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Collective Bricolage Process of Social Entrepreneurship: A Multi-Case Study

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Abstract

Resource constraints persistently threaten the fulfilment of social missions in social entrepreneurship. While prior work acknowledges bricolage as a useful response, the literature has largely remained at the individual level of analysis, overlooking the collective dynamics and knowledge integration inherent in multi-actor collaboration. Drawing on a knowledge perspective and employing a multiple-case study design, we investigate how three social entrepreneurial organizations—CanYou Group, Buy42, and Big Fish Community—address resource shortages through collective bricolage. Our findings show that collective bricolage unfolds as a dynamic process of four stages—demand trigger, resource mobilization, negotiation and dialogue, and collaborative co-creation—that move forward while also looping back on themselves. Knowledge flows permeate the entire process, successively manifesting as problem-frame construction, knowledge aggregation, cross-actor interpretation, and the emergence of novel solutions. What sets collective bricolage apart from its individual counterpart is precisely the multi-actor negotiation over knowledge and rules, with the degree of rule formalization varying continuously with the heterogeneity of the actors involved. This study extends bricolage theory beyond individual resource recombination towards collective knowledge construction, and offers actionable implications for social entrepreneurial organizations seeking to identify, mobilize, and integrate dispersed knowledge.

Keywords

Collective Bricolage, Process Model, Social Entrepreneurship, Case Study

1. Introduction

Social entrepreneurship, which addresses social problems and creates social value through innovative approaches, has emerged as a vital force in tackling complex

societal challenges such as poverty, unemployment, and environmental degradation (Mair & Martí, 2006). According to the Global Social Enterprise Status Report 2024 jointly released by the World Economic Forum and the Schwab Foundation, there are approximately 10 million social enterprises worldwide, generating a combined annual revenue of USD 2 trillion and providing 200 million jobs. However, compared with commercial entrepreneurship, social entrepreneurship often faces more severe resource constraints. Its social-mission orientation makes it difficult to rely solely on market mechanisms for resource acquisition, while the marginality of its target beneficiaries further limits the resources that can be mobilized. Prior research has consistently identified resource scarcity as a critical factor constraining the survival and growth of social enterprises (Austin et al., 2006; Desa & Basu, 2013). Hence, how to fulfill social missions under resource constraints remains a central concern in both social entrepreneurship research and practice.

Bricolage theory offers a powerful lens for understanding entrepreneurial behavior under resource-constrained conditions, and existing studies have confirmed the pervasiveness and positive role of bricolage in social entrepreneurship (Di Domenico et al., 2010; Peng et al., 2019; Wei & Wan, 2023). Nevertheless, extant research on bricolage in social entrepreneurship has largely focused on the individual or single-organizational level, treating it as an adaptive strategy of individual entrepreneurs, while neglecting the collective nature of bricolage in the social entrepreneurship context. In fact, social entrepreneurship is inherently cross-sectoral, and its problem-solving processes often involve collaboration among diverse actors, including government, market entities, communities, and non-profit organizations (Liu & Chen, 2021; Zhang & Mai, 2026). In this context, bricolage is a collective process in which multiple actors coordinate to utilize dispersed resources toward shared goals. A single actor typically lacks all the resources needed to address complex social problems and must therefore unite multiple forces to aggregate and leverage knowledge and resources scattered across different stakeholders. Thus, collective bricolage is more conducive to understanding how social entrepreneurship copes with resource shortages. However, research on collective bricolage in the social entrepreneurship domain remains limited, with most studies focusing on conceptualization and typology (Duymedjian & Rüling, 2010) or on the structural features of collaborative relationships and their impact on organizational mission (Kwong et al., 2017). In-depth analysis of its internal process is lacking, and the "black box" of collective bricolage has yet to be opened—a gap that not only limits a comprehensive understanding of resource integration dynamics in social entrepreneurship but also offers little actionable guidance for practitioners.

The knowledge-based perspective provides a suitable analytical tool for opening this black box. Maalaoui et al. (2020) argue that the knowledge management process in social entrepreneurship is itself a form of collective bricolage, and that the growth bottleneck of social enterprises often stems not from resource scarcity per se, but from inefficient knowledge management processes. Therefore, decon-

structing the collective bricolage process from a knowledge perspective can help reveal its underlying stages and mechanisms, thereby compensating for existing research deficiencies. Against this backdrop, this paper focuses on the collective bricolage process in the social entrepreneurship context and, from a knowledge perspective, aims to address the following research questions: How do social entrepreneurial organizations cope with resource scarcity through collective bricolage? What are the sequential stages of this process? What are the core mechanisms at each stage? This study adopts a multiple-case research approach, selecting three social entrepreneurial organizations—Shenzhen CanYou Group, Shanghai Buy42, and Shanghai Big Fish Community—for an in-depth analysis of their collective bricolage activities. It proposes and tests a knowledge-based analytical framework for the collective bricolage process in social entrepreneurship, thereby revealing the essence of how collective bricolage identifies, activates, and collaboratively co-creates knowledge. The findings also offer practical implications for social entrepreneurial organizations to effectively integrate dispersed knowledge and optimize their collective bricolage practices.

2. Literature Review

Extant research on collective bricolage has predominantly focused on its conceptualization, typology, antecedents, and its effects on social entrepreneurial organizations. In terms of conceptual definition, Garud and Kanøe (2003) defined it as a process of co-shaping, emphasizing that multiple actors drive the evolution of technological paths through incremental trial-and-error learning while continuously accumulating knowledge, tools, and practices. Duymedjian & Rüling (2010) posited that collective bricolage emphasizes the sharing of resource repertoires and action modes among multiple bricoleurs. Kwong et al. (2017) defined collective bricolage as the process of leveraging external partners' resources to co-create joint initiatives. From the perspective of community entrepreneurship, Papazu (2021) underscored that the essence of collective bricolage is not the simple combination of available resources, but rather a process of resource construction. In this paper, we define collective bricolage as a dynamic process in which multiple actors, in response to resource scarcity, reframe marginal elements into usable resources through sense-making, and subsequently identify, activate, aggregate, and recombine dispersed contextualized knowledge and resources via cross-actor knowledge negotiation and rule co-construction, thereby generating novel solutions and new knowledge.

Regarding classification, Duymedjian and Rüling (2010) distinguished between familiar bricolage and convention-based bricolage based on differences in interaction types and the nature of routines employed. The former relies on co-presence and informal interaction among bricoleurs, achieving integration through shared resource repositories and intimate knowledge; the latter emphasizes the coordination of actors' respective resource repertoires through convention mechanisms such as norms, standards, and specialized terminology formed via negoti-

ation. With respect to antecedents, Kwong et al. (2017) pointed out that power relations and the nature of participation among partner organizations are critical factors shaping collective bricolage. At the micro-interaction level, Duymedjian and Rüling (2010) suggested that prolonged co-presence, intimate knowledge sharing, trust, and interpersonal compatibility constitute the foundational conditions for sustaining familiar collective bricolage, whereas convention-based bricolage requires local agreements and formal investment as coordinating mechanisms. Concerning the impact on social entrepreneurial organizations, existing studies have revealed the dual effects of collective bricolage. On the positive side, collective bricolage offers social enterprises under resource constraints the potential for economies of scale and risk sharing (Kwong et al., 2017); collective bricolage models grounded in trust and informal knowledge sharing help social enterprises reduce costs, minimize redundant efforts, and foster growth (Maalaoui et al., 2020). Papazu's (2021) study showed that collective bricolage enables communities to achieve shared goals through resource construction without accepting resource scarcity as a fixed constraint. On the negative side, collective bricolage also entails potential risks. Kwong et al. (2017) found that in integrated collaborative relationships characterized by high power asymmetry, dominant partners are more likely to induce mission drift in social enterprises. Moreover, excessive reliance on parallel bricolage may trap social enterprises in a closed loop of recombining only existing knowledge, preventing them from accessing new resources and new knowledge (Baker & Nelson, 2005; Maalaoui et al., 2020).

Duymedjian and Rüling (2010) distill Lévi-Strauss's discussion of bricolage in The Savage Mind into three core elements: the resource repertoire, dialogue, and outcomes. In the social entrepreneurship context, resource constraints manifest not only as a shortage of material resources but, more critically, as the difficulty of identifying, activating, and combining contextualized knowledge dispersed across diverse actors. Accordingly, drawing on Lévi-Strauss's bricolage philosophy and integrating a knowledge-based perspective, we delineate the collective bricolage process in social entrepreneurship into four sequential stages: demand trigger, resource mobilization, negotiation and dialogue, and collaborative co-creation. Specifically, demand trigger serves as the initiating condition for collective bricolage; resource mobilization corresponds to the formation of the resource repertoire and the initial search for dispersed knowledge; negotiation and dialogue extend Lévi-Strauss's "dialogue" to the collective context, encompassing both inter-actor interactions and actor-resource interactions; and collaborative co-creation corresponds to the generation of bricolage outcomes, characterized by knowledge integration, co-creation, and novel recombination, which is further actualized through knowledge orchestration via experimental iteration.

2.1. Demand Trigger: Bricolage Initiation Driven by Sense-Making

The core challenge at the demand-trigger stage is to transform a vague and passive state of resource constraint into an actionable issue that social entrepreneurs pro-

actively construct and address through collective bricolage. From a knowledge perspective, this stage essentially involves the framing of the problem: based on their own understanding of the context, social entrepreneurs convert diffuse resource shortages into a definable and communicable problem statement, thereby delineating the cognitive boundaries for subsequent knowledge search. Weick (1993) regards sense-making as a fundamental cognitive process through which actors establish order, comprehend situations, and determine courses of action in ambiguous and uncertain contexts. In social entrepreneurship, the pathways to acquiring the resources that entrepreneurs lack are often unclear: Which actors might provide these resources? Are they willing to participate? In what manner? At what cost? Such questions remain unresolved before bricolage is initiated. Hence, whether bricolage is triggered depends on whether social entrepreneurs can, through sense-making, reframe the resource-constrained situation as a bricolage issue that can be addressed by mobilizing multiple stakeholders. This involves two interrelated sub-processes. First, problem perception and opportunity definition: drawing on their social mission, knowledge of needs, and understanding of the institutional environment, social entrepreneurs identify the specific manifestations of resource shortages and their constraints on mission fulfilment, and redefine them as opportunities that can be tackled through multi-stakeholder collaboration. This cognitive shift redirects attention from "what is lacking" to "who might possess usable resources" and "how these might be accessed", thereby shaping the direction and scope of subsequent knowledge search. Second, formation of action intention and sense-giving: once entrepreneurs are convinced that mobilizing available resources and multiple parties suffices to initiate initial action, bricolage transitions from the cognitive to the behavioural level. However, the formation of this action intention is not a purely individual cognitive event; it is accompanied by sense-giving directed at potential participants. Drawing on the sensemaking framework (Weick et al., 2005), entrepreneurs construct the resource predicament as a public issue that multiple stakeholders can jointly address through narratives, problem framing, and vision articulation, enabling potential participants to preliminarily recognize the value they might contribute. Thus, the demand-trigger stage not only accomplishes cognitive initiation at the individual level but also lays the cognitive and relational groundwork for the actual entry of multiple actors in the subsequent resource-mobilization phase.

2.2. Resource Mobilization: Knowledge Activation and Aggregation

From a knowledge perspective, resource mobilization is essentially the identification, activation, and aggregation of contextualized knowledge dispersed across various actors. Social entrepreneurs, community members, volunteers, government agencies, donors, and beneficiaries each possess different types of knowledge resources, including needs knowledge, local know-how, technical skills, institutional rules, relational networks, and informal practical knowledge. Such knowledge

often exists in tacit, localized, and practice-embedded forms (Polanyi, 1966; Brown & Duguid, 1991), and is not automatically drawn into the bricolage process. Therefore, the key to resource mobilization lies in making these scattered knowledge fragments visible, valued, and integrated into a multi-actor collaborative bricolage network. Specifically, this entails, first, knowledge identification and activation: social entrepreneurs identify idle or underutilized knowledge fragments in the hands of various actors, and through daily interactions, reframe specific uses of that knowledge and activate its perceived value, prompting actors to recognize the worth of their own experience, skills, and social connections and thus become willing to contribute them. Second, knowledge aggregation: by leveraging weak ties and bridging relationships, dispersed knowledge from different actors and contexts is channelled into the bricolage network, allowing previously isolated knowledge fragments to meet and combine, thereby forming a preliminary pool of knowledge resources available for subsequent negotiation and integration.

2.3. Negotiation and Dialogue: Cross-Boundary Knowledge Negotiation and Rule Co-Construction

Once multi-actor knowledge enters the bricolage network, it does not automatically become compatible; participants must establish shared understanding and cooperative rules through cross-boundary interactions. Hence, the essence of negotiation and dialogue is cross-boundary knowledge negotiation, aimed at building common understanding and collaborative rules so that dispersed knowledge can be effectively interpreted and utilized within the bricolage network. This involves two aspects. First, cross-boundary knowledge articulation and translation: each participant externalises their needs, contributions, constraints, and tacit knowledge into discussable content—not only through verbal statements but also via demonstrations, storytelling, operational exemplars, and other diverse forms. At the same time, actors communicate through boundary objects such as draft proposals, flowcharts, rule texts, prototypes, and meeting minutes, enabling their knowledge to be understood and interpreted by others (Carlile, 2004). Second, rule co-construction: negotiation and dialogue among actors must address not only "how to understand knowledge" but also "how to use knowledge". In collective bricolage contexts, participants jointly develop mutually accepted rules regarding resource use, contribution responsibilities, benefit distribution, and decision-making authority, thereby reducing uncertainty and opportunistic risks in knowledge exchange and providing an institutional foundation for combining dispersed knowledge.

2.4. Collaborative Co-Creation: Multi-Actor Knowledge Co-Creation and Knowledge Orchestration

Collaborative co-creation is the critical stage in which collective bricolage moves from dispersed knowledge to integrated solutions. Its essence is multi-actor

knowledge co-creation: on the basis of negotiated rules, multiple actors recombine and assemble their respective contributions of dispersed knowledge and resources into workable solutions, while simultaneously generating new knowledge in the process. This stage is not merely a patchwork of existing knowledge but a process of creating new knowledge, new solutions, and new relationships through joint practice. Specifically, it includes, first, assembly and novel knowledge formation: following the rules established during the negotiation phase, participants tentatively piece together knowledge and resources from diverse sources to form initial solutions or prototypes. When knowledge originally belonging to different actors and different contexts is brought into the same bricolage space and combined under new rules, actors continuously discover new connections, usage scenarios, and operational principles among knowledge resources. Such discoveries are themselves the generation of new knowledge, encompassing both operational knowledge about "how to do" and relational knowledge about "who can collaborate with whom". Second, experimental iteration: initial solutions require testing through small-scale pilots and action learning. Through rapid and low-cost experimentation, actors continuously obtain feedback and adjust their solutions accordingly, gradually bringing the knowledge combinations towards maturity.

2.5. A Preliminary Analytical Framework for the Collective Bricolage Process in Social Entrepreneurship

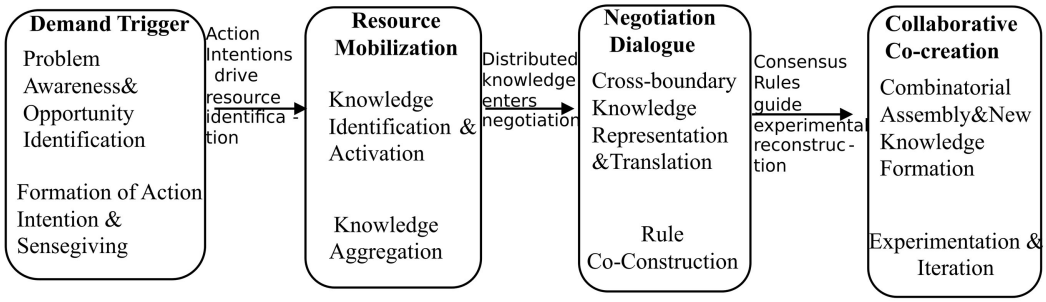

Figure 1. A preliminary analytical framework for the collective bricolage process in social entrepreneurship.

Based on the foregoing analysis, we propose a preliminary analytical framework that partitions the collective bricolage process in social entrepreneurship into four stages—demand trigger, resource mobilization, negotiation and dialogue, and collaborative co-creation—with clear sequential transmission across them. Specifically, the action intentions formed at the demand-trigger stage orient knowledge identification and aggregation in the subsequent resource-mobilization stage; the dispersed knowledge assembled during resource mobilization then enters negotiation and dialogue, where cross-boundary translation renders it interpretable across actors; finally, the consensual rules emerging from negotiation and dialogue furnish the institutional basis for experimental recombination and knowledge orchestration at the collaborative co-creation stage, as depicted in **Figure 1**.

3. Research Design and Case Selection

3.1. Research Method

This study adopts a multiple-case study approach. Yin (2018) contends that case study research is well-suited for addressing "how" and "why" questions, particularly for exploratory theory building in emerging phenomena. Given that collective bricolage—as a micro-mechanism for coping with resource scarcity in the social entrepreneurship context—is still in the nascent stage of theoretical development, a multiple-case design enables the application of cross-case replication logic to reveal the complete process through which collective bricolage unfolds from initiation to problem resolution across different social entrepreneurial organizations, thereby opening the "black box" of collective bricolage.

3.2. Case Selection

In the extant literature, social entrepreneurship has been defined from both narrow and broad perspectives. The narrow perspective confines social entrepreneurship to the founding and operation of social enterprises, emphasizing the pursuit of social missions through formally registered commercial entities and business models. The broad perspective, by contrast, holds that the defining feature of social entrepreneurship lies in innovatively integrating resources to address social problems, and that its organizational vehicles are not limited to business enterprises but also include social organizations and non-profit institutions that are mission-driven and adopt market-oriented approaches to achieve sustainable operations (Mair & Martí, 2006; Austin et al., 2006). Mair and Martí (2006) explicitly define social entrepreneurship as a process of creating social value by innovatively combining resources to develop and exploit opportunities—a process-based definition that does not depend on any particular legal form of registration. This study adopts the broad definition and thus defines social entrepreneurial organizations as those that are mission-centred, employ commercial operational practices, and strive for financial sustainability—encompassing both enterprises registered as for-profit businesses and social organizations that exhibit pronounced market-oriented operational features.

Following Eisenhardt's (1989) theoretical sampling principles, we established the following criteria for case selection. First, the selected organizations must conform to the core characteristics of social entrepreneurial organizations—namely, addressing social problems through commercial means while simultaneously demonstrating innovativeness, social impact, and financial sustainability. Second, the selected cases should be representative and widely recognized within their respective fields. Third, each selected case should present a clearly traceable and complete episode of collective bricolage—that is, a situation in which the organization faced an explicit resource-constrained context and subsequently achieved resource integration and problem resolution through multi-stakeholder collaboration. Fourth, the selected cases should ideally span different industry sectors to

enhance the breadth of cross-case comparison.

Based on these criteria, we ultimately selected three social entrepreneurial organizations—Shenzhen CanYou Group, Buy42, and Big Fish Community. Although these three organizations differ in legal form, they all conform to the broad definition of social entrepreneurial organizations adopted in this study. CanYou Group operates under a hybrid "social organization + commercial enterprise" group structure. Buy42 functions as both a social organization and a commercial operating entity. Big Fish Community is legally registered as a private non-enterprise institution (a form of non-profit legal entity with Chinese characteristics), yet it has developed substantial social entrepreneurial attributes and market-oriented operational features through diversified self-sustaining revenue models, such as undertaking government-purchased services and exploring initiatives like the "Down Coop". Key characteristics of the three cases are outlined in Table 1.

Table 1. Overview of the selected cases.

Dimension	CanYou Group	Buy42	Big Fish Community Design Center
Year Established	1997	2011	2018
Location	Shenzhen	Shanghai	Shanghai
Social Mission	Promoting the employment of disabled individuals in the high-tech sector	To bring charity stores into every community	Everyone participates in creating a better community

The three cases in this study focus on collective bricolage episodes of different natures. CanYou Group centres on its founding episode (1997-1999, from five individuals starting a business at home to the launch of the China Disabled Persons' Service Network). Buy42, by contrast, provides a case of strategic transformation: in 2017, it shifted from a pure online e-commerce model to an offline O2O community charity shop, marked by the opening of its first physical store—the Shimen Er Road Sub-district Charity Shop—in June. The third case, Big Fish Community, centres on a community space regeneration project (2021-2022), in which Lane 345 on Xinhua Road was transformed from a governance stalemate over temporary buildings to the trial operation of the Xinhua Community Building Centre. Although these three episodes differ in event type—organizational founding, strategic transformation, and community regeneration—they are comparable at the analytical level for several reasons. First, the core action logic remains consistent across the three cases: under resource-constrained conditions, multiple actors collaborate to integrate dispersed resources into workable solutions. This is the defining feature of collective bricolage and does not vary with event type. Second, all three episodes present a complete collective bricolage process spanning from demand trigger to collaborative co-creation, providing the full temporal arc required for process research. Third, the cases diverge in their development stages, lead actors, and resource network structures. Such divergence allows for theoretical replication in cross-case comparison and helps to reveal both common mechanisms and contextual variations in the collective bricolage process. As Eisenhardt

(1989) points out, the value of multiple-case research lies in identifying cross-context replicable patterns through comparisons across divergent cases.

3.3. Data Sources and Analytical Procedures

This study draws primarily on retrospective case analysis of publicly available secondary data. Documents, as Yin (2018) notes, constitute one of the six principal sources of evidence in case study research. Bowen (2009) demonstrates that document analysis can serve as a standalone qualitative method and defines it as "a systematic procedure for reviewing and evaluating printed and electronic materials to elicit meaning, gain understanding, and develop empirical knowledge". Su and Liu (2013), writing from the standpoint of case study rigour, argue that secondary data can support rigorous case studies when the materials are sufficiently rich, cross-validated, and paired with explicit documentation of data collection and analysis.

The secondary data used in this study fall into four categories. Official organizational materials include the three organizations' websites, project descriptions and activity records from their official social media accounts, and public speeches and media interviews given by founders and core members. Media reports encompass in-depth coverage and special features on the three organizations and their key figures, drawn from mainstream financial outlets, philanthropy-focused publications, and community regeneration media. Academic literature comprises published scholarly papers that take the three organizations as research subjects. Government and industry documents include policy papers on disability employment, charity shops, and urban regeneration, along with social organization registration records.

Turning to the individual cases: CanYou Group's materials centre on media interviews with founder Zheng Weining, retrospective accounts of the founding process, and industry feature stories. Buy42's materials focus primarily on media coverage of its O2O transition, official government announcements, and public records of store operations. Big Fish Community's materials are built around media reports on the Lane 345 project, government notices, and publicly documented community activities.

We applied four criteria in selecting documents. Relevance was paramount: documents had to speak directly to the organizations' entrepreneurial processes, resource integration activities, or the focal episodes under study. Authoritativeness guided our source selection: we gave priority to materials released officially by the organizations or verified by mainstream media, and excluded unverified online content. Temporal coverage ensured that documents spanned the full arc of each focal episode—from pre-episode background, through critical milestones, to post-episode outcomes. Cross-source verifiability required that key facts be corroborated by at least two independent sources; single-source information served only as supplementary reference.

To enhance the reliability and validity of our findings, we employed two complementary strategies. First, we triangulated data across multiple sources, retain-

ing only those facts corroborated by at least two independent accounts and discarding contradictory or unverifiable information (Miles & Huberman, 1994). Second, following Yin's (2018) principles for case-study data management, we constructed a case study database, archiving all collected documents by case, time, and source type. This yielded a traceable chain of evidence for subsequent verification and re-analysis.

Data analysis proceeded in two sequential layers: within-case analysis followed by cross-case comparison. For the within-case analysis, we sorted the materials chronologically and coded them by stage according to the preliminary analytical framework, constructed process narratives, and matched emergent patterns against the framework's propositions. In the cross-case comparison, we distilled common patterns and divergent logics across the three cases at each stage, using these insights to test, refine, and extend the framework.

4. Case Analysis

4.1. Shenzhen CanYou Group

CanYou Group was founded by Zheng Weining in Shenzhen in 1997. It is a highly influential social enterprise in China that provides high-tech employment opportunities for people with disabilities. Focusing on information technology fields such as software outsourcing, web development, and animation design, the Group has established an integrated support system for disabled talent encompassing "skills training, job placement, lifelong care", transforming individuals with severe disabilities from recipients of social relief into high-value-added technical producers. Over more than two decades of development, CanYou has incubated dozens of social enterprises and public welfare organizations, cumulatively helping thousands of disabled persons achieve stable employment.

In its early days, Zheng Weining relied on savings of nearly 300,000 RMB inherited from his mother and his apartment to sustain operations, while his disabled friends around him were similarly in a state of "no job, no living allowance, no social security". At that time, China had not yet established a comprehensive employment security system for disabled persons; apart from blind massage, there were virtually no other employment channels for severely disabled individuals. Five disabled persons—suffering respectively from haemophilia, severe spinal disability, paraplegia, muscular atrophy, and dwarfism—came together, lacking both technical skills and market access, and initially survived solely on Zheng's personal savings for food and shelter.

4.1.1. Demand Trigger

Faced with existential hardship, Zheng Weining's primary task was to reframe the predicament. He juxtaposed the systemic exclusion of disabled persons from the traditional labour market with the emergence of computer-based non-manual work opportunities brought by the Internet's arrival in China in 1997, thereby recognizing a match between non-manual labour in the knowledge economy and

the human resources of disabled individuals. The crux of this cognitive reframing lay in his realization that disabled persons might possess unique advantages in computer operation and similar fields, owing to their abundant uninterrupted time and heightened concentration. Consequently, his attention shifted from "what is lacking" to "who might possess usable resources and knowledge" and "how to access them". Once Zheng confirmed that mobilizing his disabled friends around him, using the sole computer and his own home, would suffice to initiate preliminary action, the opportunity moved from the cognitive to the action level: he used his mother's bequest as start-up capital, led his disabled friends to launch the China Disabled Persons' Service Network from his home, and through a narrative of "disabled persons supporting themselves through computer technology", conveyed the meaning of participation to potential collaborators, enabling his disabled partners to preliminarily recognize the value they could contribute, thereby laying the cognitive and relational foundation for subsequent multi-party resource entry.

4.1.2. Resource Mobilization

After recognizing the Internet-based employment opportunity, Zheng's next question was which dispersed knowledge could be mobilized. Through daily interactions with the disabled community, he identified three categories of marginalized knowledge resources: first, tacit traits of the disabled group, such as strong learning motivation and high concentration, despite lacking formal vocational training; second, individual disabled persons who had acquired computer skills through self-study—for instance, core member Liu Yong, who had severe spinal disability, had worked in a typing shop with a speed of 200 characters per minute, and after the shop closed, he worked odd jobs in a mahjong parlour; his typing skill was a technical know-how that could be reactivated; third, strong emotional bonds and mutual-aid willingness among disabled persons formed through shared experiences, which constituted relational knowledge. Once these previously idle knowledge fragments were activated, they were further aggregated through the disabled community's social networks. For example, core members each brought different life experiences and learning abilities; Zheng provided his apartment as office space and a van for commuting; Liu Yong contributed his self-taught web design skills; and disabled friends in Hong Kong SAR established cross-regional connections via the Internet. Scattered knowledge fragments thus converged and formed an initial knowledge resource pool.

4.1.3. Negotiation and Dialogue

Once dispersed knowledge resources converged in the same bricolage space, divergent concerns among multiple actors became a primary obstacle to collaboration, requiring sustained interaction and coordination to establish common understanding. Specifically, the priorities of team members and external supporters were not aligned. Zheng Weining emphasized a mission of "living a different life", yet was constrained by limited funds; technical members like Liu Yong valued learning opportunities and recognition of their abilities; while remotely support-

ing disabled friends in Hong Kong SAR harboured doubts about the team's long-term sustainability. In response to these differences, the team did not resort to formal negotiation or contractual mechanisms, but gradually reached consensus through concrete collaborative arrangements. For instance, the living arrangement of "free meals and lodging, weekly transport" transformed the notion of "working without pay for entrepreneurship" into an acceptable collaborative model; the web prototype created by Liu Yong visually demonstrated the team's technical capabilities to external supporters. These concrete arrangements functioned as boundary objects, allowing each party's concerns to be continuously recalibrated through daily interactions. On this basis, the team developed three informal rules concerning living security, work style, and benefit distribution: at the living level, Zheng provided accommodation and transport while members worked without pay; at the work level, they adopted a strategy of "learning by doing, taking any job available, even at the lowest price" to build visibility; and at the distribution level, they followed the principle of "sharing whenever resources become available"—for example, on Christmas Eve 1999, the 3000 HKD left by the Hong Kong SAR friends were evenly distributed as the first salary. All these rules evolved gradually, grounded in the emotional bonds among the disabled community, and provided a unique institutional foundation for subsequent knowledge recombination.

4.1.4. Collaborative Co-Creation

Building upon the collaborative rules, the team began to recombine and assemble dispersed knowledge and resources. Following the rules established through negotiation, technical skills, living support, relational networks, collaborative rules, and spatial resources were pieced together into a unique operational model that combined daytime technology training and business development with collective mutual support in daily life. This assembly simultaneously generated multiple novel forms of knowledge. For instance, the recognition that severely disabled individuals could master high-skill occupations such as web design through self-learning challenged prevailing social stereotypes; likewise, the start-up collaboration model—in which the founder provided living support, members worked collectively without remuneration, and revenues were shared immediately—represented an innovation that transcended traditional employment relationships. The new combination was tested in small-scale pilots, and the knowledge reconfiguration was continuously adjusted based on feedback. Initially, the team combined basic skills such as typing, photocopying, and web information retrieval; but after finding limited market demand, they re-identified usable knowledge and shifted the combinatorial focus toward web design and production. To explore market channels, Zheng Weining led the team in wheelchairs to paste advertisements on utility poles in Shenzhen, generating practical knowledge about "how a disabled team builds social trust through local actions". After nearly two years of trial-and-error iteration, in 1999, the China Service Website for Persons with Disabilities was officially launched—a product jointly orchestrated by Zheng's resource mobilization, Liu Yong's technical capabilities, and the collective labour of the team,

embodying the orchestration of multi-party knowledge.

4.2. Shanghai Buy42

Buy42 was founded in Shanghai in 2011 as China's first online charity shop and has become a benchmark social enterprise at the intersection of community circular economy and public welfare. Guided by the core philosophy of "love in idle goods, kindness in shopping", Buy42 builds a bridge connecting donors, community residents, and disadvantaged groups: corporate surplus inventory and personal idle items, after standardized quality control, are sold at low prices through both online e-commerce and offline community stores, with surplus proceeds continuously invested in job creation for disabled persons and community welfare services. To date, Buy42 has expanded to multiple cities across China, operating over twenty community stores, having circulated nearly ten million idle items, and providing stable employment opportunities for disabled individuals through an integrated employment model.

Buy42 was initiated in 2010 by Zhou Xian, who had returned from the UK, and officially launched in 2011, with Yu Shiyao and Jiang Shujie as its principal managers. This analysis focuses on the transition period in 2017, when Buy42 shifted from a pure online model to an offline O2O model. At this stage, Buy42 faced severe resource shortages: after six years of online operation, the platform had accumulated a certain volume of donated item circulation and operational experience, but intensifying competition from e-commerce platforms like Taobao severely challenged the sustainability of a purely online charity shop—for instance, lack of physical product display, difficulty attracting price-comparison shoppers, customer reluctance to purchase donated items, high operating costs, and team shrinkage. Buy42 needed to move offline, yet lacked physical storefronts, store operational experience, community trust, and the human and financial resources required for the transition.

4.2.1. Demand Trigger

Confronted with the online growth bottleneck, Yu Shiyao first reframed the resource predicament. She juxtaposed the threefold disadvantages of the pure online charity shop—limited concept promotion, high operational costs, and constrained user experience—with the abundance of idle community spaces in Shanghai and the policy window around 2017 when the government began introducing professional social organizations to operate charity shops. This allowed her to recognize a transition opportunity for charity shops to return to their community essence. The key insight underpinning this cognitive reframing was her realization that offline physical stores were not merely venues for charity sales, but could also serve as workplaces for disabled persons, hubs for community welfare activities, and physical entry points for residents to engage in philanthropy. Moreover, Buy42's accumulated online operational experience and item circulation data could precisely inform offline product selection decisions. Once she confirmed that securing rent-free community venues, leveraging existing online data

and team experience, and bringing in new professional talent would suffice to initiate an offline pilot, she decided to open the first physical store in Jing'an District. Through the vision of "creating China's best O2O charity shop", she conveyed the meaning of participation to potential collaborators, thereby creating conditions for the subsequent entry of multi-party resources.

4.2.2. Resource Mobilization

Once the transition opportunity was clearly defined, the Buy42 team began to identify and activate knowledge and resources dispersed among diverse actors. The team identified four categories of overlooked knowledge and resources: first, a large stock of idle community spaces at the sub-district level, which local authorities were keen to activate but lacked professional operators—this constituted institutional spatial knowledge that could be reactivated; second, intermediary organizations such as the Jing'an District Federation of Social Organizations had accumulated rich experience in government-social organization coordination and extensive relational networks, representing bridging institutional knowledge; third, a cohort of professionals with business backgrounds and philanthropic passion were seeking platforms that could combine their commercial skills with social value creation; fourth, Buy42's own six-year online operation had generated item circulation data and donor networks, which were underutilized operational knowledge assets. At the same time, Yu's vision gained understanding and support from the Jing'an District Federation of Social Organizations, which leveraged its government-social organization bridging experience to facilitate communication between Buy42 and various sub-districts. Additionally, Jiang Shujie was inspired by the team's long-standing commitment to charity and decided to join full-time. These activated knowledge resources were further aggregated through the bridging function of the government-social organization network: for example, the Shimen Er Road Sub-district provided rent-free storefront space; new members like Jiang Shujie supplemented the original online operations team; Buy42's six-year online circulation data were introduced into offline product selection decisions; and the new policy of the Shanghai Civil Affairs Bureau encouraging social organizations to operate charity shops provided institutional legitimacy. Thus, dispersed knowledge resources were integrated into a single collaborative network.

4.2.3. Negotiation and Dialogue

After multi-party resources were brought into the bricolage network, divergent concerns among heterogeneous actors became a new obstacle, requiring sustained articulation and translation to build common understanding. The offline charity shop involved multiple stakeholders—government, Buy42, community residents, donating enterprises, and disabled employees—each with significantly different priorities: sub-district authorities were concerned with space activation, grassroots governance effectiveness, and project implementation; Buy42 focused on model sustainability and cost control; community residents cared about product quality and pricing, and had little prior knowledge of the charity shop concept;

donating enterprises valued CSR image and transparency of donated goods; disabled employees sought dignified working conditions. In response to these divergent concerns, Buy42's negotiation relied on standardized documents and procedures as boundary objects. For example, draft cooperation agreements enabled sub-districts to understand the operational logic of a charity store; standardized quality control processes translated the abstract promise of "trustworthy donated goods" into tangible quality assurances that consumers could perceive; and store operational plans translated the idea of integrated employment into concrete, discussable arrangements. On this basis, Buy42 gradually developed a set of operational rules for community charity shops concerning space use, merchandise management, staffing, and community engagement, thereby establishing a regulatory framework for knowledge integration and model replication.

4.2.4. Collaborative Co-Creation

Following the rules established through negotiation, Buy42 assembled dispersed merchandise resources, spatial resources, human resources, data assets, operational rules, and community mechanisms into an O2O charity shop model. In June 2017, Buy42's first offline physical store—the Shimen Er Road Sub-district Charity Shop—officially opened, becoming the first charity shop operated by a social organization under Shanghai's new policy. Concurrently, this process generated novel knowledge across three domains: a data-driven method for offline product selection, a tripartite spatial cooperation model (subdistrict rent exemption, social-organization operation, and profit reinvestment for philanthropic purposes), and an employment model integrating disabled and non-disabled staff at a 1:1 ratio. Subsequent experimental iteration continuously refined and expanded the model: after the first store's opening, Buy42 launched multiple additional offline stores, each adaptively adjusted to the characteristics of its local community, allowing the O2O model to evolve and improve through replication.

4.3. Shanghai Big Fish Community Design Center

Big Fish Community was founded in Shanghai in 2018 by He Jia and a group of cross-disciplinary designers, and has become one of the most representative social entrepreneurial organizations in China's participatory community regeneration field. Guided by the mission of "everyone participates in co-creating a better community", the organization focuses on spatial revitalization and governance innovation in old urban neighbourhoods. By convening diverse stakeholders—including government, property owners, designers, academic institutions, and residents—it employs methods such as participatory design, community festivals, and steward programmes to activate idle spaces and foster endogenous community dynamics. Its Xinhua Community Building Centre has become a benchmark for community regeneration in Shanghai and has been selected for the United Nations Development Programme's "Zero Waste Community" project.

During 2021-2022, while implementing the revitalization of Lane 345 on Xinhua Road, Big Fish faced acute resource shortages in spatial governance. The

lane contained five small buildings, originally constructed as temporary structures within an industrial park in the 1990s, whose temporary permits had long expired. Due to unclear ownership and entrenched conflicts, these buildings had become a governance headache for the Xinhua Road neighbourhood and were on the verge of demolition. Located at the heart of Xinhua Road, surrounded by a mix of historic districts, old public housing, high-end commercial residences, and cultural parks, the buildings themselves remained vacant—neither usable for normal purposes nor resolved due to demolition costs and interest disputes. To revitalize this space, Big Fish faced multiple resource shortages, including lack of renovation funding, lack of a legitimate operating entity, lack of multi-party coordination mechanisms, and lack of community participation incentives.

4.3.1. Demand Trigger

Confronted with the governance stalemate of Lane 345, Big Fish first reframed the spatial problem. It juxtaposed the three interrelated issues—the dilemma of demolition vs. retention, unclear ownership and lack of a legitimate user, and the community's shortage of public activity spaces—and redefined the situation as "a community public asset that could be revitalized through joint collaboration among government, property enterprises, and social organizations". This shifted attention from "to demolish or not" to "who might possess usable resources" and "how multiple parties might be jointly mobilized". In this process, He Jia and the team came to recognize that the role of professional designers was not to lead the renovation but to act as "catalysts" and "connectors". When the Xinhua Road Sub-district and the property-owning enterprise reached a consensus that a multi-party cooperation framework was feasible, in early 2021, under the sub-district's leadership, a tripartite agreement was signed among the sub-district, Big Fish, and the property enterprise. Big Fish took the initiative to raise funds for and operate the hardware renovation of Building No. 4, and through the vision of "everyone participates in co-creating a better community", conveyed the meaning of participation to designers, academic institutions, funders, and residents, thereby laying a consensus foundation for subsequent engagement.

4.3.2. Resource Mobilization

Once the idle space was reframed as a co-constructible community public asset, the Big Fish team identified six categories of overlooked knowledge and resources: first, the sub-district had access to the "One Street, One Product" project platform and a public environment renovation budget, but lacked a professional operator—this was reactivatable institutional resource; second, the property enterprise held the title to the five temporary buildings but could not effectively utilise them due to permit expiration, representing dormant spatial assets; third, renowned designers such as Shuhei Aoyama were willing to participate in social innovation projects but lacked direct channels to engage with communities—their design capabilities constituted mobilizable professional technical knowledge; fourth, the Institute of Social Governance at East China University of Science and Technology possessed

community governance research capacity but lacked practical fields—this was academic research knowledge; fifth, philanthropic funders such as the Lianquan Public Welfare Foundation and Bosch China Charity Centre had funds to support community innovation but lacked trustworthy implementation teams; sixth, community residents harboured substantial local knowledge and willingness to participate, but lacked an activation platform. Big Fish brought these dispersed resources into the bricolage network through active connection and sense-giving: it invited Shuhei Aoyama to support architectural renovation design; partnered with East China University to activate academic research capacity as theoretical support for the project; engaged Lianquan Public Welfare and Bosch China to activate philanthropic funds as financial resources; introduced Jinyuan Equation Law Firm to provide legal compliance knowledge; and through "Community Open Days" and "Participatory Workshops", helped residents recognize the value of their own local knowledge. These activated knowledge resources were further aggregated through Big Fish's bridging role as a cross-disciplinary social organization. The Xinhua Road Sub-district undertook the basic public environment renovation of the lane; the property enterprise provided the building space; Shuhei Aoyama contributed architectural design; East China University provided research support; Lianquan and Bosch provided funding; Jinyuan Equation provided legal compliance support; Big Fish took charge of fundraising for hardware renovation and daily operations; and residents contributed local knowledge and labour through participatory activities—thereby achieving comprehensive knowledge aggregation.

4.3.3. Negotiation and Dialogue

After multi-party resources were introduced into the bricolage network, divergent concerns among heterogeneous actors emerged: the sub-district focused on governance effectiveness, public service improvement, while needing to control fiscal expenditure and compliance risks; the property enterprise cared about asset preservation and improved community relations; designers prioritised spatial quality and realisation of design concepts; academic institutions valued research impact and talent cultivation; funders emphasised transparency and social returns on their investments; and residents demanded accessible activity spaces and participation channels. Big Fish's negotiation relied on spatial blueprints and participatory activities as core boundary objects. Planning axonometric drawings and the Community Building Centre positioning plan translated the abstract notion of "revitalisation" into concrete spatial layouts and functional zones, enabling government, property owners, and designers to discuss within a shared visual framework; the tripartite agreement draft clarified the rights, obligations, and cooperation model of each party, providing a basis for collaboration; "Community Open Days" and "Participatory Workshops" allowed professional design language to be understood by residents while enabling residents' local knowledge to be received by designers and government officials. These boundary objects allowed heterogeneous concerns to be calibrated and mutually interpreted through repeated communication. On this basis, multiple parties gradually co-constructed rules con-

cerning governance structure, space use, community participation, and operational sustainability: in governance structure, it was established that government would be responsible for basic public environment renovation, while social organizations would manage fundraising and operation of hardware renovation, with a five-party co-governance framework comprising the Xinhua Road Sub-district, Big Fish, the Institute of Social Governance at East China University of Science and Technology, Lianquan Public Welfare Foundation, and Jinyuan Equation Law Firm; in space use, Building No. 4 was positioned as an open venue integrating six functions—exhibition, gathering, communication, shared learning, practice, and mini-theatre; in community participation, the "Steward Programme" was established to invite community partners to co-experiment with operations; and in operational sustainability, the goal of "collaborative operation with activists and stewards, forming a relatively closed-loop small ecosystem through self-generated revenue" was set, providing an important guarantee for the collaborative orchestration of knowledge across multiple domains.

4.3.4. Collaborative Co-Creation

Following the rules established through negotiation, spatial resources, design capabilities, human resources, funding support, collaborative rules, and community foundations were assembled into the Xinhua Community Building Centre—an innovative community public space. Simultaneously, this process generated new knowledge, including the "multi-party collaborative revitalisation of temporary buildings" model and the "collaborative operation with self-sustaining mechanisms" approach. Meanwhile, the solution was continuously tested and refined through ongoing operations. In August 2022, Big Fish launched the Steward Programme for trial operation, with dozens of community stewards moving in, each dedicated to a community-related venture or initiative. Subsequently, through resident-initiated projects such as the Xinhua Toy Exchange House and the "Youzhong Community Garden", continuous experimental iteration precipitated operational knowledge on "how to stimulate resident proposals", "how to link micro-projects with large spaces", and "how to combine diverse funding sources".

5. Cross-Case Analysis

Based on the four stages of collective bricolage in social entrepreneurship—demand trigger, resource mobilization, negotiation and dialogue, and collaborative co-creation—we conducted a cross-case comparison of CanYou Group, Buy42, and Big Fish Community, as summarized in Table 2 below.

Table 2. Cross-case comparison.

Dimension	CanYou Group	Buy42	Big Fish Community Design Center
Demand Trigger	Survival predicament → Internet employment opportunities (individual-level construction)	Online growth bottleneck → O2O community transformation (team-level construction)	Space governance challenges → multi-party co-construction and revitalisation (multi-party construction)

Continued

Resource Mobilization	Tacit knowledge of disabled groups	Government-society relations, professional talents, and data assets	Knowledge from six types of heterogeneous actors
Negotiation and Dialogue	Informal rules (evolution of emotional ties)	Semi-formal rules (tripartite cooperation, and quality control standards)	Formal rules (tripartite agreement, and five-party co-construction)
Collaborative Co-creation	Emergence of a survival model (trial-and-error iteration)	Emergence of a business model (replication iteration)	Emergence of a governance model (ecosystem cultivation iteration)

5.1. Demand-Trigger Stage

Across all three cases, the demand-trigger stage reveals that social entrepreneurs do not passively accept resource scarcity; rather, they adjust their cognitive frames to redefine "what is lacking" as actionable opportunities of "what can be obtained through mobilizing multiple stakeholders". Whether it is a survival crisis, a growth bottleneck, or a spatial governance challenge, none of these issues are inherently bricolage-ready—they are actively constructed by entrepreneurs. CanYou Group confronted the existential predicament of severe exclusion of disabled persons from the labour market, and Zheng Weining individually accomplished a cognitive reframing from "an intractable plight" to "an Internet-based employment opportunity". Buy42 faced the sustainability constraint of a pure online charity shop, and its management team redefined it as a community-oriented opportunity for "online-offline integration". Big Fish Community dealt with a governance deadlock involving unclear ownership and imminent demolition of temporary buildings, entangled with multiple institutional constraints such as property rights, planning, and community interests; its issue construction was characterized by multi-party participation.

5.2. Resource Mobilization Stage

Resource mobilization does not aim to acquire standardized resources. Rather, it proceeds through value reframing, enabling each actor to recognize the usability of their own idle knowledge, which is then channelled into the bricolage network via weak ties and bridging relationships. Adopting a knowledge perspective, this study posits that the flow and recombination of contextualized knowledge constitute the key analytical dimension for understanding the collective bricolage process. For example, CanYou Group activated the tacit knowledge inherent in the disabled community—strong learning motivation, high concentration, and emotional bonds—and aggregated it through homophilous social networks. Buy42 activated cross-boundary knowledge assets, including sub-district demand for space activation, intermediary experience in government-social organization coordination, management skills of business professionals, and data assets accumulated from online operations, and aggregated them through government-social organization networks. Big Fish Community simultaneously activated knowledge resources from six types of heterogeneous actors—government, property owners, designers, academic institutions, funders, and residents—and achieved multi-do-

main aggregation through the bridging role of a social organization.

Adopting a knowledge lens, however, does not discount the importance of material and institutional resources. All three cases depended on enabling resources—space, funding, and policy support—without which bricolage could not have taken off. Material resources provide the physical infrastructure for bricolage; the flow and recombination of knowledge determine whether heterogeneous resources can be orchestrated into workable solutions. The two are mutually constitutive. Extant bricolage research has examined bricolage behaviour across a range of resource types—physical, skill-based, institutional, human, and market—but has rarely treated contextualized knowledge, dispersed across multiple actors, as an independent analytical dimension, nor systematically explored its flow and recombination mechanisms in collective bricolage. This is why we adopt a knowledge perspective—not to replace the resource-based view, but to complement it.

5.3. Negotiation-and-Dialogue Stage

In the negotiation-and-dialogue stage, concrete boundary objects enable the articulation and calibration of multiple concerns, and collaborative rules are gradually established on this basis. CanYou Group's rules were informal—for example, the collaborative logic of "food and lodging provided, free labour, share when there is something" evolved naturally from the emotional bonds among the disabled community, without any contractual constraint. Buy42 developed a set of semi-formal rules: a tripartite cooperation model based on subdistrict rent exemption, social-organization operation, and philanthropic reinvestment of profits; standardized quality control processes; and a 1:1 integrated-employment principle. These rules were embodied in both verbal agreements and institutional documents. Big Fish Community established a more formal rule system, including a tripartite agreement clarifying rights and obligations, a five-party co-governance framework defining division of labour, and a steward programme regulating operations, with the highest degree of textual formalization. It should be noted that informal and formal rules are not dichotomous. Although CanYou's overall rules were informal, the specific arrangement of "Monday pickup and Friday drop-off" exhibited quasi-institutionalized features and was sustained for years; while Big Fish had formal agreements, it still relied heavily on informal interpersonal trust and community tacit understanding in daily operations. Thus, formalization is better understood as a continuum rather than a categorical distinction.

5.4. Collaborative Co-Creation Stage

The collaborative co-creation stage completes the assembly from dispersed knowledge to integrated solutions, and in the process of combination, generates new operational knowledge and relational knowledge. Meanwhile, experimental iteration in all three cases was not a simple optimization of the original plan, but involved re-identifying usable knowledge, adjusting combination patterns, and

even backtracking to the negotiation stage to reconstruct rules based on feedback. In terms of bricolage outcomes, CanYou Group generated a survival-oriented start-up model that combined daytime technology training with collective mutual support in daily life, and whose iteration was characterized by survival-oriented trial and error. Buy42 generated a business model—the O2O charity shop model, with iteration characterized by scaling and replication. Big Fish Community generated a governance model—the multi-party collaborative revitalization of temporary spaces and a collaborative operation with self-sustaining mechanisms, with iteration characterized by ecosystem cultivation.

5.5. Stage Transitions and Process Characteristics

The four stages of collective bricolage are not independent static modules, but a dynamic process of sequential progression and mutual influence. Across the three cases, clear transmission relationships exist among stages, accompanied by iterative feedback characteristics.

First, the sense-making framework at the demand-trigger stage delineates the cognitive boundary for resource mobilization. Sense-making not only clarifies the problem but also determines the subsequent scope of search—whom to approach and what resources to seek. When entrepreneurs define the predicament as a particular type of opportunity, this framework selectively directs their attention to certain actors while overlooking others. CanYou framed the predicament as an Internet-employment opportunity, which directly guided Zheng Weining to focus on disabled peers with computer-learning potential, rather than seeking government or corporate resources. Big Fish framed the predicament as a multi-party co-constructible community public asset, and this more inclusive framework enabled it to simultaneously attend to six types of heterogeneous actors including government, property owners, designers, and residents.

Second, the diversity of actors mobilized constitutes the initial condition for negotiation and dialogue. The more heterogeneous the actors brought in during resource mobilization, the greater the differences in their concerns, knowledge, and interests, and thus the higher the translation difficulty and rule requirements at the negotiation stage. CanYou mobilized a homophilous group of disabled persons who shared survival hardships and emotional bonds, leading to low negotiation costs and informal rules sufficient to sustain collaboration. Buy42 mobilized actors including sub-districts, social organizations, disabled employees, and community residents, with moderate heterogeneity, resulting in semi-formal tripartite cooperation. Big Fish mobilized six types of heterogeneous actors with the most divergent interests, necessitating formal rules such as the tripartite agreement to define rights and obligations and reduce cooperation uncertainty. Thus, actor diversity at the input stage shapes the pattern of rules at the negotiation stage.

Third, the stability of negotiated rules determines the iteration efficiency and trajectory of collaborative co-creation. The rules formed during negotiation not only provide the order basis for collaboration but also offer an assembly frame-

work for knowledge combination in the collaborative co-creation stage. The clearer and more stable the rules, the lower the trial-and-error cost of knowledge recombination and the faster the iteration speed. Buy42's semi-formal rules (subdistrict rent exemption, social organization operation, and profit reinvestment) quickly stabilized after the first store was validated, and the quality standards and integrated-employment ratio were also rapidly finalized, laying an institutional foundation for gradual replication across multiple subdistrict stores in Shanghai. CanYou's informal rules, though flexible and responsive to market changes, also led to frequent shifts in early business direction—from typing and photocopying to web design—resulting in relatively lower iteration efficiency.

Fourth, the iteration outcomes of collaborative co-creation may feed back to earlier stages, triggering new rounds of sense-making or rule negotiation. Collective bricolage is a dynamic process with feedback loops. When experimentation reveals that the existing knowledge combination cannot solve the problem, actors may return to the resource-mobilization stage to re-identify usable knowledge, or even go back to the demand-trigger stage to redefine the problem. For instance, after discovering limited market demand for typing and photocopying, CanYou did not simply optimize the original solution but re-identified the team's web-design capability and shifted its business focus to web design—this essentially was a re-activation and re-combination of knowledge resources. Similarly, after discovering that community residents had little prior knowledge of charity shops, Buy42 re-negotiated the "store-community" interaction rules by adding public welfare activities and handwritten donor cards.

Overall, knowledge flow permeates the entire collective bricolage process, taking different forms across the four stages: at the demand-trigger stage, knowledge is constructed in the form of problem frames, providing direction for subsequent knowledge search; at the resource-mobilization stage, dispersed knowledge of various types is activated, valued, and aggregated into a knowledge resource pool; at the negotiation-and-dialogue stage, heterogeneous knowledge is made understandable through boundary objects and cross-boundary translation, and is institutionalized into collaborative order through rules; at the collaborative co-creation stage, knowledge is orchestrated and recombined into novel solutions, generating new knowledge in the process. The four stages progress sequentially yet interact through feedback, together constituting the dynamic process of collective bricolage in social entrepreneurship.

5.6. Testing, Revising, and Extending the Preliminary Analytical Framework

Building on the within-case analyses and cross-case comparison, we now turn to a systematic test of the preliminary analytical framework introduced in Section 2.5. On the whole, the empirical evidence from the three cases corroborates the framework's core architecture: the four stages—demand trigger, resource mobilisation, negotiation and dialogue, and collaborative co-creation—and the trans-

mission mechanisms linking them are consistently observable across all cases, and the key mechanisms at each stage align well with the framework's propositions. At the same time, the case evidence prompts two refinements: it revises the framework's linear assumption about stage dynamics, and it extends the framework's explanatory reach by surfacing contextual variations in stage characteristics. We elaborate on each in turn.

First, one revision concerns the sequential logic embedded in the preliminary framework, which portrayed the four stages as a linear, one-way progression. The case evidence tells a more recursive story. Collective bricolage is not a straightforward linear process but a dynamic one shot through with feedback loops: experimental iteration in the collaborative co-creation stage can circle back to earlier stages. When actors discover that an existing knowledge combination falls short, they may loop back to the resource-mobilization stage to re-identify usable knowledge—as CanYou Group did in pivoting from typing and photocopying to web design (see Section 5.4)—or even return to the negotiation-and-dialogue stage to rework the rules, as Buy42 did when it recalibrated store-community interaction rules through additional public welfare activities (see Section 5.5). The relationship among the four stages, then, is not a one-way linear chain but a spiralling dynamic in which forward movement is interspersed with recursive loops, and recursions, in turn, feed into renewed forward progress. This finding revises the linear assumption built into the preliminary framework. The revised analytical framework is illustrated in **Figure 2**.

Second, the framework has been extended in several important ways. The preliminary framework specified the generic mechanisms operating at each stage but remained largely silent on how stage characteristics might vary across contexts. The cross-case comparison brings four such contextual contingencies into view, none of which the original framework anticipated. 1) The nature of the actor(s) initiating bricolage shapes the construction of the demand trigger: individual-led initiation tends toward individual cognitive reframing, team-led initiation toward collective decision-making, and multi-actor-led initiation toward negotiated consensus. 2) The degree of actor heterogeneity shapes the formalization of negotiated rules: homophilous actor networks gravitate toward informal rules grounded in emotional bonds, whereas heterogeneous actor networks require formal agreements and institutional documents to mitigate cooperation uncertainty. 3) The formalization of rules operates along a continuum, not a binary divide: informal rules may contain quasi-institutionalized elements, and formal rules may rely on informal trust as a complementary mechanism. 4) The type of bricolage event shapes the outcome modality and iteration pattern of collaborative co-creation: founding events generate survival modes marked by trial-and-error iteration; strategic transformation events generate business models marked by replication and scaling; community regeneration events generate governance models marked by ecosystem cultivation. While these contextual patterns do not alter the four-stage core structure, they substantially sharpen the framework's contextual sensitivity

and analytical power, constituting a meaningful extension of its conceptual scope (summarized in Table 2).

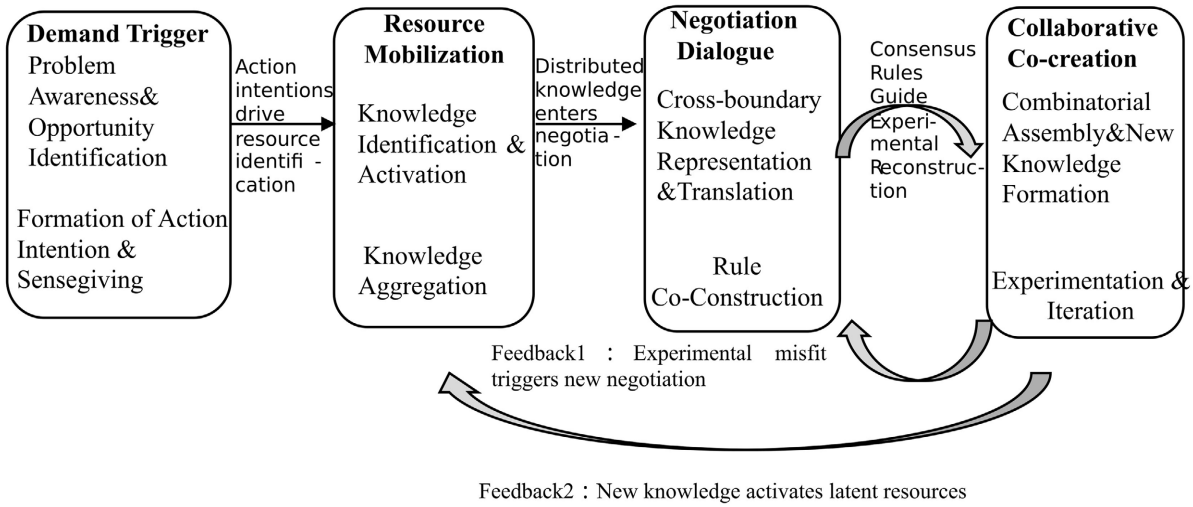

Figure 2. Revised analytical framework for the collective bricolage process in social entrepreneurship.

6. Conclusions and Future Research Directions

This study set out to investigate collective bricolage in social entrepreneurship, taking three emblematic social entrepreneurial organizations—CanYou Group, Buy42, and Big Fish Community—as its empirical context. Adopting a knowledge perspective, we sought to unpack the internal workings of collective bricolage. We began by deriving a preliminary four-stage analytical framework from the literature—demand trigger, resource mobilization, negotiation and dialogue, and collaborative co-creation—and then subjected it to empirical scrutiny through multi-case analysis, resulting in revision and extension. Three main findings emerge from our analysis.

First, collective bricolage in social entrepreneurship is inherently dynamic, unfolding through four stages that are at once progressive and recursive. The four-stage structure posited by the preliminary framework received consistent support across all three cases, with knowledge flows permeating the entire process and assuming qualitatively different forms at each stage: from problem-frame construction, to the assembly of a knowledge pool, to cross-actor interpretability, and ultimately to the emergence of novel solutions and new knowledge. Yet the case evidence also compelled a revision of the framework's linear assumptions. The four stages do not proceed in a one-way sequence; rather, they are punctuated by feedback loops, such that experimental outcomes from collaborative co-creation may circle back to resource mobilization or negotiation and dialogue, triggering fresh rounds of knowledge identification and rule reconstruction. Moreover, our cross-case comparison extended the framework's conceptual reach by revealing three contextual contingencies that shape stage characteristics: the nature of the initiating actor(s), the degree of actor heterogeneity, and the type of bricolage

event. Together, these findings refocus analytical attention on the flow of knowledge, offering a novel theoretical lens for understanding the micro-dynamics of multi-actor resource integration in social entrepreneurship.

Second, our study offers a refined account of the process mechanisms underlying collective bricolage. Prior research has tended to examine bricolage in social entrepreneurship through the lenses of conceptualization, classification, antecedents, or outcomes, leaving the internal process of collective bricolage largely unexplored. Through multi-case analysis, we have validated and elaborated the four-stage framework—demand trigger, resource mobilization, negotiation and dialogue, and collaborative co-creation—specifying the core tasks and behavioural pathways at each stage, and illuminating both the feedback loops that connect the stages and the contextual variations that differentiate them. In doing so, we provide a more analytically incisive framework for future process-oriented research on collective bricolage in social entrepreneurship.

Third, our knowledge perspective reveals that the flow and recombination of contextualized knowledge constitute the pivotal analytical dimension for understanding collective bricolage. While existing bricolage research has examined how entrepreneurs recombine resources at hand across a range of resource categories—physical, skill-based, institutional, human, and market—it has rarely treated contextualized knowledge, dispersed across multiple actors, as a central analytical focus, let alone systematically investigated its flow and recombination mechanisms in collective bricolage. Our findings demonstrate that the effective integration of diverse resources hinges critically on the identification, activation, negotiation, and orchestration of knowledge. Those knowledge fragments that appear marginal or value-less from conventional vantage points are reframed by social entrepreneurs through sense-making, then activated, aggregated, negotiated, and orchestrated to propel heterogeneous resources towards workable solutions. This insight, we believe, opens up new avenues for theorizing resource integration in social entrepreneurship beyond the conventional resource-based view.

This study makes two primary theoretical contributions. First, it expands the explanatory reach of bricolage theory by shifting the analytical focus from individual-level resource recombination to collective-level knowledge construction. Existing research on bricolage in social entrepreneurship has predominantly taken individual entrepreneurs or single organizations as the unit of analysis, examining how actors combine resources at hand, yet has largely overlooked the collective and knowledge-intensive dimensions of bricolage. By moving the analytical lens from the individual to multiple actors, and by centring on the flow and recombination of contextualized knowledge, our study reveals how diverse actors collectively accomplish bricolage through sense-making, knowledge activation, cross-boundary negotiation, and rule co-construction. In so doing, it offers a novel theoretical angle on multi-actor resource integration. Second, the study advances collective bricolage research from static classification to dynamic process analysis.

Prior work has remained largely confined to conceptual delineation, typology building, and antecedent identification, with little systematic attention to how bricolage actually unfolds. Our study validates and elaborates a four-stage framework—along with the feedback loops connecting the stages—providing a replicable and operationalizable analytical tool for subsequent inquiry. This moves the literature beyond descriptive accounts of "what" collective bricolage is, towards explanatory accounts of "how" and "why" it unfolds as it does.

This study has several limitations that warrant further investigation in future research. First, in terms of case selection, all three cases are social entrepreneurial organizations that have achieved notable success; cases of failed or aborted bricolage were not included. Future studies could incorporate failure cases for comparison to more comprehensively reveal the conditions for success and failure in collective bricolage. Second, regarding research methods, this study mainly relied on secondary data and publicly available reports for retrospective case analysis, lacking real-time tracking of the bricolage process. Future research could employ longitudinal case studies or action research methods to conduct more fine-grained process tracing. Third, in terms of theoretical perspective, this study primarily deconstructed collective bricolage from a knowledge lens, with limited attention to the roles of identity, power relations, and other factors in the bricolage process. Future research could integrate multiple perspectives to build a more comprehensive theoretical framework of collective bricolage.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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