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Beyond the Project Cycle: Relational Sustainability in Transdisciplinary Social Innovation in Social Services

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Abstract

Transdisciplinarity and the co-production of knowledge have become fundamental approaches to addressing complex social problems. However, the sustainability of collaborative partnerships remains underexplored from an empirical perspective. This article examines the mechanisms that shape the continuity of collaborative networks in social innovation projects in the field of social services, particularly those linked to community-based welfare systems in Andalusia (Spain). Drawing on a thematic qualitative analysis of 15 social innovation projects and 14 semi-structured interviews with project coordinators, the study explores how diverse actors (universities, public administrations, third-sector organisations, and citizens) mobilise different types of social capital within local social services. The findings reveal that collaboration success depends on a balance between relational enablers (trust and shared experiences) and structural barriers (bureaucracy, work overload, and lack of time). The analysis also shows that participatory methodologies and connections with pre-existing networks are essential for sustaining collaboration after project completion. The article concludes that the sustainability of transdisciplinary social innovation in social services requires moving beyond project management logics and investing in the care of invisible relational structures, with implications for public policies aimed at consolidating trust ecosystems and long-term collective learning.

Keywords: transdisciplinarity; sustainability; knowledge co-production; social innovation; social services; community social services

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1. Introduction

Transdisciplinarity has emerged as a fundamental approach to address contemporary social challenges, promoting the integration of academic, professional, and experiential forms of knowledge within action-oriented processes of knowledge co-production (De Jager et al. 2025; Fischer et al. 2025; Lang et al. 2012; Pohl 2011; Polk 2015; Schneider et al. 2019). In connection with the philosophy of post-normal science (Funtowicz and Ravetz 1993) and the ecologies of knowledge (De Sousa Santos 2014), this approach fosters active collaboration among diverse actors, including universities, public administrations, third-sector organisations (TSOs), and citizens, with the aim of generating contextualised, reflexive and sustainable solutions (Baru et al. 2020; Belcher et al. 2022; De Jager et al. 2025; Käyhkö et al. 2025).

In this context, social innovation projects funded under the Line 3 (L3) program by the Regional Government of Andalusia, Spain (2021–2023), provide a valuable setting for

examining these dynamics, particularly in the field of social services and, more specifically, within community social services delivered by municipal governments. The core principles of intervention in this sector, which operate through a multi-level governance approach, are inter-institutional collaboration and networking oriented towards equity, inclusion and community-based care. Line 3 (L3) is a competitive public call by the Andalusian government to foster research and innovation in social services (Junta de Andalucía 2025) through the active participation of municipalities, third-sector organisations and universities. Local councils are the main providers of community social services in Spain, responsible for direct social care and community interventions at the local level. Their involvement is key to understanding how innovation and collaboration develop in institutional contexts where proximity to citizens, knowledge of the context, and coordination within local welfare ecosystems are essential.

Therefore, these social innovation projects funded under the call for proposals for Line 3 (L3) of the Regional Government of Andalusia between 2021 and 2023, which are the subject of this study, function as practical spaces for learning and innovation within local welfare ecosystems, enabling the study of how co-production processes unfold and which factors influence their sustainability. They also make it possible to examine the synergies generated during collaboration, as well as the structural tensions and relational strategies that shape the continuity of networks embedded in social services once the formal funding cycle concludes.

Despite the growing interest in co-production, most of the existing literature focuses on the initial stages of project design and implementation, paying less attention to the mechanisms that ensure collaboration continuity (Anderson and Hardwick 2017; Fischer et al. 2025; Lang et al. 2012; Mauser et al. 2013). This co-production refers to a relational and procedural framework for the joint production of knowledge, decisions and social value. In projects with collaborative frameworks, results are obtained that do not depend exclusively on institutional action, but on sustained interaction between multiple actors. Consequently, there remains limited understanding of how actors manage the tensions inherent in contexts where science, policy, and practice intersect (Chilvers and Kearnes 2020; Schneider et al. 2019). This gap is particularly relevant because public policies risk funding isolated projects that eventually disappear rather than building enduring collaborative ecosystems without understanding what sustains collaboration over time. This occurs from the divergent or convergent positions mentioned by Hoppe (2009) in the context of projects associated with public policy decision-making, or even from the reflection on governance processes in these frameworks of public management and action, where it is possible to understand and transfer collaborative interactions and dynamics in policy and public intervention scenarios (Emerson et al. 2012).

This article aims to address this knowledge gap through a qualitative analysis of 15 social innovation projects, conducted using Atlas.ti software and based on semi-structured interviews with the coordinators of each initiative. The sustainability of these transdisciplinary partnerships relies less on formal agreements and more on relational sustainability, understood as an ongoing process of nurturing the intangible network of ties and social capital that develops throughout the project (Anderson and Hardwick 2017; Lejano 2019; Schneider et al. 2019; Walsh et al. 2021).

The study is grounded in a conceptual framework that links knowledge co-production, situated learning theories, and social capital as interconnected elements in transdisciplinary social innovation processes. Knowledge co-production is conceptualized not only as a collaborative method but also as an ethical and political practice aimed at achieving a more equitable distribution of power over knowledge, its generation, and the valuation of situated know-how (Haraway 1988; Jasanoff 2004; Nowotny et al. 2001). Unlike linear models of knowledge transfer, co-production entails a collaborative exchange in which

academic and practical expertise is intertwined to generate solutions tailored to complex problems. This approach demonstrates that the validity of knowledge depends not only on methodological rigor but also on its capacity to foster joint action, social impact, and relevance (Mauser et al. 2013; Polk 2015; Wouters et al. 2025).

These processes of shared knowledge production unfold through situated learning dynamics (Wenger 1998), in which knowledge arises from collaborative practice and the ongoing engagement of diverse actors in concrete intervention contexts. Collaborative working groups established around social innovation projects serve as spaces where different languages, interests, and institutional rhythms are coordinated (Lang et al. 2012; Lionello et al. 2025). A new epistemic perspective emerges in response to the complexity and uncertainty of systems composed of multiple elements, layers, and structures, whose interrelations continuously shape and redefine their overall functioning (Cardoso 2017, p. 33). Reflection on relationships is essential, as it entails acknowledging power asymmetries, questioning one's own assumptions, and continually negotiating perspectives and roles among all participating actors (Fazey et al. 2018; Polk 2015).

The social capital generated through these processes is critical to the success and sustainability of collaborative dynamics. Following Bourdieu (1986) and Putnam (2000), social capital is understood as a relational resource emerging from trust, reciprocity, and shared norms (Anderson and Hardwick 2017; O'Flynn and Wanna 2008), which can manifest in various forms, including institutional, legitimacy-based, or community-embedded capital, acting as a bridge between universities, public administrations, and the third sector. Nevertheless, this relational structure faces significant structural barriers, such as work overload, project temporality, and bureaucratic rigidity (Huxham and Vangen 2005; O'Flynn and Wanna 2008), generating tensions within the experimental governance models characteristic of social innovation (Ansell and Gash 2008; Chilvers and Kearnes 2020).

From this perspective, the study contributes to the ongoing transformation of community social services by demonstrating that the sustainability of transdisciplinary collaborations cannot be assessed solely through technical or financial indicators. Rather, it depends on the ability to maintain networks of trust, collaboration, and continuous learning beyond the completion of projects (Anderson and Hardwick 2017; Krueger et al. 2025; Schneider et al. 2019). Sustaining innovation in social services requires investment in the care and maintenance of social relationships and the intangible structures of co-produced knowledge that underpin resilient networks. This approach shifts the focus from immediate outcomes to the relational processes that generate inclusive, adaptive, and enduring responses to emerging social demands, challenging linear conceptions of collaboration and emphasizing its dynamic interplay with continuous collective learning, design, and the development of new modes of action (Ansell and Gash 2008).

Within this framework, the research addresses four primary questions: (1) Which types of actors participate, and what forms of social capital do they mobilize in social service innovation? (2) What role do methodological approaches play in the co-production of knowledge? (3) Which relational and structural factors influence the dynamics of transdisciplinary collaboration and co-production? (4) How significant are formal agreements in sustaining collaboration once funding ends?

Accordingly, the study aims to provide empirical evidence on the processes of relational sustainability and social capital that support transdisciplinary social innovation, contributing to ongoing debates on knowledge co-production and the development of stable collaborative dynamics. The findings offer strategic insights for the design of effective public policies in social innovation.

2. Materials and Methods

This research employs a qualitative approach grounded in a multiple case study design (Hyett et al. 2014), which is particularly well-suited for analyzing complex phenomena, such as transdisciplinary collaborative dynamics, within their natural context. This design facilitates an in-depth exploration of the meanings, tensions, and relational mechanisms that sustain knowledge co-production practices. The approach is further enhanced through qualitative discourse and network analyses, which provide a more comprehensive understanding of the key emergent elements. Social network analysis can be a valuable tool for systematically assessing and then intervening at critical points (Cross et al. 2002), and allows important properties to be revealed from the resulting network data, such as the structure of discursive coalitions; polarisation and consensus formation; and underlying processes (Leifeld 2017). These more discursive analyses allow us to consider issues related to the construction, reproduction, variability, and dynamics of complex social ties (Edwards 2010).

2.1. Empirical Framework: The L3 Research and Innovation Line (2021–2023)

This study is empirically grounded in projects funded through Line 3 (L3) of the Research and Innovation in Social Services programme, promoted by the Regional Ministry of Social Inclusion, Youth, Families and Equality of the Andalusian Government (Spain). L3 constitutes the core competitive funding scheme aimed at promoting applied research, social innovation, and the transfer of research results into professional social services practice within the region.

During the 2021–2023 funding period, L3 prioritised projects addressing structural challenges within the Andalusian Social Services System, with a strong emphasis on knowledge co-production, methodological innovation, and inter-organisational collaboration. The programme provides a particularly suitable empirical framework for analysing transdisciplinary collaboration, given that L3-funded projects are explicitly required to integrate academic knowledge with professional and institutional practice, often involving multiple organisations across sectors.

The projects selected for this study therefore go beyond isolated interventions and form part of integrated collaborative networks operating within a coherent programme framework. This framework was implemented across the region of Andalusia, Spain (population approximately 8.5 million inhabitants), and funded through an open competitive call for proposals during the 2021–2023 period. Within this longitudinal context, projects were designed to promote applied research and development activities, experimental social innovation, and the transfer of results into professional practice (R + D + i), and were evaluated according to criteria of technical feasibility, expected social impact, and the scalability and transferability of outcomes.

All initiatives operated under a mandatory transdisciplinary collaboration model involving academic institutions, third-sector organisations, and public administration bodies. This shared regulatory, methodological, and institutional setting fostered stable patterns of collaboration and provides a coherent policy and organisational context for the systematic examination of transdisciplinary collaboration and relational sustainability.

2.2. Sample

Initially, 51 social innovation projects funded under the Regional Government of Andalusia's Line 3 (L3) call between 2021 and 2023 were identified. Official administrative grant award decisions published by the Regional Government were reviewed, and publicly available information was systematically organised into variables such as project title, reference number, year of the call, project objectives, grant amount, and final evaluation

score. Subsequently, the contact details of all project coordinators (n = 51) were compiled in an Excel database.

All project coordinators were contacted via email and telephone to explain the purpose of the research and to request access to project documentation, including project proposals and final reports. A total of 27 coordinators responded positively and provided the requested documentation. The 27 project reports corresponded to projects led by fourteen third-sector organisations, seven local councils, and six universities, which acted as the main beneficiary or coordinating entity for each project.

Although each project had a clearly identified lead organisation, all projects were implemented through multi-actor collaborative arrangements involving public administrations, third-sector organisations, universities, professionals, and community actors.

The collected project reports were analysed using a set of common variables, including objectives, methodological approach, target groups, and achieved outcomes. This preliminary comparative analysis informed the subsequent sampling process. A theoretical structural sampling strategy was then applied to ensure the representativeness and diversity of the final sample (Mena Martínez 2018; Montañés Serrano 2013). Three criteria guided project selection: (1) type of leading organisation, (2) diversity of target groups, and (3) suitability for knowledge transfer. The latter criterion involved assessing the clarity of documentation, the presence of social innovation components, and the relevance of the project to social work practice.

Based on these criteria, 15 projects were selected for in-depth qualitative analysis: eight led by third-sector organisations, three by local councils as frontline providers of community social services, and four by universities.

2.3. Research Technique

For data collection, 14 semi-structured interviews were conducted with the coordinators of the 15 projects (Ruslin et al. 2022). Two of these corresponded to the same initiative's consecutive phases (ERACIS) and were therefore addressed jointly in a single interview. Table 1 presents the profiles of the projects and interviewees.

The interviewees held coordination and management roles within their respective organisations, and have substantial professional experience in social services and innovation-related projects. All participants were directly involved in the design, implementation, or evaluation of the projects analysed, which allowed them to provide informed and strategic perspectives on the initiatives discussed.

The interviewees' professional profile refers either to their disciplinary background (e.g., psychology, social work, law, economics) or to their main area of professional expertise and trajectory, depending on data availability and the need to preserve anonymity.

Table 1. Profile of the interviewed organisations.

Organisation	Interviewee	Gender	Professional Profile	Role	Project Title	Mode	Call Year	Multiple Interviews
City Council A	E1	Woman	Psychologist	Responsible for the Parents Do Matter Program	Applying a gender perspective to social services intervention	Online	2021	Yes (2)
City Council B	E2	Woman	Psychologist	Coordinator of the Social Services Innovation Unit	Innovation project for improving access to emergency social benefits	Online	2022	No

Table 1. *Cont.*

Organisation	Interviewee	Gender	Professional Profile	Role	Project Title	Mode	Call Year	Multiple Interviews
University A	E3	Woman	Social worker and psychologist	Project Coordinator	Identification of local solutions for social services delivery through participatory technology approaches	Online	2021	No
City Council A	E4	Woman	Psychologist	Responsible for the Parents Do Matter Program	Parents Do Matter	Online	2023	Yes (2)
Third Sector Organisation A	E5	Man	Lawyer	Provincial Coordinator	Measuring the impact of social projects developed by the Spanish Red Cross in disadvantaged areas (ERACIS)	Online	2021	No
University A	E6	Man	Social worker	Project Coordinator	Innovation and diagnosis of digital competences among social services professionals	In person	2022	No
University B	E7	Man	Social worker	Coordinator of the Culture and Social Policies Area	Social innovation in Polígono Sur from the R.U. Flora Tristán	In person	2022	Yes (2)
University B	E8	Man	Social worker	Coordinator of the Culture and Social Policies Area	Flora Tristán and the Polígono Sur Social Services: 20 years of joint innovation	In person	2023	Yes (2)
Third Sector Organisation B	E9	Woman	Lawyer	Project Technique	Evaluation and design of applied and transferable impact indicators for the ERACIS project	Online	2021	Yes (3)
Third Sector Organisation C	E10	Woman	Lawyer	Project Technique	Call center for strengthening Home Care Services	Online	2023	No
Third Sector Organisation D	E11	Woman	Economist	Head of Research Area	Participatory action research: promoting civic cooperation in processes of exclusion to reduce hate speech against migrants	In person	2021	No
Third Sector Organisation E	E12	Man	Third sector organisation management and project design in education, communication and culture	Coordinator of the Education, Communication and Culture Area	Digital inclusion in disadvantaged areas: needs, practices, and strategies	Online	2021	No

Table 1. *Cont.*

Organisation	Interviewee	Gender	Professional Profile	Role	Project Title	Mode	Call Year	Multiple Interviews
Third Sector Organisation B	E13	Woman	Lawyer	Project Technique	Cooking Change in the Community: transferable and applied impact indicators for community development	In person	2023	Yes (3)
Third Sector Organisation A	E14	Woman	Professional background in elderly care programmes and social intervention	Regional Coordinator of the Senior Citizens Program	Measuring the impact of the Social Network for Older Adults: Enrédate project	Online	2023	No

Source: Author's own elaboration (2025).

When a single coordinator led more than one project across different calls, multiple interviews were conducted. Each interview was carried out separately for each project at different times, with the interview guide tailored to the specific context of each case. This procedure ensured the coherence, validity, and reliability of the collected data (Flick 2009; Patton 2002; Ritchie and Lewis 2003; Seidman 2006).

The study has been submitted to the Ethics Committee associated with the competent regional institution. All participants coordinating the projects were informed about the objectives, the procedure, the processing of personal data and their right to withdraw at any time. Before each interview, participants were informed of the study's purpose, the confidentiality of their responses, and that the information would be used exclusively for research purposes. Informed consent was obtained for both participation and audio recording. Most interviews were conducted online via the Zoom platform, while a smaller number were carried out in person between May and July 2025. Consent allows identification as a project in Table 1. The average interview duration was approximately sixty minutes. To facilitate subsequent qualitative data analysis, all sessions were audio-recorded and fully transcribed using the Pinpoint transcription tool (Google 2023). All video and audio files were anonymised prior to processing, and Pinpoint was used solely as a technical support tool to facilitate transcription, while the analysis processes remained the responsibility of the research team.

As shown in Table 2, the semi-structured interview guide was organised around eight dimensions. The analytical dimensions and indicators were identified through a combined deductive–inductive process. Initially, a deductive approach was used by considering funding documentation requirements and relevant literature to establish the core themes. This was complemented by an inductive phase involving an exploratory analysis of project reports, which allowed for the refinement of the categories based on the actual data. Although the overall structure was kept consistent to ensure data comparability, the semi-structured format allowed the interviewer to adapt to the specific characteristics of each project and explore particular aspects in greater depth.

Table 2. Structure of the interview guide. Dimensions and indicators.

Dimensions	Indicators
Origin and justification	Main motivation Social issue addressed Main objective Target population
Intervention model	General description of the functioning Innovative character Documentation and external comprehensibility Potential for external application
Collaboration	Types of actors involved Roles Dynamics of collaboration Formal agreements or coordination mechanisms
Impact and results	Changes in participants and community Concrete and unexpected impacts Creation of products or outputs Clarity, comprehensibility, and external communicability
Measurement/evaluation	Use of pre-existing data Measurement methods and indicators
Flexibility and adaptability	Changes and learning during implementation Perceived adaptability Elements facilitating transferability Elements to maintain or adjust Contextual factors
Scalability and sustainability	Growth or maintenance over time Factors influencing scalability Own strategies for sustainability
Synthesis and closing	Strengths and challenges Recommendations Other relevant aspects

Source: Author's own elaboration (2025).

2.4. Data Analysis

A qualitative methodology based on Thematic Analysis (Braun and Clarke 2006) was employed for data analysis due to its capacity to systematically organize and describe qualitative information. The analysis was conducted using the Computer-Assisted Qualitative Data Analysis Software (CAQDAS) Atlas.ti v.24 and structured into four main phases.

Drawing on the predefined dimensions of the semi-structured interview guide, a preliminary coding protocol was developed. This protocol was subsequently reviewed and refined by the research team through an inductive process, involving a detailed reading of the data and open coding of the interviews. This approach facilitated the identification of new codes and the modification of existing ones based on the empirical material (Fereday and Muir-Cochrane 2006).

Artificial intelligence tools (Google AI Studio) were employed to further enrich the analytical framework and to identify aspects that might not have been initially considered, enabling the exploration of potential additional categories and themes. Tests were conducted using a sample of interviews from different organizations and thematic areas, without prior disclosure of the specific research objectives, thereby reinforcing the preliminary coding protocol.

The use of Google AI Studio in this study was guided by ethical principles of data protection, transparency, and researcher accountability. The tool was used solely as an exploratory support mechanism to complement, not replace, the researchers' qualitative analysis. The suggestions generated by the AI were treated as provisional and non-binding, and were critically examined, contextualised or rejected by the research team through review and analysis of the empirical material. Interpretive authority and analytical decision-making remained the sole responsibility of humans, addressing concerns related to algorithmic bias, opacity, and the potential erosion of qualitative judgement. This approach is consistent with ethical debates on the responsible use of artificial intelligence in social research and supports methodological integrity in qualitative research (Braun and Clarke 2021).

Based on the results of the inductive phase, a structured coding protocol (codebook) was developed, providing clear definitions for each code. The study protocol was organized into nine categories. The final version of the codebook was applied deductively and systematically to all interview transcripts (Fereday and Muir-Cochrane 2006). During the coding process, additional specific subcodes were generated and linked to the broader codes within the protocol, enabling greater conceptual precision and refinement. A total of 138 codes were generated, corresponding to 452 citations.

After the coding process, a series of analytical tools were employed to facilitate the data's qualitative interpretation. Code co-occurrence tables (Paulus and Lester 2016), including the total number of quotations per code and their co-occurrence coefficients, were generated. Based on these results, network visualizations (Cross et al. 2002) were produced to graphically represent the relationships among the codes and to elucidate the conceptual structure of the core themes. In this stage, particular attention was given to indicators such as density, which reflects the number of connections a code maintains with other codes, and groundedness, which denotes the frequency with which each code appears within the dataset.

Finally, we conducted a qualitative analysis of the patterns identified in the co-occurrence tables and network maps, integrating verbatim quotations from the interview transcripts to substantiate the findings.

3. Results

The following section presents the study's findings, organized according to the four research questions outlined in the introduction. Each subsection examines a key dimension of transdisciplinary collaboration: the actors and forms of social capital, methodological approaches, relational and structural factors, and post-project sustainability and continuity. This structure provides an integrated analytical perspective on the construction and maintenance of relational sustainability within social innovation networks, as well as on how transdisciplinary knowledge emerges from these collaborative processes.

3.1. Collaboration Within the Transdisciplinary Ecosystem: Actors, Roles, and the Mobilisation of Social Capital

The analysis of the interviews reveals that the social innovation projects within the L3 Program operate as a complex and heterogeneous collaborative ecosystem. A dominant theme in the discourse of all participants is the centrality of project methodology and stakeholder collaboration. Participants emphasized that the success of an intervention depends not only on its implementation but also on the strategic quality of the partnerships, highlighting the importance of both methodological and relational dimensions in sustaining the innovation process (see Table S1 in the Supplementary Materials).

However, there is a notable gap in the discourse regarding sustainability and scalability, as these concepts appear less frequently in participants' narratives. In particular, Third-Sector Organisations (TSOs) highlighted this theme, reflecting a strong concern with

ensuring the continuity of initiatives beyond the project funding period. Similarly, the evaluation and measurement of change were mentioned infrequently, suggesting that formal evaluation processes often occupy a secondary place in participants' priorities, with immediate social action and relational development taking precedence over long-term, formalized metrics.

The collaborative ecosystem is characterized by a wide diversity of actors, comprising three main components: formal institutional actors (social services, associations and social organizations, public administration, universities, ERACIS, and external agents), individual roles (professionals and volunteers), and community groups (families, service users, and the community at large) (see Figure S1 in the Supplementary Materials). Within this network, social services, associations, and social organizations occupy a central position in project implementation, underscoring their importance in coordinating and executing initiatives.

In this context, the success of transdisciplinary collaboration depends on the effective mobilization of four interconnected forms of social capital. Social services and public administration provide institutional capital, defined as the capacity to link social innovations to local public policies and ensure access to institutional resources. This form of institutional capital is particularly associated with community social services, which serve as frontline institutions responsible for community-based care and coordination within local welfare ecosystems. Their participation is considered essential, though often ambivalent: public administration is perceived both as a facilitator driving initiatives and as a source of bureaucratic rigidity. This tension will be analyzed in greater depth in the following subsection. The value of this capital lies in the "convergence" between institutional perspectives and the realities of the community, as one participant noted:

> *It's essential to compare, in some way, what the social services staff think with what people in the community think (. . .) Being in contact with people from social services to whom you can directly communicate perspectives (. . .) that intersection between what one side says and what the other experiences is what's most interesting, isn't it? It is in that convergence between thought and reality where things truly emerge. (E11)*

Community groups, including families, service users, and the broader community, represent participatory and relational social capital. The discourse analysis indicates that their involvement is not merely passive; rather, it serves as a mechanism for fostering "ownership." When projects successfully integrate these voices, participants shift from being "targets" to becoming "evaluators" and "co-designers" of the service. This transition is crucial for ensuring that interventions are grounded in authentic local needs and promote long-term community engagement:

> *The project was designed as a participatory evaluation of the service (. . .) we wanted to include the perspectives of users and their families. It included a component aimed at home-care service users, mainly older adults. We developed an easy-to-read version of the self-assessment tool so that users could evaluate the service themselves and propose improvements (. . .) The ultimate goal was for improvements to emerge from a participatory process involving everyone (. . .) mainly the users and their families. (E10)*

Third-Sector Organisations (TSOs) contribute locally embedded social capital, which is essential for project feasibility. This form of capital is manifested through pre-existing trust, deep contextual knowledge, and access to informal local networks. TSOs serve as bridges and mediators between external institutions and the actual needs of the population, ensuring that interventions are both legitimate and contextually appropriate. They function as "connectors" within the community, and their narratives highlight the importance of "reconnecting" and "rebuilding links" that may have been damaged or dormant. As one

participant noted, the presence of these organisations is indispensable for initiating any collaborative process.

> *The first phase involved reconnecting with all the different organisations one by one, presenting ourselves and conducting interviews (. . .) We gradually connected with each organisation to understand their perspectives and develop diagnostic tools to rebuild collaborative links. Around 30 organisations participated, including Caritas, Don Bosco Foundation, and the Antonio Guerrero Foundation. This relationship with the organisations was greatly strengthened through the process. (E7)*

Finally, the university provides "legitimacy capital" by offering specialized knowledge and scientific validation. Its role is often perceived as a "mentoring" one, which enhances the projects' credibility with funding agencies and public administration. This relationship is described as mutually beneficial: while the university contributes a robust methodological framework, engagement in fieldwork with social organisations allows it to ground its research in real-world practice, fostering a dynamic synergy between theory and action:

> *The SROI methodology was applied in collaboration with Loyola University. They provided the methodological framework and the theoretical grounding developed through their institute, which we then translated into practical tools for the field teams. The university transferred its technical expertise to us, and we adapted it to our operational context. We've gained a great deal from that methodological and impact-based approach. (E9)*

In summary, the analysis demonstrates that collaboration within these projects functions as a dynamic space for the exchange of social capital and the co-creation of transdisciplinary knowledge and practice. Rather than a rigid hierarchical structure, this ecosystem operates as a network of interdependent relationships and forms of knowledge, in which each actor contributes a distinct and complementary type of social capital. The methodological approaches employed play a decisive role in shaping this relational infrastructure, which, in turn, underpins the long-term sustainability of collaboration.

3.2. Diversity of Tools and Approaches: Value of the Participatory–Co-Productive Framework

The methodological landscape of L3 projects is characterized by a dynamic and flexible system of tools that adapt to the specificities of each territory. Rather than a rigid application of techniques, participants' narratives reveal a strategic integration of multiple frameworks designed to respond to the diversity of territorial, institutional, and social contexts in which they operate, as well as to the specific issues and user groups they address (see Figure S2 in the Supplementary Materials).

The analysis of the interviews indicates that the projects do not rely on a single method, but rather on the synergy of three interrelated axes. First, social and documentary research—including interviews, focus groups, questionnaires, legal analysis, case studies, and document review—is employed not only to collect data but also as a diagnostic tool to interpret the social reality of the territory. Second, strategic planning and design tools (such as design thinking and priority matrices) facilitate collaborative decision-making. Finally, participatory and community interventions, implemented through workshops, meetings, and co-productive participatory approaches, provide the foundation for the co-creation of socially and territorially grounded knowledge.

Within this system, the participatory–co-productive approach emerges as the central organizing principle. It is not perceived merely as one "technique" among others, but as a theoretical and ethical framework that structures and gives meaning to all other instruments, such as questionnaires, interviews, or workshops (see Table S2 in the Supplementary Materials). This ethical commitment is based on recognizing the user as the primary source of knowledge, as one participant explained when discussing interventions with vulnerable groups:

> *"If I want to find answers to the needs of immigrant women at risk of social exclusion, then I have to take into account what she wants, what she needs, not what someone else tells me about her". (E11)*

Following this logic, the participatory approach extends beyond mere consultation with stakeholders, positioning them instead as co-creators of knowledge and agents of collaborative change. The interviews reveal a deeply held belief that innovation attains legitimacy only when it emerges from the needs and experiential knowledge of those directly involved. This principle entails a transformation of power relations: professionals no longer act solely as experts but assume the role of facilitators in collective processes of knowledge generation, problem-solving, and transformative action. As one interviewee noted:

> *Social services professionals should work in groups and in the community with the population, understanding that people are not only receivers of information but also producers and generators of information and knowledge (. . .) It was a collaborative, co-produced form of knowledge, which for me holds great value. (E6)*

This principle of participation and co-production is reflected in a strong commitment to involving all relevant actors in the co-design of solutions, including users, families, and professionals. Participation is not viewed as a mere complement to project development but as the core of the change process, fostering a sense of belonging and validation. For participants, the primary outcome of the innovation is often this experience of "mattering":

> *The goal is that the improvements implemented in a service should not originate from a meeting between a manager and two technicians, but from a process involving all the people who are part of that service (. . .) When you give someone the opportunity to participate in a process of change, they feel important (. . .) they feel that they matter (. . .) You make them part of the improvements. (E10)*

Within this framework, even the most traditional technical tools are repurposed as instruments for inclusion and co-production. Questionnaires and diagnostic activities are portrayed not as impersonal procedures, but as means to capture the "voice" of the territory. For example, questionnaires are employed to map needs from stakeholders' own perspectives, thereby ensuring that subsequent interventions are grounded in local realities:

> *"We conducted a questionnaire with users of social services, which allowed us to identify the main difficulties for those accessing these services". (E3)*

Similarly, diagnostic activities assume a crucial role, not as purely technical procedures but as processes for understanding the territory and social reality prior to intervention. By combining documentary analysis with direct consultation, projects ensure that the "landscape" of the intervention is comprehensively understood before any action is undertaken:

> *"In the first stage, we wanted to understand what the overall landscape looked like (. . .) We selected a large number of laws and programmes, and then we asked our colleagues which ones they worked with most frequently". (E1)*

In sum, the methodological diversity of the L3 projects is not defined by the mere accumulation of tools, but by their reflexive and context-sensitive application within a participatory and co-productive framework. This approach shapes the design of interventions and establishes relational conditions that support the persistence and evolution of collaborative processes beyond the formal project implementation period.

3.3. Relational Enablers and Structural Barriers Tension

The analysis of collaborative dynamics highlights a fundamental tension between relational facilitators, which function as the connective tissue of the ecosystem, and structural

barriers, which impose practical constraints on long-term sustainability. This tension is not static but represents a dynamic negotiation in which actors mobilize their relational capital to navigate institutional limitations.

The interviews emphasize that trust, pre-existing relationships, and personal commitment are critical elements that enable alliances to persist beyond formal agreements. Participants note that, without this foundation, accessing a territory or engaging community actors would be considerably more challenging. This prior knowledge creates an "atmosphere of fluidity," in which collaboration is experienced as a shared professional culture:

> *If that prior collaboration had not existed, it would have been very difficult for them to become as actively, sincerely, and wholeheartedly involved as they have been so far (. . .) It's thanks to the collaboration and networking work we had already been developing in these areas. (E13)*

> *"This prior knowledge of the territory and its actors enables a respectful and effective entry". (E11)*

> *"The existence of local offices and participation in consolidated territorial networks greatly facilitates contact and the mobilisation of other agents, creating an atmosphere of fluidity and willingness to collaborate". (E2)*

In contrast to these facilitators, projects encounter structural barriers. Work overload, limited available time, service saturation, and institutional routines or inertia create a fast-paced environment that leaves little room for the reflection required in transdisciplinary work. The narratives convey a sense of being "overwhelmed," in which the rigidity of public administration often constrains the flexibility that innovation demands:

> *"The first meetings were working sessions with social services (. . .) then we moved to COSO because the EMAIA teams were overwhelmed with families". (E8)*

> *"Time issues, which I think happen in almost every workplace (. . .) and maybe also routines or institutional inertia, right?" They are harder to break". (E1)*

Beyond internal constraints, a deeper barrier emerges: community distrust. Building networks in contexts where the population feels neglected requires a constant and emotionally demanding effort to establish strong, trust-based relationships. As one participant pointed out:

> *"Neighbourhood organisations and the residents themselves are very distrustful, and that's been really difficult (. . .) because when you try to create a community work network, it just doesn't take off". (E7)*

The analysis reveals a pattern in how actors navigate these obstacles (see Table S3 in the Supplementary Materials for the interaction between facilitators and barriers). Trust and proximity, together with prior collaborative experience, function as "accelerators" that streamline coordination, enabling actors to partially mitigate time constraints. When actors are already familiar with one another, the resulting "relational shortcut" reduces the time and effort required for coordination. This dynamic can be observed in:

> *"If we need their collaboration (. . .) it's because they're in the other office, so everything is very fluid. This allows for very direct, very participatory communication". (E1)*

Moreover, the participatory and co-productive approach is strategically used to mitigate workload. By involving community members and service users, responsibility is redistributed, fostering a sense of ownership that sustains the project even when professional resources are limited. The impact of this participation is not only operational but also transformative, significantly increasing participants' sense of agency and their feeling of being valued by the system:

> *One of the outcome indicators we measured was the 'degree of satisfaction and increased perception of control over their own lives among participants' (. . .) The question was: Do you think that this type of survey increases your sense of being considered? And the response was incredible (. . .) 87% rated it as five out of five (. . .) So this clearly demonstrated that when you involve people, they commit. (E10)*

In sum, successful collaboration largely depends on actors' ability to mobilise their social and relational capital, such as trust, prior knowledge, and participatory approaches, to counteract the structural barriers posed by time scarcity, bureaucratic constraints, and mistrust. This balance is what allows these collaborative projects to remain adaptive and sustainable in the face of institutional pressure.

3.4. Beyond Agreements and Grants: Post-Project Sustainability

The analysis of post-project continuity offers a crucial perspective for understanding relational sustainability. The findings indicate that the persistence of collaboration over time is driven not primarily by administrative mandates, but by a "relational memory" grounded in trust and mutual understanding.

The interviews reveal that most projects are led by organisations that already possess strong networks. Rather than creating entirely new structures, these projects activate and reinforce pre-existing ties, directing them toward specific innovation objectives. For participants, the formalization of agreements (the "legal" component) often constitutes a secondary layer that complements a deeper, informal bond. As one participant explained, collaboration persists because the relationship predates and outlives the specific funding:

> *Both things, I mean the organisation we work with isn't one we only collaborate with for this project and then never again (. . .) these are organisations with which MZC already has an established relationship (. . .) we know each other. In some cases, we have formal collaboration agreements, and in others, maybe not, but collaboration continues. (E11)*

This testimony illustrates that projects activate existing formal and informal networks, developed through participation in shared spaces such as platforms and sectoral committees. As a result, collaboration is often redirected toward broader strategic objectives that extend beyond the scope of the project itself. For some actors, this involves embedding partnerships within overarching frameworks or more permanent institutional alliances, such as those established with academic institutions, which serve as a structural foundation for their initiatives:

> *"For us, any initiative we launch, and well, for us in that goal 17, right? of sustainable development, is always in that box, the alliance with the university". (E9)*

Furthermore, the continuity of these networks is reinforced when projects are embedded in broader social action strategies, such as the Andalusian Regional Strategy for Social Cohesion and Inclusion (ERACIS). Belonging to these wider frameworks ensures that coordination, information exchange, and transdisciplinary knowledge do not vanish when the grant ends. Participation in these large-scale strategies provides a "permanent space" for interaction:

> *We continue working with these organisations (. . .) this is part of our overall social action strategy (. . .) within ERACIS (. . .) which is precisely the framework for this area. We're all there, coordinated with the municipalities and local councils (. . .) So we remain in contact with almost all of the organisations. (E12)*

Ultimately, these findings support the central premise of this study: the sustainability of networks is not ensured through the creation of new, project-specific formal structures, but rather through ongoing collaboration embedded within the associative and institutional

fabric, which integrates both formal and informal ties. In this context, the concept of relational sustainability attains its full significance; that is, the continuity of networks depends less on signed agreements and more on the sustained maintenance of trust, mutual understanding, and relational memory, which enable actors to continue collaborating beyond the formal conclusion of the project.

4. Discussion

The findings of this study indicate that social innovation within Andalusian social services should not be understood merely as the technical application of new solutions, but rather as a shared process of knowledge co-production. This understanding aligns with what Nowotny et al. (2001) conceptualize as "Mode 2" knowledge production, in which knowledge emerges through interaction with real-world problems and socially embedded practices. Building directly on the empirical results presented above, this discussion interprets the findings in relation to the four research questions and situates them within the literature on transdisciplinarity, collaborative governance, and social capital.

First, the results show that transdisciplinary collaboration is organised through a heterogeneous ecosystem of actors who mobilise distinct and complementary forms of social capital. These findings empirically support the argument that transdisciplinarity extends beyond disciplinary integration to constitute an epistemic negotiation space in which different forms of knowledge are articulated and aligned (De Jager et al. 2025; Fischer et al. 2025; Wouters et al. 2025). As evidenced in the results, Third-Sector Organisations play a dual role: they act not only as implementers but also as epistemic mediators, translating institutional frameworks into locally meaningful practices and integrating situated knowledge into project design (Escobar 2018; Haraway 1988). At the same time, universities contribute methodological rigour and cognitive legitimacy, functioning as reflective hubs that systematise and validate shared learning processes (Funtowicz and Ravetz 1993; Jasanoff 2004). Rather than operating within a hierarchical structure, these actors interact through relational interdependencies, reinforcing the view of transdisciplinarity as a mode of collaborative reasoning and action (Lanz 2010).

Second, the findings on methodological approaches reveal that transdisciplinary collaboration is sustained through a flexible and hybrid methodological repertoire structured by a participatory–co-productive framework. The empirical evidence shows that co-production functions as an organising principle guiding the selection and adaptation of tools, rather than as a fixed methodological model. The coexistence of diagnostic, analytical, and participatory instruments illustrates how actors negotiate methods in response to territorial, institutional, and social conditions. This adaptability fosters reflexivity (Fazey et al. 2018; Polk 2015), enabling participants to recalibrate methods to their capacities and roles, thereby strengthening trust and local ownership. As demonstrated in the interviews, participatory methodologies thus contribute simultaneously to knowledge production and to the consolidation of relational sustainability through processes of mutual learning and distributed epistemic authority (Wenger 1998; Wouters et al. 2025).

Third, the analysis highlights a persistent tension between relational enablers and structural barriers that shapes the dynamics of transdisciplinary collaboration. The results indicate that trust, personal commitment, prior collaborative experience, and territorial knowledge function as relational resources that facilitate coordination and sustain cooperation over time (Anderson and Hardwick 2017; Bourdieu 1986; Putnam 2000). However, these resources are systematically constrained by structural conditions, including work overload, time scarcity, and bureaucratic routines, which limit opportunities for reflection and collective learning (Huxham and Vangen 2005). Interpreted through Archer's morphogenetic framework (Archer 1995), relational factors express actors' capacity for agency and

change (morphogenesis), while institutional constraints reflect tendencies towards stability and reproduction (morphostasis). In line with Evers and Ewert (2016) and Moulaert et al. (2013), the findings reveal a structural paradox: social innovation relies on relational resources that are effective yet fragile, rendering collaborative arrangements both resilient and vulnerable.

Finally, the findings provide strong empirical support for the concept of relational sustainability. The results demonstrate that the continuity of collaborative networks beyond formal project timelines depends primarily on pre-existing relationships, shared experiences, and accumulated relational memory, rather than on the formalisation of agreements. This confirms that social capital—understood as trust, reciprocity, and commitment—operates as a strategic resource that transcends project-based funding cycles (Bourdieu 1986; Coleman 1988; Putnam 2000). From the perspective of collaborative governance, such continuity represents a form of social sustainability grounded in shared practices and affective bonds that facilitate ongoing cooperation (Ansell and Gash 2008). In this sense, sustainability is less a function of contractual arrangements than of the network's capacity to reproduce itself relationally over time. This interpretation resonates with care-based approaches (Tronto 2013; Puig de la Bellacasa 2017), which conceptualise sustainability as an ongoing relational practice rather than a purely technical or managerial outcome.

Taken together, these findings suggest that co-production within social innovation projects constitutes a structurally tensioned process. On the one hand, it is enabled by dense relational networks and the mobilisation of social capital; on the other, it is constrained by the institutional and material conditions of public systems. The transformative potential of social innovation therefore lies not only in generating transdisciplinary knowledge rooted in local contexts, but also in its capacity to reshape the relational and structural conditions that enable sustained collaboration.

5. Conclusions

This study examined the mechanisms that underpin the sustainability of transdisciplinary collaboration in social innovation initiatives within Andalusian social services. Based on the empirical analysis of 15 social innovation projects, the central conclusion is that the continuity of collaborative networks depends less on formal project-based arrangements and more on relational sustainability, understood as an ongoing process grounded in trust, shared experience, and the sustained activation of a collaborative ecosystem consistent with relational and context-driven approaches to transdisciplinary knowledge production (Nowotny et al. 2001; Wouters et al. 2025).

The findings can be synthesised into four main conclusions. First, social innovation operates within a heterogeneous collaborative ecosystem in which diverse actors mobilise complementary forms of social capital. Public administrations primarily contribute institutional capital, enabling access to policy frameworks and resources; Third-Sector Organisations provide locally embedded social capital, rooted in territorial knowledge and pre-existing relationships; community groups contribute participatory capital, grounded in lived experience and engagement; and universities supply legitimacy and methodological capital, reinforcing analytical rigour and validation. The effectiveness of transdisciplinary collaboration lies in the capacity to integrate these forms of capital in a relational and non-hierarchical manner, in line with established approaches to social capital and collaborative governance (Bourdieu 1986; Putnam 2000; Ansell and Gash 2008).

Second, methodological approaches are not merely technical instruments but function as relational and ethical frameworks that shape collaborative dynamics. The participatory–co-productive approach emerges as a central organising principle that redistributes roles and power relations, strengthens actors' sense of ownership and agency, and directly

supports relational sustainability. In this sense, methodology becomes both a means of knowledge production and a mechanism for sustaining collaboration over time.

Third, collaborative processes are characterised by a persistent tension between relational enablers and structural barriers. Relational resources, such as trust, prior collaborative experience, and territorial knowledge, operate as key catalysts that enable actors to navigate and partially mitigate structural constraints, including work overload, time scarcity, and bureaucratic rigidity. These findings confirm that while relational capital enhances resilience, it remains fragile when not supported by favourable institutional conditions.

Finally, the continuity of collaboration beyond formal funding periods is primarily ensured through the activation of pre-existing networks and accumulated relational memory, rather than through the formalisation of agreements. Enduring collaboration is thus embedded in everyday organisational practices and sustained by ongoing interpersonal and inter-organisational relationships.

Taken together, these conclusions have important theoretical and practical implications. From a theoretical perspective, the study contributes to the literature on transdisciplinarity and social innovation by providing empirical evidence for relational sustainability and by illuminating the 'invisible infrastructure' that underpins knowledge co-production and collaborative continuity (Bourdieu 1986). From a practical standpoint, the findings suggest that public policies aimed at fostering social innovation should move beyond a narrow focus on short-term, project-based funding. Instead, greater emphasis should be placed on long-term investment in collaborative ecosystems, including the support of networks, shared spaces for interaction, and trust-building processes that enable innovation to emerge and persist. Future research should further explore the costs, dynamics, and long-term maintenance of these relational networks in order to advance towards forms of social innovation that effectively integrate knowledge, action, context, and social justice.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/socsci15020074/s1, Figure S1: The ecosystem composition of the project actors; Figure S2: Conceptual network of the project's methodological tools and approaches; Table S1: Distribution of codings by thematic category and type of institutional actor interviewed; Table S2: Main methodological tools and approaches; Table S3: Co-occurrence matrix between facilitators and barriers.

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