-design activities include "Thematic Discussion in Chat" and "Cooperates projects - Service Design Bluebook 2022".
- Creation:** first and second iterations of the community, hosting webinars, for example, monthly interviews, and social media to continue to attract new members. The Service Design Bluebook provides an opportunity for participants to build a common language and provides topics for discussion.
- Growth:** community roles are gradually being differentiated as a result of the different levels of involvement. There are some bystanders and some active members who are willing to take on the role of curators, co-creators, workshop facilitators, or mentors in online workshops and events.
- Maturity:** during the third and fourth iterations of the community, the core team establishes certain rules relating to how new members could join, how members could initiate activities, and how the core team could assist them.

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3.1. Building Co-value and Identity from Inception

Online communities start with motivations that bring people together. Motivation could develop from a specific point, which can easily be transformed into action. For CSDC, the main motivation was the absence of a place where young people could discuss service design. "Information asymmetry" about different schools with service design motivated students to join the community, and the "group chat" of social media facilitated this. The community grew from this point onwards. Beyond actions, the co-value and members' identity-building should also be considered. Prior to establishing the community, co-founders had considered co-design and service design as building blocks for the community structure. Although a clear path was not provided became fundamental principles for the future. It is important to note that these principles related to motivation are rooted in the value of community members, which is to acquire a conscious identity. As in a virtuous cycle, the more members acknowledge these values, the more they are motivated to participate and support the advancement of these values, resulting in a greater sense of identity.

3.2. Co-design and Service Design Activities Support Online Community Development from 'Inception' to 'Maturity'

According to the analysis of the projects, findings reveal the importance and the need for co-creative activities and how 'co-design' and service design tools worked in supporting online community development from 'inception' to 'Maturity'.

Relationships maintenance

A community is composed of people and is a complex network. Throughout the network, each actor represents a 'point', with information flow and relationships as a line connecting them. This constant flow keeps communities dynamic and vital. Keeping the material flowing between a network and its points, including the connections between each point, is critical to its success. This study points out how to use 'co-design' and service design 'tools' to maintain relationships by:

1. Understanding the network: identifying the relationship between different 'points' and understanding their flow is the first step in helping an online community establish organizational rules and clarify discussion directions. Service design emphasizes that organizations should look beyond one actor to a system or ecosystem perspective. Therefore, it provides a perspective on understanding this network and how to collaborate with other actors. Different service design tools can facilitate this, such as the stakeholder's map to help actors understand their position and their relationships with other actors and how to collaborate. Furthermore, it can also be used as a visual tool for community outreach.
2. Offering opportunities for stakeholders to access information: online community makes it easier for people to connect, but the downside is significant. The time for project participants to build trust and familiar is very short. Co-design can give participants a buffer zone of mutual familiarity with ice-breakers and other interactive activities. These can help teams gain confidence and encourage them to work with other stakeholders.
3. Building a strong sense of engagement: there are various roles in the community. Community development correlates with the involvement of actors (Iriberry & Leroy, 2009). Co-design allows actors to participate in community development. Thus, co-design enables members to acknowledge ownership and creates values that enrich the community.

“Chinese Service Design Youth Festival 2022 (CSDYF)” as an example of implementation.

CSDYF is a festival whose mission is to amplify the voice of young service designers. This festival is based on bottom-up and co-creative action, which differentiates this initiative from traditional conferences. CSDYF 2022 is the second edition, in order to reach a wider audience instead of only service designers, the organizers chose themes that cross-relate to rural revitalization and service design. The organizational team structure in CSDYF 2022 was improved from the previous year, with five function groups responsible for different sections. The organisational team includes previous members and community core team members in addition to new additions. The team included service designers, visual designers, government staff and enthusiasts. During the process of planning, everyone was seen as the organizer of this festival. Thus, participants took ownership of the project increasing the level of willingness and enthusiasm. Co-design workshops were used to involve the organizational team and project followers in planning. A stakeholder map allowed multidisciplinary actors to understand their responsibilities and collaborate with other groups. Additionally, it also attracted media partners and other industry players to amplify the communication and dissemination of the project. Participants expressed that the stakeholder map was helpful in understanding their position, their relationship with the project, and, most importantly, their possible contributions to it and to the community.

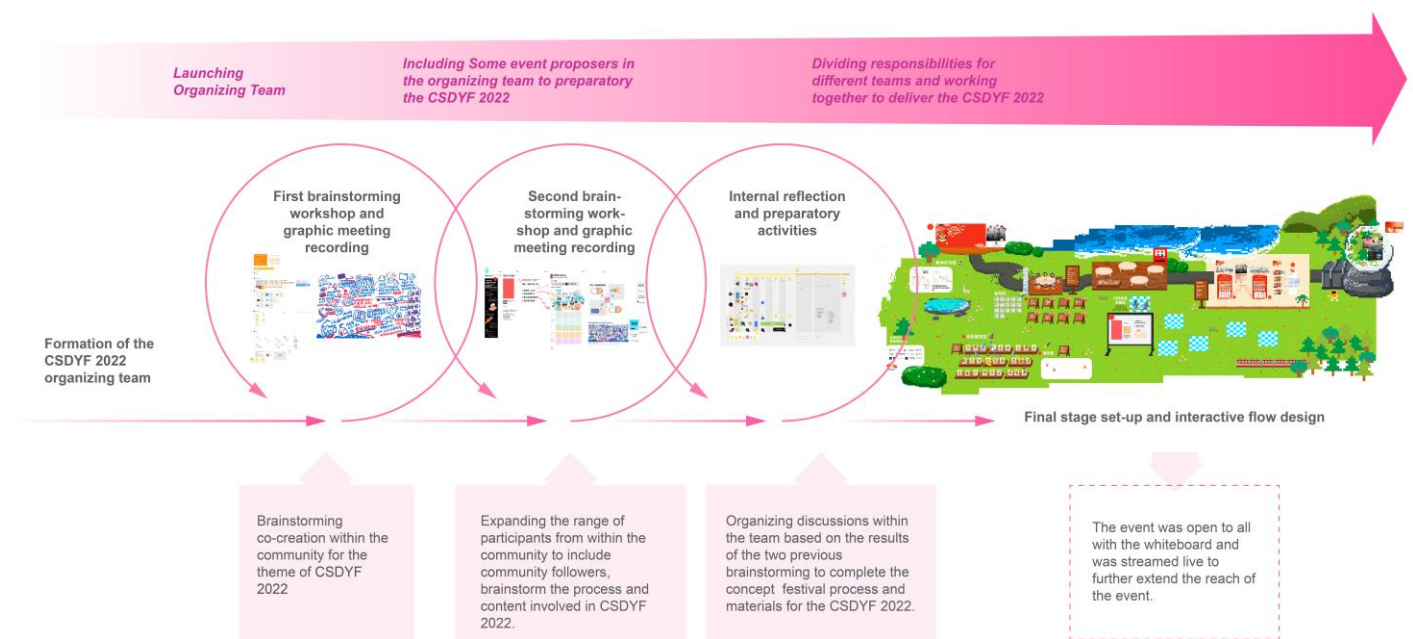


Figure 5. The co-design online whiteboards of CSDYF 2022 on Miro, materials from CSDC’s core team.

Community Accumulation and Organization of Information to Drive Iteration

In online communities, communication through text, images, videos, files or links in group chats, and interactions, such as records of people's actions on the platform, generate a large amount of data. This data forms different portraits of community members and becomes a reference for community organizations to make their next actions. In fact, the four different types of community activities listed all rely on the continuous accumulation and iteration of information for their development. At the same time, the exchange and sharing of valuable information, on the one hand, increased the attention of community members to the community, and, moreover, it became the asset of the community because of continuous accumulation, increasing the value of the community itself (Banto, 2021; Manzini, 2015).

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Therefore, how to collect and organize these scattered pieces of information is important for community organizers to fuel iteration of innovation projects and enhance the sense of the value of the community for the participants.

In response to this need, this study proposes three directions in which co-design can be used to promote community development by:

1. transforming data accumulation into co-design projects: dividing the task of data collection, clarifying its value to the community and its stakeholders, and visualizing it to build consensus among participants;
2. providing corresponding tools: providing participants with corresponding templates and rules for their tasks, coupled with appropriate guidance to facilitate the completion of tasks, and increase their motivation to implement;
3. making the results public: gathering content and translating it into materials in the database on the co-creation platform, which will be displayed on social media platforms and used by the community as a public asset.

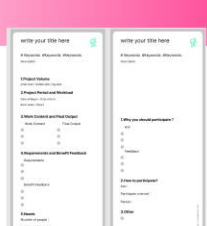
In terms of the use of tools, highly regarded service design tools include system maps and service blueprints. Through the information flow, the data influence of various actors in the community can be visualized directly, while the service blueprint provides an organized picture of the entire project. In addition, there are some templates and backstages as support, including the toolkits of templates (Figure 5) which are self-editable according to different situations and stages of a project, and a co-design backstage (Figure 6) supported by *Notion*, an all-in-one workspace with multiple modules that can display varied media data. The page can be turned into a public website, allowing information to flow between platforms and allowing participants to keep it updated.

Open Collaboration Process

Before


Activity Publish Assist

The tool is a template provided to event promoters. This template assists members in creating their own recruitment posters quickly and efficiently. Make it easy for them to start their calling for co-design project's participants.



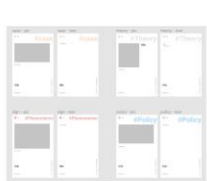
Icebreaker ID cards

The tool is designed to help new acquaintances get to know each other. They allow participants at the same event to become familiar with each other quickly. These cards are designed in Notion.



Chat Warm-up Spark


The tool is utilized during the warm-up period between the time participants join the WeChat groups and the start of the final event. It facilitates starting conversations with cards. These cards can pertain to cases, theories, policies, or phenomena, including insights from everyday life.



During

The Overlay Viewpoint Cards


The tool includes a frame and a series of cards with various functions and rules. These cards guide participants through a structured discussion on different topics within a chat group, enabling a rapid accumulation of diverse perspectives and opinions.



After

Flash Output Card

The tool is to provide a quick output for online collaborative projects. This output can serve as a keepsake after the event and as additional promotional material for future dissemination.



Process Summary Map

This tool allows the organizing team to swiftly review and evaluate the entire process for a project retrospective. It can also serve as a visualization tool, preserving the whole process visually for other project sponsors to reference.




Figure 6. Aha Co-design toolkit (<https://csdcommunity.super.site/open-collaborate-toolkits>), materials from CSDC's core team.

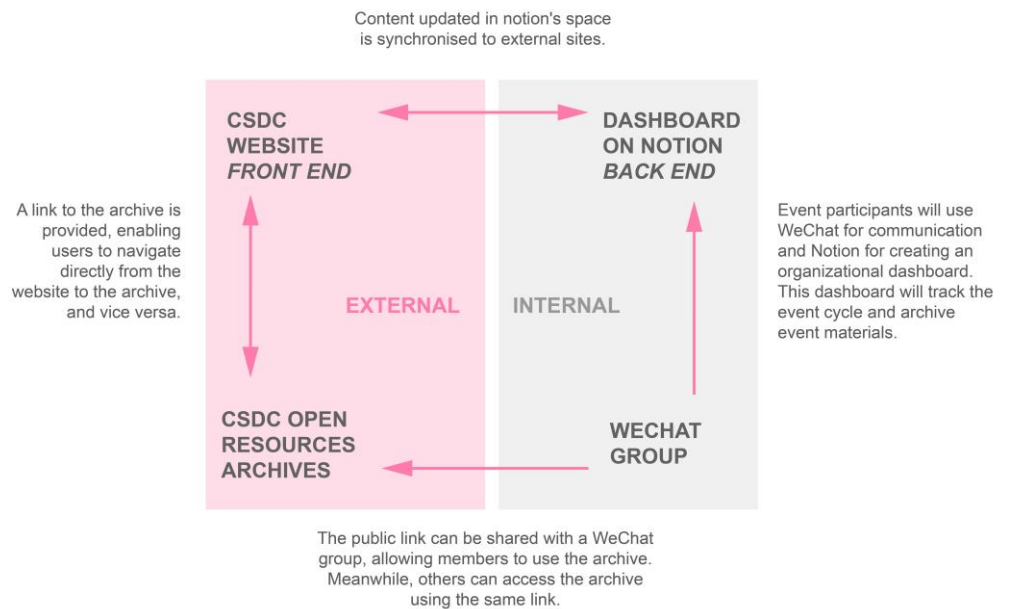


Figure. 7 The connection between co-design backstage and frontstage, materials from CSDC's core team.

Island Lightkeeper as an example of implementation

The "Island Lightkeeper" project aimed to operate the CSDC's public online archive for CSDC by encouraging members and followers to participate. In exchange for the participants' efforts in collecting cases, the organizer set up rules for self-regulatory action and actively monitored the cycle for a six-week period. The collaboration platform was used to create a dashboard that summarized of the project, its rules, and a list of participants, as well as the section of the online repository dedicated to the event. Participants used the co-created online panel to record and accumulate data and track their collection process. The archive had a basic template for each collective section to improve efficiency. In addition, a public link was provided, and the results could be used together by the participants, as well as the community as a whole. Participant feedback posted on social media platforms encouraged new members of the community to participate and contribute to the archive. After three sessions, the average event satisfaction rate reached 4.6 (total score of 5), with an overall upward trend in rating.

Keep the community vitality with self-organized co-design activities

The vitality of a community can be measured in many ways, by monitoring the level of activity and the generation of new content (Mustafa et al., 2022). This new content is the result of active participation by community members in the process of co-creation. Since online communities are relatively loosely connected, the participants are always in a dynamic state of change during the project, and the continuous motivation of participants to participate in the project is one of the ways to keep this dynamic relatively stable, a key to keeping the community alive (Iriberry & Leroy, 2009). Furthermore, stakeholders can provide different perspectives and ideas, which, on the one hand, allows many participants to contribute and on the other hand, can lead to confusion, making it more difficult for organizers to make community development decisions, reducing participants' willingness to participate, and influences their perception of the community.

Online co-design activities provide a means for community members to quickly gather ideas, collect feedback, and maintain an active state of engagement. With online co-design, more

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community members can contribute and facilitate rapid brainstorming. Participants can join and leave online co-design activities at any time, contributing directly to insights and discussions during a fragmented time period. The online co-design process uses a whiteboard or chat window to record information, unlike offline roundtables. Using virtual post-its, for example, one can visualize and move different information for quick clustering, while in the chat one can organize and retain information. In addition, co-design results can be presented intuitively. The whiteboard can quickly transform into proof of participation, while chat messages can be transcribed and written into an article, resulting in new collisions of ideas. In co-design activities, tools are very flexible, and some of them must be reorganized or re-designed depending on the actual contexts. It is most common to use cards with various functions, such as question cards: each card has a variety of questions that surround the ideas, and these are used to stimulate discussion and collect ideas. Cards can be used to separate the content which needs to be discussed, with text and pictures, etc., in order to stimulate deep discussion. As a result of the research, the two methods of questioning, HMW and What if, have been shown to be very suitable for co-design based on chat windows as the conversation environment.

“For Whom Community Building is Made” as an example of implementation

STEP 1

Doing The Chat Warm-up Spark in the Chat Group



STEP 2

Preparing an online whiteboard that features an introduction to the activity and a section for interaction and recording of the subject content.



STEP 3

Posting content collated and, with the consent of the person who shared it, anonymously collated into an article and posted on social media.



Ideas / Opinions / Feedback

Collection

Articles / Posters

Sharing

Attract more participants

Figure 7. The co-design online whiteboards of the online round table “For Whom Community Building is Made”, materials from CSDC’s core team.

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This activity aimed to connect CSDC's service designers with people involved in offline community development for conversations and experiment with the co-design rules and tools formulated by the CSDC's core team. For example, the four recruited event organizers and participants were asked to create personal cards in the community's database for information accumulation and co-creation icebreakers. Firstly, the organizational team conducted desktop research to search for information about community and service design, stakeholders, and case studies related to this project. Before the event, the team used case cards and question cards that were very effective in icebreaking and facilitating quick discussions among diverse participants. During the event, participants, including academic, community workers,

residents, and service designers, were invited to an online meeting. This whiteboard was exported as a commemorative document, and the link was made public after the event. After the discussions, an article was published on Wechat, which received over 1,000 reads and was retweeted several times. In a follow-up, this activity prompted members of the participating organizations to take the initiative to organize another offline discussion.

3.3. 'Maturity' to Long-term Development

To maintain vitality in online communities, promoting co-creation and providing self-organizing tools and collaborative platforms is not enough. Although it is not the focus of this article, it is also important to emphasize that the core team plays a significant influencer. The core team is seen as the "heroes" of the online community, representing the values that bring the community together. The role of the hero is not something peculiar to online communities, but it is a feature that has also been investigated in social innovation communities: for example, Meroni (2007) talks about 'creative communities', i.e. communities emerged from the bottom up thanks to the effort of few activists to solve daily problems at the local level. Then, Manzini (2015) and Selloni (2017) reported the various difficulties that those communities faced in keeping vitality at the maturity stage, also because of the 'fatigue' of the heroes who cannot always contribute while maintaining the same level of energy and activism. For this challenge there is no single solution, and several strategies have been experimented within the field of social innovation: some of them are connected to making participation alive through continuous co-design activities and better designing the governance of the community itself identifying roles and rules (Meroni and Selloni, 2018).

We may say that something similar is currently under experimentation in CSDC: the core team initially took on the role of initiator and activity executor; after the maturity of the community, they gradually began to assist or catalyze co-creative activities. The members can produce interactions that bring vitality to the community, but the core team still needs continuous input. Thus, facing the challenge of more long-term development, the turbulence that may arise from the turnover of core team members is a challenge to the survival of the community. To address this challenge, co-design activities' processes, methods and platforms proposed by the core team in response to community development, which can be seen as the 'legacy'. Over time, the bonds between members of the community are strengthened, and the 'legacy' is referred to and used repeatedly, gradually becoming shared rules and values within the organisation. Moreover, the ability of an online community to grow with its members will contribute to its long-term growth. Continuous participation of members in community building, i.e., co-design activities, members' sense of companionship and belonging will be strengthened. The number of "heroes" in the community has increased as a result. This will gradually reduce the workload of the core team and they are also likely to be the successors to the core team. There are therefore possible to achieve a balance for long-term development.

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4. CONCLUSION

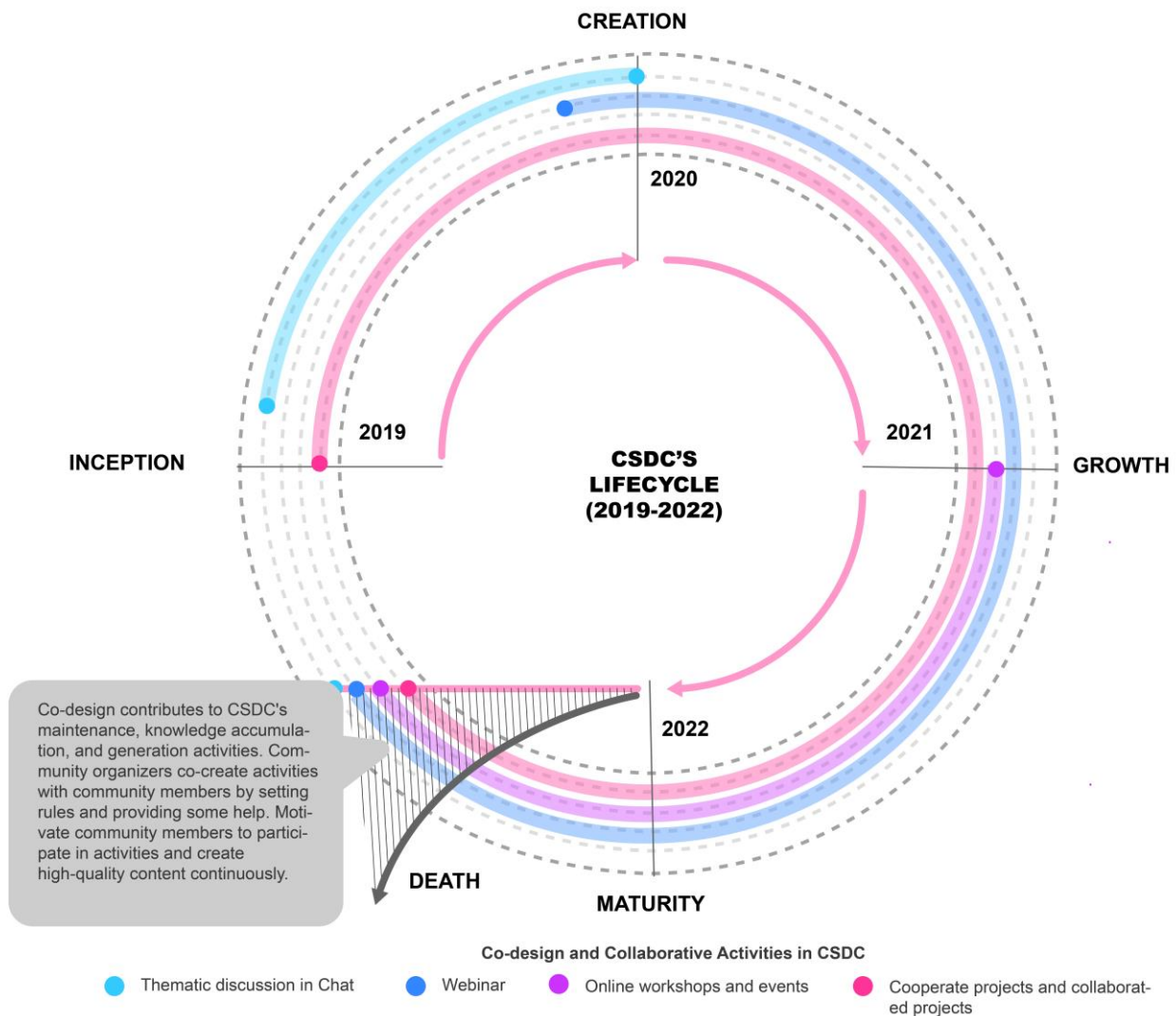


Figure. 8 How co-design helps the online community stay alive in the maturity stage.

Service Design has the potential to support online community development and engagement in many fields. This research has experimented this potential within the community of service designers in China and has demonstrated how participative approaches and design methods can support the creation of online innovation networks. Online communities can break geographical limitations, incorporate more stakeholders, and facilitate communication. The introduction of co-design contributes to value establishment of the online community at the outset and lays the foundation for the subsequent development phases. In addition, co-design activities can help to maintain community vitality. Community organizers co-create activities with members by setting rules and providing support, motivating participants, and creating high-quality content continuously. In addition, co-creation can be considered a form of service that organizers provide for community development and its governance definition. It can be seen as a means to build emotional links between members and the online community and to cultivate potential multiple “heroes”. The presence of multiple and diverse heroes is key for creating a vital community and feeding it with a variety of activities rich community activities in CSDC. The growing number of followers in CSDC confirms this.

The purpose of this study is to identify a set of strategies to keep online communities alive and achieve their sustainable development through service design interventions and co-design

approaches. This study uses Community Lifecycle as a method of analysis. Firstly, in the 'Inception' stage, the study presents the value of co-design activities in constructing online community membership. Then, at the level of community co-creation, the study presents the performance of the three co-creation activities of the service design community at different lifecycle stages of the online community. Finally, this study provides an overview of the co-design activities in the 'Maturity' stage, and a reflection on as well as in the long-term development and governance definition to avoid the death of the community and to maintain high its vitality, diversity and richness. The potential to strengthen emotional ties between members and the online community for sustainable development is pointed out.

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