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Towards understanding SFSC and the pillars of its conceptualisation: Building upon the Community of Practice approach

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Short Food Supply Chains (SFSC) has drawn scholarly attention for its innovative features, such as the emergence of new associational forms, proximal relations and new quality conventions. A better understanding of SFSC is attained when looking at it as alternative food networks structured around organizational relationships. Aiming toward a comprehensive conceptualization of SFSC, this paper presents the findings of a transnational empirical investigation of different cases in a search of their central and most typical features. Building upon the Community of Practice (CoP) concept, SFSC are conceptualized as co-creative processes and as constructed realities with their traits being shaped by the interaction of participating multiple-actors. The sample of this study involves nine CoPs which are located in different parts of Europe and which were studied through open space discussions (World Café) with the participation of the various actors involved in the chain from production to consumption, services, research and policy areas. The identification of the most typical and ubiquitous attributes of SFSC as they appear across different contexts is based on an exploratory analysis which defines the main frames of SFSC and identifies on their basis the pillars of the conceptualization of SFSC. These pillars are sharing, authenticity and sustainability, the first one referring to the relational aspect, the second referring to the commercialization process and the third relating to the rationale or underlying logic of SFSC. The identified pillars signify their competitive advantage because SFSC develop as dynamic alternative networks to conventional, large-scale food systems. It is envisaged that the suggested conceptualization of SFSC would contribute to a better understanding of SFSC and foster future research in this field.

KEYWORDS

SFSC, co-creation, multi-actor approach, Community of Practice, Europe

Introduction

Alternative food distribution trajectories are emerging, enhanced by renewed consumer interest in controlling the production, distribution and marketing processes due to socio-political-economic and environmental challenges that are influencing the globalized food system (Renting et al., 2003). Although a number of works have extensively described the alterity of Short Food Supply Chains (SFSC), and while much has been said about the co-creation dimension, the co-constructed realities of interacting multiple-actors in food chains do not seem to be adequately appreciated by scholars (Kneafsey et al., 2013; Chiffolleau et al., 2016; Umaran et al., 2022). This approach, which is attentive to the social processes underlying the organizational dimension, proves useful, not only to better understand the emergence of new forms of SFSCs (Hyland et al., 2019), but also to explore the way people re-frame their position in society with respect to a network of dynamic and collaborative individuals (Petropoulou et al., 2022).

We use the notion of co-creation to address the value of collaboration with different actors and stakeholders in SFSCs (Hochgerner, 2018) since co-creation always takes place within an environment and in a network of multiple actors (Umaran et al., 2022). For example, co-creation activities are “practices where actors engage collaboratively [...] through interaction within a specific social context” (Frow et al., 2015, p. 463). The aim of co-creation in SFSCs is to collaborate, create together, cooperate, and share ideas, knowledge, practice, and build on existing ideas to develop them further. An example of co-creation in SFSCs is recasting selling and buying, policy or product users as “co-producers” and inviting them to the designing, planning and retailing processes, and in creating outputs collaboratively (Thomson et al., 2022, p. 65). Assuming that the use of participatory methods and principles plays a crucial role in co-creation and its successful implementation in SFSCs, we apply the multi-actor approach building upon the concept of Community of Practice (CoP). The multiple-actor approach (Avelino and Wittmayer, 2016) applies to SFSCs because these networks are identified as entities of actors who play a role in a transition toward sustainable food systems. In this respect, SFSC actors are provided with the chance to be involved in the collaborative framing and planning of related services and outcomes (Umaran et al., 2022). As mentioned in the literature and the public discourse, SFSCs are innovative food systems (e.g., farmers’ markets, on-farm sales, food box schemes, online sales, pick your own arrangements and Community Supported Agriculture) open to collaboration and participation among actors involved such as consumers, retailers/market organizers and producers (Charatsari et al., 2019; Vittersø et al., 2019). Successful and fruitful co-creation thrives on an equal contribution from the members of the CoPs and from incorporating the diversity of voices and perspectives (Thomson et al., 2022). This multiplicity

of collaboration partners is thus particularly desirable in SFSCs, as it reflects the spirit of equality, diversity and inclusion, and its values of fairness and opportunity for all. The contribution of this paper, therefore, is to explore through CoPs the emerging frames built in SFSCs, as well as to propose those pillars on which these food networks can be analyzed and assessed. Furthermore, by showing the co-creative nature and activities of SFSC actors, this work may open new perspectives for social sustainability in the agri-food system. Social sustainability, refers, in general terms, to the participation and democratization of agri-food processes where individual actors regain control over their food and their food systems (Psarikidou and Szerszynski, 2012). Thinking about social sustainability involves not adding a separate set of social issues, but expanding the capacity of regulatory or local actors to take part in the decision-making about food production and consumption practices. However, the way this participation can be expanded beyond a group of dedicated actors that have realized their role as co-leaders in co-shaping their own future still needs to be explored (Voorberg et al., 2014).

The paper is outlined as follows. The first section reviews the traits of SFSC as identified by the scholars of this field and particularly discusses what the re-socialization and re-spatialization of food (Marsden et al., 2000; Dubois, 2018; Chiffolleau et al., 2019) entails in terms of the relationship between the participating actors as well as in terms of the end product’s qualities. The following sub-section discusses the holistic and co-creative-based character of SFSC as a food system to highlight the emphasis on the unity of the chain and on the outcome of the interactive process in the creation of meaning. The recognition of these defining elements of SFSC led us to certain methodological choices. The linkage of the co-creation and multi-actor approaches along with the empirical investigation of CoPs in the form of World Cafés’ gatherings highlight the originality of this study. In order to enhance the heterogeneity of the sample, we selected cases of SFSC which are located in different countries¹ (France, Germany, Greece, Hungary, Italy, the Netherlands, Serbia, Spain and Switzerland). The examined cases differ in terms of their spatial, socio-cultural and organizational traits. The inclusion of this diversity aimed to the identification of what is most typical in SFSCs and not to make country-based generalizations or comparisons. The emergence of frames and pillars in the conceptualization of SFSC was attained through a multistage qualitative analysis which combined deductive and inductive rationale as well as open and

1 Nine national hubs were launched by the SMARTHCHAIN project (see more details in terms of funding and GA no. below in the text) to facilitate strong and enduring partnership among stakeholders in and between short food supply chains by creating a network for cooperation, co-creation and innovation. All hubs consisted of the national actors, the case studies—actual short food supply chain practitioners, farmers etc. and other key actors involved in short food supply chains.

axial coding. The findings section involves two sub-sections, one on the identified frames and their features and one on the emergent pillars and their connection to the frames.

SFSC and alternative economy

Short Food Supply Chains (SFSCs) are alternative food networks (AFN) which develop in a competitive relationship with the conventional sector which is challenged by the transparency of its complex food chains (Marsden et al., 2000; Renting et al., 2003; Sonnino and Marsden, 2006; Jarosz, 2008; Tregear, 2011) and its shortcomings in response to the imperatives of sustainable development (Vittersø et al., 2019). SFSCs are diverse and dynamic and are characterized by their face-to-face transactions and direct links between small-scale farmers and consumers on a specific locality/farm. SFSCs may be associated with the concepts of local food, local food systems, local and/or alternative food markets, direct sales with fewer intermediaries, and the production and distribution in a certain geographical place (Galli and Brunori, 2013; Vittersø et al., 2019). Shortening food supply suggests the reclamation of trust between producers and consumers, a stronger redistributive potential, the establishment of new forms of association and new rules in food commercialization (Renting et al., 2003; Whatmore et al., 2003). In their seminal study on the role of short food supply chains in rural development, Marsden et al. (2000) point out the key influence of the associational features on the attribution of economic value and meaning in food products. Drawing on their empirical study of different cases of what they call “alternative food chains” they underline the significance of informal networks in establishing trust, common understandings, working patterns, and forms of cooperation between the different actors in SFSC. With the relational aspect being put at the forefront, there are two interrelated dimensions which define how producers and consumers are connected within SFSCs (Renting et al., 2003). First, the organizational structure is related to the different mechanisms of extending relationships in time and space and, second, the base upon the different quality conventions are defined. As to the former, SFSCs operate through face-to-face, proximate or socially extended interactions and as to the latter, quality is defined by drawing on either ecology or locality of the production process and food products (Marsden et al., 2000; Renting et al., 2003).

Proximity, both formal and informal among actors, as a main characteristic of SFSC makes the whole process of food production, processing and distribution more transparent. It has a spatial, economic, and social dimension (Kebir and Torre, 2012) and it concerns the relationship between different actors as well as between them and institutions (Aubry and Kebir, 2013). Thus, beyond the geographical closeness of consumers and producers, which restores the connectivity of consumers to the place of production (Ilbery et al., 2004), proximity suggests

the development of fair and trusting relationships between actors, the sharing of values (Renting et al., 2003), as well as strengthening the role of local communities in supporting SFSC (Barbera and Dagnes, 2016). As a response to the widening gap between producers and consumers within the conventional food industry, the EU’s rural development regulation (1305/2013)² is set to define a “short supply chain” in terms of its limited number of economic operators, committed to cooperation, local economic development and close geographical and social relations between food producers, processors and consumers. This definition takes into consideration both social and geographical closeness between actors (Vittersø et al., 2019). Concerning the relationship between producers and consumers, effective communication underpins long-term commitment and tolerance (Cox et al., 2008). With respect to social cooperation, this proximity entails the emergence of a new model of cooperation which draws on “more-than-economic motivations” which are linked to community- and solidarity-oriented goals (Fonte and Cucco, 2017). In addition, on the basis of these emerging forms of association, new forms of institutionalization are met in short supply chains that resist state policy’s negative effects and develop innovations beyond state support (Marsden et al., 2000).

The reorganization of the relationships which are met in the chain of food products’ production, distribution and consumption based on proximity involves the emergence of new quality conventions. The shortening of food supply chains as an alternative food practice results in a “quality turn” which suggests a turn from hard quality criteria such as price, standards and trademarks to soft quality characteristics which are built on trust, community and tradition (Goodman, 2003). Alternative food networks such as SFSCs provide knowledge to consumers of where their food is coming from and how it has been produced and thus re-place food within its social, cultural, economic, geographical, and environmental contexts (Goodman et al., 2012). While acknowledging the benefits of direct social ties and the socio-spatial embeddedness which characterize local food systems more generally, Hinrichs (2000) underlines that instrumentalism and market-related criteria should be also taken into consideration in order to understand the viability of SFSCs.

SFSC as alternative food networks create a “moral imaginary” of food which encompasses ecological sustainability, social justice, cultural integrity, and animal welfare (Goodman et al., 2012). Beyond quality and accessibility, the ecological character of SFSC should also be recognized as one of its central traits, mainly due to the reduction of transportation costs - thus also the reduction of CO2 emissions- the promotion of biodiversity and the implementation of peri-urban agriculture (Canfora, 2016). The strengthening of the ties between food

² <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1305&from=EN>

products and locality nevertheless entails the re-embedding of farming toward more environmentally aware modes of production (Renting et al., 2003). Following Jarosz (2008), the shortening of distances between producers and consumers—e.g., through the development of food purchasing venues within farms or the adoption of small-scale and holistic farming methods—suggests capitalist restructuring, encourages environmental awareness and the promotion of progressive social goals.

The relationship between alternative and conventional food networks is nuanced and complex (Sonnino and Marsden, 2006; Holloway et al., 2007). Instead of categorizing heterogeneous modes of food provisioning as alternative, Holloway et al. (2007) highlight the significance of issues of power and agency as reflected in the actor-network relationship toward a better understanding of different food systems. It is suggested that the study of SFSC would benefit if we move beyond the divide between alternative and conventional food networks and look at them in co-creative ways. In this respect, SFSCs are perceived as disembedding and re-embedding processes of food with a focus on renewed and innovative social and economic relations (Brunori et al., 2012). SFSCs not only have the capacity to re-socialize or re-spatialize food, but also allow consumers to assess their relative need for foods on the basis of their knowledge, experience, or perceived imagery (Marsden et al., 2000; Dubois, 2018). Respectively, the emergence of a new kind of consumer who is asking for a more central position in food production and distribution processes, along with new forms of cooperation between farmers and consumers, is emerging (Bloemmen et al., 2015). This new kind of consumer is the *prosumer*,³ which corresponds to the most frequent type of consumer in SFSCs (Ritzer and Jurgenson, 2010). However, the demand for a higher implication in agri-food related processes is not restricted to prosumers, as increasing sectors of society are motivated by these commercial interactions. A growing number of works thereby propose to deepen the interplay between the economic and social aspects of SFSCs (Chiffolleau et al., 2019; Chiffolleau and Dourian, 2020). For SFSCs this conception results in the active construction of networks by various actors of the agro-food chain, such as farmers, food processors, wholesalers, retailers and (pro)consumers (Renting et al., 2003). Consequently, SFSCs have been studied to assess new relationships among all actors involved in which both wittingly or unwittingly become active components of the SFSC network in a co-creative manner in order to share a common understanding of food. This situation represents a window of

opportunity for SFSCs to strengthen their position in the agri-food system. In addition, SFSCs should focus on the nature of the relationship between different actors, rather than the local and spatial factors in order to identify criteria and define SFSCs at a larger scope (Kneafsey et al., 2013). Some SFSC attributes are already being used by farmers in their strategies to face agri-food system challenges, such as the establishment of direct relationships between producers and consumers, and the valorization of regional products (Sellitto et al., 2018). A re-connection of production and consumption is often regarded as a more transparent way of distributing food that is strengthening the relations between SFSCs actors toward more social, equitable and fairer prices, re-embedding food into new innovative social and economic relations (Brunori et al., 2012). The evolution of SFSC thus rests on participating actors' ability to mobilize and achieve social goals that benefit all (of the actors in the chain) in sustainable ways.

Co-creation processes and actors' engagement to support successful and sustainable SFSCs

SFSCs are considered as coherent and collaborative food networks of interconnected producers, processors and consumers, distinguished by geographical and social proximity (Dubois, 2018; Chiffolleau et al., 2019; Vittersø et al., 2019). In this context studies on SFSCs have been oriented toward a more participatory approach which sees the active contribution of all stakeholders and actors involved (Zoll et al., 2021; Hyland and Macken-Walsh, 2022). Focusing on actors' engagement in SFSCs scholarship it is widely acknowledged that SFSCs can result in positive impacts and multi-aspect benefits both for actors in food chains and society. The benefits of SFSCs have been proven by several studies in terms of socio-economic, environmental, health and wellbeing and governance improvement (Galli and Brunori, 2013; Kneafsey et al., 2013; Cleveland et al., 2014; Mundler and Laughrea, 2016; Schmitt et al., 2017; Sellitto et al., 2018; Malak-Rawlikowska et al., 2019; Ochoa et al., 2019; Vittersø et al., 2019; Jarzębowski et al., 2020).

In light of these dimensions, SFSCs encourage participating actors (consumers, farmers, retailers etc.) not only to participate but also to co-develop and co-design activities or practices that lead to the chain's successful transformation. Actor engagement in SFSCs has been the center of attention in recent scholarly work and is perceived as a new and innovative model of collaboration across social and geographical spaces and beyond the community level (Jungsberg et al., 2020). For example, Neumeier (2017) suggests that the success of actor engagement in a network can be "... understood as the collective development of a new form of attitude, behavior, or perception as a reaction to an identified need, thread, impairment, etc. by

³ The term prosumer is generally attributed to Alvin Toffler. He proposes that "contemporary society is moving away from the aberrant separation of production and consumption and toward a 'third wave' that, in part, signals their reintegration in the rise of the prosumer" (Ritzer and Jurgenson, 2010).

actors affected” (p. 43–44). He further identified six important factors influencing actor engagement: a- commitment of the participating actors, b- abilities of the participating actors, c- organizational structure (to ensure coordinating processes and communication), d- quality of the functional concept, e- climate of acceptance/cooperation and f- access to financial resources. The achievement of factors one, three and five are more important as stated by Neumeier (2017) for the engagement of different stakeholders in the transformative process of SFSCs. However, SFSCs’ overall performance and, therefore, its sustainability, is not based on the static and individual performance of actors. It is the way different actors interact among themselves and with their external environment that determines the performance and viability of SFSCs. In this view, social actors’ practices can be seen as processes that redesign and re-develop their interactions which could result in transformative changes for SFSCs (Hyland and Macken-Walsh, 2022).

In this respect, co-creation offers significant potential for SFSCs actors who wish to improve their innovation abilities. A broad coverage of co-creation, highlights the importance of actor engagement, co-creation and their ability to produce compelling experiences in value creation. For example, from a consumer’s perspective, interaction with a SFSC allows the co-creation of their consumption experiences (Brunori et al., 2011, 2012) and strengthens value relationships (Moreno-Luzon et al., 2018). Specifically, when production and consumption are viewed as interdependent processes connected by service, the producer and the consumer are seen as providing inputs into one another’s process. In other words, consumers—or prosumers—are active co-creators of value along the SFSC (Hinrichs, 2000; Ritzer, 2014). Scholars agree that co-creation research is important, especially in investigating how co-creation offers new opportunities for alternative food networks and the involved actors. According to Hochgerner (2018), co-creation is understood as a participatory multiple-actor innovation process with diverse knowledge and stakes from various contexts. It is the value of collaboration with different actors, the creation of a collaborative platform, and the involvement of actors in different innovation processes.

An overall perspective of co-creation shows that it pursues a non-linear logic, which embodies a multi-dynamic and multi-contextual bottom-up process (Kumari et al., 2019). Actors with different backgrounds in culture, belief, and knowledge take different roles and integrate them into a co-creation process. Hochgerner (2018) reported that co-creation involves new social practices and processes and new modes of interaction, therefore it can be considered as an emerging currently diffusing social innovation itself. Furthermore, Moulaert et al. (2017) emphasized that processes of social innovation are often determined by co-creation because cross-sector cooperation and the participation of all actors is perceived as a successful factor for its emergence and fruitful development. What is implied

at this point is that the practices that actors employ and that really matter for successful and sustainable processes in SFSCs are those that ensure actor engagement in the co-development and co-design process. Furthermore, it is suggested that the practices actors employ redefine the relationship among them, their perspectives, and their network routines. It seems that such practices point beyond the mainstream representation of food re-localization and instead extend to some form of “re-commonification” (Rossi et al., 2021). Bottom-up practices that ensure actor engagement in the co-development and co-design process in SFSCs are the following⁴:

- *Enriching “ground rules” with “commoning” tools* (i.e., social practices facilitating the process of ‘making common’), such as acts of mutual support, negotiation, participation, and experimentation to create networks that effectively manage shared resources. These include activities like membership programs, virtual meetings (e.g., regular online meetings to update members on the daily running of an organization), and the collective negotiation of food prices (Zhang and Barr, 2019).
- The *active involvement* of *multiple players* who have traditionally not worked together, in *co-creating* system-level change (e.g., collaboration with researchers and people interested in the development and / or application of innovations) (Moreno-Luzon et al., 2018).
- The *collaboration* between *multiple actors* should be based not only on formal agreements, but also on strong informal rules, social values, and shared beliefs (Moreno-Luzon et al., 2018).
- Establishing *common cognitive frames, rules, norms, and material infrastructures* (e.g., outlet, meeting venue) should be in place, underlining the collective dimension of innovative action (Brunori et al., 2011).
- *Practices that facilitate embedding purchasing and consumption* (e.g., regular meetings and events organized by the network) in chains of acts that, in turn, develop the sense of “doing something right” and *activate social links with other network members* (Brunori et al., 2012).
- *Practices that enhance social and cognitive proximity* (e.g., showcasing the living environment of local producers to consumers, informational events that reinforce the convergence of the knowledge around the products, the farm, and the farmers into a symbolically charged unit) (Dubois, 2018).

What has been revealed so far is that a growing body of SFSC research, whether academic or project-related, has managed

4 The information provided is based on deliverable 3.2 entitled “Key Drivers of Actors’ Engagement and Best Practices of SI in SFSCs” of SMARTCHAIN project, “Toward Innovation-driven and Smart Solutions in Short Food Supply Chains”, EU Horizon 2020 GA no. 773785.

to highlight a rich set of practices/processes (Hyland et al., 2019; Petropoulou et al., 2022). These practices/processes that constitute a co-creation framework that involves different types of actors (e.g., stakeholders and actors of the SFSCs), can be replicated by different SFSC networks and even progressively be transitioned into opportunities and routines when many possible options are available. However, these empirical observations still need a more advanced methodological understanding. Using a multi-actor approach in a co-creative and co-development manner would ensure a sounder scientific basis to systematically compare these experiences and contribute to conceptual and practical developments in the field, based on the identification of commonalities and distinctive features (Dubois, 2018).

By combining these lines of research we highlight that the various actors in the agrifood chain actively construct alternative markets through new discourses “of authentic social, economic and ecological relationships” which involve all of them in a co-creative manner (Sonnino and Marsden, 2006). This explains the ontological and conceptual fluidity of SFSC, given that the quality of the products derived from these alternative food networks are in a constant renegotiation (Sonnino and Marsden, 2006, p. 185). This study adopts a holistic multi-actor approach (Vittersø et al., 2019) and assumes that the knowledge related to the organization, operation and mission of SFSC is derived from the understanding of the whole chain and the interrelation of its parts, rather than the understanding of single parts in isolation (Petropoulou et al., 2022). Acknowledging that meaning is produced in a co-developed and co-designed mode poses a methodological challenge, which can be overcome through the adoption of the CoP concept, as suggested by scholars (Wegner et al., 2002; Tregear, 2011; Goodman et al., 2012).

Methodology and analysis

The CoP⁵ framework as a socially innovative concept which establishes co-creation and conceptualizes SFSC in relation to their attribute of collective and participatory self-determination is adopted in this study as a key methodological tool. To enhance the potential benefits of the CoP process, we opted for the World Café variant, as it blends different creative aspects of other, more traditional qualitative data-collection techniques, such as interviewing, drawing, and narration. The World Café method had been originally used as a community-organizing

strategy and an educational intervention technique. In essence, it is an easy-to-use method of conducting dialogues around issues that matter to the participants (Koen et al., 2014). The difference and power of a World Café discussion rests on the assumption that when people are placed in an appropriate context and a facilitator brings the focus of attention in the issues that matter the most, then profound knowledge can emerge. In comparison to techniques with similar objectives, i.e. the emergence of collectively generated knowledge, such as the practice of focus group, the World Café has the advantage of allowing the participation of more people, where participants are placed in a fitting context, explore questions that matter to them, and in regular intervals switch to a different discussion table and point, until they have deliberated about all topics in the discussion agenda.

The present study involves nine CoPs across nine European countries: France, Germany, Greece, Hungary, Italy, Netherlands, Serbia, Spain, and Switzerland. Within SMARTCHAIN⁶ project 18 short food supply chains were analyzed as case studies in 9 European countries (two in each country). The selected case studies cover all types of short food supply chains and the most commonly consumed food in Europe, e.g. fruit and vegetables, meat, dairy and bakery products (see Table 1). Each CoP included 15–20 members from different parts of the SFSC system; partners from the SFSC case studies (farmers, consumers, etc.) researchers, policy makers and any other person that the country facilitator deemed important for the quality of discussion. Every national facilitator was responsible for the organization and coordination of one per country CoP. The country facilitator was appointed for each CoP and hosted the World Café discussion. Specifically, the CoPs were conducted in the period from September 2019 to January 2020 and lasted ~2 h each and included the following inclusion criteria/categories:

1. SFSC case study operators (the case study coordinator, and 1–2 actors form the case study participating in the project e.g., SME owners, suppliers, etc.)
2. Researchers/Experts (preferably with some experience, research or otherwise, on short food supply chains, social innovations agribusiness, consumers etc.)
3. National policy makers
4. Consumers
5. Producers

Participation was balanced in terms of professional and gender representation. Guidelines were developed for creating

⁵ A CoP is a co-creative learning process in which varied stakeholders and actors from diverse parts of a system or network (disciplines, sectors, different parts of Short Food Supply Chains) come together, think, discuss and deliberate (cf. Wegner et al., 2002). The purpose of this process is for people to mutually guide one another into their understanding of common problems, create a common ground of thinking and offer a way to deal with those problems (Berti and Mulligan, 2016).

⁶ This paper advances the findings of a study conducted in the context of the project SMARTCHAIN: “Toward Innovation-driven and Smart Solutions in Short Food Supply Chains”. The SMARTCHAIN project has received funding from the European’s Union’s Horizon 2020 Research and Innovation Programme under Grant Agreement no. 773785, <https://www.smartchain-h2020.eu/>.

TABLE 1 Overview of the case studies (examples of short food supply chains involved in the CoP).

Case study	Type	Activities	Type of products	Area
Netzwerk Solidarische Landwirtschaft,  Germany	Partnership	Members can participate in activities like deliveries, decision-making, administration, organization and farm-work.	Mostly vegetables but also fruits, honey, meat, dairy products, eggs, and bread	Germany (all territory)
Einkaufen auf dem Bauernhof,  Germany	Individual and collective direct sales	Interest representation for farmers, who sell their products directly	Farm products like milk, cheese, meat, eggs, vegetables, fruits, jams, fish, grain products	Germany
Alce Nero,  Italy	Collective direct sales	100% organic (hilly) farms provide healthy food to the nearest urban centers (shops), and special consumers (schools, hospital).	Cereals (and bread), legumes, cow Milk (hay milk and yogurt)	Idice Valley (20 km radius)
Arvaia,  Italy	Partnership	Members produce and distribute the products; with annual payment of the production costs	Vegetables, legumes, whole grains (and their flour, bread, pasta), oil, honey, aromatic plants	Bologna
Brandt and Levie,  The Netherlands	Individual direct sales	Organizing the local supply chain, running an own butchery and shop. Organizing workshops on sausage and paté making.	High end quality pork products; mostly sausages (fresh and dry), paté, but also soaps	Amsterdam (30 km radius)
Local2Local,  The Netherlands	Individual and collective direct sales	Farmer collective and social entrepreneur run a local shop for selling their products	Fresh, seasonal and local food products	Utrecht (75 km radius)
AGPFGA,  France	Partnership	Activities of the association include: defense of appellations, PGI (Protected Geographical Ind.) for duck and goose production.	Raw products: foie gras, breast, gizzards; Processed products: foie gras, dried or smoked duck breast, fat duck confit.	Gers (South-West of France)
Couleurs Paysannes,  France	Individual and collective direct sales	Company creating a link between local producers and consumers through an online platform and innovating distribution system	All types (vegetables, meat, dairy, bakery, fish, etc. . .)	France (all territory)
Allotropion SYN. PE.,  Greece	Partnership	In cooperation with the local farmers, the products are sold online and directly in the local shop.	Fresh and processed seasonal, local food products (wine, oils, herbs, spices, vegetables, pasta)	Corinth (city center)

(Continued)

TABLE 1 (Continued)

Case study	Type	Activities	Type of products	Area
Gaia (Organic producers and consumers association),  Greece	Collective direct sales	Sales of organic products of members and other organic suppliers at the shops and daily delivery to consumers.	Fresh, seasonal local, packed food products, organic (100%) (e.g., fruits, meat, milk, honey, cheese, olive oil, soaps, chocolate)	Chania (Crete)
FoodHub—Local Food Network,  Hungary	Individual direct sales	Collecting, processing, packaging, labeling, marketing and sales of food from local farmers	Fresh, seasonal and local food products (e.g., vegetables, fruits, bread, butter, yogurt, cheese...)	Budapest (all territory)
Thermal Valley of Zala,  Hungary	Collective direct sales	Cooperation among local farmers, craftsmen and agritourism service providers. LEADER Local Action Group supports and coordinates	Fruits, jam, fruit juice, wine, pálinka (fruit brandy), honey, herbs, confectionery, meat, cheese; meals served for guests	Zala-szentgrót city (semi-urban, rural)
Polo-Cacak,  Serbia	Individual direct sales	Direct sales at small trade shops, supermarkets, tourism and food fairs and to their employees. Raw materials from local co-farmers.	Traditional fruit and vegetable products, cacao based cream products, vinegar, fruit brandies	Čačak 150 km radius
Association of companies for processing of fruit and vegetables,  Serbia	Collective direct sales	Association of companies aiming to improve competitiveness, incl. organization of trainings, workshops, visits, food fairs	Fresh and traditionally processed fruits and vegetables (canned, dried, frozen) and mushrooms; e.g., ajvar, pindjur, brandies and vinegar	Kraljevo city (head office)
La Trufa de Alava S. Coop,  Spain	Collective direct sales	The cooperative acts as an intermediary between farmers and buyers (responsible for classification, cleaning and shipping and marketing)	Truffles	Alava region (Basque Country)

(Continued)

TABLE 1 (Continued)

Case study	Type	Activities	Type of products	Area
Fundacion Lantegi Batuak,  Spain	Individual and collective direct sales	Generating employment opportunities for people with disabilities. Organic products will be made affordable for all customers.	Fresh cut organic and seasonal vegetables	Bizkaia, Sales: Madrid-Bordeaux
Biofruits SA,  Switzerland	Collective direct sales	Production, storage, sorting, conditioning, wholesale, direct sale, weekly city market, juices production	Apples, pears, apricots, prunes, strawberry, white and green asparagus, aromatic plants, juice (all organic, local and seasonal)	Switzer-land (all territory)
Chèvrement bon,  Switzerland	Individual direct sales	Direct sales at farm, weekly market, event market, visit of the farm, delivery service to local shops and restaurants.	Goat cheese, young goat and "Pro Specia Rara" pig meat	Grimisuat (25 km radius)

a successful Café meeting and to standardize the process across countries.

The national facilitator after identifying the characteristics of the participants used the nomination recruitment strategy. With this method key individuals (usually persons that have long trusting and established relationships with the national facilitator) nominated people they thought would make appropriate participants. The nominees were familiar with the topic, and were able to work with others and share their opinions in open discussions. The nominee upon agreement with the national facilitator, facilitated the recruitment of CoP participants, and was asked to identify members who fit the profile (inclusion criteria) of participants, contact them and, inquire about their willingness and availability to participate in the current research.

Each nominee/key informant provided with a script (information sheet) containing a brief statement about the goals of the research, the contribution they are expected to make, as well as the time and effort required by participants. Key informants were asked to consult this script every time they contacted a prospective participant. This guaranteed that all recruited persons had the same level of information. The key informant further provided prospective participants with the names and contact information of at least one of the members of the country's hub management team with whom anyone interested could get in touch and receive further information. The same recruitment approach was adopted in recruiting participants in all the countries where CoP research was conducted.

The findings of the World Café events were analyzed with the use of thematic-content data analyses principles (Ryan et al., 2013; Silverman, 2013). The empirical data which were collected in the form of notes were summarized in summary reports and flip charts, the latter constituting visual representation of the main defining components of SFSC and their interrelation. Reports and the translated flip chart sheets from the World Café discussions were gathered and analyzed using a content analysis method. This method requires that data were assessed and re-assessed several times. Given the co-developed and co-designed-based approach and the contemplation of CoP as a unity which produces meaning by the interaction of its members in a co-creative way, the unit of analysis was the CoP itself instead of its individual parts. This explains why the qualitative data were analyzed, and subsequently presented, on the basis of a summarized version of the discursive exchanges between actors and not on the basis of the fully transcribed records of World Cafés, in which individual opinions are traceable. The analyzed data were words and phrases used by participants, which were then grouped into categories. Categories were developed inductively and the themes for the analysis were derived from the questions/topics discussed in the World Cafés. Furthermore, the material was analyzed in

a multistage process which combined deductive and inductive coding with the ultimate aim to uncover the underlying structures in the qualitative data toward an understanding of the defining factors in the conceptualization of SFSC. This line of methodology aimed to explore the commonalities of the findings by comparing dissimilar cases rather than to make comparisons between them.

The first phase involved deductive coding following the categories of the topic guides which thematically led the discussion in the World Cafés and which were the following:

- the traits of SFSC and the factors for its success,
- the key drivers of engagement,
- best practices,
- the definition of social innovation within SFSC,
- the challenges for their future development (including risks and limitations).

The first phase thus divided and summarized the material across these themes.

In the second phase, the frames were identified and derived from an inductive process through a comparison of the content of themes. Frames represent distinctive categories as to the various aspects in the conceptualization of SFSC. This phase is completed with a re-coding of the data in order to fit these emergent frames (i.e., codes in technical terms), which produced a subset of keywords and central features, which are sub-codes that reflect what is most typical for each frame.

The third phase involved axial coding, by relating codes and sub-codes with each other in order to identify broader concepts that find expression within all frames. This phase was again inductive because it highlighted the pillars in the conceptualization of CoPs which summarize the empirical data at the highest level of abstraction.

Findings: The frames, the keywords and the central features in the conceptualization of SFSCs

Our analysis identified seven frames which represent the different aspects of the conceptualization of SFSC. These frames emerged from a comparative analysis of the coded material across the initial themes of the topic guide. As analytic categories, according to which the empirical material was refined and recoded, the frames involve a set of keywords, which in technical terms are their sub-codes. Each frame can be described on the basis of its central features which are its most representative and inclusive attributes, and which summarize its content in the most effective way. This section provides an overview of frames, keywords and central features.

The frames in the conceptualization of SFSC are the following:

- interpersonal relations which were met between the different types of actors, for example between producers and distributors or between producers and consumers;
- the processes involved in the operation of the chain;
- group dynamics, which relate to teamwork activities and the cooperation between the participating actors;
- the characteristics of participation at the individual level;
- the interactions with and within the community where SFSC operate;
- institutional-level considerations;
- the rationality supporting their development and evolution, which involves their beliefs and moral orientation.

The frame of *interpersonal relations* involves all mentions of the relationships met within the group of SFSC actors. Proximal relations and direct communication between the different actors of the chain, including the consumer were frequently underlined as main characteristics. Closeness was considered to be important in order to better understand consumer needs and gain mutual benefits. A prerequisite for a successful and sustainable SFSC is to establish long-lasting relationships, which are built on mutual respect and honesty between the participating actors. Trust emerged as the central and all-encompassing feature of this frame, which ensures longevity, commitment and the solidification of proximal relationships.

The mentions on the *processes* from production to consumption constitute another well-defined frame for the conceptualization of SFSC. The establishment of some common criteria from logistics, to pricing, labeling, certification and tasting appeared to be a basic consideration of the participants of the nine CoPs. The idea of mutualization was repeatedly mentioned to be a key to unlocking the merits offered by short chains. Short distances and the absence of intermediaries create opportunities for sharing resources, spaces (storage and facilities), transportation, branding and candidacy in public procurement. The interconnectedness between different actors was perceived to allow knowledge exchange and sector-to-sector contamination within the territory. The central feature of this group is consolidation, referring to the combination of food supply with other services—such as sociocultural and touristic activities, consumer education/ awareness-raising practices- that leads to new quality conventions driven by the diversification of commercial practices.

Group dynamics is another frame in the conceptualization of SFSC. Teamwork and cooperation were highlighted by the nine examined CoPs as being vital for the development of SFSC. Given the adoption of mutualization processes and the interdependence of actors, the quality of collaboration is significant and involves the establishment of new rules of cooperation and division of labor, with the emergent roles and representation bodies being tailored to individual participation and group dynamics. Notions of togetherness were frequently mentioned. These refer to collective and participatory

decision making, co-creative activities of the participating actors and a constant aiming toward broadening partnership—e.g., by involving civil society actors. The most prevalent and conceptually inclusive feature of this frame is connectivity which involves networking between different groups of actors, inclusiveness and collaboration.

Individual commitment and loyalty to the group are considered to be constituent parts in the development of SFSC, thus pointing out the significance of *individual level* attributes of both producers and consumers. Individual responsibility relates to the reliability of producers, who perceive themselves as having a greater share of responsibility toward the consumers compared to large and multi-mediated chains. It also relates to the devotion of consumers who are more consistent in their choices, because they are more knowledgeable and better informed about what they consume. Another individual-level attribute which is gained through participation in SFSC is empowerment, as long as the voice of individual actors who used to be less influential in the conventional market is increasingly being heard. This frame also involves self-improvement and self-awareness, the broadening of individual participants' perspectives, and the recognition of the need and courage for change since it entails a departure from the mainstream. The central and most inclusive feature of this frame is engagement.

The frame of *community* involves the ideas which conceptualize SFSC and its operation in relation to its territory, the broader socio-cultural and spatial context and its resources. This frame embraces the relevance of tradition and local know-how as well as the potential contribution of local professionals and municipal and regional authorities. It is suggested that various types of connections with the local community benefit SFSC and the community in reciprocal ways. This is reflected in the labeling of food products with a unique local character, in strengthening local knowledge, motivating local consumerism, involvement of vulnerable groups and the intertwining of farming and grocery with other cultural events—such as local festivities, thus strengthening community bonds and empowering the community overall. Locality is the central most embracing feature of this frame. The *institutional level* frame involves the connections of the food system with the legal framework that is economy and education. The establishment of SFSC requires the development of a respective regulatory framework which allows the broadening of state support mechanisms (e.g., through subsidies and through keeping statistics and economic-technical records upon which expertise, consultancy and planning can be developed in this field). The connection with public administration and the cooperation with relevant authorities and stakeholders advances the institutionalization of SFSC. The dialogue with the educational system needs to be enhanced, first to increase public awareness about the merits of SFSC through primary and secondary education and second to make connections with the academic community, benefiting thus from scientific research

in the fields of social economy and social farming. In addition, consumer social networks as a supportive structure for SFSC projects need to be approached. Finally, market integration necessitates a degree of flexibility and adaptability as reflected in the willingness of CoP participants to accept competition. Integration is the key term of this frame, since it involves the social, legal and market dimensions of the institutional level.

The *rationality* frame involves the beliefs and values embraced by projects of shortening the supply chain of food. While the previous frames incorporate the ontological dimension of SFSC, this frame relates to its epistemological nature. At the core of this frame lies the idea of the common good, together with the prioritization of social value over economic value, ecological thinking and a holistic approach in the operation of food systems. This frame bridges all frames, by connecting their underlying principles such as togetherness, co-responsibility, co-evolution, fairness, solidarity, simplification of processes, innovation, social usefulness and youth, post-materialism and related lifestyles into a coherent narrative. The key term of this frame is the attribute of being alternative, since it highlights the juxtaposition with the conventional food system.

The following [Figure 1](#) summarizes the above mentioned frames in the conceptualization of SFSC together with their main sub-codes (keywords) and the central, most inclusive feature of each frame.

The pillars in the conceptualization of SFSCs: Sharing, authenticity, and sustainability

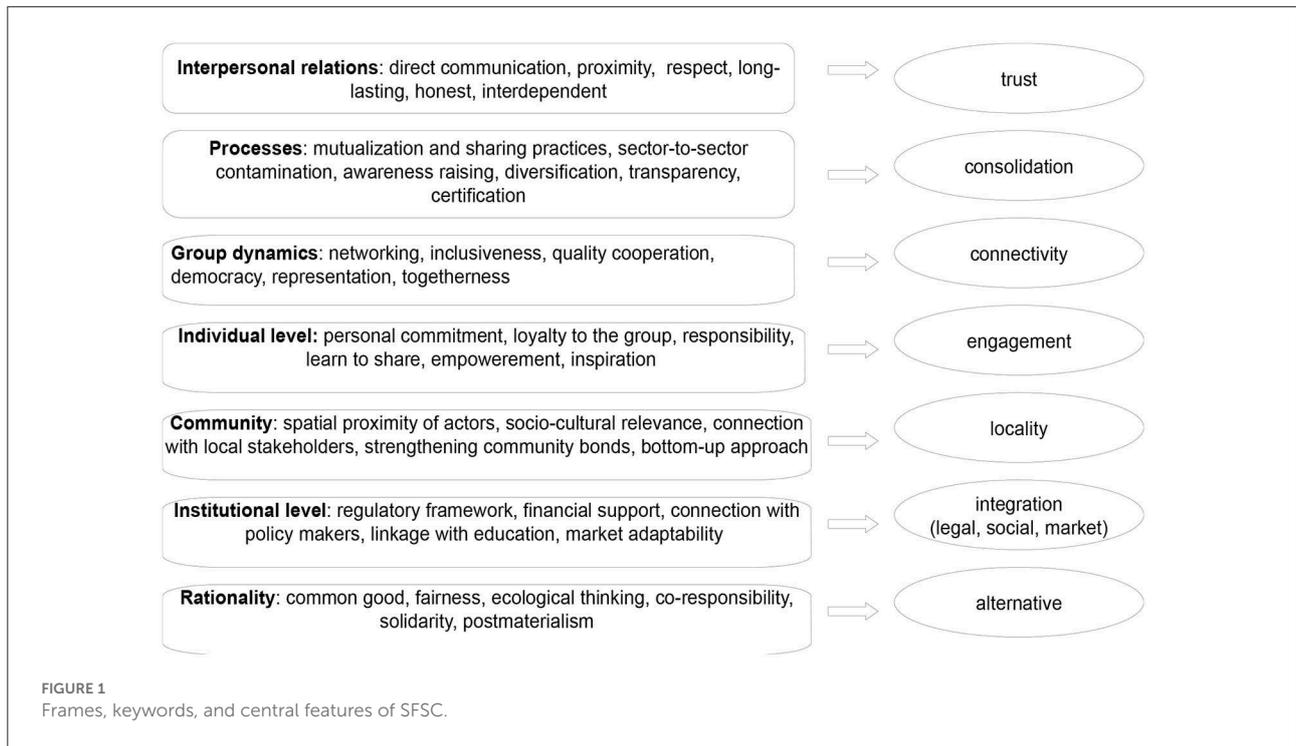
The frames and the central features which emerged from the analysis led to the identification of three pillars in the conceptualization of SFSC: sharing, authenticity and sustainability. Each of them is meaningful across all of our identified frames and connects to the keystones of alternative economy which are identified by scholars and discussed previously, namely proximity, quality and ecology.

The following table explains how these pillars ascribe meaning to each frame.

Sharing

The first pillar, *sharing*, is the element which revolutionizes actors' interpersonal exchanges and introduces a new mentality of connecting with each other in the commercial world. It poses challenges of a behavioral shift and indicates the need for the development and the adoption of appropriate tools of training and education.

As related to the *interpersonal relations*, sharing concerns the development of a common set of values, goals and expectations between the participating actors of a SFSC in response to the need to find a common ground in its



establishment right from the start. A shared understanding is the foundation of individual commitment and loyalty. Regarding the *processes* from production to consumption, sharing refers to, practices such as using common facilities, transportation storage, marketing tools and selling venues, in the context of saving resources and taking advantage of the socio-spatial proximity met in SFSC. Thus, mutualization translates to sharing costs as well as sharing the benefits from the commercialization of food. With respect to *group dynamics*, sharing refers to participatory practices of perceived collectiveness, democratic decision-making and co-creation. At the *individual level*, sharing builds trust in others and allows one to delegate responsibility. Notably, this central feature of trust promotes social innovation, actors’ interconnectedness and interdependence due to sharing, by strengthening the bonds between them. Regarding the frame of *community*, sharing refers to the use of common socio-spatial and cultural resources, such as the re-appropriation of traditional practices in farming. From an *institutional perspective*, sharing translates to cross-sectional knowledge diffusion and the re-appropriation of worldwide best practices. Sharing values are fundamentals of solidarity in the frame of *rationality*, *first of all from the point of view that solidarity means helping each other in the transition from conventional to organic farming.*

To sum up, through the adoption of sharing practices the participants benefit from reduced operational costs while at the same time a culture of shared responsibility is cultivated. By highlighting sharing as a pillar of SFSC, our analysis

confirms the significance of the relational aspect. Organized (social) proximity as a necessary condition for the development of SFSC is established through membership and similitude, which following [Renting et al. \(2003\)](#) requires the sharing of common values. Thus, it becomes visible how sharing fosters the renegotiation of power and agency in SFSC ([Holloway et al., 2007](#)).

Authenticity

The second pillar, *authenticity* relates to the originality and innovativeness of each project, due to the fact that roles and connections are defined in response to the particularities of the context and the needs of its participants.

What makes relations authentic is the *proximity* in actors’ connections, their honesty and spontaneity which create emotional bonds between the participating parts and which differentiate them from the impersonal relations of the conventional chain. SFSCs do not meet the typification standards of conventional food chains as well as differs in packaging, marketing, sales and related services (e.g., farm visits and direct farm sales, door-to-door services, and social networking). Moreover, its products are more responsive to consumers’ needs compared to conventional food products. Authenticity also derives from the *mutualization* of resources and the resulting reorganization of the workflow, the introduction of new working routines and new social structures within companies—such as lunch tables. With respect

to *group dynamics*, the authentic character is reflected in the establishment of new criteria in the allocation of responsibilities, the introduction of new horizontal relationships and the redefinition of leadership. Innovativeness is central that the determination of groups in terms of size and diversity is constantly called into question in order to find a balance between contradictory aims, such as between openness, inclusiveness and experimentation on the one hand and proximity and tradition on the other. In terms of *individual participation*, the authenticity of SFSC is reflected in the fact that it increases the role and the visibility of the actors who are less visible and less influential in the conventional chain, thus empowering them. Specifically, consumers' choices are more informed and they are able to express their preferences and give their feedback to producers. With respect to the *community* frame, authenticity is evidenced in the interplay of locality and identity building. From the *institutional* perspective, the authenticity pillar is reflected in the development of a distinctive regulatory framework. Regarding the *rationality* frame, authenticity lies in the fact that a new logic emerges, that emphasizes the re-appropriation of tradition and existing knowledge the adoption of a holistic perspective and simplicity.

Scholarly works suggest that SFSC re-establishes authenticity in production and consumption (Lamine, 2005; Wittman et al., 2012; Galli and Brunori, 2013). Particularly due to the face-to-face interactions met in the alternative food system, authenticity advances trust (Marsden et al., 2000). The findings of the study provide some further support for this issue and underline authenticity as a pillar in the conceptualization of SFSC.

Environmental sustainability

The pillar of sustainability bridges the quality definitions suggested by Renting et al. (2003), which distinguish the prevalence of either regional or ecologic characteristics of the food and products distributed through short supply chains. Drawing on the findings of this study, the centrality of sustainability is manifest across all frames in the conceptualization of SFSC.

In the frame of *interpersonal relations*, the sustainability criterion is met due to honesty, respectfulness and trustworthiness of human interactions. With respect to the *processes* from production to consumption, the sustainability character is reflected in the adoption of transparency mechanisms which are established across all stages of the chain. In terms of *group dynamics within the SFSC*, the social dimension of sustainability emerges with the introduction of collective decision-making processes. Democratic processes are established through the operation of periodic meetings, general assemblies, working groups and local action groups which encourage dialogue and active participation of different actors while it fosters bottom-up decision making. As to

the level of *individual* participation, the sustainability of SFSC is reflected in the empowerment of individual actors because their voice is being heard. From the perspective of the *community*, sustainability links to the decentralization trend, the appreciation of local knowledge, and the involvement of different actors in more interactive and substantial ways, which lead to strengthening community bonds. Further development of SFSC is envisaged to contribute to self-sufficiency, social inclusion and socio-labor integration. The *institutional* frame of SFSC involves its foundation in legal and economic terms. In terms of the *rationality* frame, the sustainability imperative is reflected in valuing ecological, social and intergenerational justice.

Sustainability within its three dimensions—social, economic and environmental— is frequently discussed in the SFSC literature (Canfora, 2016; Vittersø et al., 2019; Jarzębowski et al., 2020). Forssell and Lankoski (2015) identify three levels to which the sustainability promise of alternative food networks is ascribed. First, is the level of the production process (i.e., ecological production), second is the level of human networking which arranges the supply of food (e.g., non-supermarket retail points, minimized number of intermediaries), and, third, is the level of individual participation (morality, social embeddedness). SFSC as an alternative food network engages different types of actors in socially responsible ways and familiarizes them with the idea that consumption is a political act (Barbera and Dagnes, 2016). As Vittersø et al. (2019) summarize, the social dimension of the sustainability of SFSC is mainly related to its role in building social capital and strengthening the local communities, the economic dimension is lined to the economic benefit for both producers and consumers, while the environmental dimension mainly concerns distribution networks in terms of CO₂ emissions. Galli and Brunori (2013) added another dimension, namely health and wellbeing which relates to the attribute of SFSC to increase awareness and subsequently the adoption of healthier dietary habits. The findings subscribe to the prevalence of sustainability in the conceptualization of SFSC by demonstrating its co-creative nature (interplay among all involved stakeholders/actors) in the identified frames.

Discussion and conclusions

The general aim of this paper is to contribute to the conceptualization of SFSCs. We applied a co-creation approach to the study of SFSCs since this conceptualization is envisaged to grant a better understanding of alternative food networks and foster future research on the agri-food domain (Galli and Brunori, 2013; Voorberg et al., 2014). To achieve this aim, an action-based research process was used to identify the key frames and pillars within the co-creation framework. We

TABLE 2 The frames and the pillars of SFSC.

Frames pillars	Trusting relations	Consolidated process	Group connectedness	Individual engagement	Local community	Institutional integration	Alternative rationality
Sharing	Shared values and understating	Sharing practices and knowledge exchange	Togetherness	Commitment	Shared social and spatial resources	Cross-sectional knowledge diffusion	solidarity
Authenticity	Honesty	Mutualization and innovation	Personalization of roles	Empowerment	Local identity	New rules, typification	Simplification
Sustainability	Durable	Transparency	Inclusiveness and democracy	Responsibility	Self-sufficiency and socio-labor integration	economic and regulatory foundation	Social and ecological justice

undertook CoP research (Wegner et al., 2002; Tregear, 2011) to obtain inputs from stakeholders and actors that participated in each of the nine-country CoP events, in order to facilitate knowledge sharing and collaboration across stakeholders and actors who are involved in the multi-actor system of SFSCs (e.g., representatives of SFSCs, citizens/consumers, retailers, researchers/experts, national policy makers etc.).

In co-creation practices, collective actors and participants in SFSCs are considered equal and important partners with specific resources and capabilities that are valuable for co-designing sustainability transitions in SFSCs (Galli and Brunori, 2013; Voorberg et al., 2014). In this context, SFSCs can be viewed as multi-actor innovations that promote a transition to innovative SFSC systems (Goodman et al., 2012). The examination of the nine CoPs showed that the development of new organizational patterns is embedded in social relations, which provide the ground for trust, consolidation, connectivity, engagement, locality and integration (legal, social, market) (Figure 1). These aspects reflect social ends that are important for the actors involved in SFSCs, while at the same time enacting the principle of new organizational models that address sharing (social proximity), authenticity (quality) and sustainability (ecology) (Table 2) (Goodman, 2003; Renting et al., 2003; Goodman et al., 2012; Kebir and Torre, 2012).

SFSCs are often perceived as examples of proximal, quality and transparent food systems. The results of the CoPs open a new line of discussion, concerning, sharing, authenticity and sustainability, in relation to previous research on alternative food systems. They show how co-creation between actors may pose challenges to the development of an alternative food network. Mixed participation of both specialists and non-specialists is thus a complex element for proper management but is an essential issue to implement a new vision of SFCs as social organizations which create added value by embodying values and promoting learning. The illustration of Table 2 reveals how a SFSC can apply this design framework to clarify its conceptualization, and strategic design choices and identify a beneficial co-creation solution for its sustainability. As co-creation is fundamental to the success of

a SFSC, its network and its entire organization, function and service system, these co-creation frames and pillars framework provide a strategically important new approach for SFSC stakeholders and actors to identify, organize and communicate innovative opportunities.

This study revealed several important insights. First, the CoP events with the SFSCs actors found that, despite widespread interest in co-creation and its potential benefits, SFSCs typically do not have a structured process for identifying co-creation opportunities. SFSCs actors mentioned varied situations that can initiate co-creation solutions: for example, *sharing* with one or more interested actors or through direct communication and trust processes between the participating actors, but this process was often *ad hoc*. In addition and according to the outcome of the CoP events, most SFSCs actors tend to consider co-creation in terms of *authenticity* that concerns the processes from production to consumption, often citing examples of activities with customers rather than considering a much broader range of stakeholders and thus multiple forms and levels of co-creation. In the CoP discussions, participating actors typically listed one or two examples of SFSCs *sustainability* processes. However, during the CoP event when using sustainability examples, they identified many potential opportunities for co-creation. They especially highlighted how the social, economic and environmental dimensions of sustainability provide an important enabling structure to assist in the discussion of innovative opportunities for SFSCs.

Research contribution

The research has brought to light the multi-dimensionality of co-creation and the role of actors' engagement in it as a key element in the creation of an environment for positive change and transformation for SFSCs. Further, this research contributes to the SFSCs literature through the exploration of specific frames and pillars in order to understand how co-creation practices/processes can improve SFSCs viability and

reveal insightful innovative opportunities for them. Leveraging on the discussion of the findings of this study, several theoretical and practical implications emerged. The study results could benefit researchers, academics and practitioners, helping them to understand how co-creation and multi-actor approaches compose the research field of the sustainable food supply chain. To the best of our knowledge, this study makes a first attempt to provide a systematic overview and critical appraisal of the extant literature on sustainable food supply chains. Specifically, the seven frames as the underlying structures for the conceptualization of SFSCs, and the three central pillars drawing on the respective literature of proximity, quality and ecology, represent the knowledge contribution that this study provides to the sustainable food supply chain research field.

From the practical implication perspective, SFSCs and their involved actors may find in this study a guide to better understand how to pursue the sustainability issues in SFSCs organization and function, discovering useful information from the current research. For example, through this study, SFSCs could increase awareness in the following themes: establishing long-lasting relationships built on trust that will enhance the efficiency in food supply chain management and organization; consolidation between different actors that leads to new quality conventions with other services such as tourism and education; co-operation referring to collective and co-creative practices as important factors that drive social innovation in SFSCs; strengthening community bonds by activating local consumerism and the involvement of vulnerable groups; connecting local food system within the legal framework to foster agri-food sustainability. Moreover, SFSCs could increase their awareness on the possibility to implement environmental, social and economic sustainability following the different aspects of the three pillars of SFSCs conceptualization, naming: sharing, authenticity and environmental sustainability. At last, also, the proposed food supply chain frames and pillars linked to sustainability represent a driver to increase sustainability in SFSCs' practices and activities.

Limitations

The co-creation approach for conceptualizing SFSCs, although manifests emerging frames and pillars aimed at bringing at least producers and consumers as well as other actors of the chain closer, still feeds a debate focused on its alterity (Marsden et al., 2000; Zoll et al., 2021). One limitation relates to examining co-creation from the perspective of SFSCs *per se* (as a whole). However, the co-creation approach does not imply a one-way process. All actors engaged in this study agreed on the importance of creating multi-way dialogue and engagement with a wide range of actors and stakeholders. A further limitation relates to the research methodology applied and specifically that of CoP. Although CoP events were carefully

defined and designed, in the analysis we identified actor's statements that made their connections to SFSCs processes, classified them into different issues, and decided the levels of potential solutions according to our understanding. To reduce the impact of subjectivity, we followed keyword patterns in our decisions. Furthermore, the nine CoP events that were analyzed are prototypical in terms of the conceptualization of SFSCs and in terms of co-creation and as such, they offer an interesting study of SFSCs in operation. Research involving other SFSCs in other contexts is needed to provide support for our findings. The epistemological underpinnings of this research do not provide for generalization of the results, but the research does provide an in-depth look at, and insights into, the practices involved in the co-creation framework in SFSCs.

Conclusions

The social dimension of SFSCs, within a European context, manifests diverse aspects of social sustainability (Renting et al., 2003). Based on the co-creation concept, enriched as well by the multi-actor approach, we have analyzed the social/relational dimension of SFSCs in nine CoP cases. We described how new frames and pillars were designed by social interactions through trajectories comprised of challenges and adaptations. Based on the nine CoP, we proposed a set of pillars/criteria from which alternative relational models could be described and assessed, in SFSCs, and potentially in other food chains. The nine CoP also lead us to explore the challenges of participation and co-creation in the construction of new food schemes, thus opening a new dimension for social sustainability.

Focusing on the aspect of co-creation in SFSCs, we conceive short food systems as the result of interaction among societal actors, who share common ecological social and economic values. Mixed participation of actors is conceived as a complex element for proper management but is an essential issue to implement a new vision of SFSCs as relational organizations which create added value by embodying values and promoting learning. Still exploratory, our work calls for further research to conceptualize diverse SFSCs and to analyze how the participation of actors in the relational dimension may include a higher co-creative potential. Considering the impact of co-creation processes on the performance of SFSCs needs to be studied to propose appropriate solutions and strategies for an overall upscaling of SFSCs' performance. Finally and in terms of policy, if the public policy goal is to promote the frames and pillars illustrated in this study, in producing successful and sustainable SFSCs, then the only way forward is to facilitate those that not only result in re-localizing food systems, but also in "re-making common" acts that eventually lay the ground for co-developing SFSCs practices and thus processes (Rossi et al., 2021).

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

Ethics statement

The studies involving human participants were reviewed and approved by Research Ethics Committee University of Crete. The patients/participants provided their written informed consent to participate in this study.

Author contributions

EP and MP have collected jointly the research material and have equally shared the writing of the paper. Both authors contributed to the article and approved the submitted version.

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Conflict of interest

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