ICWEP2022

E-B
Environment - Behaviour
Proceedings Journal

e-IPH
e-International
Publishing House Ltd.,
United Kingdom

Rural Revitalization Driven by Design Communities: Evidence from a Case Study of Rural China

Yang, Zhou[1,2], S'harin Mokhtar[1], Norazmi Shahlal[1]

[1] College of Creative Arts, Universiti Teknologi MARA (UiTM) Shah Alam, Selangor Darul Ehsan, 40450, Malaysia.
[2] Department of Fine Arts and Craft Design, Yuncheng University, Yuncheng City, Shanxi, 044000, China.

Matthewzhouyang@gmail.com sharin2066@uitm.edu.my norazmi2943@uitm.edu.my
Tel: +8613663596990

Abstract

This study explores the construction and operation of design communities for sustainable rural service design under a service design ecosystem perspective. It analyzes a case study of rural China and proposes a design community model based on the concept of the service design ecosystem. It also discusses the factors influencing the design communities' role in rural sustainable development. The study contributes to the service design theory and practice by providing a new viewpoint and tool for rural revitalization.

Keywords: Design community; Service design ecosystem; Sustainable service; Service for rural revitalization.

1.0 Introduction

In the 21st century, the world entered three primary capital surpluses. Agriculture, under the blow of surplus capital, became the carrier of the crisis of carrying capital. China's 18th Communist Party Congress in 2012 formally took ecological civilization as the national development strategy. In deepening the ecological civilization reform, various interest structures formed in the industrialization era for more than 100 years need to be adjusted, as the rural society with relatively low institutional cost became the basis of the national development strategy in the new era (Wen, 2021). The countryside has once again become the focus of China's development.

Document No. 1 of the Central Committee in 2021 made the comprehensive promotion of the revitalization of the countryside a significant task to achieve the great rejuvenation of the Chinese nation (2021), and the revitalization of the countryside is closely integrated with the great rejuvenation of the Chinese nation is closely gathered. The strategy of revitalizing the countryside has become the general grasp of the work of the "three rural areas" in the new era, and the "three lives" (production, ecology, and life) of the countryside are integrated to build an ecological civilization for the sustainable development of the Chinese nation (Liu & Long, 2019).

In recent years, the countryside has become a creative, experimental site that significantly promotes the study of rural development from multiple perspectives and diversified exploration. Residents' roles, lives, and culture gradually become the main characters. For service designers intervening in rural revitalization, this means playing an essential role in social change, managing complex systems and long-term and large-scale changes(Villari, B. 2022), interacting with various actors with different roles (Villari, B. 2022), and influencing and participating in decision-making and design processes. This situation underscores the need to move from one-to-one relationships between individuals and between providers and users to systems with transformative impact and large-scale visions (Sangiorgi & Prendiville, 2017; Vink et al., 2020).

Art and design interventions in villages increasingly employ collaborative, participatory, empirical, and innovative governance modes that involve coordinating different actors around common goals. In the case of service design, the process of co-creation with villagers facilitates and enables the construction of consensus relationships and helps to visualize (including through experimental scenarios) solutions, verify their effectiveness, and imagine their feasibility. In these design processes, design communities play an important role in facilitating and accompanying innovation at the local level (Villari, 2022; Zhao & Wang, 2019; Qu, 2020; Wang, 2021).

This paper aims to explore the concept and practice of design communities in the context of rural revitalization in China and to examine how they can transform rural services towards sustainability and inclusiveness. The objectives of the paper are: 1) to review the existing literature on rural revitalization, service design, and design communities and to identify the research gaps and opportunities; 2) to conduct a case study of a rural service design project in a village in Zhejiang province, where a design community composed of villagers, designers, researchers, and local government officials collaborated to co-create a rural tourism service system; 3) to Analyze the formation, operation, and impact of design communities and discuss the challenges and opportunities of applying design communities to rural revitalization.; and 4) to provide some recommendations and suggestions for policymakers, practitioners, and researchers, based on the findings and discussion.

2.0 Literature Review

2.1 Service design and its iterations
Driven by the economy, the business model is changing dramatically, and the market competition is now shifting from tangible objects to intangible brands to service system competition. Regan defines service as a behavioral process in which customers buy and sell and benefit from spiritual satisfaction, and the physical products involved in business activities determine the type and quality of service (Regan, 1963). Russell et al. proposed Intangibility, Inseparability, Heterogeneity, and Perishability, four terms to describe service characteristics that are apparent when the customer needs to wait for the service and not noticeable when being in the service (Wolak et al., 1998). This distinction is a PSS (Product Service System) (van Halen MSc, 1999) representational element. The United Nations Environment Programme introduced the concept of PSS in the context of systems theory. The strategies, concepts, products (material and immaterial), management, processes, services, use, and recycling involved are planned and designed systematically (Luo & Zhu, 2011).

This proposed system concept evolved into a systematic organization of service design. In 2004, the SDN (Service Design Network) was founded by the University of Cologne, Carnegie Mellon University, Linköping University, and Politecnico di Milano. In 2010, the University of Art and Design, Helsinki, Helsinki School of Economics, and Helsinki University of Technology formally merged to form Aalto University, and the Service Factory was established in 2008 in parallel with the planned merger.

The organization of service systems inevitably leads to an exploration of their evolution, an evolution that implies a shift in the focus of design from the physical to solutions that address social(Villari, B. 2022), economic, political and environmental issues, and a view of design as the ability to facilitate the transition to a resilient, equitable and sustainable society.(Buchanan, 2015) (Fry, 2009) This tends towards the concept of service ecosystems in which interacting actors co-create value and share norms, rules and practices of composition (Vargo & Lusch, 2016) (Vargo et al., 2015). Strengthening territorial and community-related concepts have been explored from large-scale, systemic perspectives (Meroni, 2011). to form iterations of service design. The service ecosystem perspective is relevant to the design of complex systems where transformational aspects become essential. Vink et al. (2020) identify four components of service ecosystem design: actors, resources, institutions, and value propositions. They also propose a multi-level process model of service ecosystem design that involves four phases: exploring, envisioning, enabling, and enacting. With this service ecosystem design connotation defined, the emergence of service design organizational forms makes constructing design communities in the region possible. (Vink et al.,2020) Zhang and Li (2021) conducted a bibliometric analysis in service ecosystems research. The main research topics included service innovation, service-dominant logic, service systems, and service networks. Zhang and Wang (2021) analyzed the research progress in service ecosystems and platform ecosystems. They identified the main research themes: value co-creation, institutional arrangements, digital transformation, and ecosystem governance.

2.2 Design Community
A design community is a practice built around a common goal (project) over a precise period, based on mutual participation, sharing, and creating a standard repertoire of languages, tools, actions, and styles. This community generates effective management of the design process, which allows different actors (individuals or communities) to share a common design vision and define the process of its completion (Maffei & Villari, 2004).

Artistic interventions in the countryside are confronted with the diverse and mobile countryside, a situation that cannot be ignored. Moreover, the perceived community art seeks to achieve is not a visible goal with a concrete form (Zhao, 2019). In this sense, art intervention in the countryside is a practical action with "situation," which actively integrates and effectively transforms disordered society and broken relationships through the co-creation of participatory and emotional force (Qu, 2020). For rural development, forming a strong identity and cohesion is the key to developing a cooperative economy and achieving sustainable development and the charm and value of rural life (Chen & Yan, 2014). In 2018, Wang created the "Community Hub Station" from the practice and theory of combining urban and rural areas and promoting art communities with art museums as the center of art activities. The term "art community" refers to the community formed by the interaction between public cultural life and art projects in the community (Wang, 2021).

Design communities are constructed by design actors in the territory as a community of practice and are driven by design. The community of design community presents variability mainly in different levels of the territorial space of the design area. The three levels enable stakeholders to co-create and share value (Maffei & Villari, 2004). The construction and participation of the design community form a strong community cohesion and collective action ability in tapping local values, organizing, guiding, and planning the theme of community development, training and educating community people to improve their survival skills, etc. Its value claim is to realize the public value of local action.

To further explore the concept and practice of design community, this paper reviews the current literature on the design community and rural development, focusing on the following aspects: the definition and characteristics of design community, the role and impact of design community on rural development, and the challenges and opportunities of design community in the context of rural transformation. The literature review shows that the design community is a dynamic and collaborative process involving multiple actors, resources, and institutions. It can contribute to rural development by enhancing local capacities, fostering social innovation, and promoting cultural and environmental sustainability. However, the literature also reveals gaps and limitations, such as the need for more empirical evidence, the diversity and complexity of rural contexts, and the ethical and political implications of design interventions. Therefore, this paper proposes research questions and directions for future studies on the design community and rural development.

3.0 Methodology

This paper uses a qualitative case study approach (Yin, 2014) to explore rural revitalization through design communities in China. The case study is based on a rural service design project in a village in Zhejiang province, led by Professor Cong Zhiqiang, a service design expert and a professor at the Renmin University of China in Beijing. The data collection methods include interviews, observations, and documents, and the data analysis methods include thematic (Braun and Clarke, 2006), narrative (Riessman, 2008), and visual (Rose, 2016) analysis. The paper follows the steps and guidelines proposed by Rashid et al. (2019) and Snyder (2020) for conducting a case study in the business health and social sciences disciplines. The paper also considers the ethical issues of informed consent, privacy and confidentiality, and ethical dilemmas and issues. The paper presents the case study's findings in three aspects: the formation, operation, and impact of the design community. The paper contributes to the research on rural revitalization, service design, and design communities.

4.0 Findings

All Based on the operation of ecologically sustainable design communities, the author has carried out adaptive optimization based on the model constructed by Professor Cong's team, combined with the use of service design ecosystem tools, and explored the practicality and verified the extensibility of this combined model applied to rural revitalization. The paper presents the findings of a case study of rural revitalization through design communities in China. The paper analyzes the formation, operation, and impact of the design community, which consists of villagers, designers, researchers, and local government officials. The paper uses data from interviews, observations, and documents and applies service design methods and tools to co-create a rural tourism service system. The paper evaluates the design community's economic, social, and environmental impacts and discusses its implications for theory and practice. The paper contributes to the research on rural revitalization, service design, and design communities.

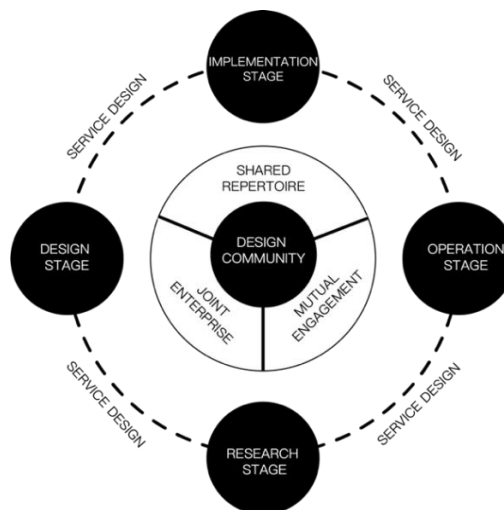*4.1 Design community operation method*

Fig. 1: Design community model
(Source: adaptation from Stefano Maffei, et.1991 and Cong Zhiqiang, et.2022)

435

The diagram shows the design community operation model, with Shared repertoire, Joint Enterprise, and Mutual Engagement forming the center of the design community and the four stages running in a satellite style around the way of service design to build a dynamic design service ecosystem and achieve sustainable development.

4.2 Case Analysis

The research team in Zhejiang Province, China, adopted the co-creation design method of villagers' all-around participation and team accompanying growth. The design community based on the village territory was built based on the logic of value co-creation, and the villagers were regarded as active and creative co-creative resources and partners. The design community broke through the boundary of the designers' original identity as "creators" and worked in multiple roles as organizers, designers, enablers, resource integrators, and operation guides. The research team summarized and condensed the typical problems at each stage of research, design, implementation, and operation (Cong Zhiqiang et al., 2022).

Research Stage:

The research phase stimulates villagers' willingness to participate and explores family resources and needs. This stage usually needs help with villagers' reluctance to participate and express themselves.

Since questionnaires or conventional interviews are often ineffective, the research team used participatory research activities such as "Waste Not Waste" and "Family Storytelling," The villagers' desire to express themselves significantly increased. At the same time, the "collegiality" feature of the research method is also very effective in exploring villagers' skills and household needs. In Ninghai Gejia Village, in Yuan Xiaoxian's home, human resources such as tailoring, gabbler, and the need for income generation were discovered. On this basis, the research team has successfully developed typical family-sharing spaces. Ge Pingao used his family space to make a "then family library," which implied his demand for active demonstration and leadership. In addition, for families interested in participating in the development of the shared space, the research team coordinated with the village collective to sign an agreement with the villagers to clarify the right to use the home base for revenue.

Design stage: In the design phase, the focus was on the space's type, content, and function based on the family's resources and needs. The design was led by the family members as the main body, and the family members were responsible for it. They were deeply involved in the design process with the guidance and assistance of the design team. The research team developed the "three-round family life meeting" design approach in repeated practice. The "three-round" design phase involved three rounds of discussion and consultation among all family members on the type of space, functional layout, material selection, and color scheme. The design plan also considered the skills of villagers so that they could participate in the implementation in depth.

Implementation Stage: In the implementation stage, the family members of the village took the lead, and the village leading cadres assisted in setting up the "villagers' art and labor team." The research team used two "dynamic repetitive solutions" interpretation methods to help the "villagers' artwork team" transform the paper solutions into real works. The research team also accompanied the "villagers' artwork team" throughout the implementation of the project and promptly answered any problems the villagers encountered.

Operation Stage: In the operation stage, the critical task is to promote the continuous renewal of the shared space and support families needing to increase their income to generate income. The project's core is to enhance villagers' innovation, creativity, and entrepreneurship. In this regard, the research team integrated government operating agencies and design teams to implement a "trinity of support and operation" approach to promote the "rooted growth" of rural family-sharing spaces. The research team coordinated with government agencies to set up special support channels and developed "collaborative creation to empower rural home-sharing spaces" to provide a source of motivation for the growth of home-sharing spaces at the start-up stage. The research team also clarified the targets of support, set the criteria and conditions for different types of shared spaces, and adopted a phased payment mechanism to stimulate villagers to continue operations.

5.0 Discussion

This section aims to discuss and analyze the relevant findings of the research about the existing theories, issues, problems, and ideas that provide the context in which the current research was conceived. The section also considers the implications of the research beyond the confines of the current case study and suggests some directions for future research and practice.

The main findings of the research are summarized as follows:

• The design community project in a rural village in Zhejiang province was a successful example of rural service design that contributed to rural revitalization by enhancing local capacities, fostering social innovation, and promoting cultural and environmental sustainability.

• The design community project involved a collaborative and participatory process of co-creation, where the villagers, designers, researchers, and local government officials shared a common goal, vision, and language and created a common repertoire of tools, actions, and styles.

• The design community project used various methods, tools, and platforms, such as participatory design, asset-based community development, service ecosystem design, and digital technologies, to facilitate collaboration, communication, and learning among the diverse and dynamic stakeholders in the rural area.

• The design community project faced challenges and limitations, such as the need for more empirical evidence, the diversity and complexity of rural contexts, and the ethical and political implications of design interventions.

The findings of the research are consistent with the existing literature on design community and rural development, which has highlighted the potential of design community to address the challenges and opportunities of rural transformation, such as poverty

alleviation, social innovation, cultural preservation, and environmental sustainability (Villari, 2022). The findings also support the literature that has emphasized the importance of involving the rural actors in co-creating value and solutions for their contexts and fostering a sense of belonging, identity, and empowerment among them (Zhang & Li, 2021). Moreover, the findings confirm the literature that has suggested the use of various methods, tools, and platforms, such as participatory design, asset-based community development, service ecosystem design, and digital technologies, to facilitate collaboration, communication, and learning among the diverse and dynamic stakeholders in rural areas (Vink et al., 2020)

The research findings also affect design community and rural development theory and practice. Theoretically, the research contributes to understanding the concept and process of the design community and its impact on rural development by providing a rich and in-depth case study of a rural service design project in China. The research also reveals gaps and limitations in the existing literature, such as the need for more empirical evidence, the diversity and complexity of rural contexts, and the ethical and political implications of design interventions. Practically, the research provides some insights and lessons for the design community practitioners and rural development actors by illustrating the methods, tools, and platforms that can be used to facilitate collaboration, communication, and learning among the rural stakeholders and by highlighting the challenges and strategies that can be encountered and adopted in the design community process.

The research also suggests some directions for future research and practice on design community and rural development. Future research could explore other cases of design community projects in different rural contexts and countries and compare the similarities and differences in the process and outcome of rural service design. Future research could also develop and test some frameworks and indicators for evaluating the contribution and impact of the design community on rural development based on the four dimensions of social, economic, environmental, and cultural sustainability (Sangiorgi et al., 2019). Future research could also examine the ethical and political issues and dilemmas that may arise in the design community process, such as the power relations, conflicts, and trade-offs among the rural stakeholders and the role and responsibility of the designers and researchers in the rural context (Snyder, 2020). Future practice could apply and adapt the methods, tools, and platforms used in the case study, such as participatory design, asset-based community development, service ecosystem design, and digital technologies, to other rural areas and projects and to monitor and evaluate their effectiveness and efficiency. Future practice could also involve and empower the rural actors in the co-creation of value and solutions for their contexts and foster a sense of belonging, identity, and empowerment among them.

6.0 Conclusion & Recommendations

This study explores how service design ecosystems can promote the sustainability of design communities in rural China. It integrates rural resources and systems thinking into design communities and examines the transformative power of design for rural revitalization. The study presents a case study of a rural tourism service system co-created by a design community in a village in Zhejiang province. The study analyzes the design community's formation, operation, and impact and discusses its implications for theory and practice. The study contributes to service design, design communities, and rural development research. The study also raises some questions for further investigation, such as how to improve communication and collaboration in design communities and what factors influence the cultural topological changes in design communities. These questions relate to the initial design, the actions of people and resources, and the co-creation and iterative development of the service design ecosystems.

Acknowledgment

Paper Contribution to Related Study

The paper develops and validates a theoretical framework for rural revitalization through design communities and evaluates its impacts and implications.

References

(2021). China : Study and implement the spirit of General Secretary Xi Jinping's recent important speech. MENA Report, (), .

Buchanan, R. (2015). Worlds in the making: design, management, and the reform of organizational culture. She Ji: The Journal of Design, Economics, and Innovation, 1(1), 5–21.

Cong Zhiqiang, Huang Bo, Duan Hongjiao, Zhang Zhenxin, Zhang Liyuan. (2022). Rural Family Resource Sharing Design Research: Rural Public Culture Construction Practices in Zhejiang and Guizhou Provinces. *Zhuangshi* (04),34-41. doi: 10.16272/j.cnki.cn11-1392/j.2022.04.012.

Chen, Z., & Yan, L. (2014). Rural community building: A case study of the "Beautiful Countryside" project in China. Journal of Rural Studies, 36, 322-332.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18*(1), 59-82.

Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PloS one*, *15*(5), e0232076.

Fry, T. (2009). Design futuring: sustainability, ethics and new practice. Berg.

Liu, Y., & Long, H. (2019). Rural revitalization in China: A comprehensive and integrated strategy to cope with the challenges of agriculture, rural areas and farmers. Journal of Geographical Sciences, 29(9), 1395-1414.

Luo, Z., & Zhu, Y. (2011). Product service system design for sustainability. In Product service system design for sustainability (pp. 1-18). Routledge.

Mausch, K., Harris, D., & Revilla Diez, J. (2021). Rural aspirations: reflections for development planning, design, and localized effects. The European Journal of Development Research, 33(4), 795-808.

Maffei, S., & Villari, B. (2004). Designing the intangible society: Design communities as a tool for the development of the knowledge society. In Proceedings of the 8th International Conference of the European Academy of Design (pp. 1-11).

Meroni, A. (2011). Design for social innovation as a form of designing activism. An action format. Strategic Design Research Journal, 4(2), 95–100.

Meroni, A., Selloni, D., & Rossi, M. (Eds.). (2020). Designing social innovation in rural areas: activating, nurturing and facilitating rural change. Routledge.

Qu, Y. (2020). Art intervention in the countryside: A case study of the "Art Village" project in China. Journal of Rural Studies, pp. 78, 1–10.

Regan, W. J. (1963). The service revolution. The Journal of Marketing, 27(3), 57–62.

Riessman, C. K. (2008). Narrative methods for the human sciences. Sage.

Rose, G. (2016). Visual methodologies: An introduction to researching with visual materials. Sage.

Sangiorgi, D., & Prendiville, A. (Eds.). (2017). Designing for service: Key issues and new directions. Bloomsbury Publishing.

Sangiorgi, D., Prendiville, A., Jung, J., Yu, E., & Baxter, S. (2019). Designing for service: key issues and new directions. Bloomsbury Publishing.

Snyder, C. (2020). Case study methodology: A guide for health and social science researchers. Routledge.

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: an extension and update of service-dominant logic. Journal of the Academy of Marketing Science, 44(1), 5-23.

Vargo, S. L., Wieland, H., & Akaka, M. A. (2015). Innovation through institutionalization: A service ecosystems perspective. Industrial Marketing Management, 44, 63-72.

Villari, B. (2022). Service Ecosystem Design: A New Approach to Service Design. Springer International Publishing.

Villari, B. (2022). Designing Sustainable Services for Cities: Adopting a Systemic Perspective in Service Design Experiments. Sustainability, 14(20), 13237.

Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., & Wetter-Edman, K. (2020). Service ecosystem design: propositions, process model, and future research agenda. Journal of Service Research, 24(2), 168-186.

Wang, N. (2021). Community hub station: A new model of art community in China. International Journal of Cultural and Creative Industries, 8(1), 1–14.

Wolak, R., Kalafatis, S., & Harris, P. (1998). An investigation into four characteristics of services. Journal of Empirical Generalisations in Marketing Science, 3, 22-41.

Yin, R. K. (2014). Case study research: Design and methods. Sage.

Zhang, Y., & Li, Y. (2021). A bibliometric review of service ecosystems research: current status and future directions. Journal of Business & Industrial Marketing

Zhang, Y., & Wang, Y. (2021). Service ecosystems and platform ecosystems: a systematic review and future research agenda. Service Business, pp. 15, 1–38.

Zhao, W., & Wang, Y. (2019). The dilemma and possibility of art intervention in the countryside. Art Criticism, (6), pp. 70–75.

Zhao, W. (2019). Artistic intervention in rural China: A case study of the "Art Village" project in China. Journal of Rural Studies, pp. 68, 1–11.

438