Alma Mater Studiorum – Università di Bologna

DOTTORATO DI RICERCA IN SCIENZE E TECNOLOGIE AGRARIE, AMBIENTALI E ALIMENTARI

Ciclo 33

Settore Concorsuale: 07/A1 – ECONOMIA AGRARIA ED ESTIMO

Settore Scientifico disciplinare: AGR/01 ECONOMIA ED ESTIMO RURALE

EXPLORING GOVERNANCE, COLLABORATION AND LEARNING MECHANISMS IN SHORT FOOD SUPPLY CHAINS: OPPORTUNITIES, CHALLENGES AND THE WAY FORWARD

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Esame finale anno 2021

Abstract

The industrialisation of the food system that favours efficiency and highest yield, also came at the expense of small farmers' livelihoods, autonomy and traditional ways of living and production, while causing significant shifts in the social and economic structure of many farming regions. As a response, over the last few decades, Short Food Supply Chains (SFSCs) have been gaining momentum around the globe, that aim to promote more socially just and healthier ways of food provisioning. This doctoral thesis aimed to examine three mechanisms at play, namely, governance, collaboration and learning in SFSCs, which are not studied widely in the literature. Besides, outcomes of these processes and associated challenges experienced from the perspective of both farmers and consumers, were explored. In this direction, the findings of the thesis were derived from a literature review and empirical data collected from the Turkish case. The empirical research consisted of a multiple-case study of seven SFSC initiatives, in the context of which semi-structured in-depth interviews were conducted; in addition to an online survey implemented to the participants of 18 food community groups in Turkey. The findings revealed differences in governance mechanisms, including the means of how consumers and producers interact, how tasks are shared between actors and decision-making processes. These differences also influenced the governance challenges experienced by each group, including organisational, institutional and resource challenges. Besides, the governance mechanisms adopted affected the extent of collaboration and learning within groups. The extent of collaboration, including trust and transparency, meanwhile, influenced participation of both farmers and consumers in these initiatives. This research, while having addressed the importance to introduce mechanisms that will support or facilitate collaboration within these groups, also drew attention to how local and rural policies can work together with SFSCs towards facilitating the path to more sustainable local food systems.

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Acknowledgments

I owe sincere gratitude to many people, including professors, colleagues and friends, who supported me during this journey. First of all, I present my deepest gratitude to my supervisor Prof. Davide Viaggi for offering me this incredible and priceless opportunity, that not only provided me with an amazing chance in terms of my career in research, but also a unique life experience. I, thus, am sincerely grateful for his guidance, support and valuable advices. I also thank Associate Prof. Emel Karakaya Ayalp for her suggestions, as well as for sharing her perspective about the Turkish case. I also thank sincerely my friend and fellow-worker İdil Akdöş for her continuous support in listening to my ideas, and providing time for discussion and brainstorming sessions that were important for me during this period, as well as her significant support during my field research. Moreover, although, unfortunately I cannot mention each of their names here, I would like to thank sincerely, the members, coordinators and volunteers of food communities, in addition to farmers, interns, food activists, researchers, non-governmental organization (NGO) members, and those who have dedicated themselves to food justice and security issues and concerns, in all parts of Turkey, who have contributed greatly to my research, in sharing of ideas, recommendations, and also in making the data collection phase possible. Observing and sharing their experiences further strengthened my belief in the work that I do. Furthermore, I owe special and sincere thanks to my mother and many friends, who have supported me continuously during this period. Last but not least I am grateful to the Department of Agricultural and Food Sciences (DISTAL), of the University of Bologna, for the scholarship provided, that made the research described in this thesis possible.

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Acronyms

Activity Theory (AT)
Actor Network Theory (ANT)
Agricultural Knowledge and Innovation Systems (AKIS)
Alternative Food Networks (AFNs)
Attitude (ATT)
Average Variance Extracted (AVE)
Civic Food Networks (CFNs)
Civil Society Organization (CSO)
Collaborative Governance Regime (CGR)
Community of Practice (CoP)
Community-Supported Agriculture (CSA)
Community-Supported Fishery (CSF)
Consumer-Producer Interaction (CPI)
Cultural Historical Activity Theory (CHAT)
Farmers' Markets (FMs)
Food Community Networks (FCNs)
Gediz Ecology Collective (GETO)
Heterotrait-heterometod (HTMT)
Integration Collaborative Governance Framework (ICGF)
Local Food Systems (LFS)
Maintien D'une Agriculture Paysanne (AMAP)
Non-governmental organization (NGO)
Partial Least Squares Structural Equation Modelling (PLS-SEM)
Perceived Behavioral Control (PBC)
Short Food Supply Chains (SFSCs)
Solidarity Purchasing Group (SPG)
Subjective Norm (SN)
Sustainability Development Goals (SDGs)
Theory of Planned Behavior (TPB)
Variance Inflation Factor (VIF)
West Izmir Community Supported Agriculture Group (BITOT)

1. Introduction

1.1. Background and motivations

Today, large-scale agri-business companies dominate most aspects of the global food system, while there is a significant loss of power both of producers and consumers (D'Souza & Ikerd, 1996). The neoliberal agricultural policies resulted in a private-sector driven governance mechanism that places major focus on intensification and commercialization of high-yielding varieties that involve high chemical, physical and mechanical inputs and have high export potential (Andrée et al., 2019). Thus, the infrastructure necessary to operate the food system at this vast scale on which it operates currently, requires large agri-business corporations to grow enormous monocultures in order to make a profit (Quintana & Morales, 2015). Hence, the industrialization of the food system over the past century has made small-scale and community level farming increasingly more challenging for smallholders, as competing in the same arena with corporate growers has become virtually impossible (Quintana & Morales, 2015). As a result, farmers have been those who faced a series of unprecedented, intersecting challenges, including but not limited to increased competition for land and water, increased influence of changing markets, rising input prices and climate change (Walpole et al., 2013). Consequently, the monoculture expansion of the industrial food system that favors efficiency and largest yield for lowest cost, also came at the expense of small farmers' livelihoods, their sovereignty and autonomy and traditional ways of living and production, in addition to gradual de-agrarianization, land abandonment and depopulation of rural areas (Berti & Mulligan, 2016), while causing significant shifts in the social structure and economy of many farming regions throughout the globe (D'Souza & Ikerd, 1996).

Over the last few decades, in the face of such challenges, the local food movement have been gaining momentum around the globe, through a range of collective practices that are organized around the idea of promoting more socially just, culturally appropriate, environmentally conscious and healthier ways of food provisioning for communities, supporting local production and economy and ensuring food security (Kirwan et al., 2013; Renting et al., 2003). These movements, in addition to their premise of providing healthy, quality, ecological and just products to their customers, also have a strong purpose to provide solidarity and empowerment to farmers with an aim to support them become more sustainable and autonomous, through establishing new and alternative forms of social relations among farmers and consumers (Manganelli et al., 2019).

In this context, it is possible to see a growing public and scientific debate as well as an increased interest and attention of policy makers who are becoming aware of the innovative potential of these movements to contribute to overcoming some of the sustainability challenges of our day and the societal impacts they can create especially on a local or city-level (Lamine et al., 2012). These movements, which are often broadly addressed as Alternative Food Networks (AFNs) or Short Food Supply Chains (SFSCs) (Goodman & Goodman, 2009; Renting et al., 2003; Maye & Kirwan, 2013), aim at empowering consumers to shift to proactive actors, and rural producers to become autonomous providers of sustainable goods and services (Matacena, 2016; Lamine et al., 2012).

The term AFNs is often used as a broad term to cover those networks of producers, consumers and other actors that work together to pose alternatives to the standardized industrial modes of food production and consumption (Morgan & Murdoch, 2000). SFSCs, on the other hand refer to chains in which food products involved are identified by, and traceable to a farmer and for which intermediaries between farmer and the consumer are either eliminated fully or significantly reduced (Kneafsey et al., 2013). While, these two terms refer to slightly different concepts, as AFNs are most often able to provide an alternative to the industrial food systems by creating new forms of relationships and by eliminating intermediaries between producers and consumers, these two terms have at times been used interchangeably in the literature. In this thesis, the term "SFSCs" will be used, as we discuss in this study those chains, or bottom-up initiatives, that aim to provide networks of economic and social solidarity through social relations by utilizing the shortest possible distribution channel. Some examples of SFSCs include community supported agriculture (CSA) initiatives, urban agriculture and gardening practices, food-transition initiatives (Manganelli et al., 2019), community food projects (e.g., Karner, 2010; Kneafsey et al., 2013; Tregear, 2011) and also initiatives that are usually regarded to be more formal and institutionalized that aim to support alternative food systems on a city or local level, such as food policy councils or urban regional food strategies (Manganelli et al., 2019; Mansfield & Mendes, 2012; Blay-Palmer et al., 2018).

In the literature, the contributions and the premise of local food supply chains or short food supply chains (SFSCs) have been addressed widely, in terms of their capacity to create societal change through innovative ways (Seyfang & Smith, 2007; Lamine et al., 2012; Wiskerke & Ploeg, 2004), their capacity and potential to create more sustainable solutions in the food systems through social embeddedness, and "relocalization" of food (Renting et al., 2012; Renting et al., 2003; Kirwan et al., 2013; Dansero & Pettenati, 2015; Goodman, 2009; Coulson & Sonnino, 2019; Sonnino &

Marsden, 2006; Allen et al., 2003), as well as their contribution to local, territorial or rural development (Manganelli et al., 2019; Purcell, 2006; Born & Purcell, 2006; Hinrichs, 2003). Besides, there is also a wide variety of studies, critically evaluating SFSCs, and their "alternative" premise (Duncan & Pascucci, 2017), contesting their ability to scale up and deepen their impact on the wider food system (Matacena, 2016; Lamine et al., 2012; Mount, 2012) and raising the questions of whether they are socially just or inclusive, or they only serve a small number of specialized producers and consumers (Wilson, 2013; Abrahams, 2006; Wald & Hill, 2015; Goodman & Goodman, 2009).

Meanwhile, rather less focus was directed towards, and hence a significant gap lies in the dynamics of learning and collaborative innovation within local food systems, and the governance mechanisms surrounding them. Knowledge and innovation have a key role to play in helping farmers and rural communities meet the substantial challenges of our day, including ensuring long-term food and nutrition security, bolstering environmental care and climate action and strengthening the socio-economic fabric of rural areas, to name a few (EIP-AGRI, 2020). Innovation requires the generation of new ideas and there is a widespread consensus on the importance of learning and collaboration as sources of new knowledge and practices (Morgan & Murdoch, 2000). Meanwhile, as approaches to knowledge exchange, learning and innovation in agriculture are rapidly changing, it has become increasingly recognized and evident that many of the complex problems the agricultural sector is currently facing, cannot be solved by a single actor alone, but instead require the involvement and collaboration of a variety of stakeholders in innovation processes aimed at a transition towards a more sustainable agricultural sector (Knickel et al., 2009; Hermans et al., 2015; Poppe et al., 2009). Actors seek out other actors to collaborate with, based on their compatibility in terms of resources, knowledge, power or network position (Ahuja, 2000). Hence, by bringing consumers and farmers together, providing them with an opportunity to share their ideas and form new relationships (Morgan & Murdoch, 2000), and creating places and spaces for social learning and collaboration, SFSCs create not only opportunities for the purchasing of healthy and quality products, but also enable multiple actors to engage in instances of collaboration, knowledge transfer and learning. Besides, within local food networks, local lay knowledge is the dominant form of knowledge used, which relies on local producers' tacit knowledge about agriculture and food production, and cannot simply be learned in a classroom (Fonte, 2008). This kind of local knowledge, which lost significance and importance as a result of modernization of agriculture, is often exchanged and circulated through informal and social networks and through experience (Fonte, 2008). Local food movement, which aims to re-connect local farmers with

consumers, while aiming to form new kinds of relationship based on trust, also relies on social capital and the transfer of local lay knowledge that is facilitated through social relations. Hence, consumers in these networks are involved in exchanging knowledge on many aspects about food and food production, especially at the point of purchase through interaction with the farmers, but also in other events like food tasting, exhibitions and school programmes (Fonte, 2008).

In this direction, SFSCs, while creating many opportunities mainly in the area of collaboration, innovation capacity and introducing new ways of thinking, interacting and learning, as noted above, they also pose new challenges in terms of modes of governance, which calls for a need to understand the role and diversity of a wide range of actors and modes of coordination and consider the role of different governance mechanisms in the development and functioning of these systems (Lamine et al., 2012; Matacena, 2016). Matacena (2016) argues that establishing successful SFSCs involves considerable governance engagement on multiple levels and food movements and initiatives will need support mechanisms for organizing and to deliver their message. In this regard, there is growing literature that discuss the numerous challenges that are faced by SFSCs and in return the type of governance models that are proposed towards achieving functioning and sustaining systems. Hence, the need to establish new forms of governance mechanisms in the local food system is increasingly recognized, mainly through a redefinition of its components, the modes of interaction and types of networks between the actors involved, the spaces it provides and how they are utilized and the institutional, operational and decision-making mechanisms underlying its effectiveness (Dominguez Garcia et al., 2017).

1.2. A historical perspective and the relevance of SFSCs in the Turkish context

In order to discuss the emergence of SFSC initiatives in Turkey, it is necessary to address the dynamics of the corporate industrial regime that took shape with the introduction of neoliberal policies in the 1980s, parallel to the international trends. In the case of Turkey, agricultural production was traditionally small-scale and peasant-based and state policies during the planned growth era of the 1960s favored industrialization through import substitution (Kadirbeyoğlu & Konya, 2017). In the 1980s, Turkey embraced free economic market principles and trends such as deregulation in agricultural processes. Within the export-oriented development model of the post 1980s era, agriculture was no longer considered as a major contributor to the economic progress in

Turkey (Kadirbeyoğlu & Konya, 2017). Over the course of 2000s, after the Agricultural Reform Implementation Project (ARIP) was signed (Soysal Al, 2020; Karakaya, 2020), a fast liberalization process took place, during when, support to farmers, in the forms of inputs, subsidies, loans and marketing facilities were drastically removed. Besides, state procurement activities have also been significantly decreased. This programme aimed at increasing the speed and efficiency of production, removing the burden on the state budget caused by the agricultural subsidies and support mechanisms, while mitigating the short-term negative effects of removal of support to farmers. However, increasing rural entrepreneurship or innovativeness of farmers were not on the agenda. As a result of such policies, agricultural input became increasingly more expensive and farmers were unable to receive stable or fair prices for their products. In this period, agricultural production turned into a costly, environmentally unsustainable and overall economically vulnerable practice. Many farmers were bankrupt, leading to the gradual decrease of small-scale farming and a drastic drop in the rural agricultural population (Kadirbeyoğlu & Konya, 2017). In the meantime, in this period of industrialization of the agri-food system, the contract-farming between farmers and agri-food companies also rose significantly, and farmers were no longer able or allowed to make a decision on the type of crops and seeds used for production, the time of cultivation, or the amount of pesticides, synthetic fertilizers or industrial seeds to use, that were decided by the contracting agri-food companies. Hence, controlling or changing farmers' production practices through new crop varieties or new technological applications further decreased their autonomy and fostered their vulnerability, and made them more dependent on companies that are providers of these solutions (Adaman et al., 2020). Having lost autonomy over the type of food to grow, the knowledge and experience owned by farmers were also taken out of the production process. Hence, agricultural policies or government programs that considered farmers' adaptation mostly from a technical standpoint, did not adequately address structural problems that have resulted in the vulnerability of farmers in the first place (Adaman et al., 2020).

Although some policies or government programs seeked to offer a series of solutions towards supporting small-scale farmers or family farms, as a result of consistently subsidizing the industrialization of agriculture, they also contributed both directly and indirectly to the demise of family farms (Ikerd, 2010), and failed to address the vulnerability of small-scale farmers. This has also led to an escalating role for supermarkets and their dominance in food chains in the case of Turkey (Kadirbeyoğlu & Konya, 2017).

Within this regard, it can be argued that the emergence of SFSC initiatives in Turkey during the second half of 2000s is merely a coincidence. Kadirbeyoğlu and Konya (2017) argue that SFSCs in Turkey tend to emerge as part of or as a result of three main processes: (1) environmental struggles such as anti-mining social movements, (2) solidarity movements with farmers to support their rights or to increase their well-being (e.g. union activism such as labor unions or farmers' unions), or (3) collective demand and search for healthy and affordable food. All of these processes aim to address the negative impacts on farmers, rural populations and the food systems as a whole, caused by the industrialization of agricultural practices in Turkey. Among SFSC initiatives in Turkey, there are collectives, cooperatives and associations formed by both producers and consumers. Kadirbeyoğlu and Konya (2017) categorize SFSC initiatives in Turkey, in terms of their goals, under the following categories: agricultural, social, political, economic, environmental and educational. The table below presents the typology of concerns and goals of SFSC initiatives in Turkey.

Table 1. Typology of concerns and goals of SFSC initiatives in Turkey (Kadirbeyoğlu & Konya, 2017)

	Typology of concerns and goals of SFSC initiatives in Turkey
Agricultural	Holistic management – integrating agriculture and animal husbandry Regenerative agriculture Growing healthy and nutritious/nutrient-dense food Safeguarding local/heirloom/traditional seeds – the sale of which is forbidden by patent and other laws Natural farming/ecological farming Conserving and sustaining traditional/ecological farming
Social	Returning youth to the land – reverse migration from urban to rural areas Creating communities around food Generating and supporting local food organizations without intermediaries Getting to know producers on the ground and building trust
Political	Organizing joint activities with producers, universities, civil society organizations and public institutions Enhancing the input of women in village economy Redefining human needs along with the ecosystem

	Typology of concerns and goals of SFSC initiatives in Turkey
Economic	Creating self-sufficient villages Facilitating access to products without intermediaries Supporting eco-agro tourism Organizing the exchange of goods between organized producers and organized consumers Providing a source of livelihood (socio-economic benefits) for local producers
Environmental	Spreading sustainable agricultural methods that harm neither the environment nor human health Sustainable rural development/sustainable agriculture and animal husbandry Protecting and improving the natural environment and wildlife Increasing natural and agricultural biodiversity Efficient and responsible use of resources such as water and soil Making villages harmonious with nature in terms of social, economic, cultural, technological, production and settlement-related issues Localism – low carbon footprint
Educational	Generating models that can be emulated/reproduced Creating exemplary implementation for villagers regarding water use, resources preservation, composting, mulch etc. Analyzing problems in rural areas, design projects and implement them

It is possible to see that the goals and concerns of SFSC initiatives in Turkey are in fact in harmony with, and closely linked to the rural development goals and efforts that are adopted. Rural development is one of the most important topics in Turkey's regional development strategies (Yaşlak, 2016), and to promote rural development, agriculture is one of the main tools, and locality is of utmost importance when it comes to implementing rural development strategies related to agriculture. Rural development strategies have many dimensions, and conservation or preservation plans on agricultural land that are commonly found in rural development plans are not by themselves sufficient to reach the goals. The complexity and multi-dimensionality of these goals, in fact call for interdisciplinary approaches as well as involvement of relevant stakeholders at different stages. In other words, in order to repair the market failures arising from the industrial food system, including the social and economic harm caused, such as health problems, inequality for small farmers, environmental impacts and rural poverty (Schneider et al., 2016), collaboration and multi-stakeholder approaches with regard to policy-development and implementation become critical. Besides, creating more efficient policies in the fields of rural and regional development necessitates adopting a bottom-up approach rather than a top-down one, increasing human capacities, and

mobilizing local institutions. Some scholars propose that alternative supply channels, such as SFSCs become crucial in allowing farmers to deliver their products and contribute to local economic development (Paul & Mc Kenzie, 2013; Pothukuchi, 2009; Öztaş & Karaaskan, 2017; Yaşlak, 2016). Besides, SFSCs can work hand-in-hand with rural development plans, in contributing to objectives of accessing healthy food and allowing food security. Matacena (2016) argues that alternative food networks seem to be naturally comprised within these efforts, since their goals of inclusion and re-localization are deeply intertwined with regional or local governments' attempts to realize a better management of local foodscapes, directed to build a healthier and more just local food system. Hence, the efforts by particular municipalities in Turkey towards establishing and organizing farmers' markets, point to one of the ways in which rural or urban policies can find room to make use of SFSC initiatives as a policy tool for local or rural development efforts. Indeed, the impact of SFSCs can be limited when regarded from a perspective of constituting an "alternative" to the industrial food system, given their limited reach and niche scope. However, they can be used as effective policy tools on the local level as practices of citizens' collective self-organization towards supporting individual farmers, and rural areas, and to act as partners and collaborators to local authorities in addressing rural or local problems and helping achieve rural development goals.

Despite their relevance, SFSC initiatives that are recently emerging in Turkey have long been neglected in scientific research. Moreover, to the best of our knowledge, studies that seek to explore the governance mechanisms, and main challenges and outcomes related to SFSCs in Turkey are very rare. For this reason, the experience of such networks and their associated organizational and operational dynamics are unknown. Only in the last few years, these initiatives have started to attract the attention of more researchers as well as policy-makers and a few municipalities that are currently taking a pioneering role in their efforts towards creating resilient urban-rural linkages.

1.3. Objectives

This doctoral thesis has aimed to examine three mechanisms at play, namely, governance, collaboration and learning in SFSCs, reveal their outcomes and identify associated challenges experienced from the perspective of both farmers and consumers, focusing on the case of Turkey. These mechanisms, which work both individually and in interaction with each other in the scope of SFSCs, reveal important and relevant indications of how SFSCs function. Understanding how these initiatives function, in turn, can provide guidance on how to shape or govern local food systems, in order to establish new forms of relationships between farmers and consumers towards achieving

sustainability solutions in the local food systems, and towards supporting small-scale local farmers. Towards this direction, the main broad research questions this thesis aimed to answer are: (1) What are the mechanisms through which SFSC initiatives are organized and governed in the case of Turkey, and how are governance structures of these initiatives shaped, and what are the associated challenges; (2) What are adaptation mechanisms adopted, or propositions to cope with them; (3) What are the individual motivations behind participation in these initiatives, from the perspective of both farmers and consumers; and (4) How are the processes of collaboration, information and knowledge sharing and learning shaped as part of these initiatives? While attempting to answer these questions, our primary point of departure has been the perspective of and challenges experienced by smallholders in Turkey, and understanding the potential of these initiatives to support small holders. SFSCs, in addition to their premise of providing healthy, quality, ecological and just products to their customers, they also have a strong purpose to provide solidarity and empowerment to farmers, through establishing new and alternative forms of social relations among farmers and consumers (Manganelli et al., 2019a). This being said, a multi-stakeholder and holistic approach is used in this thesis, to analyze the dynamics within SFSCs relying on the perspectives of not only farmers, but also consumers and coordinators, which are all regarded as the main actors of SFSCs, in addition to the view of some experts.

1.4. Approach of the thesis

In order to answer these aforementioned research questions, we conducted our research in three interconnected but separate parts that consisted of three separate papers, that are presented in three separate chapters (Chapter 2-4): (1) The first is a literature review that aimed at understanding the key issues related to learning and knowledge creation and exchange within SFSC initiatives, focusing on governance mechanisms that are adopted and how through these mechanisms, knowledge creation and exchange are triggered. In this paper, following the presentation of the literature review findings, a learning framework that is targeted at identifying learning mechanisms among SFSCs is also proposed. This proposed framework aims to fill a gap in the literature by highlighting informal learning that takes place through social relations established within communities and experience-sharing and experimentation that are inherent to these types of social networks. (2) The second is a research paper, reliant on a multiple-case study conducted in the city of İzmir (Turkey), where we addressed governance mechanisms that are partaking in SFSCs, and related challenges and tensions arising as a result of these processes, as well as associated individual,

community and local outcomes from the perspective of SFSC actors. Moreover, an adapted collaborative governance framework towards exploring the collaborative governance processes within SFSC initiatives is also proposed as part of this paper, and this adapted framework is utilized to guide this research and to present its empirical findings. Finally, (3) the third is a research paper, where we present the results of a survey we conducted in 18 food community groups (FCNs), in seven different cities in Turkey, in order to understand the factors influencing consumer participation in food community networks, and the type of governance constraints these networks are faced with, in order to inform local policy.

First of all, these three papers have been utilized in a combined manner to understand the interplay between the three mechanisms that this thesis focuses on, namely governance, collaboration and learning from the perspective of SFSCs. In this direction, all of these three papers were used to answer the above-mentioned research questions (section 1.2) this thesis aimed to address. In other words, topics studied under each paper aimed to focus on a part of the big picture, so that when these pieces come together, they could provide answers to the main research questions this thesis proposed. While, the findings of each paper are presented under the relevant sections of each paper, the findings of all the papers are then brought together under the Discussion section of the thesis (Chapter 5). The table 2 below presents: (1) The combination of which papers were used to answer each of the main research questions of the thesis, and (2) Which sub-research questions under each paper were used to help answer these research questions.

Table 2. Research questions of the thesis and how each paper contributes to answering them

Research questions of the thesis	**Paper/papers that address the research questions**	**Sub-research questions used under each paper in order to help answer main research questions of the thesis**
1) What are the mechanisms through which SFSC initiatives are organized and governed in the case of Turkey, how are governance structures of these initiatives shaped,	Paper II	1st research question of Paper II: What are the mechanisms through which community level SFSCs are initiated and operated in Turkey?

Research questions of the thesis	Paper/papers that address the research questions	Sub-research questions used under each paper in order to help answer main research questions of the thesis
and what are the associated challenges?		
	Paper III	2nd research question of Paper III: What are the main constraints that are preventing SFSC participants to participate more actively in food community networks in Turkey.
(2) What are the adaptation mechanisms adopted, or propositions to cope with them?	Paper II	3rd research question of Paper II: what are the outcomes of these processes, in terms of individual, community and local impacts experienced on the ground, and challenges associated with them?
	Paper III	2nd research question of Paper III: What are the main constraints that are preventing SFSC participants to participate more actively in food community networks in Turkey, and what are recommendations for improvement.
(3) What are the individual motivations behind participation in these initiatives, from the perspective of both farmers and consumers?	Paper II	1st research question of Paper II: What are the mechanisms through which community level SFSCs are initiated and operated in Turkey? (Motivations of actors are also discussed while studying how SFSC initiatives are initiated and operated)
	Paper III	1st research question of Paper III: What are the main motivations of consumers to participate in food community networks in Turkey?

Research questions of the thesis	Paper/papers that address the research questions	Sub-research questions used under each paper in order to help answer main research questions of the thesis
(4) How are the processes of collaboration, information and knowledge sharing and learning shaped as part of these initiatives?	Paper I	2nd research question of Paper I: What are the main theories or frameworks that have guided the literature on SFSCs, in order to explore the learning processes and information and knowledge creation and exchange taking place as part of these networks?
		4th research question of Paper I: How an adapted framework can look like which may contribute to the literature towards efforts to explore learning mechanisms in the scope of SFSCs?
	Paper II	2nd research question of Paper II: How collaboration takes place within these groups and through which processes in the case of Turkey?
		3rd research question of Paper II: What are the outcomes of these processes, in terms of individual, community and local impacts experienced on the ground in the case of Turkey, and challenges associated with them?

As the table suggests, the research questions this thesis aimed to answer came from a combination of three papers. The reason why these three papers were able to complement each other when exploring some of the research questions were due to the different approaches used in the context of these three papers. Paper I, contributed to the discussions by providing insights from the literature on learning and collaboration in SFSCs. Paper II relied on in-depth interviews in order to provide a deeper understanding of how SFSCs were governed, and how collaboration and learning take place in the selected cases of SFSC initiatives in the city of Izmir (Turkey). These interviews were able to reveal important information about the governance mechanisms of these initiatives and deep insights into the challenges experienced on both individual and initiative levels. As part of Paper II, the motivations of participants to join these initiatives, the challenges experienced and the learning mechanisms, on the other hand, were focused mainly on the perspective of farmers. Hence, Paper III, by the help of a survey implemented on consumers, was able to reveal the aspects related

to the motivations of consumers and the constraints that prevented their more active participation. Paper I, on the other hand, was able to further explain learning mechanisms, and learning outcomes from the perspective of both farmers and consumers in the scope of SFSCs in detail. As this paper has assessed empirical research from around the world, - which mainly came from the Global North -, also was able to provide a wider perspective into the learning and collaboration mechanisms of SFSC initiatives.

1.5. Novelties

This thesis aimed to contribute to the literature in the area of local food systems and SFSCs in numerous ways. The first was in its attempt to approach the topic of SFSCs through the lens of collaboration, which can shed light on how social innovation practices within local food systems can be enhanced and provide important implications for policy-making especially on the local level. In this direction, the thesis proposed to use an adapted collaborative governance framework, departing from the Integrated Collaborative Governance Framework, developed by Emerson and Nabatchi (2015) to explore governance mechanisms of SFSC initiatives. This was due to the idea that the processes and mechanisms through which local food network actors get collectively organized and govern these systems, especially through collaborative governance structures, are not studied widely. Hence, this study aimed to understand some of the existing place-based structures, their organization, the facilitating circumstances or challenges, in order to be able to consider the role of different governance mechanisms that allow such networks to function, and adaptation mechanisms that may be used to improve some of the conditions. As a result, this thesis could assess how each of the studied SFSC cases approached the aspect of collaboration on an initiative level, and what kind of actions they took towards strengthening collaboration inside of the groups. In addition, this study could examine how perspectives of interviewed farmers and consumers towards collaboration had been, and how open or reluctant they were towards working together, or sharing ideas with each other. Last but not least, the study could discuss to what extent the surveyed consumers that are part of food communities in Turkey believed that having collaboration within group members was a factor influencing their participation in these groups.

Secondly, this thesis contributes to the literature on SFSCs and local food systems by approaching these networks from the lens of learning and transfer of knowledge, which has proven to be an area that is rarely studied, although it carries significant importance for local food systems. This thesis, by the contribution of a literature review, revealed the theories and frameworks used to

study this topic in the literature, and how the approaches used have varied, according to the different governance mechanisms in practice. In this way, it was possible to explore and distinguish between knowledge sharing and learning mechanisms in a variety of different forms of SFSCs (e.g. farmers' markets, community supported agriculture initiatives, box schemes), and a variety of different ways (e.g. among farmers, among consumers, between consumers and farmers, as well as between farmers and other stakeholders). Furthermore, departing from the gaps seen in the literature to explore the learning mechanisms of SFSCs, a framework is proposed to be used and tested for future research. The proposed framework brings together relevant aspects of three prominent theories that fit well with the characteristics of the kind of knowledge transfer that take place within SFSCs, namely Activity Theory, Experiential Learning Theory and Community of Practice Theory. This allowed to arrive at a framework which would contribute to assess different types of learning that take place in a combined manner in the scope of SFSCs, such as self-learning, experiential learning and learning-by-doing as well as community learning.

Thirdly, this thesis used the prominent Theory of Planned Behavior (TPB) to explore the intentions of consumers (or co-producers) to participate in food communities for the first time according to our knowledge, with an aim to understand to what extent the building blocks of the theory, namely attitude, subjective norm, and perceived behavioral control could explain the participation and engagement in these initiatives. Food communities are particular kind of SFSCs that depend on close relationships between consumers and producers through principles of solidarity, mutuality and sustainability, and exploring the underlying factors that explain the intention to participate, could have important implications for local food policy.

Last but not least, this thesis has been among the very few studies that explored SFSCs, through an empirical study in the case of Turkey. Given that SFSCs in Turkey, which have a rather short history, are flourishing since the last decade, and they are struggling to still find appropriate ways and solutions on how to make these networks work and function, this research appears to be conducted in an appropriate time. This thesis can, hence, shed light to the understanding of an emerging country context, where a new and novel local food movement is being shaped, and the experience of these bottom-up initiatives is not studied, and where local agricultural systems are being criticized in particular for the lack of innovative capacity and for the poor knowledge base, in the face of sustainability challenges. Consequently, the empirical findings of this study can lead the way to discovering the actual dynamics on the ground, and associated outcomes and challenges,

which inform local policy making that could support agricultural areas and small-scale local farmers in Turkey.

1.6. Overview

The thesis is consisted of three individual papers, each building a single chapter of the thesis, contributing to the understanding of the mechanisms within the local food systems. In the next chapter, we provide an overview of learning mechanisms and outcomes within SFSCs, through a literature review, focusing on governance mechanisms that are adopted and how through these mechanisms, knowledge creation and exchange are triggered. In the third chapter, we explore, through a multiple case study, the governance mechanisms through which civil society-driven SFSCs are governed in the city of Izmir (Turkey), referring to actors involved, institutional processes adopted and challenges experienced. In the fourth chapter, we assess the underlying factors of consumer intentions and behavior to participate in food community groups throughout Turkey, while identifying main challenges experienced by participants of these communities. Finally, in the fifth chapter, we provide a descriptive analysis of our findings, and present the associated limitations and policy implications, and in the final chapter, draw the final conclusions.

Chapter 2

2. Exploring learning mechanisms and knowledge creation and sharing dynamics in short food supply chains: A literature review

Abstract: Short food supply chains (SFSCs) aim to establish increased collaboration and face-to-face interactions between producers and consumers at the scale of local food systems through eliminating any type of intermediaries to handle the agri-food product before it is consumed, also creating a space that provides significant opportunities for civic learning to be triggered. Although the literature focusing on the dynamics of SFSCs and their potential benefits towards addressing the sustainability challenges of our current food systems are plentiful, rather little attention is given to the mechanisms and ways in which knowledge and information exchange are triggered within the context of SFSCs, and how organizational aspects surrounding them lead to learning outcomes. This study, by using a literature review, analyzes the literature related to knowledge and learning in SFSCs. Hence, the key questions that this study aims to answer are: (1) What are the main characteristics of scientific papers published in this field? (2) What are the main theories or frameworks that have guided the literature on SFSCs, in order to explore the learning processes and information and knowledge creation and exchange taking place as part of these networks? (3) What are the main learning or knowledge creation outcomes experienced within SFSCs, as well as main challenges and associated policy implications, as found in the literature, and finally (4) How an adapted framework can look like which may contribute to the literature towards efforts to explore learning mechanisms in the scope of SFSCs. As a result of the conducted review, the literature has been classified under the following categories, where the research in this topic is concentrated: (1) Consumer-production interaction-based models, (2) Transformative learning models, (3) SFSCs as innovative learning spaces, (4) Sustainability indicators approach, and (5) Collaborative governance approaches. Finally, a learning framework is proposed specifically for the purposes of SFSCs, which takes contributions from three different prominent theories, namely, experiential learning theory, community of practice theory and activity theory.

Keywords: Learning; knowledge transfer; short food supply chains

2.1. Introduction

Over recent decades, our society has been facing different social, political, environmental and economic challenges that are changing classical production and consumption dynamics towards more sustainable practices. In the literature, Short Food Supply Chains (SFSCs) are discussed as a promising approach to meeting the challenges and overcoming the drawbacks of the current agri-food system, enabling new production and consumption models inspired by principles of participation and sustainability (Savarese et al., 2020). In these networks, farmers and consumers are brought closer together with the aim of shortening and localizing the agri-food chains. Thus, SFSCs refer to a wide range of food production, distribution and retail activities, which are also presented as "alternatives" to conventional food systems, including farmers' markets, direct marketing schemes, community supported agriculture (CSA), solidarity purchasing groups (SPGs), vegetable-box delivery schemes, community gardens and food cooperatives (Sonnino & Marsden, 2006; Jarosz, 2008; Goodman et al., 2012). Recent literary attention has focused on the contribution of SFSCs to rebuild social relations between producers and consumers and strengthen the connection between the product and place through short food supply chains and social embeddedness, and "relocalization" of food (Renting et al., 2012; Maye, 2013; Dansero & Pettenati, 2015; Sonnino & Marsden, 2006; Hinrichs, 2003; Goodman et al., 2012; Goodman, 2009). Other studies have analyzed the transformative role of these networks in terms of their capacity to create societal change through innovative ways (Wiskerke & Ploeg, 2004; Seyfang & Smith, 2007; Lamine et al., 2012; Brunori et al., 2016), arguing that the impact of SFSCs may even extend beyond their localities, through mobilization of different actors and socio-political institutions, or interaction with broader systems such as social movements (Blay-Palmer et al., 2018; Fridman & Lenters, 2013; Ilbery & Kneafsey, 2000; Renting et al., 2012; Andree et al., 2019; Carlson & Chappell, 2015), and in fact concern matters such as territorial development, spatial planning as well as regional or local development (Allen, 2010; Born & Purcell, 2006; Hinrichs, 2003; Goodman, 2009; Purcell, 2006; Brunori et al., 2016). Some other scholars, on the other hand, contested these arguments to question SFSCs' ability to scale up and enable sustainable food systems at a larger scale and deepen their impact on the wider food system (Matacena, 2016; Lamine et al., 2012; Mount, 2012). Another important body of literature, meanwhile, aimed to critically assess SFSCs, raising the questions of whether or not they are socially just or inclusive, or they only serve more as elite niche markets involving a small number of specialized producers and consumers (Abrahams, 2006; Wilson, 2013; Wald & Hill, 2015; Goodman, 2009), also questioning their "alternativeness" (Duncan & Pascucci, 2017). All these studies, have

also brought along the argument of governance pressures SFSCs are faced with, especially when they strive to scale up and out, as well as challenges of accessing resources such as land, funding, materials as well as institutional frameworks and spaces that enable SFSCs to organize or sustain (Manganelli et al., 2019).

We argue, in this study that although the literature focusing on the dynamics of SFSCs and their potential benefits towards addressing the sustainability challenges of our current food systems are plentiful, rather little attention is given to the mechanisms and ways in which knowledge and information exchange are triggered within the context of SFSCs, and how organizational aspects surrounding them lead to learning outcomes. SFSCs, which aim to establish increased collaboration and face-to-face interactions between producers and consumers at the scale of local food systems (Milestad et al., 2010), through eliminating any type of intermediaries to handle the agri-food product before it is consumed (Volpentesta et al., 2012), also create a space that provides significant opportunities for civic learning to be triggered (Cuéllar-Padilla & Ganuza-Fernandez, 2018). Besides, SFSC initiatives are considered as spaces of important technical and social innovations, insofar as they provide new economic and cultural spaces to learn new ways of "knowing" food and new narratives and discourses around food (Fonte, 2008; Goodman et al., 2012). In fact, it is argued that informal knowledge that is acquired through social mechanisms in these learning spaces can complement and compensate for the shortcomings of the formal knowledge systems and make a range of positive contributions to the resilience and sustainability of agriculture, including those to farmers' identities, communities and environments (Šūmane et al., 2018). In this direction, although learning is an important component of the dynamics of local food systems, not so many authors have addressed the actual learning that takes place and what it implies for sustainability of food systems within the context of SFSCs (Svenfelt & Carlsson Kanyama, 2010). Moreover, according to our knowledge, there has not been any literature review written on this topic, discussing these mechanisms, and how scholars have approached this issue until now.

Therefore, the overall aim of this study is to contribute to the above knowledge gaps by providing an overview, via a literature review, with a special focus on a variety of governance mechanisms that are adopted by SFSCs towards fostering innovation, knowledge exchange and creation as well as learning. The review will first synthesize the main theories and frameworks utilized in the literature to explore these processes and then discuss the governance mechanisms through which learning and knowledge creation takes place, in addition to presenting the actual

learning outcomes. Hence, the key questions the study aims to answer are: (1) What are the main characteristics of scientific papers published in this field? (2) What are the main theories or frameworks that have guided the literature on SFSCs, in order to explore the learning processes and information and knowledge creation and exchange taking place as part of these networks? (3) What are the main learning or knowledge creation outcomes experienced within SFSCs, as well as main challenges and associated policy implications, as found in the literature, and finally (4) How an adapted framework can look like which may contribute to the literature towards efforts to explore learning mechanisms in the scope of SFSCs.

In the next section, we outline our methodological approach, and explain the rationale behind the approach we use to present our results (Section 2.2). In section 2.3, we present in detail our findings of the literature review conducted. In section 2.4, departing from the findings of the literature review that we presented in section 2.3 in detail, we propose a framework towards exploring knowledge transfer and learning in SFSCs, pointing to the gaps in the literature. Here, we explain in detail the components of the framework we propose, and why a framework of this kind would contribute to the literature in local food systems. Then, in Section 2.5, we discuss the implications of our findings, and in Section 2.6, we draw our conclusions.

2.2. Methods

2.2.1. Review Approach

The methodology this review study used was a scoping review. Daudt et al. (2013), who developed further the scoping methodological framework proposed by Arksey and O'Malley (2005), defines a scoping review as a type of research synthesis that aims to map the literature on a research area or a particular topic in order to identify key concepts, gaps in the literature, and sources of evidence that can inform policy, practice and research (Daudt et al., 2013). In order to put this methodology into use, we followed the six-stage approach designed by Arksey and O'Malley (2005), and then was adapted by Levac et al. (2010), and Daudt et al. (2013). The six-steps proposed by Arksey and O'Malley (2005), the sixth one being optional, are as follows: (1) identifying the research questions; (2) identifying relevant studies, being as comprehensive as possible; (3) study selection, following the inclusion or exclusion criteria established; (4) charting the data, a stage that includes sifting, charting, and sorting information according to key issues and themes; (5) collating, summarizing, and reporting the results, providing both descriptive and numerical summary of the data, as well as a thematic analysis; and finally (6) a consultation exercise, which is regarded as

optional by the authors, where key stakeholders are involved in the process to inform and validate study findings. The sixth step was not conducted as part of this study, due to limitations of time and difficulties posed by the pandemic situation; however, this step is also regarded useful for future research. The table below (Table 3) shows the instructions of how each step needs to be taken in the context of the scoping review, in addition to a detailed explanation of how each stage has been conducted in our study.

Table 3. The stages of the scoping review and details regarding how each stage was undertaken

Stage I – Identifying the Research Question
Stage I guideline: Clearly articulate the research question/s to establish an effective search strategy
Implementation of Stage I: The research questions we wanted to address were as follows: (1) What are the main characteristics of scientific papers published in the topic of learning and knowledge sharing in the context of SFSCs? (2) What are the main theories or frameworks that have guided the literature on SFSCs, in order to explore the learning processes and information and knowledge creation and exchange taking place as part of these networks? (3) What are the main learning or knowledge creation outcomes experienced within SFSCs, as well as main challenges and associated policy implications, as found in the literature, and finally (4) How an adapted framework can look like which may contribute to the literature towards efforts to explore learning mechanisms in the scope of SFSCs.
Stage II – Identifying relevant studies
Stage II guideline: Identifying key words to conduct research; and searching different sources, including electronic databases, reference lists, key journals to collect a comprehensive list of resources.
Implementation of Stage II: To identify relevant papers, a search was conducted using certain key words and phrases in the "title, abstract, and keywords" search engine in the ScienceDirect and Scopus databases. We conducted the literature review, by using a combination of keywords in order to bring the concepts of learning and knowledge creation, and types of SFSCs together. Towards this end, we have used the keywords of "learning", "knowledge sharing", "knowledge exchange", "sharing of knowledge", "sharing of information", "information sharing" and "information exchange" one by one, together with a combination of keywords that are used in the literature to address SFSCs. In the first round, we first limited our research to papers published from 2010 onwards in order to locate those that are more current; however, we then extended our research to cover also

previous years to extend our resource base, as the located articles achieved in the first round did not seem broad enough, and not to miss important scientific papers from the earlier years. As the literature on SFSCs is plentiful, and many different definitions exist to refer to initiatives that address mechanisms through which producers and consumers are brought together to establish direct procurement channels, we used various keywords, including "short food supply chains", "alternative food networks", "local food", as well as attempting to more specifically target types of SFSCs, using the keywords such as "community supported agriculture", "farmers' markets", "box-schemes", "collective buying groups" in order to not miss any papers addressing the topic in question. Hence, the keywords we used to locate articles were as follows: "alternative food networks" AND learning; "alternative food networks" AND "knowledge sharing"; "alternative food networks" AND "information sharing"; "alternative food networks" AND "knowledge exchange"; "alternative food networks" AND "information exchange"; "alternative food networks" AND "sharing of knowledge"; "alternative food networks" AND "sharing of information"; "short food supply chains" AND learning; "short food supply chains" AND "knowledge sharing"; "short food supply chains" AND "information sharing"; "short food supply chains" AND "knowledge exchange"; "short food supply chains" AND "information exchange"; "short food supply chains" AND "sharing of knowledge"; "short food supply chains" AND "sharing of information"; "local food system" AND learning; "local food system" AND "knowledge sharing"; "local food system" AND "information sharing"; "community supported agriculture" AND learning; "box schemes" AND learning; "farmers' markets" AND learning. These keywords showed 1804 citations, including the papers that have been counted more than once due to conducting multiple searches using different keywords.

Stage III – Study selection

Stage III guideline: Establishing an inclusion and exclusion criteria. Putting the inclusion and exclusion criteria to use an iterative approach to selecting studies and extracting data. During this process, researchers should observe challenges and refine search strategy (if needed).

Implementation of Stage III:

Following assessment of the title and examination of the abstracts, a first elimination has been made to eliminate those research that did not fit our topic and deducing the number of papers that were counted more than once, limiting our resources to 264 papers; following this stage, a more delicate elimination process has been conducted to eliminate those research that included the targeted concepts, however, did not actually focus on learning or knowledge creation, exchange or transfer as part of SFSCs. Following this stage, we prioritized 36 papers to conduct our thematic analysis to reveal key principles, concepts and characteristics for exploring the extent to which social capital, knowledge transfer and collective governance theories from agricultural and food fields explain learning mechanisms and outcomes within and among SFSCs. Following

this stage, with the belief that the number of these papers located were lower than expected, we went back to keyword search to include also the keywords of "knowledge" and "information" matched with "alternative food networks", "short food supply chains" and "local food systems" to check if there were any scientific papers that might have been omitted. At this stage, we could check if there were any papers that we have not included in our list, that might be relevant to us. At the end of this process, the total number of relevant research papers to conduct our thematic analysis were 38.

The inclusion criteria we used for inclusion of papers in the review were as follows: (i) be written in English, (ii) be published in the full-text form, (iii) discusses knowledge sharing or learning dynamics in the context of SFSC initiatives, where there is direct interaction between consumers and producers.

The European Network of Rural Development defines SFSC initiatives as initiatives that aim to reduce the distance between agriculture and final consumption, directly re-connecting farmers and consumers (Markuszewska et al., 2012). The reduction of distance may have different indications in the scope of SFSC initiatives: Reduction of the "physical distance" between the farmer and final consumers; and reduction of the number of steps that connect the farmer to final consumers. The second type can also be initiatives connecting producers and consumers through online means, although they do not directly come face-to-face, or they are not in the same locality, yet still the products can travel directly from the producer to the consumer, without any intermediaries (or a reduced number of intermediaries). In this study, we included only those studies that concentrated on SFSC initiatives, where the physical distance between farmers and consumers are reduced. Some examples of these initiatives are on-farm schemes, urban agriculture or self-harvest gardens, community Supported Agriculture (CSA) or Solidarity Purchasing Groups (SPGs), and farmers' markets. The reason for this decision was such that the knowledge transfer and learning dynamics work significantly differently when consumers buy directly from producers through social media channels or online shops; and we wanted to focus our attention on exploring the transfer or spillover of knowledge by studying instances of face-to-face interaction in SFSC initiatives.

Stage IV – Charting the data

Stage IV guideline: Determining which variables to extract with regard to the research question. Charting should also be considered an iterative process with continuous extraction and update.

Implementation of Stage IV:

Following identification of the relevant literature, we followed a domain-based approach (Liberati et al., 2009) gathering and extracting insights regarding constructs, sub-topics, theoretical perspectives and approaches associated with the specific domain in question, in our case

"learning mechanisms and sharing of knowledge in SFSCs", and then decided upon a structure to present our findings. To organize data, Arksey and O'Malley recommend charting and sorting data according to key themes and issues. In the case of learning and sharing of knowledge in the particular case of SFSCs, we were not able to identify a pre-determined classification in the literature. For this reason, instead of using a pre-determined classification to group the discussion, we rather created sub-groups according to the theories and frameworks used in the scientific papers we located in the literature, to explore learning and knowledge sharing dynamics in the scope of SFSCs. As a result, the discussions and themes in the identified papers were grouped under the sub-headings of: (1) Consumer-producer interaction models, (2) transformative learning models, (3) SFSCs as innovative learning spaces, (4) sustainability indicators approach, and (5) collaborative governance approaches. These headings were chosen to collect the approaches, frameworks, or theories used in the literature under similar categories, for the purposes of facilitation of presenting our results.
Stage V – Collating, summarizing and reporting the results
Stage V guideline: Incorporating a descriptive and qualitative thematic analysis. Identifying the implications of the study findings for policy and practice.
Implementation of Stage V: This part of the scoping review is presented further in the results section (section 2.3).

2.2.2. *Presentation of the results*

We have structured the findings of the literature review so that we detail them under a few sub-headings. In this section, we explain how and with which considerations the results of the review are structured. Under section 2.3., which is the results section, we first begin by providing, in sub-section 2.3.1 entitled "an overview of the analyzed literature", a snapshot of the types of scientific papers that discuss about learning that takes place within SFSCs. As part of this snapshot that we aim to present, we provide some numbers regarding the percentage of case studies, review papers or qualitative studies found in the literature, in addition to the years of the scientific papers published, which allows us to have an idea about the progress of interest in this topic throughout the years. Then, we provide a table that gives us the frequency of the types of learning mentioned in these scientific papers evaluated. We use the qualitative analysis tool Nvivo to determine the number of scientific papers that these terms appear. In order to achieve these results, we have first

used the "word tree" function of Nvivo, by searching the term "learning" to see all combinations of words and concepts that used this word in all of the evaluated literature, and hence, in this way, we could see all possible ways that the word "learning" has been used. Then we selected all concepts that refer to the types of learning within the SFSC initiatives found in these papers, and we were then able to count the number of times they appear in different scientific papers that discuss learning mechanisms within SFSC initiatives (section 2.3.1).

Then in section 2.3.2, we present and put forth in detail, the main theories and frameworks utilized in the literature, as scholars discussed about learning and knowledge transfer within local food initiatives. Hence, we present the discussions made in the literature, under the different approaches or frameworks the scholars used to discuss their findings. While, we sub-group the literature according the approaches they used, under each approach, we provide a brief definition of associated approach (or framework), then we present how they were used and what type of SFSC initiatives have been subject to the analysis, then we explain how learning mechanisms worked in practice and, finally their relation to the associated governance mechanisms, as told in the literature. The categorization we used in this part to present the results of the literature review related to learning in SFSC initiatives were, thus, as follows: (1) Consumer-producer interaction models, (2) transformative learning models, (3) SFSCs as innovative learning spaces, (4) sustainability indicators approach, and (5) collaborative governance approaches. These headings were chosen to collect the approaches, frameworks, or theories used in the literature under similar categories, for the purposes of facilitation of presenting our results. The approaches the scientific papers used to discuss this topic has varied considerably. Some used directly learning theories to study this topic, such as the "transformative learning theory", while in the other cases, the learning outcomes or dynamics explored about learning were just indirect findings of the papers, or findings that were revealed on the side of other findings. Hence, the variability of the approaches used to discuss this topic has motivated us to make a categorization relying on the domain and themes of theories or frameworks used.

We then, under section 2.3.3, present under the sub-heading of "learning outcomes identified" a summary of all learning outcomes discussed in these scientific papers, differentiating between producers' and consumers' learning. Moreover, we discuss how learning mechanisms differ according to different types of SFSC initiatives discussed in the literature. Finally, in the final sub-

heading of 2.3.4, we present the challenges as discussed in the literature and their relevant recommendations for policy (if there is any).

2.2.3. Developing and proposing a theoretical framework

Furthermore, under the section 2.4, departing from the findings of the literature review that we presented in Section 2.3 in detail, we propose a framework towards exploring knowledge transfer and learning in SFSCs. In other words, the components of the framework that we propose do not come directly from the literature review that we have conducted, but rather it is derived from what we consider to be gaps found as a result of the literature review. As this framework is not part of the findings of the literature review, we placed it in a separate section following the results section. Here, we explain in detail the components of the framework we propose, and why a framework of this kind would contribute to the literature in local food systems.

2.3. Results

In this section, we present the results of the review that we have conducted. In section 2.3.1, we bring together some figures and information regarding the research papers we explored, providing a snapshot of the topic being explored. In the following sections, we present in detail, the results from the literature regarding the learning and knowledge sharing mechanisms that are analyzed. In section 2.3.2 we identify the theories or analytical frameworks utilized in the literature to explore learning mechanisms and dynamics in the context of SFSCs, while in section 2.3.3 we provide a summary of the learning outcomes as found in the literature, differentiating between producers and consumers; and in section 2.3.4, we present aspects and structures that allow for learning, and learning outcomes experienced, differentiating between different types of SFSCs. Section 2.3.4, on the other hand, presents challenges, policy implications and the way forward that are put forth by the studies in the literature.

2.3.1. An overview of the analyzed literature

Our study showed that the majority of the literature in this topic consisted of case studies (79%), while 15.8% consisted of review papers and 5.3% used other forms of qualitative research methods. 88.9% of the papers identified came from the Global North, while the remaining either rested on research based on a Global South country, or included a Global South country as part of their multiple-case study approaches. When we look into the details of the case studies, we could note that 16.7% of the case studies used a single case study, while 56.7% used multiple case studies within

the boundaries of one country, while 13.3% of the case studies conducted multiple case studies across countries. Below table shows the countries from which the literature review we conducted was based on. The number column in the table indicates the number of times the mentioned country was studied as part of different scientific papers.

Table 4. The countries where the research is based on and the number of times they appeared as part of different scientific papers (elaboration of the authors)

Country	Number	Country	Number	Country	Number	Country	Number
USA	5	Sweden	2	Switzerland	1	Latvia	1
Italy	4	Philippines	1	Hungary	1	Lithuania	1
Canada	3	Australia	1	Ireland	1	New Zealand	2
Germany	3	Belgium	1	Israel	1	Norway	1
Denmark	1	Brazil	1	Japan	1	South Africa	1
Spain	2	France	1	Kenya	1		

Meanwhile, in terms of the years of publication, Figure 1 illustrates the number of published papers regarding the topic in question, according to the year that they were published. The figure shows that learning as part of SFSCs is growing as a research topic. In particular, 2011 onwards the number of published papers in this area has increased.

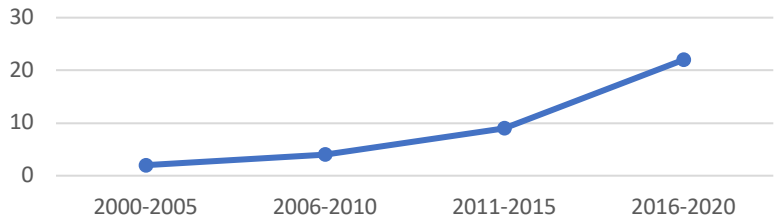


Figure 1. Number of published papers between 2000-2020 (elaboration of the authors)

Table 5, on the other hand presents the number of scientific papers that used the specific type of learning, that is indicated in the column on the left. According to the table, social learning, informal learning and transformative learning, along with experiential learning, collective learning, life-long learning and organizational learning are learning types that have been used by the highest number of scientific papers that we have analyzed in this literature review.

Table 5. The number of scientific papers where each of the type of learning was used (elaboration of the authors)

Type of learning	Number of scientific papers that use the term
Social learning	14
Informal learning	7
Transformative or transformational learning	5
Experiential learning	4
Collective learning	4
Life-long learning	4
Organizational learning	4
Instrumental learning	3
Learning-by-doing	3
Individual learning	3
Mutual learning	3
Situated learning	3
Community learning	3
Continuous learning	3
Communicative learning	2
Emancipatory learning	2
Civic learning	2
Non-formal learning	2
Interaction-based learning	2
Formal learning	2
Collaborative learning	2
Interactive learning	2
Complex learning	2
Group learning	2
Participatory learning	2
Intergenerational learning	1
Entrepreneurial learning	1
Independent learning	1
Institutional learning	1
Policy learning	1
Incidental learning	1
Joint learning	1
Traditional learning	1

To give an overview of some of these learning types that were studied the most in the scope of the SFSC literature, social learning is based on the idea that learning takes place through interactions with others in a social context; hence, by observing and imitating actions or behaviors of others, people develop similar ones (Bandura, 1977). Experiential learning is also defined as a type of learning which is not controlled by the teacher, and there are no predetermined objectives; it is rather determined by context, learners' motivations as well as the others with whom the learner come in contact (Dumont et al..,2010). In other words, it is a by-product of the activities in which people are involved, and is applicable not only in the formal education setting of a classroom, but in all arenas of life (Kolb and Kolb, 2011). Kolb (1984) defines experiential learning as the process whereby knowledge is created through the grasping and transformation of experience. In terms of collective learning, De Laat (2001) underlines its similarity to social learning, and stresses that collective learning is also a type of learning that is linked to the social context, and can happen through interactions in three different ways: learning in networks, learning in teams and learning in communities. The main difference is within the learning intention that the groups have. Learning in networks is the most loosely form of collective learning, where people in a network share a common interest, exchange ideas, and help each other (Laat & Simons, 2002). Learning in teams have a more structured pattern, and is task oriented, where the nature of interactions is temporary and continue until a task is done, including those teams that are established within work environments. Finally, communities emerge around a topic of interest shared by voluntary members. They can be characterized as an informal group that emerge from spontaneous interaction between persons as they talk, joke and associate with one another (Huczynski & Buchanan, 2001), and individuals continue these interactions as long as they are interested in the theme that is discussed within the community (Laat & Simons, 2002). Meanwhile, transformative learning proposes that learners who are acquiring new information, are evaluating this new information with their existing ideas and understanding, and shift their worldview through critical reflection and self-reflection (Mezirow, 1991). The concept that is the most critical to transformative learning is also experience. Yee et al. (2019) notes that experience, and particularly, past experience, is the primary medium of a transformation, and it is the revision of the meaning of experience that is the essence of learning. Informal learning, on the other hand, is used as a broader term to define kinds of unorganized and unintentional types of learning, where no objectives have been set in terms of learning outcomes, and takes place through experience (Werquin, 2010). Finally, life-long learning is a broad term that is used to cover the whole range of learning that includes formal, informal and non-formal learning,

as well as skills, knowledge, attitudes and behaviors that people acquire in their day-to-day experiences (Dunn, 2003).

All of these aforementioned learning types that have been studied in the scope of the scientific papers identified within this study put experience in the center of the learning process, while social learning and collective learning put more emphasis on the social context of learning, where learning take place through interactions with others. Furthermore, social learning, experiential learning and informal learning are defined as learning processes, which take place mostly outside of the formal, classroom setting, and point to a continuous acquirement of knowledge via informal means, that are mostly unintentional and unstructured. Transformative learning on the other hand explains how experience is transformed into new knowledge and a change in the worldview through critical reflection; hence it is more concerned with how the acquired information is transformed by the individual, rather than the context it takes place in. Especially, in our day, the importance of all these aforementioned learning types is significantly increasing as in order to enhance innovation within agri-food systems and to make them resilient to the challenges of our day, learning should be seen as a process that is not linear, where the teacher and the student are not pre-defined, and the knowledge flow takes place in all directions simultaneously and continuously.

Table 6, meanwhile, shows the kind of SFSC initiatives that were analyzed as part of the literature being assessed, in addition to the number of times each type of initiative has been addressed by different scientific papers in question.

Table 6. The number of times each type of SFSC initiative is analyzed in the literature (elaboration of the authors)

Initiative	Number
Urban agriculture initiative /urban garden	6
Community supported agriculture (CSA)	6
Farmers' markets	6
Box schemes	3
Collective buying group	3
Consumer cooperative	2
Alternative organic farm	2
Community supported fisheries (CSF)	1
On-farm scheme	1
Collective farm shop	1

Initiative	Number
Food bank	1

While, until now we have presented some of the key descriptive data regarding the reviewed scientific papers in question, in the next section, we present and put forth in detail, the main theories and frameworks utilized in the literature, as scholars discussed about learning and knowledge transfer within local food initiatives.

2.3.2. Theories and frameworks used in the literature to explain learning and knowledge mechanisms in AFNs

This section brings together the main theories and frameworks utilized in the literature to explore learning mechanisms and flow and exchange of knowledge and information within alternative food networks, and how these theories are discussed in connection with the associated governance mechanisms and learning processes in question.

i. **Consumer-producer interaction-based models**

Introduction to consumer-producer interaction-based models

Consumer-producer interaction is discussed to be a key feature that are part of local food initiatives (LFIs). This approach bases its arguments on the idea that SFSC initiatives open up specific learning channels and contents, where consumers and producers through interaction and social learning mechanisms exchange ideas, experiences, and knowledge. In other words, consumer-producer interaction, extending beyond the transaction processes, enable a social context that provides an area for social learning and knowledge exchange (Volpentesta et al., 2012). Face-to-face interactions, that is a key component of this process, enhance learning processes and let both producers and consumers benefit from the shorter distances, better information flow and greater trust between them (Volpentesta et al., 2012). The interaction-based learning processes are often executed through informal ways, which are discussed to be empowering actors and allow them to create a non-competitive learning context, by allowing the explicating of tacit knowledge through experience sharing (Volpentesta et al., 2012). In this direction, the research aiming to study the interactions between consumers and producers within local food initiatives mainly utilized social

learning theory, social capital theory, social network theory and the analytical framework focusing on the domains of consumer-producer interaction.

The studies that we identified, which explores learning mechanisms and knowledge and experience transfer through informal interactions and social learning mechanisms in SFSCs, largely were based on the setting of a collective buying group, including on-farm sale, box-schemes and community supported agriculture (CSA) initiatives, while only one of the studies that explored learning mechanisms through consumer-producer interactions was based on a farmers' market. While most of these studies focused on only consumers' learning, two of the studies focused on both consumers' and producers' learning providing a wider perspective.

Theories/frameworks used in the literature

Ammirato et al. (2013), by using Nahapiet and Ghoshal (1998)'s proposed three dimensions as the main components of social capital: structural, relational and cognitive dimensions, exploring the learning dynamics within collective buying groups, focusing on the learning of both consumers and producers. According to the theory, the structural dimension in SFSCs involves the relationship between members of SFSCs, with regards to the standards of connections, through indicators such as density, connectivity network configuration, stability and ties (Macke & Dilly, 2010). The relational dimension rests on the kind of personal relationship, developed through a history of interactions, such as respect and friendship (Macke & Dilly, 2010). Cognitive component, on the other hand, refers to shared visions, interpretations and systems of meaning, mainly codes and narratives shared, values and other cultural elements (Macke & Dilly, 2010). Opitz et al. (2017), on the other hand, use the analytical framework of consumer-producer interactions (CPI) within community-supported agriculture (CSA), food coops, and self-harvest gardens, to explain how consumers' learning is influenced by certain CPI domains, namely knowledge, labor, financing/contracting, produce, resources and land (Opitz et al., 2017). The domain of knowledge, which is related to the main topic of our study, is influenced by (i) different kinds of knowledge formats, (ii) frequency of knowledge transfer, and (iii) contents of knowledge transfer. Savarese et al. (2020) analyze the CSA model, exploring both consumers' and producers' experiences, which they call as symbolic interactionism (Savarese et al., 2020) to capture the direct experiences characterizing this consumption sub-culture, and how practices and values within it are expressed. Meanwhile, Montefrio & Johnson (2019), on the other hand, aim to study a community supported fishery (CSF) project that was intentionally designed to connect culturally dissimilar stakeholders,

namely seafood suppliers and diverse consumers together. The study, by using participants' motivations approach, which consists of self-interested, altruistic, and relational motives, aims to explore to what degree has participation and face-to-face interactions in the CSF fostered relations characterized by learning, personal connection, or the desire for learning and connection among value chain stakeholders. Carson et al. (2016), by studying consumer and producer interactions at the setting of a farmers' markets, gather data from multiple FM cases, to explain how through "meaningful interactions", and knowledge exchange between actors, consumer behavioral change is facilitated. They define "meaningful interactions" as those "where information exchange takes place that leads to consumer learning". Finally, Sacchi et al. (2018), following some scholars' work on actor network theory (ANT) (Lamine et al., 2012; Fonte, 2008; Quiédeville et al., 2018), utilizes a post-structuralist actor network theory approach, to identify how interactions and networks within local food initiatives may play a role in moving towards sustainability goals, and more particularly consumers moving towards ecologically sustainable diets (Sacchi et al., 2018). They use box delivery schemes as the setting of interactions.

Learning mechanisms in practice and their relation to governance mechanisms

In all of the studies that utilized consumer-producer interaction models, interaction-based informal learning processes, social learning, and tacit knowledge gained through experience sharing and learning-by-doing were mentioned as the primary sources of learning. Ammirato et al. (2013) add that the learning relationship between producers and consumers in SFSCs is enabled through exchange of local lay knowledge (Ammirato et al., 2013), which refers to the technical knowledge utilized by farmers to grow food in the specific agri-ecological context, which can revitalize local or traditional knowledge, and encourage sustainable agricultural practices (Fonte, 2008; Ilbery & Maye, 2005). Ammirato et al. (2013) and Volpentesta et al. (2012) both mention the continuous aspect of the learning experience, by noting that the partnerships among producers enable continuous new learning by identifying routines that need to be modified or renewed. This continuity of learning is provided as a contrast to long food chains, where knowledge and information related to innovation, typical of market or customer information, becomes rapidly outdated (Hallikas et al., 2009; Ammirato et al., 2013). Volpentesta et al. (2012) further explain this aspect of continuous learning by also noting that the learning interactions have two main dimensions: the process and the contextual one. The first one is represented by social practices in a learning event. The second one regards the learning event which provides the social framework, characterized by societal and institutional

values, within which learning can occur (Volpentesta et al., 2012). Everson (2015), meanwhile, discusses that the learning within these initiatives are also intentional because the learner has the intention of learning even before the learning process begins, and it is conscious, in the sense that the learner is aware that she or he has learned something through the process (Schugurensky, 2000; Everson, 2015). While, these studies focus mainly on face-to-face interactions for learning to take place, they also place emphasis on workshops or newsletters provided by the farmers, as a source of knowledge (Opitz et al., 2017; Everson, 2015), while underlining that as consumers learn in these groups, they are motivated to learn more by their own means of further research. Brunori et al. (2016), which is the only study under this category that is focusing on learning in farmers' markets, argue that in this setting, the interactions between consumers and producers may come in many types, such as a simple greeting, a conversation to catch up with a friend, a financial transaction as one makes a purchase, or an informational inquiry about production practices. Hence, they differentiate between any interaction and those that are "meaningful" interactions, relying on whether or not the interaction leads to information exchange that leads to consumer learning.

It is possible to argue that studies which explore learning mechanisms in consumer-organized networks, such as collective buying groups, also focus on the learning of consumers. It is not surprising that the depth of consumer learning varies with the type of collective buying group in question. The learning of consumers that are part of initiatives such as box-schemes rested solely on receiving weekly vegetable and fruit baskets directly from producers. The knowledge gained by consumers, in these occasions were limited to types of vegetables, seasonality of food, alongside new recipes to be used to cook these vegetables, as well as knowledge regarding food storage and waste management. Meanwhile, as consumers spent more time on farms or production sites, which generally takes place in the case of community-based groups, or urban agricultural sites, the more extensive their knowledge became about the realities of farming, farmers' perspectives and wider understanding and awareness towards local and global food systems, in addition to all aspects related to the aforementioned learning that took in box-schemes.

ii. **Transformative learning models as an adult learning process**

Introduction to transformative learning models

Transformative learning is a process of adult learning that produces more far-reaching changes in the learner than does learning in general, impacting the learner's subsequent experiences (Kerton

& Sinclair, 2010). Although transformative learning is mainly used in a formal educational context, it is also relevant in an urban food production context (Kerton & Sinclair, 2010). Kerton and Sinclair (2010) argue that food, while acting as a catalyst for consumer education, can lead to significant transformative learning by consumers (Kerton & Sinclair, 2010). They underline that transformative learning contributes to change in a society at various levels, meaning that consumers not only learn from local farmers about aspects related to food and production, but also, they translate this knowledge to a social level by becoming more engaged with environmental and social justice issues both locally and globally (Kerton & Sinclair, 2010). Two of the studies that we identified that focus on transformative learning as part of SFSCs, focus on consumers' learning (Guzmán et al., 2012; Kerton & Sinclair, 2010), while the other one focuses together on producers' and consumers' learning (Milestad et al., 2010). One of the studies aim to identify transformative learning within a farmers' market context (Milestad et al., 2010), another used a more general definition of SFSC initiative, without specifying the specific type of the initiative (Guzmán et al., 2012), and the final one of the studies focuses on three different models of producer/consumer interfaces, namely a market-garden operation, an education and outreach center, and a community shared agriculture project (Kerton & Sinclair, 2010).

Theories/frameworks used in the literature

Guzmán et al. (2012), by using transformative learning and critical consciousness theories, discuss how urban food production systems can create social and environmental support for alternative food systems. The study uses La Via Campesina's Food Sovereignty Principles (Via Campesina, 1996), to establish linkages between the educational theories mentioned, and food sovereignty, arguing that food sovereignty presents an opportunity for a transformative process by requiring critical awareness of equity, social justice and ecological sustainability in food systems (Pimbert, 2008). Milestad et al. (2010) and Kerton and Sinclair (2010) both consulting to Mezirow (1991)'s transformative learning framework, explore instrumental, communicative, and emancipatory learning mechanisms (Mezirow, 1991). Milestad et al. (2010) investigate farmers' learning, while Kerton and Sinclair (2010) investigate those of consumers. Milestad et al. (2010) focus on both producers' and consumers' learning by studying farmers' markets, and explain that within the context of a farmers' market, one result of instrumental learning could be a farmer learning which crops to grow or a customer learning which of the market stalls sells a certain tomato variety; communicative learning could occur when food actors develop knowledge about other actors'

values and priorities, not in order to control them, but for the purpose of understanding and relating to each other and the context; and finally emancipatory learning is about developing the ability to consciously reflect upon one's competences, skills, and inabilities. Kerton and Sinclair (2010) on the other hand, based on the literature and following (Diduck & Mitchell, 2003) subcategorizes Mezirow (1991)'s learning mechanisms even further. Kerton and Sinclair (2010) subdivide instrumental learning in 4 categories: (1) scientific and technical knowledge; (2) knowledge of legal, administrative, and political procedures; and finally, (3) new social and economic knowledge, and (4) knowledge of potential risks and impacts.

Learning mechanisms in practice and their relation to governance mechanisms

While all of these studies explained the importance of the market place or meeting place, as providing farmers and consumers opportunity to come together and experience social learning processes, Milestad et al. (2010) and Ammirato et al. (2013) further focused on farmers' markets as a place creating opportunities to a wider range of actors to meet, get acquainted, interact, collaborate and exchange knowledge. Meanwhile, Ammirato et al. (2013) argue that mobility of actors within and between farmers' markets enhanced transfer of knowledge and skills, like in the case of clusters (Hinrichs et al., 2004). Milestad et al. (2010) further bring the discussion of the impact of other associations, such as farmers' market associations, NGOs or cooperatives, as important institutions, which, through formal arrangements provide education, advocacy, promotion and network opportunities to farmers' markets. There are however other studies, that argue that informal and horizontal ties work better in terms of learning opportunities, compared to those of formal ones, established through formal organizations (Savarese et al., 2020). Milestad et al. (2010) and Guzmán et al. (2012), on the other hand also focus on the impact of informal learning and experience sharing through these initiatives, on farmers and consumers to improve their adaptive capacity (Milestad et al., 2010), and getting acquainted with food production systems, and understanding the linkages that exist throughout food systems, which then lead to citizens to develop awareness of social and ecological injustices in food systems, and become "ecological citizens" who extent beyond economically rational choice-makers (Guzmán et al., 2012). In other words, apart from the skills derived as a result of activities that bring together consumers and producers, deeper ethical concern for, and political engagement with food systems were also created, which can in turn influence and shift the governance mechanisms of food systems (Kerton & Sinclair, 2010).

iii. **SFSCs as innovative learning spaces**

Introduction to SFSCs as innovative learning spaces

Some scholars argue that SFSC initiatives are beyond places where food is purchased, but they function as outdoor classrooms, conversation starters and ecosystem service providers, where learning takes place. "Learning" is understood here in terms of the social organization of deliberate, systematic, and sustained learning activities, in which learners are organized by others or organize themselves for the purposes of communicating and acquiring knowledge, skills, and sensitivities (Hake, 2017). In this section, we have gathered studies, which approach learning in SFSCs as innovative processes, using innovation-based theories, as well as those that refer to SFSCs as innovative spaces where learning takes place. In this regard, two of the studies based their research on exploration of farmers' markets, both of them focusing on farmers' learning processes (Zamudio et al., 2016; Beckie et al., 2012). The remaining two studies considered SFSCs as learning spaces, one focusing on urban garden projects (Hake, 2017), and the other, on food system learning spaces (Herrera, 2018), which have both focused on learning of consumers.

Theories/frameworks used in the literature

Zamudio et al. (2016) rest their analysis on Politis (2005)'s entrepreneurial learning model, to explore how farmers in farmers' markets develop entrepreneurial knowledge and skills. This model frames entrepreneurial learning as an experiential process that occurs through the accumulation of relevant experience, ongoing experimentation, and the refinement of held assumptions and perspectives through personal reflection and interpersonal exchange among relevant actors (e.g., competitors, customers, suppliers (Politis, 2005). On the other hand, Beckie et al. (2012) explore farmers' markets as clusters, and studies the dynamics of collaborative and competitive forces along with dynamic interaction and knowledge exchange that are occurring (Beckie et al., 2012), by aiming to answer the questions of whether or not spatial agglomeration of farmers' markets equated with engagement and interconnectedness characteristic of active clustering, and, if so, what significance does clustering of these social economy organizations have for the development of alternative food networks. Hake (2017) and Cuéllar-Padilla and Ganuza-Fernandez (2018) both explore intergenerational learning that takes place within food learning spaces, where individuals from different generations are engaged in learning together. Hake (2017) differentiates between formal, non-formal, and informal learning activities within what they call as "urban learning spaces" and

studies urban gardens and urban agricultural activities as a learning space. They use the four modalities to understand the processes of intergenerational learning, namely (1) household spaces; (2) service-based spaces; (3) shared-site spaces; and, (4) contested spaces.

Learning mechanisms in practice and their relation to governance mechanisms

Beckie et al. (2012) study farmers' markets from a perspective of clusters, where both competitive and collaborative dynamics take place (Porter, 1998; Krugman, 1991). Lawson et al. (2008) argue that individual farmers' markets are in themselves a cluster of firms involved in cooperative and community-based activities, with high levels of interdependence among participants, particularly between farmers and market managers, which generates a competitive advantage (Beckie et al., 2012). Hence, Beckie et al. (2012) argue that farmers' markets act as clusters, where interactions and relationships are formed among farmers, market managers and consumers, while supporting farmers, and contributing to their business practices and enterprise development, also generate collective learning processes learning to the rapid diffusion of knowledge and best practice, as well as social learning and innovation (Hinrichs et al. 2004; Beckie et al., 2012; Nauwelaers & Reid, 1995). Beckie et al. (2012) argue that the collaboration that takes place among farmers and market managers are "horizontal" ones, those collaborations established between with external actors of private, public, and social economy sectors are "vertical" ones, and they add depth and scope to the cluster, bringing in outside resources and in some cases moving products to other market options. Moreover, these linkages may as well create multiplier effects for the surrounding communities or neighborhood where the markets are situated (Beckie et al., 2012). These discussions are important as they point to the competitive dynamics between farmers in farmers' markets, which is a topic that is often disregarded in the literature; while, mentioning impacts created on the surrounding local system is also critical, which is also a gap in the SFSC literature. On the other hand, Zamudio et al. (2016), which utilize an entrepreneurial learning model to also study learning mechanisms in farmers' markets, frames entrepreneurial learning as an experiential process that occurs through the accumulation of relevant experience, ongoing experimentation, and interpersonal exchange among relevant actors, including producers, consumers, as well as competitors (Zamudio et al., 2016). Meanwhile, Herrera (2018) and Hake (2017), which focus on intergenerational learning within urban food communities, explain that intergenerational learning are socially organized learning activities that involve members of different generations in

communicating and acquiring knowledge, skills, and sensitivities through participation in non-formal and informal learning activities.

iv. **Sustainability indicators approach**

Introduction to sustainability indicators approach

The complex networks of institutions and stakeholders in society pose many challenges for farmers. Policy-makers and other decision-makers emphasize that there is no single answer or solution to what constitutes a sustainable agri-food system or the necessary means to achieve it (Källström & Ljung, 2005). Instead, collaborative, community-based, and trans-disciplinary learning, dialogue, and deliberation have been described as desirable or even necessary approaches to tackling sustainability challenges of our day. Torjusen et al. (2008), by focusing on organic box-schemes, focus on consumer learning mechanisms.

Theories/frameworks used in the literature

Torjusen et al. (2008) analyze how SFSCs, particularly studying the case of organic box schemes, can improve learning, communication and food consumption, using, what they define as "three indicators of sustainability", namely: awareness of food-system issues, improved communication and social relations between actors. The study then seeks to explain how learning in these domains can lead to food systems change. Torjusen et al. (2008) quote Kloppenburg et al. (1996), as noting that changes and transformations towards sustainability requires a knowledge about the food system, hence a sustainable alternative should not only provide food but also support learning processes among consumers.

Learning mechanisms in practice and their relation to governance mechanisms

Torjusen et al. (2008) discuss that the box schemes, in addition to providing healthy and ecological food to consumers, also provides an arena for experiential (Kolb, 1984) and situated learning (Wenger & Lave, 1991). Moreover, facilitation of a learning process for consumers may lead to local food systems to develop and to be sustained (Torjusen et al., 2008; Brunori et al, 2012). Torjusen et al. (2008) argue that box schemes represent one food-system solution in which relations are personalized and food is re-localized by means of transparency and broad contextual information and possibilities of direct contact with both place of production and people involved. As such, a further indicator of a sustainable food-system is the social and communicative context

within which food is moved from producers to consumers, and the composition of the diet and how it constitutes a part of daily life (Torjusen et al., 2008). The box schemes in this study are viewed as alternative systems of food provisioning that, by distinctive means of marketing and distribution, frame the consumption of food at the household level, motivating lifestyle changes towards more sustainable consumption patterns.

v. **Collaborative governance approaches**

Introduction to collaborative governance approaches

Multi-stakeholder approaches or collaborative governance focus on collaborative efforts of organizations made possible by coalitions established rather than how they would work in isolation. In this section, the studies we identified based their work on approaches and frameworks including collective action, collaborative governance, vertical and horizontal collaboration, multi-actor and integrative governance approaches.

Theories/frameworks used in the literature

Both Cuéllar-Padilla & Ganuza-Fernandez (2018) and (Hatanaka, 2020) utilize hybrid governance approaches to analyze the learning mechanisms within SFSCs. Cuéllar-Padilla & Ganuza-Fernandez (2018) study collective food buying groups, from a hybrid governance perspective, arguing that they have both components operating as social networks and social enterprises. Their argument is based on the hypothesis that successful promotion of civic learning on new modes of food provisioning and consumption in these groups relies on a combination of two main types of activities: first, the organization of a set of economic service activities, based on both voluntary and paid labor, and, second, decentralized networking with other sustainability transition initiatives, especially through the sharing of resources and the dissemination of information. Hatanaka (2020) on the other hand, argues that there are generally two competing agri-food governance models for advancing sustainability: technocratic and deliberative. By studying a case of consumer cooperative in Japan, the study analyses how utilization of both technocratic and deliberative forms of governance together, which they call an Integrative Sustainability Approach, lead to knowledge outcomes. Hennchen & Pregernig (2020), focusing on urban agricultural practices and community kitchens in Germany, using organizational theory, aim to reveal the organizational characteristics that constitute different types of food initiatives, which in turn lead to knowledge outcomes for their participants. In their study the utilize the five sub-categories of organizational mechanisms as: institutional integration, recruiting mechanisms, goal-setting, time management

and types of knowledge. Šūmane et al. (2018), studying 11 cases of local food systems, that are involved in the RETHINK project study multi-actor approaches and co-creation of knowledge in local farming systems, focusing on the relevance of informal farmer knowledge towards creating agricultural resilience. The study not only focuses on collaborative mechanisms among farmers, but also considers relationships with other institutions and actors, such as the actors of the agricultural knowledge and innovation systems (AKIS) actors, and cultural institutions as well as public organizations.

Learning mechanisms in practice and their relation to governance mechanisms

Cuéllar-Padilla and Ganuza-Fernandez (2018) discuss that collective buying groups foster collective and civic learning, by organizing a space for learning and experimentation towards changing of lifestyles to promote sustainable consumption and production, alongside linkages established through joint activities, mobility and sharing of resources. They favor decentralized modes of coordination, as these types of decentralized social networks play a role in the information sharing and cooperation of activities of the initiatives (Cuéllar-Padilla & Ganuza-Fernandez, 2018). The results (Cuéllar-Padilla & Ganuza-Fernandez, 2018) further suggest that the success of a social cooperative groups do not depend specifically on the organization type, such as CSA, but depends more on the ability to embed a certain organizational choice in the broader social network of organizations experimenting and learning on lifestyle changes for sustainable agri-food systems (Cuéllar-Padilla & Ganuza-Fernandez, 2018). Hatanaka (2020), on the other hand, focusing on the experience of a consumer cooperative by analyzing the type of knowledge brought to the group by consumers and expert members of the group, discuss how both technical and experienced-based, everyday knowledge sources are important to complement each other towards sustainability solutions. Hatanaka (2020) argues that technocratic forms of governance, including standards, certification and metrics, have become predominant in efforts to improve sustainability (Hatanaka, 2014). However, they have been also criticized from excluding important stakeholders from the processes and lacking the human and social dimensions of sustainability (Bacon et al., 2012). Hence, they demonstrate that the knowledge of everyday people is often different from, and complementary to, that of experts. In other words, the combination of both of these knowledge types are important and useful for improved understanding, innovative solutions, and public policies (Powell & Kleinman, 2008). Šūmane et al. (2018), on the other hand underline how informal local knowledge adds to farmers' confidence, professional satisfaction and autonomy, which, in turn, are

strong motivators for further learning. Informal learning networks ease innovation diffusion as farmers more readily adopt practices utilized by their peers. Importantly, knowledge obtained from family or neighboring farmers is often the initial motivator and guide into agriculture for young and new farmers.

2.3.3. Learning outcomes identified

In this literature review, we have focused on a diverse range of short food supply chain initiatives, which were explored through different theories and frameworks. This section brings together, the learning outcomes experienced as a result of participation in these initiatives, as explained in the literature, in the differentiation between consumers and producers.

Consumers' learning

When we focus on consumers' learning, a big majority of the literature explored in this paper drew attention to the way that consumers, as a result of being engaged in SFSCs, learn about the story and background of the producers, and a cultural significance behind a product, tied to its place of production (Opitz et al., 2017; Volpentesta et al., 2012; 387, Ammirato et al., 2013; Hatanaka, 2020; Montefrio & Johnson, 2019; Sacchi et al., 2018; Kerton & Sinclair, 2009). They also recover skills and knowledge, about agricultural production, ways to preserve the vegetables, waste management practices, technical information about the specificities and seasonality of food, the nutrients, peoples' diets as well as new recipes, new ideas, and new ways of thinking (Everson, 2015; Opitz et al., 2017; Montefrio & Johnson, 2019; Kerton & Sinclair, 2010; Torjusen et al., 2008; Andreatta et al., 2008; Volpentesta et al., 2012; Minaker et al., 2014). Besides, participants learned about farmers' perspectives, such as economic requirements, workflows on the farm and efforts and requirement of distribution practices, as well as the realities faced on the farm and producers' constraints and challenges (Volpentesta et al., 2012; Everson, 2015; Ammirato et al., 2013; Kerton & Sinclair, 2009), while growing a sense of increased appreciation toward the producers (Montefrio & Johnson, 2019). Furthermore, consumers also noted to have gained knowledge and awareness about the other participants in the group (Montefrio & Johnson, 2019). Opitz et al. (2017) explain that while learning about cultivation, consumers also gained in-depth knowledge about aspects such as dependency on external factors, cultivation planning, cultivation techniques, crop-rotation and yields. For instance, they describe how droughts or hailstorms may destroy the harvest, and how farmers can adapt to these climatic events. The participants also mentioned about realization of the climate change,

mentioning that learning about the external factors was a process of "learning-by-doing". Meanwhile, Vogl et al. (2004) report learning effects in self-harvest gardens due to mutual visits, where consumers' involvement in agricultural practices enable them to understand the conditions, challenges and risks farmers have to cope with (Opitz et al., 2017). Furthermore, members noted that being part of the initiative further triggered them to research on internet about the vegetables they were buying and try to actively learn about new recipes that can be used.

On the other hand, other studies that focused on the knowledge and learning of consumers towards wider sustainability and local system perspectives, note that participation in these initiatives enabled learning opportunities for consumers about the limits and opportunities of local food systems (Milestad et al., 2010), and the importance of mobilization of knowledge and changing of consumption paths towards reaching sustainability goals. Some participants gained social and economic knowledge, such as a broader understanding of globalization and its impact on local food economies, or about the biophysical impacts of conventional farming and the interconnectivity of systems (Kerton & Sinclair, 2009). Some participants mentioned that they now see participation in these types of initiatives as an opportunity to mobilize know-how for achieving fundamentally different, sustainable lifestyles (Hennchen & Pregernig, 2020), as they gained an awareness about local food and agricultural practices, and established re-connection to the nature, even though the degrees and themes varied (Sacchi et al., 2018).

Producers' learning

In this section, we present some studies that focus on farmers' learning as a result of their interactions with consumers, interactions and peer observations of other farmers and interaction with other organizations. Producers' interactions with consumers led them to face new systems of activities, and new technical, managerial and marketing choices, in addition to details about consumers' taste, culinary uses, which make it possible to generate ideas about new products or services (Volpentesta et al., 2012; Milestad et al., 2010). These in turn enable farmers to develop new ways of marketing their products, through continuous feedback being received by consumers (Volpentesta et al., 2012; Milestad et al., 2010). Zamudio et al. (2016) add that farmers attained significant contribution from peer observations, through gaining knowledge about product pricing or marketing methods (Zamudio et al., 2016). In some cases, however, the studies, also underline that "threat of competition" in some cases, such as at the setting of farmers' markets or farmer

clusters, in some occasions prevented farmers' collaborative learning experiences (Zamudio et al., 2016). Beckie et al. (2012), focusing on how farmers share informal information within farmers' markets add that by visiting many different markets each week and moving across the landscape, some farmers not only learn from other farmers but also "pollinate" each market with new products, innovative displays, and marketing ideas.

Some studies focus on skill generation as a result of learning mechanisms (Šūmane et al., 2018), mentioning that by participating in informal knowledge and experiential learning practices, farmers gained confidence, professional satisfaction and autonomy, and capacity to act, innovate and adapt to changing conditions, which also provides a strong motivation for further learning (Šūmane et al., 2018). Meanwhile, this confidence created is also argued to be important for farmers' to "fight for their rights", rather than accepting and implementing any directive that is imposed on them (Šūmane et al., 2018; Darnhofer & Strauss, 2015). Šūmane et al. (2018) further explain that farmers also gain important technical knowledge, and consequently they generally used less intensive farming techniques and their farming methods are more rooted in natural processes, which result from specific local knowledge and create less environmental pressures (Sumane et al., 2018). These farmers often grew diverse crops and varieties, or better managed the agricultural landscapes, as a result of gaining knowledge about climate-smart agriculture, contributing also to agro-biodiversity.

2.3.4. Learning by different type of SFSCs

In this section, by using the table below, we present the aspects that allow for learning to take place, and the relevant learning outcomes, differentiating between different types of SFSCs, as found in the literature, namely: self-organized collective buying groups (box schemes and community supported agriculture practices), farmers' markets and urban agriculture/gardens. It is possible to see that different SFSC types have different organizational structures that allow them to provide different types of relationships and interactions among their actors or participants, in other words between consumers and producers, consumers and consumers, and producer and producers. The depth and kind of knowledge shared between the actors, meanwhile, is dependent on factors such as by (i) kinds of knowledge formats, (ii) frequency of knowledge transfer, and (iii) contents of knowledge transfer (Opitz et al., 2017).

Table 7. Learning according to different types of SFSCs

Type of SFSC	Aspects/structures that allow/facilitate learning	What are learning outcomes
Box schemes	• Interactions rest on receiving weekly vegetable and fruit baskets directly from producers	• Knowledge gained by consumers are limited to knowledge about vegetables, seasonality of food, new recipes, knowledge on food storage and waste management • Increased awareness of sustainable food systems
CSA initiatives	• Interactions rest on (repeated) dialogues – personal relations/friendships triggered • Linkages established through joint activities, mobility and sharing of resources • Consumers spend more time with other consumers and farmers, and in some cases on farms or production sites • Greater trust (and respect) between consumers and producers built • Sharing of experience, narratives, values or cultural elements	• In addition to all knowledge gains of box-schemes (above), consumers gain knowledge on realities of farming, farmers' perspectives and wider understanding and awareness towards local and global food systems • Informal and social learning through experience sharing, and learning-by-doing • Exchange of local lay knowledge (or traditional knowledge) – technical knowledge utilized by farmers to grow food in the specific agri-ecological context • Desire to learn more: as consumers learn in these groups, they are motivated to learn more by their own means of further research • Sustainable practices learnt and lifestyle changes triggered: more engaged with environmental or social justice issues.
Farmers' Market	• Interactions between consumers and producers may come in many types: simple greeting, a conversation to catch up with a friend, a financial transaction as one makes a purchase, or an informational inquiry about production practices • Creates opportunities to a wide range of actors to meet, get acquainted, interact, collaborate and exchange knowledge • Mobility of actors within and between farmers' markets enhanced, allowing interactions with consumers, but also with other farmers, market managers, local actors	• Farmers learn which crops to grow, customers learn which of the market stalls sell a certain tomato variety; food actors develop knowledge about other actors' values and priorities, not in order to control them, but for the purpose of understanding and relating to each other and the context • Farmers develop entrepreneurial knowledge and skills - through the accumulation of relevant experience, ongoing experimentation, and, and interpersonal exchange among relevant actors, including producers, consumers, as well as competitors • Diffusion of knowledge and best practice take place, which lead to innovation • Informal knowledge gained adds to farmers' confidence, professional satisfaction and autonomy, which, in turn, are strong motivators for further learning • Leads to farmers more readily adopting practices utilized by their peers • Knowledge obtained from peers is often the initial motivator and guide into agriculture for young and new farmers

Type of SFSC	Aspects/structures that allow/facilitate learning	What are learning outcomes
Urban agriculture/ self-harvest gardens	• Provides a space where consumers spend more time on gardens or production sites, and spend more time with other group members • Food learning spaces, where individuals from different generations may become engaged	• As consumers spent more time on production sites or gardens, the more extensive their knowledge became about the realities of farming, farmers' perspectives and wider understanding and awareness towards local and global food systems • Technical knowledge about farming practices • Learning is informal, experienced-based and achieved by learning-by-doing, and by observing others • As people from different generations come together, intergenerational learning also take place

Food community networks (FCNs) are defined as a governance structures where "highly motivated" consumers and producers strongly integrate their functions by organizing groups in which resources, decisions, and responsibilities are shared among participants (Pascucci, 2010). Community supported agriculture (CSA) initiatives and solidarity purchasing groups (SPGs) are examples of these networks, where the "community" aspect is of critical importance, and trust and shared values are important in shaping the dynamics in these communities. CSA initiatives show the highest level of consumers' participation, and are based on long-term relationships for the supply of local food products, and maintain a high sense of community (Pascucci et al., 2013). Besides, the governance mechanisms in these groups are based on intense resource pooling (Pascucci et al., 2013). Pascucci et al. (2013), in their research, explain that in these networks, although resource pooling and sharing is slightly different between consumers and producers, both consumers and producers provide their knowledge, while producers also provide, in addition to their knowledge, their specific skills (Pascucci, 2010). All of these characteristics and governance structures of CSA initiatives, including, long-term relationships, "community" aspect that is shaped by trust and shared values, intense pooling of resources including knowledge and skills, all help us understand how learning and knowledge sharing are experienced in these groups. The intensity and long-term characteristic of these interactions, hence, explain why CSA initiatives lead to a higher level of knowledge sharing and learning, as opposed to box schemes, where the limited amount of time spent together (with other consumers and producers), lead to this knowledge transfer to be limited to specificities of the products that consumers are receiving each week, and an increased awareness towards local food and sustainability of food systems. While, these aspects are important,

higher involvement and motivation of consumers in CSA initiatives point to a higher level of consumer learning and lifestyle changes towards sustainability (Cuéllar-Padilla & Ganuza-Fernandez, 2018)

On another point, in the case of collective buying groups (including both CSA initiatives and box schemes), there is limited competition among members (Pascucci et al., 2013). In farmers' markets (FMs), on the other hand, the interactions between farmers take place, also in the existence of a competition among farmers. Ammirato et al. (2013) argue that mobility of actors within and between farmers' markets enhanced transfer of knowledge and skills, like in the case of clusters (Hinrichs et al., 2004). A cluster is a geographical concentration of firms (Porter, 1990), which is usually used to refer to clusters of technology firms. Porter (1990), while defining this concept acknowledged that clustering (of firms) provides a mechanism for exchange of information among these companies while they maintain their rivalries (Fallah et al., 2004). Besides, firms located in these clusters are argued to be benefiting from territorial learning and knowledge spillovers. In the FMs, the proximity of farmers to each other, while selling their products in market stalls, result in exchange of conversations or ideas, in a similar way. While, proximity and "clustering" of farmers may allow for sharing of conversations and ideas, the level of in-depth knowledge sharing or collaborations may depend on how each farmer perceives other farmers, in terms of competition. In FMs, it is often the case that consumers that regularly buy their food products from FMs prefer to stick to the farmers they already know and established an ongoing relationship. In the case that farmers are confident that their "regular" customers will keep buying from them, or in a similar way, think that each farmer has a different customer profile, they may not see other farmers as rivals to their business. On the other hand, while focusing on the exchange of knowledge or information between producers and consumers in the setting of a FM, Brunori et al. (2016) argue that, the interactions between consumers and producers may come in many types, such as a simple greeting, a conversation to catch up with a friend, a financial transaction as one makes a purchase, or an informational inquiry about production practices. In this regard, they differentiate between these types of interactions, and note that if the type of interaction shared leads to consumer learning, then they are "meaningful" interactions.

Finally, in the case of urban agriculture practices, the extent to learning and sharing of knowledge depends on how much time the consumers (or participants) spend time on production sites, or gardens/farms, and how much time they spend with producers (or other consumers).

Meanwhile, consumers that engage with production activities themselves may also learn about realities of farming, seasonal aspects, in addition to farmers' perspectives, conditions, challenges and risks that farmers have to cope with, and wider understanding and awareness towards local and global food systems. Opitz et al. (2017) explain that while learning about cultivation, consumers also gain in-depth knowledge about aspects such as dependency on external factors, cultivation planning, cultivation techniques, crop-rotation and yields. Hence, in the case of urban agriculture and self-harvest gardens, learning-by-doing and experiential learning mechanisms are in practice.

2.3.5. Challenges and links to policy

Only a few of these studies explored have focused on barriers, challenges and the way forward in terms of policy implications to enhance knowledge exchange and learning in alternative food initiatives. Some of the barriers mentioned centered on lack of new business opportunities of farmers, resistance to collaborative opportunities and lack of involvement and willingness to engage in learning opportunities, as well as limited capacity to learn through experimentation (Zamudio et al., 2016). This resistance, when present prevented peer-to-peer exchanges of insights and knowledge (Zamudio et al., 2016). One recommendation for compensating for the limitations of entrepreneurial learning through the accumulation of experience, experimentation and constructive interaction is to expand the diversity and accessibility of non-formal curricula and programs (Zamudio et al., 2016). Guzmán et al. (2012), while stressing the need to integrate food political theory, environmental sustainability and social justice issues into food curricula to allow students an opportunity to understand the current injustices in food systems, also draw attention to the need of establishing non-formal education activities outside of the classroom for urban food producers in the form of informal discussion groups or through sharing sessions (Guzmán et al., 2012). Beckie et al. (2012) argue that the public sector could play a more prominent role in supporting expansion of the social and physical infrastructure needed for future cluster development of farmers' initiatives, such as those of farmers' markets, as part of a broader collaborative strategy involving public, private, and social economy sectors in the scaling up alternative food networks. Šūmane et al. (2018), on the other hand recommend the supporting of local-level initiatives that are particularly beneficial for making better use of existing local knowledge, through networking, cooperation, mentoring, exchange of experiences and young farmers' projects. Advisory services could be involved in such joint learning initiatives acting as a professional knowledge mediators and facilitators.

2.4. A proposed framework towards exploring knowledge transfer and learning in SFSCs

Departing from the theories, frameworks and some of the learning outcomes found in the literature that we have discussed in the previous sections, this section aims to propose a framework that can guide future research and address gaps in the literature associated with learning and knowledge transfer within SFSC initiatives. So far, our study showed that numerous theories have been utilized in the literature to explore this phenomenon, including prominent theories of transformative learning (Mezirow, 1978), social interaction and learning, inspired by Bandura (1977), social capital theory (Nahapiet & Ghoshal, 1998), consumer-producer interactions (CPI) (Opitz, 2017) and actor network theory (ANT) (Sacchi et al., 2018).

These theories often explored learning of individuals or group of individuals through social relations with others actors in the groups. While, learning through social relations is critical to SFSCs, it can be argued that there are more dimensions that can be explored in order to understand how learning can take place in SFSCs. Towards this direction, in the rest of this section, we refer to three prominent theories, namely, experiential learning theory (Kolb, 1984), the community practice theory (Wenger, 1998) and the activity theory (Engeström, 1987), that have been used widely in the literature to explore different types of learning in many different fields, including but not limited to information systems (Zins, 2007), healthcare (Wiser et al., 2019), online communities and online community education (Barab et al., 2001; Ghobadi, 2013). The reason why we propose to use these theories in a combined manner is that when their components come together, they can explain a few of the most critical ways of how learning occurs in SFSCs, namely through how an individual learns through experiencing in these groups by social interactions, or simply by learning-by-doing, or watching others, in addition to how the learning of the individual is shaped and fed by being in a community. Here community is not only explained through social relations that it entails, but in addition, how an individual's own beliefs, identity, his or her understanding towards SFSC initiatives and in turn learning, is shaped as a result of being part of a group. In the same way, all members of the community continue their learning experience, and hence in a way, while they are going through the learning experience, also contribute to the mutual learning of others, and the shifts or changes that happen in the community as a whole. In summary, we argue that the individual learning and learning through being in a community can be explored together in order to comprehend the mechanisms associated with SFSC initiatives.

We discuss below the components of the aforementioned theories in detail, and how when they come together, can provide the basis for understanding how learning takes place within SFSCs. As far as we know, a learning framework specifically adapted for SFSCs do not exist in the literature, hence our work could contribute to the efforts of identifying learning mechanisms and outcomes of SFSCs, or more generally, local food systems.

SFSC initiatives provide specific learning spaces where consumers and producers come together with shared motivations around food, and through interaction, they ask questions, share solutions, exchange ideas, experiences and knowledge. In some cases, where consumers have a direct access to farms or urban gardens, they perceive agricultural practices, they get to practice them, observe farm conditions, seasonal aspects, and be part of the production processes; in other cases, they share with each other recipes or ideas about how to reduce food waste or pursue food storage, while producers exchange information about which associations, or unions they are part of, or the methods they use for pest control, or other challenges that they may encounter. In other words, both producers and consumers through differing forms of social interactions, share informal or tacit knowledge, and either intentionally or incidentally over time, go through experiential learning mechanisms, either by learning by doing, or learning by observing, or experience-sharing. Due to these aspects of SFSC initiatives, we argue that Kolb's experiential learning theory (1984), which explains the concrete stages of the learning process experienced by individuals, may provide a suitable representation of the experiential learning that takes place in SFSC initiatives, among and between consumers and producers. The main aspect that differentiates Kolb's model from other active learning approaches is that his model considers experience as the foundation of learning (Konak et al., 2014), and for this reason, this approach fits well with the learning that takes place within SFSCs, which is mainly experience-based, informal and does not depend on didactic learning approaches, where the roles of a teacher and a learner are defined. Rather, in SFSCs, all participants of the system act as both teachers and learners, and the learning takes place through interaction, doing, and experience. Figure 2 below shows the experiential learning model in question.

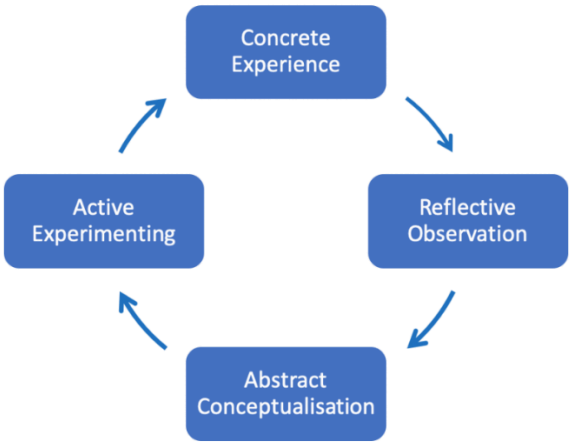


Figure 2. Experiential learning theory (Kolb, 1984)

The model has been criticized for numerous aspects. First of all, and most importantly for the purposes of our study, Kolb's model focuses on the development of individual knowledge, and does not account for the social or the community context (Hart, 1992), nor the historical and cultural aspects of learning (Beard & Wilson, 2013). Moreover, Forrest (2004) notes that learning does not typically take place in sequential, ordered steps, but rather steps overlap. Furthermore, this model does not focus on the institutional framework, roles of participants (that are often producers, consumers and at times SFSC managers), or other stakeholders, such as those collaborators or volunteers that facilitate the process, or other contextual aspects, such as relationships with other organizations, or policy contexts, which may directly or indirectly affect the learning mechanisms in the case of SFSCs. For this reason, we argue that the theories of community of practice and activity theory, may be useful to add some of these missing ingredients into a proposed learning framework for SFSCs.

The Community of Practice (CoP) theoretical framework was first proposed by a joint work of Wenger and Lave (1991), and was then expanded further by Wenger (1998). Moreover, a primary focus of Wenger's more recent work is on learning as social participation – the individual as an active participant in the practices of social communities, and in the construction of his or her identity through these communities (Wiser et al., 2019). According to the theory, the participants in CoP generate knowledge as they interact with each other, share information, experience, insight and advice and help each other solve problems. Hence, communities of practice can play a significant role in the transformation of learning practices from individuals to networked learning communities (Bugmann et al., 2011). CoP consists of a shared domain of interest, a group (community) of persons

interested in this domain and a shared practice to increase the effectiveness of each member in the domain (Wenger et al., 2002a). They are set apart from other communities by a special kind of practice, forming a joint enterprise with joint activities, and a mutual engagement to develop a shared repertoire of knowledge and competences, and build relationships that enable learning from each other (Wenger-Trayner, 2000). Wegner recognizes these elements as being deeply interconnected and mutually defining (Wenger, 2004). The figure 3 below shows the interaction of these components in the scope of the social learning mechanism proposed by the CoP theoretical framework.

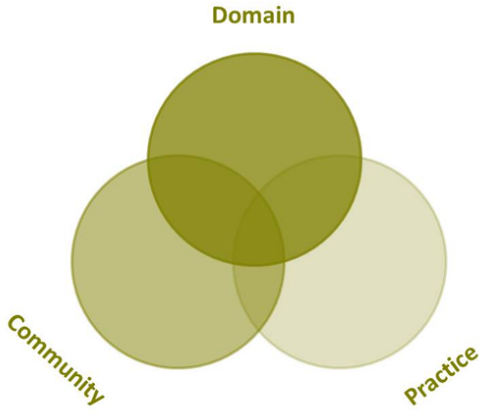


Figure 3: Community of Practice Theory (Wenger, 2002; Byington, 2011)

We argue that SFSC initiatives fit the definition of "Communities of Practice" proposed by Wenger et al. (2002) in their book, Cultivating Communities of Practice, as groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis (Wenger et al., 2002b). In their study, Wenger (2004) also introduced the roles of leaders and facilitators. They explain that typically, the leader is someone who is well respected within an organization, and often holds a leadership position, while being responsible for spreading the word about the group, recruiting members, and providing resources for group activities. The facilitator, on the other hand, is responsible for the group's day-to-day activities. The involvement of a facilitator is regarded as one of the most frequently observed features in the subsequent studies of CoPs, some of which link the success or failure of the group to this role (Li et al., 2009). However, the actual responsibilities and the organizational support provided for this role vary across studies. Our research showed that although SFSC initiatives may often be self-organized and self-governed by a group of people that

take responsibility in these groups, there is still the case that the role of a leader is often observed, as SFSCs are either initiated by the initiative of a person or a few individuals, who bear the responsibility and leadership. In terms of persons, or groups taking the role of the facilitator, we can argue that for SFSCs the role of volunteers are of utmost importance, who can be regarded as the facilitators for consumers and producers to come together, and who make sure the daily operations are performed, and communication within participants are managed, and the harmony within the group is enabled. Moreover, in the case of SFSC initiatives, there may be other facilitators, apart from those that are facilitating the daily operations of the group. External stakeholders or collaborators such as local initiatives, NGOs or municipalities who share a similar aim and motivation of those of SFSCs may act together towards the same goal. In these occasions, these organizations may act as outsider facilitators, who may donate resources, the market place, in the case of farmers' markets, or the space or premises where SFSC participants meet. In other cases, researchers, who come into contact with initiatives such as those of SFSCs, as part of an action research framework, may provide guidance and facilitation that allow for critical reflection throughout the engagement process (Nurick & Apgar, 2014).

Meanwhile, Activity theory (AT), also sometimes called Cultural Historical Activity Theory (CHAT) seeks to create an account of human cognition in which people, their intentions, tools, culture, and encompassing social structures are all considered as inherently inseparable components of human activity which constitute thought (Devane & Squire, 2012). Engeström (1987) articulated the clearest distinction between the earlier propositions of the framework through Vygotsky's concept of "mediation" (Baran & Cagiltay, 2010), and Leontiev's second generation CHAT (Leont'ev, 1981). This model proposes to explore the learning processes and their outcomes, in complex dynamic environments, where people act together and where socially constructed, collective knowledge is the predominant source of learning, creativity and innovation (Hashim & Jones, 2014). Engeström's modification includes two additions to Vygostky's original theory, namely, the rules, which are set of conditions that determine how individuals act the way they do as a result of social conditioning; and division of labor, which is the distribution of actions and operations among the community (Hashim & Jones, 2014). The figure 4 below displays Engeström's adapted second generation CHAT model (Engeström, 2001).

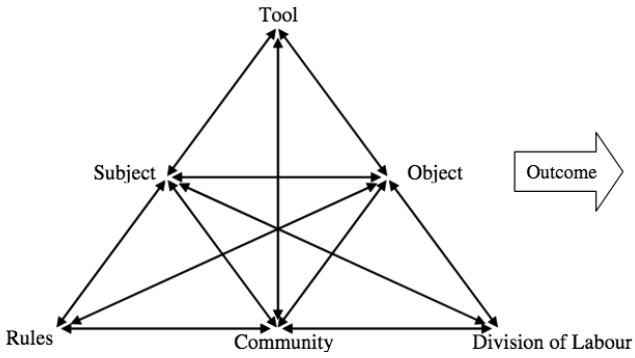


Figure 4. Activity Theory Model (Engeström, 2001)

In this model, an activity is composed of a subject (a person or a group engaged in the activity), an object (the objective, task or purpose of the activity), and tools, as proposed by the original theory, and yet is extended further, so that the activity occurs in collaboration with others (the community). The structure of the activity is also shaped and constrained by the socio-cultural factors of the rules and the division of labor which exist within the context of the activity. The subjects, while using the instruments, obeying rules (formal or informal), and conforming divisions of labor (through roles attached to each participant), they also continuously adapt and transform them, consciously or unconsciously (Hashim & Jones, 2014b), so the system is never constant, and always evolves. The AT framework has been used widely for understanding the social structure of and learning dynamics in classrooms, workplace community, or online environments, which study the learner both in an individual group and in a large community (Barab et al., 2001; Engeström, 2001; Barab et al., 2003). We believe that this framework could be also utilized to explain consumers' and producers' learning processes in SFSCs, both on an individual as well as on a community level. In SFSCs, participants exist as a part of the social culture and set of norms and rules, that determine the way food is procured, as well as how interactions take place, that lead to learning processes. Mwanza (2001)'s eight-step model, where he operationalizes Engeström's activity framework, use open-ended questions based on each of the individual components of the theory. The open-ended questions, which can also be utilized to provide answers to how consumers' and/or producers' learn and transfer knowledge within SFSCs, are as follows: (1) Activity - What sort of activity am I interested in?; (2) Objective - Why is this activity taking place?; (3) Subjects - Who is involved in carrying out this activity?; (4) Tools - By what means are the subjects carrying out this activity?; (5) Rules and Regulations - Are there any cultural norms, rules and regulations governing the performance of this activity?; (6) Division of Labor - Who is responsible for what, when carrying out

this activity and how are the roles organized?; (7) Community - What is the environment in which activity is carried out?; (8) Outcome - What is the desired outcome from this activity? Having discussed these three prominent theories, and pointed out to components that may serve as facilitators to explore learning mechanisms within SFSC initiatives, we bring these components together below in Figure 5 in an attempt to contribute to future research in the area of learning in SFSCs.

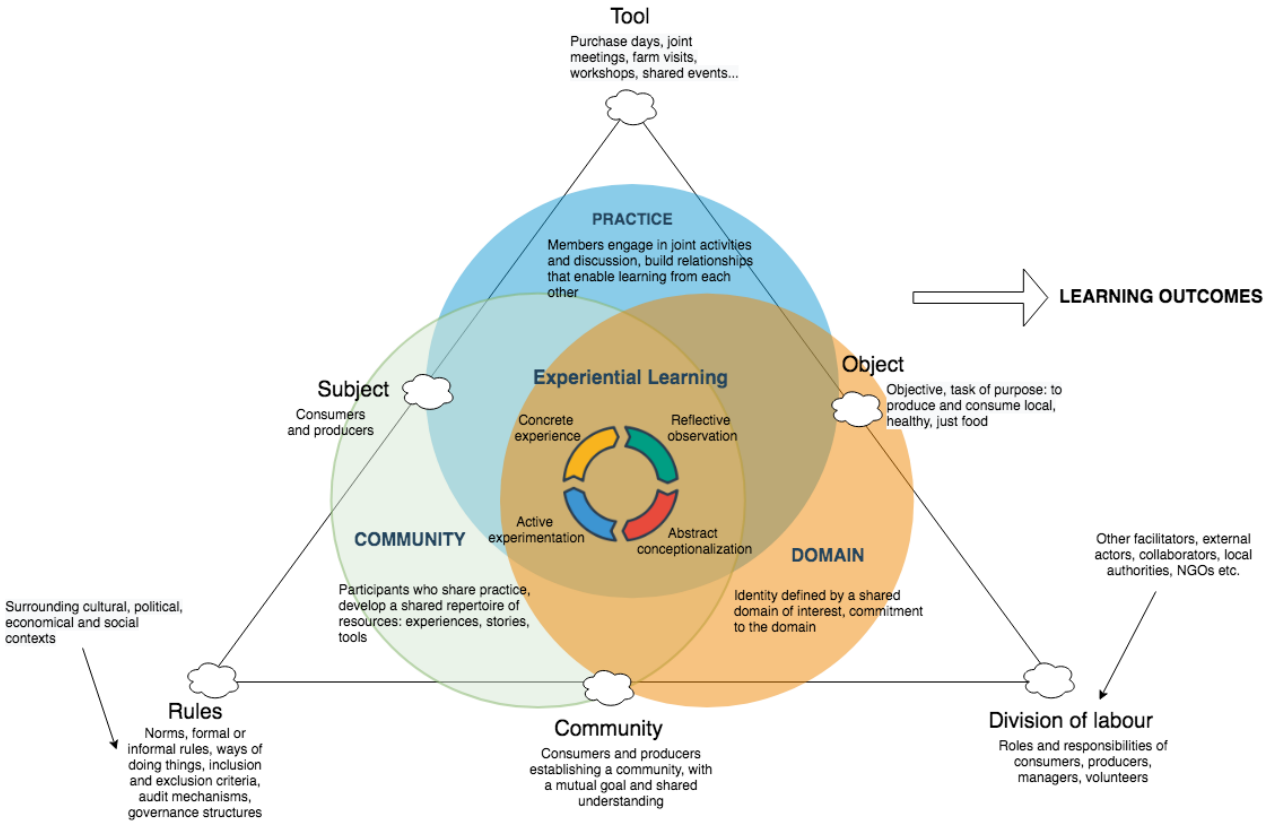


Figure 5. An adapted experiential learning theory for SFSC initiatives (Elaboration of the authors – based on Kolb, 1984; Etienne and Wenger, 2015; Engeström, 2001)

Our adapted theory is based on the idea that within SFSCs, experience is the foundation of learning, and consumers and producers, who are the main actors that pursue the necessary activities within SFSCs, are also the main actors who go through a learning experience. For this reason, at the heart of the figure above, Kolb's experience learning cycle (1984) is found. We argue that all of the components found above work together, which in turn leads to an experiential learning process and the related learning outcomes. Kolb's experiential learning theory alone, is unable to explain the community aspect of learning, which in fact, is the most important source of learning in the case of SFSCs. In other words, the knowledge, information and experience sharing as well as observation

among and between both consumers and producers, is the main source of their experience, and hence, learning. In order to incorporate for the community component of learning in SFSCs, among other aspects, which we explain below, we borrow components from two other theories, namely Activity Theory (AT) and Community of practice (CoP). To begin with, both of these theories have the component of Community. In the scope of the CoP theory, which is shown by the three intersecting circles in our diagram, community is consisted of participants who come together around a shared domain – in our case the committed producers and consumers who wishes to establish a space, where local, ecological, healthy, quality and ethical food is produced, purchased and consumed. Besides, the members of the community, then engage in a practice together – which in our case is consisted of purchase days, organized events, workshops, meetings and farm visits. The practice component, that is part of the CoP theory, is also covered by the Activity theory, with the "Tool" component, which represents all the tools, through which the desired activity is performed, towards a desired objective. Therefore, while, the two theories in question can explain the influences of a shared domain/objective, a shared practice/set of tools, and the aspect of community, - which when all come together, leads to experiential learning mechanisms to function -, two other components come from the Activity theory to complete the framework; and these are rules and division of labor. Rules can be explained as all the norms, formal and informal rules of the SFSC initiatives, as well their inclusion criteria, audit mechanisms and all aspects that determine their governance structure. These aspects have utmost importance for the functioning of these initiatives, but also influence the knowledge transfer and learning mechanisms that take place. We further added the surrounding economic, cultural, social and political contexts into the framework, arguing that all these external aspects directly or indirectly affect how things are done within SFSCs, as they do not exist in isolation, but function as part of, and in line with their surrounding contexts. Division of labor, on the other hand, explains roles and responsibilities of each actor that makes the system function. In our case, while consumers and producers are the main actors that take part in the organization and governance of the initiatives and production processes, volunteers take very important roles for the initiatives' daily operations, enabling communication between the producers and consumers and other actors, as well as allowing for the purchase days, or the markets days, or shared events to take place. Managers, who usually take part in the organization of farmers' markets, are also important actors, that make these days possible. We also argue that relationships with external actors are also significant for the functioning of SFSCs, and these should also be incorporated into the framework. Although in differing levels, external actors and organizations,

such as local municipalities, local NGOs, other local communities may act as important collaborators in many ways, supporting some of the activities performed, or by providing financial resources, or even by donating the spaces, and premises where activities or meetings are held. All in all, we argue that the experiential learning mechanism, that is experienced by individuals, as a result of their engagement in the community, are affected directly or indirectly by all these aspects explained within the framework. The learning process cannot be considered in isolation, but is related to the whole system, hence, in order to explore this mechanism, it is important to consider all of these components in the framework, and their relation to the experiential learning processes.

In this regard, it is important to underline that this proposed model incorporates aspects of "division of labor", where consumers, producers and volunteers have clear roles and responsibilities within the groups, and "community", in the scope of which consumers and producers establish a community, with a mutual goal and a shared understanding. For this reason, the proposed model fits well with those SFSC initiatives, which also embody aspects of a "community" and a "division of labor", such as community supported agriculture, collective buying groups or solidarity purchasing groups. Pascucci (2010) gives the term "Food Community Networks (FCNs)" to define a governance structure where "highly motivated" consumers and producers strongly integrate their functions by organizing a "club", in which resources, decisions, and responsibilities are shared among participants, towards more sustainable, just, and resilient food systems. FCNs, particularly community supported agriculture (CSA) initiatives show the highest level of consumer participation, and are based on local food supply and maintain a high sense of community (Pascucci et al., 2013). Moreover, the governance mechanisms used in FCNs are based on resource pooling (Pascucci, 2010), vertical integration between consumers and farmers leading to the constitution of a hybrid such as a formalized network (Pascucci et al, 2013). In these networks the division of labor among consumers and producers in terms of resource pooling and sharing is such that, consumers provide time, information, knowledge and financial resources by participating directly in the organization of the production process, and farmers provide land, capital assets in addition to their skills and knowledge (Pascucci, 2010; Pascucci et al., 2013).

2.5. Discussion: lessons learned from literature and implications for further research

The complex nature and processes of knowledge transfer and learning in various settings or domains have been widely analyzed in the literature. In the previous sections, we have considered theories and frameworks that were used to explain these mechanisms within the context of SFSCs. Each of these theories or frameworks used, focused on addressing different aspects related to learning and knowledge transfer, which we have grouped under 5 categories: (1) Consumer-production interaction-based models, (2) Transformative learning models as an adult learning process, (3) SFSCs as innovative learning spaces, (4) Sustainability indicators approach, and (5) Collaborative governance approaches. Among these, mainly those studies that fell under the category of transformative learning theories aimed to extend the research a step further to explain, what actually happens or might happen, after learning takes place. In these studies, how learning may lead to behavioral change (either on the side of the consumers or producers), and then how this behavioral change may lead to sustainability outcomes were also discussed. We argue in this sense that establishing a link between learning and its potential wider societal or sustainability outcomes in case of local agri-food systems can have significant research value and can prove to have important implications for policy. For instance, if we know the ways through how being part of or having experiences related to SFSC initiatives may lead to behavioral change for both consumers and producers, then providing linkages between these initiatives and formal education institutions, in the form of courses, field work, internship or term projects, may extend the learning effects of SFSCs beyond their own members. On the other hand, consumer-producer interaction models, focused more on the relationship between consumers and producers, and how this influenced their learning. For this reason, in these studies, both producer and consumer learning were mostly analyzed together, while in the majority of the remaining studies, the main focus was either on consumers' or producers' learning. While, focusing on one of these groups may allow researchers to explore more in-depth the learning mechanisms experienced, focusing on the learning experience of both producers and consumers would, in the meantime, provide a more holistic approach to the phenomenon being studied. In this regard, we argue that SFSCs provide one of the few possible occasions, opportunities, or spaces for producers and consumers to come together under the same roof, and to have direct interactions with each other. Hence, it is also not surprising that learning experiences studied within SFSCs are among the few fields, where learning between and across

consumers and producers was possible to observe. This is one of the reasons why focusing on learning within SFSCs can be an important and significant area of research.

On the other hand, the majority of research focusing on farmers' learning outside of the local food systems or SFSCs literature, mostly concentrated on impact of social networks (Skaalsveen, 2020) or extension services or farmer organizations (Maertens et al., 2020) on increasing the likelihood of small farmers to adopt innovative methods (Chavas & Nauges, 2020), including those regarding learning and employing agroecological practices (Padel et al., 2020), or on increasing their resilience or adaptive capacity (Le et al., 2017). Besides, the learning of farmers' through internet or social media channels were also the focus of an increasing number of studies (Bentley et al., 2019; Mills et al., 2019). Meanwhile, the consumer learning in the literature was captured mainly through studying the impact of social media, online means, websites, virtual experiences or social electronic word-of-mouth on the consumers' knowledge of products (Voramontri & Klieb, 2018; Cai, 2020; Lu et al., 2014; Daugherty et al., 2008); the relationship between consumer learning and brand selection and brand equity (Erdem et al., 1999; Akcura et al., 2004; van Osselaer & Alba, 2000); consumers' learning of health information regarding food or beverages (Huang & Liu, 2017); and impact of prior knowledge in learning about a new product (Hong & Sternthal, 2010). While, this body of literature mostly focuses on product choices, or knowledge of consumers regarding products, another body of literature concentrated on what is regarded as sustainable consumer behavior, and how it was thought and learned either in classroom contexts, or through project-based approaches to learning (Maher & Burkhart, 2017; Migliorini et al., 2020), and effects of consumer education programmes, curriculum development (Crafford & Bitzer, 2009), and training programmes offered by manufacturers (Fang & Xu, 2011). While, these studies could reveal important aspects that influenced learning from the perspective of either consumers or producers, as we stated above, they did not focus on the interaction between consumers and producers, and how these two groups learned from each other in a numerous and variety of different ways.

With an exception of a few studies, most of the research that are discussed in this review, came from the Global North, which is consistent with the fact that SFSCs literature in general also has been focusing more on the European and North American conception of them (Abrahams, 2006; Freidberg & Goldstein, 2011) rather than observing it in southern contexts and circumstances. In the Global North, the SFSCs mainly rise as an activist approach to revitalize just, safe and ecological production, while, in the Global South, rurality and peasants who grow food following traditional ways are still the major part of food production. Rather, the literature coming from the Global South

regarding learning mechanisms of local farmers mainly concentrate on small-holder farmer education, mainly through extension services, or special projects or programs to support underprivileged or remote farms (Maguire-Rajpaul et al., 2020; Jensen et al., 2019; Munthali et al., 2018; Leta et al., 2018).

Meanwhile, we observed that the literature focusing on the learning mechanisms in the context of SFSC initiatives mostly concentrate on only the mechanisms inside the initiative. This meant that the relationships and linkages with the other important actors of the local food systems, such as local authorities, local food organizations, NGOs, food banks, food hubs, or other citizen-led communities or initiatives were not taken into account. Literature on SFSCs widely mention the potential for these initiatives to work together with local municipalities or organizations towards achieving local development outcomes; however, we could not come across studies that have sought to focus on the possible knowledge transfer or learning outcomes of partnerships established between SFSCs and other local actors, or surrounding wider contexts. In addition, although SFSCs aim to bypass conventional means of production and consumption of food, it is important to note that these initiatives also do not exist in isolation, hence, relevant linkages to formal institutions as well as policy frameworks may also provide a more complete picture of the mechanisms that take place within the initiatives. In fact, some issues related to formal rules and regulations may also be among some of the factors that either promote or hinder knowledge transfer among farmers or other actors. Furthermore, the place of cultural values or traditions may also be discussed in explaining the rate of which learning or knowledge transfer take place among the actors of the SFSCs. Meanwhile, the relevance of other participatory or multi-actor governance mechanisms, such as participatory guarantee schemes (PGS) can be also assessed in the scope of SFSCs.

This study is subject to some limitations. First of all, the outcomes of the literature identification phase showed that the work on this specific topic has been limited and dispersed. While, this suggested further the necessity to study in this topic, it also made it difficult to make suggestions, statements or inferences, using the limited number of scientific papers, and thus, case studies, and country examples at hand. Secondly, this study, when presenting the findings of the literature review, has used a categorization in order to gather together the theories and frameworks used in the literature, for allowing an easier presentation of the results in this chapter. Due to the fact that it does not exist a prior classification or categorization associated with learning mechanisms in SFSCs in the literature up until now, we were not able to use a prominent or tested categorization to present

our findings. In addition, due to the variability of theories and frameworks used, in addition to the differences regarding the depth or approach of research carried out as part of each of the scientific papers, deciding upon categories have proved to be challenging. Thirdly, this study was able to suggest ways in which collaboration among actors of SFSC initiatives lead to learning outcomes, however, how learning would affect collaborative solutions was not studied as part of this study. While, we can argue that these two mechanisms would not work only in one direction, but rather would feed each other, future research can reveal how these two mechanisms affect and feed each other towards enhancing the functioning and solutions that SFSCs provide. Last but not least, while we propose a framework as part of this study, there was the absence of a practical example with which to test it. Further research is recommended on the topic, especially focusing on applications of experiential learning theories, that include a social and community learning perspective, like the one that is suggested in this study.

2.6. Conclusions and policy implications

This study aimed to review the literature on theories and practical implications of learning and knowledge transfer in the scope of SFSC initiatives, and further proposed an adapted framework towards exploring the learning mechanisms within these initiatives. In our study, we argue that while the local food and SFSCs literature is plentiful, rather limited number of studies focused on learning mechanisms within these networks; hence, this study, by bringing together the relevant literature on this topic aims to fill this gap. Towards this end, we discussed what kind of theories and framework have been utilized to explore this topic, and what are some of the learning outcomes revealed from the perspective of both consumers and producers. We also argue that although there are already different theories utilized in the literature to explore the learning of producers and consumers that are part of SFSCs, there is still a need to propose a theory that bases its foundation on the idea that within SFSCs, in the core of the learning process lies experience, which is gained through learning-by-doing, observation and interaction with others. For this reason, we proposed an adapted learning framework for SFSCs, where experiential learning is at the core of the learning process (Kolb, 1984), and two other theories, namely Activity Theory (AT) and Community of Practice Theory (CoP), work together to provide the framework with aspects such as engaging and learning in a community, a perspective of leadership, roles and responsibilities in a

community, as well as contribution of outside actors, which then all come together to lead to learning outcomes.

Besides, mechanisms and outcomes related to learning and knowledge transfer within SFSC initiatives are of important policy relevance too. While, many policy instruments require action and enforcement at the local level, either by individuals, local governments or local organizations or businesses (Dawkins et al., 2019), the sustainable consumption and production of food products carry significant importance especially in our day, which are directly linked to environmental and social impacts created around the world. In this regard, we see examples of local governments or institutions, which are willing to promote sustainable consumption and production through either direct intervention (such as sustainable procurement), or through indirect efforts (such as awareness raising campaigns or information sharing through different means). We believe that there are many opportunities for local authorities or organizations to join forces together with local food initiatives, such as those of SFSCs that we discussed in this paper, towards widening the impact of sustainable consumption and production efforts. These efforts can also include those of widening the knowledge base of both consumers and producers on a local scale. In other words, while there are many plausible efforts to enhance the knowledge base and awareness of consumers, and the capacity and skills of producers towards more resilient and sustainable local food systems, including but not limited to extension services, university courses, technical trainings, local projects, as well as awareness raising campaigns that are being implemented by a collaboration of different organizations, learning from the experience of SFSCs would also provide a wider perspective. Establishing appropriate links with SFSC initiatives on the ground, may provide an opportunity for understanding what are the most critical knowledge gaps of both consumers and producers on a local level, and which mechanisms are required to fill these gaps through adult or experiential learning mechanisms. Meanwhile, SFSC initiatives, by collaborating with other local organizations, also can gain knowledge and experience in the area of organization, management or financing, or widen their impact and reach further. In turn, filling the knowledge gaps of consumers and producers regarding sustainable production and consumption of food can contribute to the policy efforts of achieving sustainability solutions in the agri-food sector, while improving the skills and capacity of farmers may further contribute to the innovativeness of the sector. Meanwhile, supporting the knowledge base of SFSC initiatives, could in turn contribute to the flourishing of these initiatives, or at the least, allow for their survival. SFSCs are one of the numerous approaches to support small-scale farmers and contribute to their livelihoods and well-being. Hence, flourishing

of SFSCs could support small-scale farmers in many locations, and allow them to be part of communities of like-minded people, establish a variety of marketing channels to sell their products, and contribute to their household income and well-being.

Chapter 3

3. Exploring Governance Mechanisms, Collaborative Processes and Main Challenges in Short Food Supply Chains: The Case of Turkey

Abstract: There is a growing scientific interest and public debate on the potential contributions that Local Food Systems (LFS) and Short Food Supply Chains (SFSCs) can make towards overcoming sustainability challenges and creating societal impact. In the case of Turkey, where local agricultural systems are particularly vulnerable, lacking of resilience and innovative capacity, understanding the governance mechanisms of SFSCs would have strong implications for policy making. To this end, our aim in this study is to explore the mechanisms through which civil society driven SFSCs are governed in the city of Izmir (Turkey), referring to the actors involved in the process, institutional frameworks that are adopted and challenges experienced, that could inform policy discussions towards establishing more sustainable local food systems. In this direction, the questions we aim to answer are: (1) what are the mechanisms through which community level SFSCs are initiated and governed in the case of Turkey, (2) how collaboration takes place within these groups and through which processes, and finally (3) what the outcomes of these processes are, with respect to individual, community and local impacts experienced on the ground, and challenges associated with them. We use a descriptive case study methodology, to study seven SFSC initiatives (four food community networks, two farmers' markets and a local shop) in the city of Izmir; and collect data through qualitative semi-structured in-depth interviews (41 with producers, 32 with consumers, 11 with coordinators and 5 with experts). Our findings suggest that different mechanisms are at play within our cases, depending on aspects including their governing structures and their way and purpose of operation. While farmers had difficulties relying solely on their income from these initiatives for their livelihoods, organizational challenges experienced by food communities were mainly related to difficulties associated to managing tasks on a voluntary basis. Moreover, arriving at a shared understanding about mutual goals, in addition to finding a way to include stakeholders in the process, were among the most prevalent challenges of all initiatives.

Keywords: Short food supply chains; local food systems; collaborative governance; alternative food networks; governance challenges

Publication information: Kurtsal, Y., Ayalp, E.K., Viaggi, D. (2020). Exploring Governance Mechanisms, Collaborative Processes and Main Challenges in Short Food Supply Chains: The Case of Turkey. Bio-based and Applied Economics, 9(2):201-221. DOI: 10.13128/bae-8242.

Accepted: **2020-05-27** | Published Online: **2020-07-20** |

3.1. Introduction

Over the last few decades, a wide range of grassroots movements have been gaining momentum around the globe, through a range of collective practices that are organized around the idea of promoting more socially just, culturally appropriate, environmentally conscious and healthier ways of food provisioning for communities (Kirwan et al., 2013; Renting et al., 2003). These movements, that are often addressed to as Short Food Supply Chains (SFSCs) with regard to their willingness to directly connect producers and consumers in a locally embedded way, eliminating or reducing intermediaries, aimed at empowering consumers to shift to proactive actors, and rural producers to become autonomous providers of sustainable goods and services (Matacena, 2016; Lamine et al., 2012). These food networks have been analyzed widely in the literature, not only with regards to their capacity to create societal change (Seyfang & Smith, 2007), but also because they growingly claim new roles in governance mechanisms, through mobilizing new forms of relationships, values, knowledge and skills (Dominguez Garcia et al., 2017; Knickel et al., 2009). In this regard, the concepts of "food democracy", "food citizenship" and "Civic Food Networks (CFNs)" are increasingly being used in public discourse, drawing attention to the role of local actors, citizens and civil society in shaping the new governance mechanisms in the food system (Andrée et al., 2019). Seyfang and Smith, (2007) introduced the term grassroots innovations to describe networks of activists and organizations generating novel bottom-up solutions that involve people at the community level experimenting with social innovations and the capacity to build resilience at the local level.

In the case of Turkey, civil society-driven SFSC initiatives started to emerge in the second half of 2000s, as a result of the negative impacts of agricultural policies and the industrialization of the agri-food system on the farmers, rural populations and the agricultural sector as a whole. The Turkish agricultural sector, which was traditionally small-scale and peasant-based, has gone through an "agricultural reform" process starting with the 1980s, parallel to the international trends. In the 1980s, Turkey embraced free economic market principles and trends such as deregulation in agricultural processes. Within the export-oriented development model of the post 1980s era, agriculture was no longer considered as a major contributor to the economic progress in Turkey (Kadirbeyoğlu & Konya, 2017). Over the course of 2000s, after the Agricultural Reform Implementation Project (ARIP) was signed (Soysal Al, 2020; Karakaya, 2020), a fast liberalization process took place, during when, support to farmers, in the forms of inputs, subsidies, loans and

marketing facilities were drastically removed. This programme aimed at increasing the speed and efficiency of production, removing the burden on the state budget caused by the agricultural subsidies and support mechanisms, while mitigating the short-term negative effects of removal of support to farmers. However, increasing rural entrepreneurship or innovativeness of farmers were not on the agenda. As a result of such policies, agricultural input became increasingly more expensive and farmers were unable to receive stable or fair prices for their products. In this period, many farmers were bankrupt, leading to the gradual decrease of small-scale farming and a drastic drop in the rural agricultural population (Kadirbeyoğlu & Konya, 2017). During this period of industrialization of the agri-food system, the contract-farming between farmers and agri-food companies also rose significantly, and farmers were no longer able or allowed to decide the type of crops and seeds used for production, the time of cultivation, or the amount of pesticides, synthetic fertilizers or industrial seeds to use, that were decided by the contracting agri-food companies. In this way, the knowledge and experience owned by farmers lost its significance and importance, since, farmers' knowledge or decisions were no longer necessary in the production process. Hence, agricultural policies or government programs that considered farmers' adaptation mostly from a technical standpoint, did not adequately address structural problems that have resulted in the vulnerability of farmers in the first place (Adaman et al., 2020).

Within this regard, it can be argued that the emergence of SFSC initiatives in Turkey during the second half of 2000s is merely a coincidence. Kadirbeyoğlu and Konya (2017) argue that SFSCs in Turkey tend to emerge as part of or as a result of three main processes: (1) environmental struggles such as anti-mining social movements, (2) solidarity movements with farmers to support their rights or to increase their well-being (e.g. union activism such as labor unions or farmers' unions), or (3) collective demand and search for healthy and affordable food. It is possible to argue that the goals and concerns of SFSC initiatives in Turkey are in harmony with, and closely linked to the rural development goals and efforts that are adopted on a local level. Rural development is one of the most important topics in Turkey's regional development strategies (Yaşlak, 2016), and to promote rural development, agriculture is one of the main tools, and locality is of utmost importance when it comes to implementing rural development strategies related to agriculture. For this reason, SFSC initiatives in Turkey have significant relevance in allowing producers to deliver their products and contribute to local economic development (Paul & Mc Kenzie, 2013; Pothukuchi, 2009; Öztaş & Karaaskan, 2017; Yaşlak, 2016). Besides, SFSCs can work hand-in-hand with rural development plans, in contributing to objectives of accessing healthy food and allowing food security.

In this study, our aim is to explore the mechanisms through which civil society driven SFSCs are governed in the city of Izmir (Turkey), referring to the actors involved in the process, institutional frameworks that are adopted and challenges experienced, that could inform policy discussions towards establishing more sustainable local food systems. In this respect, we intend to answer the following questions: (1) what are the mechanisms through which civil society driven SFSCs are initiated and operated in Turkey, (2) how collaboration takes place within these groups and through which processes, and finally (3) what are the outcomes of these processes, in terms of individual, community and local impacts experienced on the ground, and challenges associated with them.

Numerous studies seek to explore the governance mechanisms of food networks and movements, especially in the European context. Andrée et al. (2019) examine a food movement that is led by the partnership of civil society organizations (CSOs) and local governments, focusing on building relationships, trust, and shared values. Renting and Wiskerke (2010), that study emerging roles of public institutions and civil society in LFS, argue that currently we are lacking an adequate conceptual framework to think through the implications of governance issues. Manganelli et al. (2019) identify the main governance challenges experienced by SFSCs, including pressures in management, access to resources and creation of supportive institutional spaces. Galli et al. (2014) discuss the cultural, organizational and institutional changes needed in the scope of SFSCs. We see that a recurring theme that is common in this line of thought and related theories is collaboration and how relations and networks are shaped around these. In this regard, some studies propose collaborative governance, for dealing with complex problems, without readily available solutions (Andrews & Entwistle, 2010; Emerson et al., 2012). Brink and Wamsler (2018) make use of collaborative governance to conceptualize how shared learning can filter back into participating organizations in addressing climate risk. Other studies, discuss the collaborative governance processes and their implications from a perspective of local food banks (Meads, 2017), food policy councils (Koski et al., 2018; Siddiki et al., 2015), small holder agriculture and its connection to Sustainable Development Goals (SDGs) (Florini & Pauli, 2018), school meal services (Galli et al., 2014), and local food action planning (Andrée et al., 2019). However, the processes and mechanisms through which local food network actors get collectively organized and govern these systems, especially through collaborative governance structures, are not studied widely. This calls for a need to understand the existing place-based structures, their organization, the facilitating circumstances or challenges, and envision the role of different governance mechanisms that allow such networks

to function (Lamine et al., 2012). Moreover, to the best of our knowledge, studies that seek to explore the governance mechanisms and main challenges and outcomes related to SFSCs in Turkey are very rare. For this reason, the experience of such networks and their associated organizational and operational dynamics are unknown.

This study contributes to the literature on governance mechanisms of SFSCs through the lens of collaboration, which can shed light on how social innovation practices within LFS can be enhanced and provide important implications for policy making especially on the local level. It can also shed light to the understanding of an emerging country context, where a new and novel local food movement is being shaped, and where local agricultural systems are being criticized in particular for the lack of innovative capacity and for the poor knowledge base, in the face of sustainability challenges. In this context, the city of Izmir provides many opportunities as a city-level case, as it is the leading city in organic agricultural production in Turkey (Vatansever, 2017) and is the rising city of alternative food initiatives, providing a diversity of alternative agri-food practices (Ozatagan & Karakaya Ayalp, 2018). In addition, Izmir, being surrounded by rural areas where agricultural production is persevering, gives an opportunity to observe the re-organization of urban-rural relations through which SFSCs can flourish. Izmir is also attractive for urban-rooted producers (producers coming from urban families but who started pursuing agricultural production later in life) (Karakaya, 2016), who migrate from other metropolitan cities to Izmir, with a dream to engage with agricultural production and start a new life, which in other cities could not be clearly observed. In Izmir, it is also possible to see a sufficient number of civil society-led initiatives that allows us to identify and understand the governance mechanisms that are at play.

This paper is structured as follows. After providing the conceptual framework that we utilize in this study in Section 3.2, we present our cases and methodology in Section 3.3, and findings in Section 3.4. Lastly, we discuss our findings in Section 3.5 and present our conclusions in Section 3.6.

3.2. A Multi-Perspective Collaborative Governance Framework for Short Food Supply Chains

In this study, we make use of Emerson and Nabatchi (2015)'s Integrative Collaborative Governance Framework (ICGF) (see Figure 6), while we integrate a range of studies to further propose an adapted version of the framework (see Figure 7) (Ansell and Gash, 2007; Pascucci et al., 2016; Manganelli et al., 2019; Barbazza and Tello, 2014). According to Emerson and Nabatchi (2015),

within a Collaborative Governance Regime (CGR), "collaborative dynamics" consisting of "principled engagement", "shared motivation", and "capacity for joint action" work together to result in actors to initiate collaborative actions to reach their collaborative goals. Together, collaborative dynamics and actions shape the overall quality and the extent to which a CGR is effective". Actions, then lead to outcomes, which in turn through an adaptation process, feed back into the CGR and the system context. In the framework, departing from Krasner (1983)'s definition, CGR is conceptualized as the sets of implicit and explicit principles, rules, norms, and decision-making procedures around which actors' expectations converge in a given area.

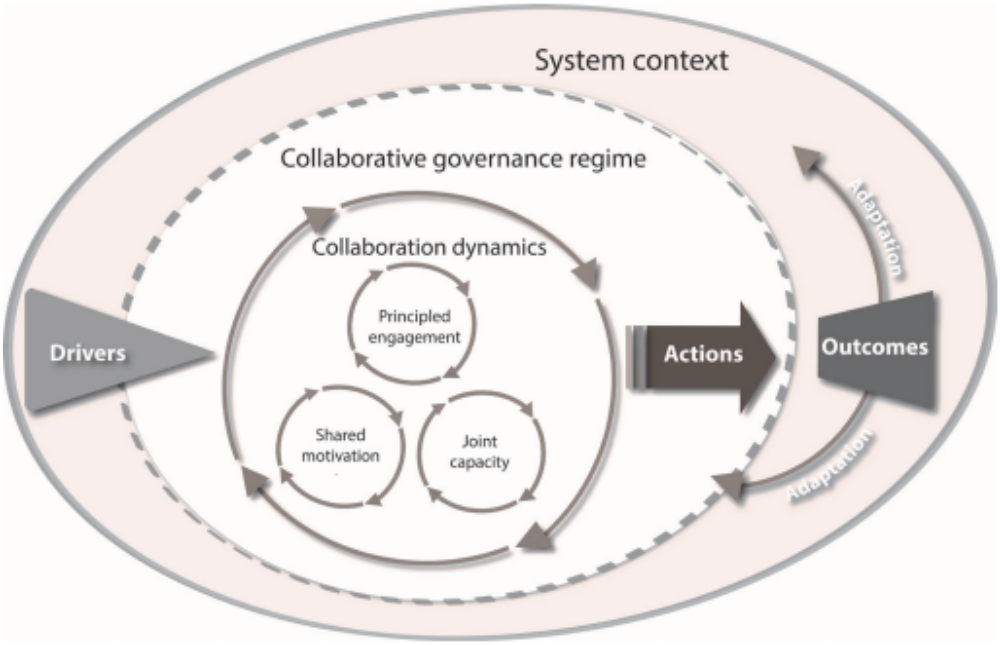


Figure 6. Integrated Framework for Collaborative Governance Regime (Emerson and Nabatchi, 2015)

Below, we present in Figure 7, a multi-perspective collaborative governance framework to assess the governance mechanisms of SFSCs through which collaboration actions take place.

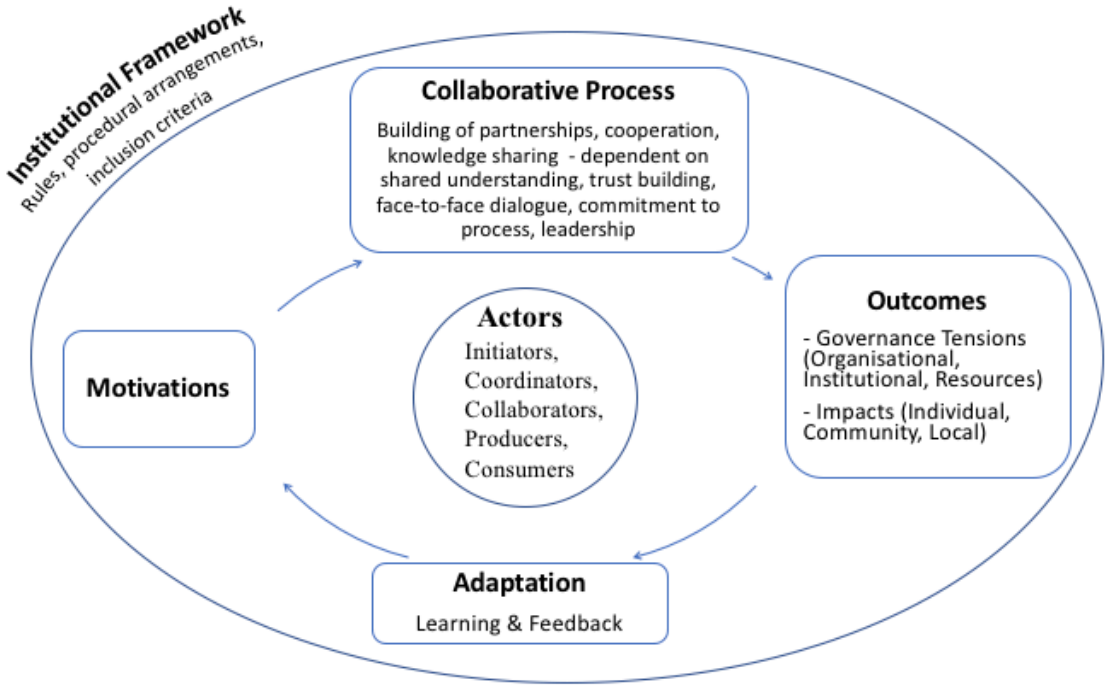


Figure 7. A Multi-Perspective Collaborative Governance Framework for SFSCs (elaboration of the authors)

Departing from ICGF, the adapted framework aims to assess the motivations of actors to bring their forces together to organize SFSC initiatives, in which collaborative processes take place. Leontiev (2012) notes that human motivation refers to all the psychological structures and processes that make any human activity happen, that accounts for the determination of comprehensible units of human activity. Veen et al. (2012), who studied the motivations of people involved in urban gardening and their harvesting behavior, argues that multiple factors can motivate community members to participate in and undertake intervention design. In this regard, motivations of communities provide a foundation to structure how community engagement is developed and delivered, and hence, understanding motivation of community members, or in this case, the motivations of SFSC actors for engagement, may prove useful for strategies adopted within these groups. For his reason, in this conceptual framework the motivation of SFSC initiative members was of interest. Furthermore, within these collaborative processes, collaborative actions are taken, including building of partnerships, cooperation and information and knowledge sharing (Emerson & Nabatchi, 2015; Barbazza & Tello, 2014; Opitz et al. 2017; Ammirato et al. 2013). The extent to which these occur is influenced by factors such as shared understanding, trust building, face-to-face dialogue, commitment to process and leadership (Ansell & Gash, 2007; Emerson, 2018), as well as the institutional frameworks that shape the initiatives (rules, procedural arrangements, norms,

inclusion criteria) (Emerson & Nabatchi, 2015). These processes then lead to certain outcomes. These outcomes include (1) governance tensions, taking the forms of organizational, resource, and institutional tensions (Manganelli et al., 2019) that occur as a result of governance processes of SFSC initiatives; and secondly (2) individual, community and local outcomes experienced from the perspective of SFSC participants. This iterative cycle is then completed, as these outcomes lead to an adaptation process, through feedback and learning. In this study, we do not make connections between the governance regime (where collaboration dynamics take place) and the system context that shape this regime, the reasons of which are discussed in the Discussion section.

3.3. Data and Research Methodology

3.3.1. Methodology

Our study follows a descriptive multiple case study approach based on the framework explained above. We studied seven cases to examine the governance mechanisms, challenges, and collaboration processes and outcomes of SFSCs in Turkey. Each case was examined independently and then a cross-case analysis was made between cases. The case study method is recommended when realities and dynamics of a phenomenon is not clearly explored beforehand (Hollweck, 2016). We believe this methodology could help us unravel the dynamics of SFSCs and outcomes associated with their performance in Turkey, which are almost completely unknown. Our aim was hence to maximize information richness and comparability, rather than to generalize statistically to a broader population of cases (Hollweck, 2016). An additional reason for preferring a multiple case study analysis was to collect as much information as possible from a variety of actors and groups to identify mechanisms at play.

3.3.2. Selection of the Cases

A preliminary field research has been conducted to have an initial set of in-depth interviews with experts, academicians and local government representatives, followed by informal initial contacts with network coordinators to understand the ecosystem of SFSCs in Izmir. Thus, we have selected our seven cases with special emphasis on how and through which support mechanisms they are initiated, their governance structure, their development processes, organization capacity, innovation capacity and stakeholder variety. In this regard, it was noted that among the initiatives contacted, only those who have been operational for two or more years had their operational and

institutional mechanisms stabilized and in place, and had their membership structure, participant profiles and supply networks formed. For this reason, in this study, only those initiatives that were operational for two or more years were selected as cases. Hence, our selected cases fall under the categories of: (1) A local shop (Doğa (Nature)'s Shop), (2) Farmers' Markets (Foça Earth Market and EcoBazaar[1]) and (3) Food Community Networks (Aegean University Environment and Human Friendly Agriculture Group, West Izmir Community Supported Agriculture Group (BITOT), Gediz Ecology Collective (GETO) and Homeros Food Collective). In this study, we use the term food community networks (FCNs) introduced by Pascucci (2010) to define a governance structure where consumers and producers strongly integrate their functions by organizing a "club", in which resources, decisions, and responsibilities are shared among participants, towards more sustainable, just, and resilient food systems. Hence, we use this term to refer to the four food community cases that we study in this research, which are organized by consumers, where individuals engage in common actions, such as co-producing and distributing food products, or sharing resources or risks, in order to produce and have access to ecological food products (Pascucci, 2010). Table 8 provides a summary of each case, while Map 1 and Map 2 show the location of the city of Izmir, and the location of the seven cases selected within the city of Izmir, respectively. In Map 2, the food community networks are denoted as FCNs, and shown with a green marker, farmers' markets are denoted as FMs, and shown with a red marker, and finally the local shop is shown with a purple marker.

Table 8. Introduction of Cases

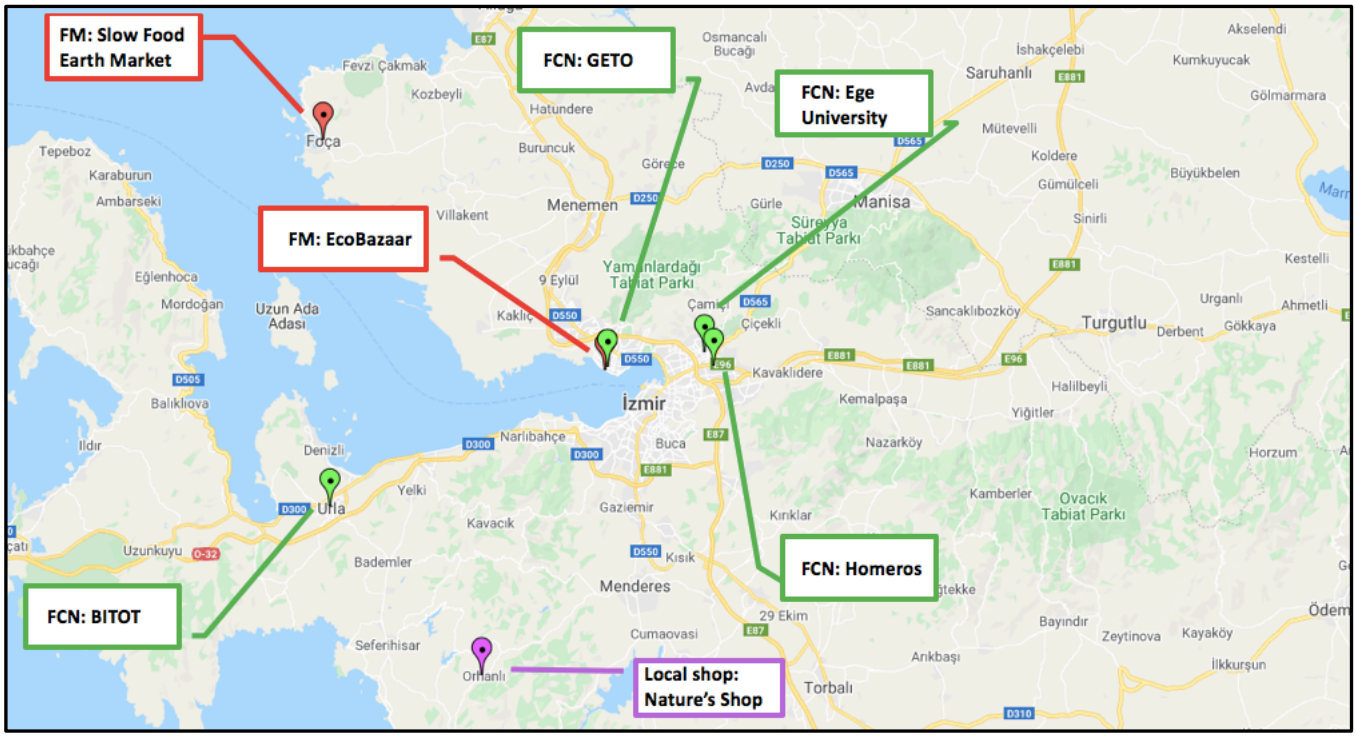
	Initiative	**Information about the Initiative**
Local Shop	Nature's Shop	12 rural-rooted producers selling their olive only through this network.
Farmers' Markets	Foça Slow Food Earth Market	The 1st Slow Food (SF) Market in Turkey and 28th in the World. Only targets small-scale producers within a radius of 40 kilometers, 13 producers: 12 rural-rooted and 1 urban-rooted.

[1] Although we referred to EcoBazaar as a farmers' market, it should be noted that it is not obligatory to be a farmer selling their own products in order to be able to sell at EcoBazaar. Sellers of intermediary products are also permitted, as long as these products have an organic certificate.

	EcoBazaar	1st organic farmers' market in Izmir. 11 producers (10 rural-rooted, 1 urban-rooted) and 2 intermediary sellers (selling organic products such as packaged food or beauty products).
Food Community Networks	Aegean University Group	1 rural-rooted main producer that delivers weekly, and numerous supporting ones.
	BITOT, GETO and Homeros	28 producers in BITOT, GETO and Homeros altogether (12 part-time rural rooted, 10 urban-rooted, 6 full-time rural-rooted producers). This number is presented together, as there are producers that are shared among these 3 groups.

Map 1. Map of Turkey and the location of Izmir

Map 2. The location of the cases in the city of Izmir (drawn by the authors)



3.3.3. Data Collection

The qualitative semi-structured in-depth interviews were the central method used to collect the primary data for this research. We collected qualitative data from 41 producers, 32 consumers, 11 coordinators and 5 experts. Different questionnaires were used for each stakeholder group. The interviews directed at coordinators aimed to understand when, how and why the initiative is established, which stages it has gone through, the profile of consumers and producers, aspects regarding the institutional framework, how activities are organized and managed and the main challenges and needs of the groups. The interviews with producers questioned their motivations for being part of these networks, their selling channels, livelihood aspects, their main challenges and needs, and aspects regarding their sharing and learning behavior. Consumers, on the other hand, were asked what their main motivations for being part of these networks were and to what extent they are involved in the operation of the group.

We first contacted the coordinator of each case and decided on the meeting days that could provide the presence of the highest number of producers and consumers. Following semi-structured in-depth interviews conducted with 11 coordinators, we were directed to producers of the initiatives. In the case of FCNs, consumers and producers were met during organized purchase

days, while for the case of the remaining initiatives, the consumers and producers were reached at farmers' markets or other organized events.

3.3.4. Interpretation of Data

First, all in-depth semi-structured interviews were voice-recorded and the discussions have been categorized and subcategorized under each aspect in relation to our research questions and objective. Then, the re-occurring concepts as well as answers that are falling outside of the repeated concepts have been coded. Here, data triangulation was possible when concepts such as institutional mechanisms, collaborative processes and challenges experienced within SFSCs have been asked to each of the participating actor (coordinators, consumers, producers). In this way, different explanation of the same concept by different actors have made it possible to strengthen our data. Denzin (2009)'s data triangulation refers to different sources of data that are included to study the same phenomenon at different times, different places, and among different persons with the same method. Meanwhile, the term perceptual triangulation refers to knowledge generated through multiple data sources and how this knowledge is framed by the perceptions of different actors (Bonoma, 1985; Robson et al., 2020). Lundgren-Henriksson and Kock (2016) used perceptual triangulation to identify how multiple managers individually ascribe meaning to change.

3.4. Results

The findings related to our study are presented in this section. The cases we investigate consisted of four food community networks (FCNs), two Farmers' Markets (FMs) and one local shop. While, FCNs have been initiated by organized consumers, CSOs played a key role in initiating the rest of the three initiatives.

3.4.1. Actors and Motivations

The first FCN that has been established in Izmir with the initiative of consumers is the Aegean University "Environment and Human Friendly Agriculture Group", which later inspired the other food community initiatives to be formed in the following years. The group was established in 2013, with the initiation of two academicians at the Aegean University. The Aegean University Group is different than the others in the sense that it is a "workplace" organization and it is both founded and managed by the "employees" of the University. The second group is called BITOT (West Izmir Community Supported Agriculture Group), which has been established in the Urla Province of Izmir in 2014 by a group of consumers. When BITOT reached a certain number of consumers, the

decision to scale-out also in other provinces of Izmir has led to the establishment of GETO in 2015 (in the Karşıyaka Province) and Homeros in 2016 (in the Bornova Province). The motivations behind establishment of all of the groups are similar: to support local small-scale producers that conduct environmentally-friendly production and to be able to supply healthy food products to its members.

The first FM of our case study, Foça Slow Food Earth Market, was founded by Slow Food Convivium "Foça Zeytindalı" in 2011, in line with the principles of the International Slow Food Movement. The Foça Municipality also acted as a collaborator and has supported the Convivium, which also provided the space for the market to be held each week on Sundays. Meanwhile, the District Directorate of Agriculture also contributed as a training partner, which helped identify and train the farmers in the initiation phase of the market. Slow Food International representatives were also involved in the process to provide direction and guidance. For the case of the Foça Earth Market, the motivation behind establishing the market was to give smallholders the chance to sell directly, without intermediaries. The second FM of our case study, EcoBazaar, on the other hand, was established in 2010 in the partnership of Ecological Agriculture Organization Association (ETO), Izmir Metropolitan Municipality and Karşıyaka provincial Municipality, as the first organic farmers' market in the city of Izmir. The main motivation behind its establishment was to initiate an all-organic market in Izmir, as part of efforts of the Izmir Municipality to promote organic production.

Finally, Doğa (Nature)'s Shop ("Yavaş Dükkan" which translates to "Slow Shop") was established in 2015, by the "Doğa Okulu" (School of Nature), a project of the grassroots organization of Doğa (Nature) Foundation. In 2013, Nature Foundation founded the School of Nature in the Orhanlı Village of Seferihisar province in partnership with the Seferihisar Municipality, which also donated the School's building to the Nature Foundation to perform its activities. Other partners of the School are Orhanlı Village Society and several other local groups in Anatolia. The motivations behind its initiation were to establish a collective, where all steps of production can take into account preservation of biodiversity and traditional olive oil production methods of the Orhanlı village. Preserving the biodiversity in this location carries significant importance, as Orhanlı Valley is one of the final production sites where traditional stone pressed olive oil production continues.

In the table below, we summarize the initiators of each initiative, the partnerships or collaborations that allow for their initiation and operation, and the motivations of their main actors.

Table 9. Actors and motivations

Indicators	Cases organized by Civil Society Organizations (CSOs)			Self-governing organizations	
	Local Shop	Farmers' Markets		Food Community Networks (FCNs)	
Initiative	**Nature's Shop**	**Foça Earth Market**	**EcoBazaar**	**Aegean University**	**BİTOT, GETO and Homeros**
Initiators	• Grassroot organization, following vision of a committed idealist	• Foça Zeytindalı Convivium, following the vision of a committed idealist	• Association of Organic Agriculture (ETO)	• 2 academicians: Part of board of directors of Turkish Agricultural Economics Association (following standpoint of Group)	• BİTOT established by a group of 6 committed idealists: following vision of grassroot organization "Buğday" (ecological movement). GETO and Homeros established as a result of scaling out of BİTOT.
Partners, collaborators	• Seferihisar Municipality as facilitative outside actor: Donated the building where activities take place	• Foça Municipality as facilitative outside actor: Supported the Convivium, provided space for settling the market	• İzmir Metropolitan Municipality and Karşıyaka Provincial Municipality as collaborators (insider partners)		• Bike Café (BİTOT), İro Café (GETO) and Contemporary Disabled Life Association (ÇÖYDER) Premises (Homeros) in Bornova providing space for groups for free.
	• Orhanlı Village Society, and other local associations as collaborators	• District Directorate of Agriculture as training partner: Helped identify and train farmers during initiation phase			• No particular relations with local authorities, currently discussing time and form of this relationship.
Motivations					
Initiators	• Pursue transparent and ecological production; consider preservation of biodiversity and traditional olive oil production methods	• Provide small producers chance to sell directly; contribute to production of "good, clean, fair" products	• Promote organic production in line with İzmir Municipality's efforts; support organic producers	• Support small scale producers that conduct ecological production; pursue CSA practices when possible; supply healthy products to its members	• Support small scale producers that conduct ecological production; pursue CSA practices when possible; supply healthy products to its members

Producers	• To eliminate mediators and receive a just price for their products	• To gain financial autonomy and a source of income	• Pursue ethical production; be among first and limited number of organic producers	• Eliminating middle-men	• Establishing new selling channels • Spending time with like-minded people • Contribute to ethical production methods
Consumers	• Help preserve olive trees; support producers to continue traditional production; to be part of a community; to access healthy, fair products	• Accessing healthy and local food; to support producers	• Accessing healthy food (new-born or sick in family); support producers	• Accessing healthy and clean food in a convenient way	• Spending time with like-minded people • Contribute to ethical production methods

3.4.2. Institutional Framework

We illustrate in this section, the criteria for inclusion of producers, how these criteria are controlled, and the general manner of operation for each initiative. For producers, the required specifications for being part of FCNs are to be pursuing local production, the production to be conducted by the producers themselves and not by others, organic production, using heirloom seeds or organic seeds, respecting biodiversity and to having a sufficient buffer zone between the producer's land and those others that pursue production using chemicals. These specifications are decided iteratively and may be subject to changes as a result of learning processes. Field visits are made prior to being accepted into the group, and later unannounced visits are held at certain intervals. In the case of the Aegean University Group, members meet for the purchase day each week. Coordinators, that are also academicians of the University, establish and facilitate communication among consumers and producers on a voluntary basis. The group meets in the workplace (the University) and the main producer is making weekly deliveries to the participating consumers. No rent is paid or needed for the meeting place. Normally, the group members only pay for the products that they buy. However, in case of any problems or challenges on the part of the producer (e.g. drought, flooding), practices of solidarity are operationalized in the form of direct donations or upfront payments for overcoming challenges on the farm. Meanwhile, as part of the other three FCN cases, nearly 10 people take part in the coordination of the groups on a voluntary basis, take rotations on different tasks, including communication with producers and consumers,

weighing the products and arranging the finances during the purchase days. Orders are collected from consumers through communication via a Facebook Group or a WhatsApp Group.

Within the case of the Foça Earth Market, unlike the other two CSO-organized initiatives, everyone who take part in the coordination do so on a voluntary basis. The producers, on the other hand, are expected to comply with certain rules: firstly, they have to sign a contract each year, and to reveal, every 6 months, the products that they are going to sell in the market. Secondly, they need to be present every Sunday, when the market takes place; thirdly, they are expected to engage in "good agricultural" practices, that are in line with the "good, clean and fair" aspects of the Slow Food Movement. Last but not least, the locality aspect is taken seriously, such that producers that are outside the radius of 40 kilometers are not accepted to take part. These criteria are being controlled by the auditing committee, that consists of the Convivium partner, Provincial Agricultural Organization, Foça Municipality and the Municipal Police. The producers, on the other hand, only pay a symbolic fee of 20 TL (3.14 euros) yearly, to pay for the maintenance costs of their counter, and do not have to pay any other rent or similar fees. As for the EcoBazaar, the aspect that distinguishes this market from all other initiatives is the fact that it is an organic bazaar, where each of the products sold have to have an organic certificate, hence it is subject to very strict auditing processes. The audit is conducted in partnership with ETO, Izmir Metropolitan Municipality, Provincial Directorate of Agriculture and Provincial Police. Producers have to pay for their counters in the market.

As part of Nature's Shop, the coordinators are either employees of the Nature Foundation or have strong ties to it (through projects or collaborations). The initiative collaborates with the peasants of the Orhanlı Village, providing them with a higher price than that of the market price for their olives, and operates by producing olive oil with traditional methods, from the olives collected from peasants. To be part of Nature's Shop the peasants need to comply with 21 criteria covering 4 areas, that are developed by efforts and research conducted by School of Nature employees: Local products produced by small-scale producers; pursuing traditional production; producing in harmony with nature; not bringing energy or water from farther distances. These criteria are taken very seriously, and if a producer fails to comply with one or more of the criteria, they are excluded from the yearly olive oil production collective, and they are considered again for the following year. The audit is made during the packaging stage by authorities. The initiative, by creating and making visible a "village olive oil brand", helps establishing a selling channel for peasants, and make sure the olives

of the village are getting the value that they are worth. To market the products, the initiative uses online selling channels (a website), while the products are also sold during the workshops, local food festivals and educational activities being organized by the Nature Foundation. Earnings from sales are re-invested in trainings provided by the Foundation.

We summarize in the below table, the criteria for inclusion of producers, how these criteria are controlled and the general business model for each initiative.

Table 10. Institutional Framework (rules, criteria, inclusion, audits)

Indicators	**Cases organized by Civil Society Organizations (CSOs)**			**Self-governing organizations**	
	Local Shop	**Farmers' Markets**		**Food Community Networks (FCNs)**	
Initiative	**Nature's Shop**	**Foça Earth Market**	**EcoBazaar**	**Aegean University**	**BİTOT, GETO and Homeros**
Business Model	• A price higher than the market price is paid to producers. Earnings from sales are re-invested in trainings of the School, which are provided free of charge.	• No rent is paid for stands in the market but a fee of 20 TL (3,14 euros) is paid yearly for stand maintenance.	• Each of the products sold have to have an organic certificate, producers pay for stands.	• Members meet for the purchase day each week. Coordinators, that are also academicians of the University, establish and facilitate communication among consumers and producers on a voluntary basis. The group meets in the workplace (the University). No rent is paid or needed for the meeting place.	• Communication with farmers and consumers; organization of purchase days; organization of finances; coordination undertaken on a voluntary basis by members of the group.
Criteria for inclusion	• Producers comply with 21 criteria under the main topics of: Local production by small-scale producers; pursuing traditional production; producing in harmony with nature.	• Producers reveal every 6 months, products they will sell. A rule is to be present at the market every Sunday and to come from a maximum of 40 kms radius; and engage in "good, clean and fair" aspects of Slow Food Movement.	• Criteria same as having access to an organic certificate for each producer.	• Pursuing local production (by producers themselves), organic production, using local and organic seeds (although no certificate is needed), respecting biodiversity, having a sufficient buffer zone between the land and others that pursue production using chemicals.	• Pursuing local production (by producers themselves), organic production, using local and organic seeds (certificate not needed), respecting biodiversity, having a sufficient buffer zone between land and others' that pursue

Indicators	Cases organized by Civil Society Organizations (CSOs)			Self-governing organizations	
	Local Shop	Farmers' Markets		Food Community Networks (FCNs)	
Initiative	**Nature's Shop**	**Foça Earth Market**	**EcoBazaar**	**Aegean University**	**BİTOT, GETO and Homeros**
					chemical production.
Audit/ controls	• Controls performed each year before and during harvest; in the case of non-compliance, producers are excluded from "olive oil collective" for that year. Further audit is conducted by officials during and after bottling.	• Controls performed by Provincial Agricultural Organisation, Foça Municipality and the Municipal Police.	• Audit conducted by Association of Organic Agriculture, İzmir Metropolitan Municipality, Provincial Directorate of Agriculture and Provincial Police.	• Criteria decided iteratively; may be subject to changes as a result of learning processes. Field visits made prior to being excepted into the group, later unannounced visits at certain intervals.	• Criteria decided iteratively; may be subject to changes as a result of learning processes. Field visits are made prior to being excepted into the group, later unannounced visits at certain intervals.

3.4.3. Collaboration Dynamics and Learning

School of Nature names the process of olive oil production within their initiative as: "collective oil", which signifies that it is a process undertaken "altogether", "as a family" and in "conviviality". The initiators and coordinators of the initiative also moved to live in this village, which have further strengthened their relations with peasants, rurality and the production process. Hence, the coordinators not only stay in contact with the producers to lead the process, but also share a life together. Foça Earth Market, being a part of the Slow Food Movement", adopts principles of the movement. Slow Food uses the term "co-producer" as part of its vocabulary and coins the term as "a consumer who goes beyond their passive role and takes an interest in producers, production processes and associated challenges". Hence, the idea of a community and co-production exits in the movement's culture, yet, to diffuse it among all members of the initiative will need further efforts. For both Foça Market and EcoBazaar, the interviewed consumers did not mention "the idea of a community" or used any terminology or language linking to "co-production". In this direction, events such as trainings, workshops, or food festivals are held when consumers can come together and accustom with each other as well as with producers. One of the "collaborative actions" taken in the context of Foça Earth Market has been establishing the "Foça Earth Kitchen", with funds and

donations received from Foça Municipality and citizens, with an aim to bring the actors of the initiative together.

At Aegean University Group, the members, that are employees of the University, share a big part of their days together; hence, communicating and decision-making within the group are easier. Although this is helpful in terms of organizing purchases, it creates difficulties in terms of establishing a shared understanding of a community, "as the reason to be part of these networks for most members of the group is only to have access to healthy food". In all of the FCNs, the initiation phase was aimed to be made participatory through public meetings held and decisions on the general framework and inclusion criteria were decided following ideas and feedback from participants. Meanwhile, some solidarity actions were taken within groups. Some examples are the potato and corn projects, where producers have been supported financially to install trickle irrigation system and then provided with guarantee of purchase for all their products to be bought (BITOT); the egg project, where farmers were supported to build a poultry house and obtain chickens and paid for the 6-month worth of eggs as an advance payment (GETO). Homeros, on the other hand, has established an urban orchard in order to conduct collective production practices. The Aegean University Group, in order to compensate for the loss of their producer after a serious hail incident, has established a funding system, through which consumers could provide financial support. Moreover, a "solidarity pricing" practice was implemented, which allowed those consumers with a lower purchasing power to pay 25% less for buying eggs, as the remaining amount was compensated by the other consumers.

As part of FMs, the understanding of knowledge sharing and learning from each other are not very common among farmers. Farmers of these initiatives, being mostly rural-rooted, in other words, coming from farmer families, argued that they have been pursuing agriculture since childhood, and already learned everything from their families, noting that they do not feel the necessity to exchange knowledge or information with other farmers. We learned differently from our parents". This argument was repeated many times by the farmers in these groups. However, although these farmers argued that they do not share knowledge or information, they have underlined the importance of social networks established in these groups in the sense of a need for "socializing", establishing new marketing channels through especially word of mouth and finally to be among a like-minded group of people that provides a motivation to carry on in the agricultural sector despite all its difficulties.

In the FCNs however, our findings suggested that there is a stronger culture of knowledge and experience sharing, which is consistent with the community aspect of these groups. Especially, urban-rooted producers in these groups, in other words, farmers who have become engaged with agricultural production later in life, which consist of almost half of the total number of producers, have argued to have the need to learn from others, hence engaging in knowledge and experience sharing as much as they could. It was mostly mentioned among FCNs that SFSCs do not provide them with profits, but rather, social networks, marketing channels, a community of "like-minded" people and learning and experience sharing opportunities. In the below table, we summarize the main aspects related to social networks, information and knowledge sharing across initiatives studied.

Table 11. Social networks, knowledge sharing and collaboration within the initiatives

Indicators	**Cases organized by Civil Society Organizations**		**Self-governing organizations**		
	Local Shop	**Farmers' Markets**	**Food Community Networks (FCNs)**		
Initiative	**Nature's Shop**	**Foça Earth Market**	**EcoBazaar**	**Aegean University**	**BİTOT, GETO and Homeros**
Social networks/ information and knowledge sharing	• Producers (as well as coordinators) living in the same village; doing everything together. • Community members involved via events	• Socializing every Sunday is valued; but, • "Every farmer has their own way of doing things" (among rural-farmers) • More willingness and openness to ask questions and share information (among urban farmers)	• Willingness to share and learn is very limited. • Networks with consumers is "the most important issue".	• Members are employees of the University, share a big part of their days together; hence, communicating and decision-making within the group are easier.	• "Social ties and being together with like-minded people" give producers "hope" to continue agricultural production • "New peasants benefit significantly from experience sharing and co-learning"
Collaboration	• Initiators and coordinators moved to live in the village (where olive is harvested), which have further strengthened their relations with peasants, rurality and	• Establishing the "Foça Earth Kitchen", with funds and donations received from Foça Municipality and citizens, with an aim to bring the actors of the initiative together.		• Normally, the group members only pay for the products that they buy. • In case of any problems experienced by the producer (e.g. drought, flooding), practices of solidarity are	• Practices of solidarity are operationalized in all groups, when either, producers are in need (e.g. drought, flooding, or financial difficulties), or when a producer is

Indicators	Cases organized by Civil Society Organizations		Self-governing organizations	
	Local Shop	Farmers' Markets	Food Community Networks (FCNs)	
	the production process.		operationalized in the form of direct donations or upfront payments for overcoming challenges on the farm.	starting to grow a new crop/implement a new practice/system

3.4.4. Individual challenges, governance tensions and adaptation

In this section, we illustrate challenges experienced in the investigated cases in four sub-sections. In the first sub-section, we present individual and farm-level challenges put forth by producers, and in the remaining of the section (sub-sections ii-iv), we present governance tensions arising in the groups under three categories: organizational, resource and institutional tensions.

i. Challenges at the individual and farm level

For the case of FMs, setting up and dismantling the counters might require time and effort, as well as to be present in the market and to work on the farms. Especially, for the case of Foça Earth Market, the obligation to be present in the market place every Sunday "even during harsh weather conditions or when there are almost no consumers" is one of the biggest difficulties. As Foça is a province that is a vacation destination and attracting many visitors during summer, the demand is sufficient in summer, yet in winter it is more challenging. Conversely, EcoBazaar, being located in a residential area in central Izmir, experiences a significant fall in consumer demand during summer. Hence, producers that are tied to both FMs are experiencing difficulties related to the amount of time that has to be spent in the market each week, in addition to the seasonal fluctuations of consumer demand that is experienced. For Foça Earth Market, as the profile of producers mostly consists of very small-scale producers, another difficulty is also being able to bring an adequate amount of products to sell to their market counters each week.

Another significant problem raised by producers was that these networks were not sufficient to guarantee their livelihood. Especially most producers of FCNs noted that selling only in these groups is not sufficient to make a living, as they can only meet their costs. For these producers, being here had more significant effects in terms of networks and social ties established, rather than

financial gains. In this regard, a few producers noted: "Small-producers could earn sufficiently, if they could back-up their SFSC activity with other activities such as eco-tourism or gastronomy linked to their agricultural production".

ii. Organizational tensions

For the case of FCNs, which have a governance mechanism that relies on voluntary and informal organizational structures, one of the biggest organizational tensions experienced was regarding the lack of volunteerism and lack of members willing to take responsibility, which leads to the burden and responsibility of all tasks to be loaded on a few people, creating fatigue in the long-term. This challenge is exacerbated especially during the purchase days, which may lead to the meetings to be "chaotic" at times. This lack of workforce also results in some of the events or meetings that are wished to be organized by the groups, to not be realized. In addition, lack of time and active participation also lead to some problems experienced in control and audit mechanisms, which are also undertaken on a voluntary basis. Some of the recommendations to deal with this issue include: raising the efforts to increase the number of volunteers and active participants, switching the tasks and responsibilities of volunteers every 6 months and in a more planned way, and to facilitate the ordering and distribution processes through online applications or through online portals, rather than using excel sheets and similar methods. Other recommendations on the other hand were towards switching the coordination task from voluntary to a professional one, in order to give the worth of efforts, eliminate this fatigue and, in turn, to have a more stable coordination mechanism. Meanwhile, some interviewees noted that the groups are growing more quickly than they can establish a strong organizational structure; hence, slowing down and taking firmer steps were also proposed. Another organizational tension arises from lack of or difficulties related to communication within groups, and especially communication with producers. In many instances, lack of communication with producers leads to disruptions in delivery processes, in addition to not being able to follow-up on the challenges the producers are faced with. Another point, on the other hand, is related to the decision-making processes within the groups. Interviewees noted that while inclusive and democratic decision-making process is favored, this usually leads to a trade-off between members to have their voice in decisions, and actually arriving at a decision. Members argued that most of the time due to lack of communication, the decision-making processes are ineffective. It has been noted that it is a big necessity to learn how to communicate within groups and arrive at decisions as a community. Lastly, lack of a shared understanding and a common

purpose was also regarded as a significant challenge. It was argued that “when the members focus only social networks without embracing social awareness, it is hard for groups to be long lasting”. In this regard, some consumers of the groups are criticized for “seeing these groups as organic shops or supermarkets”, who are “only focused on accessing healthy products, and complain about the products they receive or the time they have to invest”.

For the case of EcoBazaar, which is a market where only producers that have an organic certificate can be part of, the biggest organizational challenge is related to the formal processes of certification and regular controls. While, these processes are monitored by a cooperation of multiple organizations, the coordination among stakeholders is a delicate task, as these processes can be costly and time-consuming, for both producers and the auditing organizations.

On the part of both of the FMs the issue of creating a sense of community and involving consumers to the processes are the biggest challenges. It was noted that "consumers are often only here for healthy food, and to be a community is not one of their motivations". Hence, coordinators try to promote the idea of community through additional activities, such as seminars or workshops (e.g. a kitchen project where consumers and producers come together to cook, and share experiences and recipes).

iii. Resource tensions

The operation, development and upscaling of local food projects require resources: funds, quality agricultural land and physical infrastructure, as well as knowledge and human capital (Manganelli & Moulaert, 2018). One of the challenges that has been mentioned by all groups was the difficulties of finding a place and space for the initiatives. In the case of the three cases initiated and organized by CSOs (2 FMs and the local shop), the place of operation is provided by local authorities, which ensures a stable space to conduct activities. In the case of FCNs, however, finding a space to perform their activities is more challenging. In the case of Aegean University Group, which is a work-place organization, the premises of the University provide the members with a comfortable space. With the rest of the other FCN cases, however, while the spaces where the purchase days take place are provided free of charge by some municipalities and organizations, these spaces often cannot be kept for a long time, which results in a continuous search for new places to operate and conduct activities. Apart from purchase days, the FCNs do not have a stable space or area to undertake other activities, such as meetings or seminars, as well as to store food products or to use as a base for logistical arrangements.

Another challenge that has been noted by all of the producers and coordinators of the group has been lack of consumer demand, especially in certain periods of the year. Consumer demand is regarded as a resource challenge mainly because this aspect influences all groups in the way of not having access to sufficient financial resources and creating difficulties for producers regarding their livelihoods. This difficulty was pointed out mostly by the two FMs. In the case of EcoBazaar the coordinator argued that the main challenge of the initiative is to reach a sufficient number of consumers. "The number of consumers are decreasing; especially during summer when citizens escape from city center to go to vacation destinations, the demand decreases significantly, putting the market in hardship". It is believed that the lack of consumer demand is due to two main reasons: Firstly, lack of information about EcoBazaar ("not even some people living across the street know about the market"); and secondly "low level of awareness about organic production, and skepticism towards organic products". In the case of FCNs, however, all coordinators and most members believe that there is sufficient amount of consumer demand around the city of Izmir, yet the problem is linked more to these groups not having a strong base and structure, to be able to accept more consumers. In addition, for FCNs, another challenge is finding producers to include in their groups. "Almost all small-scale producers have given up, especially those that produce ecologically".

iv. Institutional Tensions

Our findings show that FMs and the local shop, as being civil society organized initiatives, have a more formal structure and already established formalized relationship and links to other organizations, including CSOs, local authorities and municipalities. As a consequence, they collaborate often with these organizations in the context of some activities or projects, which also provides them with visibility. FCNs, on the other hand, do not have ties to other FCNs, as well as to formal organizations, such as local municipalities. In this regard, FCN coordinators, while acknowledging that these ties are either insufficient or missing completely, also noted that the steps need to be taken carefully and meticulously towards building strong relationships with other organizations.

Meanwhile, all producers and coordinators, regardless of the type of initiative they belong, have touched upon lack of government policies, support mechanisms and underlying laws in place, which results in financial uncertainty and lack of trust. Underlining that agriculture has long been a neglected sector in Turkey, producers noted that they were feeling "left alone". They further noted that they were in need of support from the government both in the form of direct (i.e. subsidies) and

indirect support (i.e. training) to be provided to organic producers; and awareness raising programs for consumers. Producers further noted that they tried convincing other peasants to switch to organic or ecological production, but they were regarded as "crazy" for pursuing organic production. "If this proposition comes from the official authorities, then other producers would consider listening".

In the below table, we summarize the main challenges/tensions experienced across initiatives studied.

Table 12. Challenges/tensions and adaptation across initiatives

Indicators	Cases organized by Civil Society Organizations (CSOs)			Self-governing organizations	
	Local Shop	Farmers' Markets		Food Community Networks (FCNs)	
Initiative	**Nature's Shop**	**Foça Earth Market**	**EcoBazaar**	**Aegean University**	**BİTOT, GETO and Homeros**
Challenges at farm-level	• Ongoing peasant resistance – to stop mine extraction activities in the region	• Seasonal fluctuations of consumer demand • Obligation to be present in the market every Sunday • Harsh weather conditions • To produce enough to bring to the market	• Seasonal fluctuations of consumer demand • Low level of consumers due to: • Lack of information about the market • Low level of awareness about organic products	• Selling only in these groups is not sufficient to make a living, as producers can only meet their costs. Producers think they could earn sufficiently, if they could back-up their SFSC activity with other activities such as eco-tourism or gastronomy.	
Organizational tensions	• Sales are made mostly online (other times through FMs, festivals, or during seminars organized). So, producers and consumers do not always come face to face. For this reason, idea of a community needs to be strengthened.	• Creating a sense of community and involving consumers in the process • Consumers are often only here for healthy food, and to be a community is not one of their motivations.	• Formal processes of certification and regular controls. Can be costly and time-consuming, for both producers and the auditing organizations.	• Having a sense of community • Participants are only here for healthy food.	• Lack of voluntarism and active participation • "The burden of all tasks loaded on a few people • Time spent here – needs a lot of organizing of time • Lack of coordination/communication with producers • Decision-making processes ineffective
Resource tensions	• Competing with "modern" olive oil to receive a "just" price. • Traditional production has higher	• Lack of consumer demand	• Lack of consumer demand • Low level of awareness about organic production, and skepticism towards organic products		• Finding a space to perform activities (purchase days, seminars/meetings) – free of charge; difficulty to store food products and organize logistics

Indicators	Cases organized by Civil Society Organizations (CSOs)			Self-governing organizations	
	Local Shop	Farmers' Markets		Food Community Networks (FCNs)	
Initiative	**Nature's Shop**	**Foça Earth Market**	**EcoBazaar**	**Aegean University**	**BİTOT, GETO and Homeros**
	input costs, the price received is the same.				
Institutional tensions	• Lack of government policies, support mechanisms and underlying laws in place, which results in financial uncertainty and lack of trust.			• Initiatives do not have ties to other FCNs, as well as to formal organizations, such as local municipalities. • Lack of government policies, support mechanisms and underlying laws in place, which results in financial uncertainty and lack of trust.	
Adaptation	• A village branding strategy • The story of the olive oil and production methods disseminated through many channels • The initiative organizes activities, trainings, and seminars to bring together the "community".	• Promoting the idea of community through additional activities, such as seminars or workshops (e.g. a kitchen project where consumers and producers come together to cook, and share experiences and recipes).	• Two kinds of support are needed from the government: Support provided to producers, awareness raising programs for consumers	• Promoting the idea of community through additional activities - seminars, workshops.	• Switching the tasks and responsibilities of volunteers every 6 months and in a more planned way • Facilitating the ordering and distribution processes through online applications • Switching the coordination task from voluntary to a professional one

3.4.5. Local, community and individual outcomes

Regarding actual outcomes, our findings suggest that experience of farmers differed in terms of well-being and livelihoods, mainly in relation to whether the farmers were from urban or rural backgrounds. In the case of the two FMs and Nature's Shop, where all farmers were rural-rooted, with an exception of a few, and very small-scale, the farmers' livelihoods have been reported to have changed notably as a result of being part of these SFSCs, as a result of receiving a more "just" price for their products and to have a new selling channel. As well, they gain more visibility and respectability. Producers noted to have gained autonomy and are able to bring an income to the household. In the case of FCNs, a big proportion of producers' only occupation was not in agriculture and they earn money also from other channels, and around half of the farmers are urban-rooted and started pursuing ecological production, as a "way of living" and to "find a way out of the dominant system". Hence, a big proportion of farmers engaged in these networks do not mention "a big change" in their lives financially; however, "being here had significant effects in terms of networks, social ties, being part of a community and obtaining new selling channels". Finally, regarding local outcomes, in the case of Nature's Shop, as the initiative is located in a village, it is also possible to distinguish village-scale local impacts. It has been noted by the villagers that, before the initiative, the two out of three traditional olive oil factories in the village have been already shut down. It is argued by coordinators and the villagers that the final remaining factory could keep functioning and has been revitalized thanks to the olive oil village brand established and marketed in collaboration with Nature's Shop and the Association of Orhanlı Village. Foça Earth Market, on the other hand, has contributed to the reinvention of local cuisine to preserve local tastes in a 40-kilometre radius of rural, semi urban and urban geography through "the Kitchen" established in the commercial center of Foça.

In the below table, we summarize the main local, community and individual outcomes across initiatives studied.

Table 13. Outcomes across Initiatives

	Initiative	Impacts (discussed during in-depth interviews)
Cases organized by Civil Society Organizations (CSOs)	Nature's Shop	Producers receiving "higher and more just price" for products. More producers are willing to stay in the village (Orhanlı) and pursue olive production. "Before initiative, two out of three traditional olive oil factories in Orhanlı were shut down due to failure to compete with industrial production and the final remaining factory could keep functioning and revitalized thanks to the brand established and marketed in collaboration with the initiative and the Association of Orhanlı Village".
	Foça Slow Food Earth Market	11 out of 13 producers noted "being here brings them financial autonomy and a chance to contribute to household income". Producers here (being mostly very small-scale) only sell their products in this market, or via networks established here (e.g. selling by cargo to consumers met here). One producer noted, "I can now pay my bills"; another, "My whole life has changed after this market". The only producer in the market, who pursues bigger scale production and targets international markets noted "this market means social networks and being among like-minded people".
	EcoBazaar	2 producers noted they attained an organic certificate to be able to sell in this market and obtain a new marketing channel. A producer noted "they would not come here every week by travelling more than 100 kms, if they were not benefitting from it", while others note that what is important for them is to be providers of healthy/ethical products. A producer noted: "Before switching to organic production I was feeling like I was poisoning people. Now my conscience is clear".
Self-governing Initiatives - Food Community Networks	Aegean University Group, BİTOT, GETO, Homeros	A big proportion of producers' only occupation is not in agriculture and they earn money also from other channels. Most of them are "new peasants" and started pursuing organic production, as a "way of living" and to "find a way out of the dominant system". Hence, a big proportion of producers do not talk about "a big change" in their lives financially; however, "being here had significant effects in terms of networks and social ties". Especially, new peasants say they benefit vastly from experience sharing and co-learning. Half of the producers started as consumers and then started producing ("could change their lives"); two of these producers also moved to this region and became producers only because they knew they could be part of these networks.

3.5. Discussion

Our findings reveal that there are differences of governance structures, institutional frameworks, as well as differing levels of shared goals and understanding among different initiatives studied as part of this research, which also lead to numerous governance challenges. In addition, the outcomes and farm-level challenges for farmers also differ, including but not limited to factors such as whether or not farmers are urban or rural-rooted and if their livelihood depends only on these initiatives or not.

To begin with, one significant difference was among the formality of organizational structures and leadership mechanisms, in addition to the level of formality of criteria for inclusion of producers, and the extent to which they are enforced. The initiatives that have been organized and governed by CSOs have adopted stricter criteria and auditing mechanisms, which are implemented with the collaboration of multiple organizations, including other CSOs and local municipalities, which was also in line with other studies in the literature (Skog et al., 2018; Yacamán Ochoa et al., 2019; van der Jagt et al., 2017; Jones, n.d.). In the case of FCNs, however, the governance structures were less defined and were implemented by volunteers (Yacamán Ochoa et al., 2019; Manganelli & Moulaert, 2018; Bellante, 2017). Furthermore, aspects of a shared sense of identity and community, were also being perceived differently among actors, which motivated initiatives to organize additional events such as workshops, seminars, or culinary events to bring the participants together. This was also in line with experiences discussed in other studies, where similar efforts were put in place to establish trust and embeddedness, such as farmers sharing their personal information with consumers in organized workshops (Bui et al., 2019; Skog et al., 2018; Petrakou et al., 2011; Papaoikonomou & Ginieis, 2017).

Our study also revealed different governance tensions (Manganelli et al., 2019) arising as a result of different governance mechanisms at play. The tensions experienced by FCNs have been more on the organizational side, including tensions to manage tasks on a voluntary basis and challenges related to keeping up with the scaling up of initiatives. One of the most significant organizational challenges associated with the informal structure of FCNs, has been regarding the insufficient number of volunteers taking responsibility and this in turn, resulting in difficulties to complete tasks in time and creation of fatigue within the volunteers. This finding is also in line with other studies that report governance challenges that are experienced by food communities, which are governed by informal

mechanisms, mostly reliant on voluntarism (Yacamán Ochoa et al., 2019; Manganelli et al., 2019b; Mount et al., 2014). These studies also find that challenges are experienced as SFSCs develop and increase the quantity and quality of the food they deliver, when the initiatives lack capacity in terms of efficient logistical delivery (Yacamán Ochoa et al., 2019), or the capacity and time to include more farmers or other actors into the network (Skog et al., 2018); hence propelling them to search for more efficient logistics as well as decision-making structures. In this direction, the operation and upscaling of local food projects require further resources, including funds, a bigger space to conduct activities in addition to knowledge, skills and human capital. Emerson (2018) in this regard, draws attention to the importance of leadership in collaborative governance arrangements, noting that multiple skills are needed for the sustainment of such organizations, and if leadership is lacking at various scales, there may be need for sustained investment in leadership training, mentoring and awareness building before moving forward. As a response to such challenges, while our findings reveal some suggestions of group members towards switching to a more formal structure (e.g. cooperative), or to professionalize the system by lifting the voluntary aspect of coordination (e.g. providing a salary to those that take responsibility), others argued that this leads to bureaucratization of these initiatives, compromising the autonomy of their structures. Other studies also mentioned the trade-offs that SFSCs had to experience, between governance tensions caused by the informal structures and the risk of losing the "alternative" quality of these networks, as well as dissociating them from its local rootedness and community connectedness (Yacamán Ochoa et al., 2019; Nchanji, 2017; Renting et al., 2012; Manganelli et al., 2019b). Nchanji (2017) further argues that in the case of LFS, neither formal or informal systems are always successful in resolving governance issues, hence underlining the importance of including multiple stakeholders in the processes.

On the side of the initiatives that were governed by CSOs, which had a more formal structure, the organizational tensions were less mentioned, while, the main challenge that was mentioned by all members and coordinators were regarding the lack of consumer demand and interest, or the seasonal aspect of this demand, that is causing mainly resource challenges within the initiatives (Manganelli & Moulaert, 2018). Initiatives in this regard, noted the necessity of public administrations and local municipalities to step in to increase awareness among citizens regarding ecological and ethical food, and the need of a policy framework to support these initiatives to survive and to develop. Other studies

in the literature also highlighted lack of consumer demand being experienced by local food networks, and the importance of participatory governance mechanisms, in which multiple actors from different levels and sectors need to work together to achieve these common goals (Yacamán Ochoa et al., 2019; Nchanji, 2017; Reis, 2019; Manganelli & Moulaert, 2018; Dedeurwaerdere et al., 2017; Jones, n.d.). Some policy recommendations mentioned in these studies included governments to pursue awareness campaigns, or local municipalities to promote initiatives aimed at public procurement of local products for canteens, or facilitating direct sale by means of public aid through fairs, events and dissemination, and finally, adapting the legislation and regulations to facilitate the process (Yacamán Ochoa et al., 2019).

In terms of individual impacts and challenges on the part of the farmers, our findings showed that the farmers in all groups mentioned having received support one way or another, yet the type of support mentioned was differed among farmers. Rural-rooted and very small-scale farmers, which were mostly attached to more formal networks, mentioned a bigger change in their livelihoods. This was also supported by the fact that these networks were their sole source of income. Skog et al. (2018) also find that small-scale farmers that are part of local food networks experienced better income, also mentioning additional impacts of an increased respect in the community. On the other hand, among FCNs, the majority of these producers have other occupations and do not rely solely on the income from these networks. It was mostly mentioned that SFSCs do not provide them with profits (and only meet their transportation costs), but rather, social networks, learning and experience sharing opportunities, to establish new channels of marketing through word of mouth and a motivation to carry on in the agricultural sector. Other studies of SFSCs also mentioned low levels of financial gains attained by farmers, while the associated gains were more on the side of sharing experiences, social learning as a result of established networks, or having found a "safe space" to share new ideas and create partnerships (Skog et al., 2018; Yacamán Ochoa et al., 2019; Bellante, 2017).

The study has some limitations. One of the limitations was the relatively small sample size, mainly due to the limited number of producers that are part of these initiatives. Besides, the willingness of consumers to take part in the research has varied significantly, depending on which initiatives they were part of. Those consumers that purchased products from FCNs were more willing to invest time in the interview process, while the ones who are contacted through FMs were less inclined to do so. Hence,

we had differing levels of in-depth data collected from each case. Hence, comparing them with respect to some aspects had the risk of providing biased results. For example, FCNs, in line with being "communities", and having adopted an understanding of sharing the story of their communities with others, and in a hope to contribute to research conducted in this field, all participants of FCNs, including coordinators, farmers and consumers (co-producers) were very willing to take part in the interviews. In the case of the two farmers' markets, although all farmers of the two initiatives contributed willingly to the research, the consumers that came to buy products from the markets were not as willing to take part in the survey. Hence, the depth reached, had not been the same. Still, the repetition of the same concepts by the actors showed us that a sufficient level of data saturation is reached, and also being able to triangulate the topics addressed from a perspective of farmers, consumers (including volunteers) and coordinators, when possible, gave a clear picture towards the discussions made. In the case of Nature's shop however, the biggest limitation was the inability to reach its producers. It has been possible to conduct interviews with coordinators, employees and volunteers of the foundation, and pursue field observation during the olive harvesting and olive oil production phase, meet some of the farmers, and villagers and to discuss about the how the initiative works, due to limitations of time and the difficulties related to have access to the village that is remotely situated, in addition to the restrictions taken because of the pandemic situation, it was not possible to re-visit the village for another round of formal interviews with the farmers. Online interviews were also not possible with this particular stakeholder group. For this reason, the inability to collect data from farmers of this initiative resulted us in not being able to discuss about the individual tensions experiences from the perspective of farmers, as well as issues such as learning outcomes or sharing of information among them. Well-being aspects, aspects regarding knowledge and information exchange or generation of skills, and how and if their lives have changed with the participation in this initiative could also not be revealed. However, despite of this significant limitation, we have taken the decision to keep the case in our analysis, as the governance mechanisms explained, and the local outcomes observed, and interviews with the coordinators and employees still provide an important source of data, although provides a much more limited perspective compared to the rest of the six cases. Another limitation, which is also linked to the previous one, was to conduct a multiple case study with cases that are each particular and peculiar, having different profiles and ways of functioning. Hence, comparing them with respect to some aspects had the risk of providing biased results. For example, FCNs, in line with being "communities", naturally

had a higher level of shared understanding and collaboration among participants, in comparison to FMs. Last but not least, another challenge was to link the motives, governance mechanisms and outcomes of these initiatives to the system context and conditions. Due to limitations of time, we could not explore and discuss the political, legal, socioeconomical, environmental or other influences that may affect the governance dynamics and performance of collaboration within and across our studied cases, which Emerson and Nabatchi (2015) depict as the system context. Local food networks or SFSCs do not exist in isolation and are largely shaped by their surrounding context. Hence, we believe that making this connection could provide important implications for policy making. In addition, while we could only focus on SFSC cases that are currently operational, we also know that there are other cases that have failed in the past. To be able to also reach these initiatives would have provided us with very important information towards understanding not only why these initiatives work but also why they fail.

3.6. Conclusions

This study aimed to explore the governance mechanisms of SFSCs in the city of Izmir (Turkey), by making use of an adapted version of the collaborative governance framework introduced by the seminal work of numerous scholars, and to identify the governance mechanisms, collaboration dynamics and main challenges associated with this process. One of the most relevant findings was the need of a support mechanism or "decent policy framework" expressed by participants of all initiatives that we explored. In other words, actors that have chosen to "remain outside of the mainstream industrial food system" still felt very strongly, "the need of some kind of support from policy makers or local actors", although the type of support needed differed depending on their specific experience. This aspect is of significant relevance to especially local public authorities, as interest in local food extends beyond consumers and producers, and by decentralizing food production and distribution, local food system has a potential to generate wider public benefits. These benefits include economic and social gains for farmers, and social inclusion on a local scale, through which citizens and communities in remote or less privileged areas can also be reached. Especially, in cases where local food initiatives can collaborate with other local actors such as local municipalities, public schools, or local organizations or community projects, the variety of citizens and geographies reached can be widened. In addition, local food initiatives can also be spaces where collaboration, exchange of knowledge and experience and social

learning can take place. While knowledge creation, social learning and exchange of experiences have strong implications for aspects such as agricultural innovation and adaptation to the impacts of climate change on the side of the small-scale local farmers, they also can create a process through which knowledge regarding traditional food, recipes and cultural heritage can be protected. In this direction, policy interventions may include outreach and public awareness building activities in order to enable knowledge sharing about the mid and long-term social, economic, environmental and cultural impacts of local food production systems, and information about specific initiatives on the ground. Besides, local public authorities can establish links to such initiatives and to implement shared social or culinary projects, or establish partnership to enable local, ethical and healthy food to reach schools or canteens. Moreover, local festivals, cultural events or workshops can be conducted, underlining the importance of local food systems in local and rural development, as well as preservation of local tastes and heritage. Last but not least, reviewing of the regulatory framework to make it easier for small-scale farmers to survive and earn a living on their farms would be of great importance. While in Turkey, the agriculture sector is a neglected one, and small farmers are not supported or protected sufficiently, the specific efforts on the local level will have significant contributions. In this respect, further research can focus on current efforts and implementations by local municipalities in Turkey, regarding mutual projects and collaboration with local food initiatives, in order to reveal the outcomes from the perspective of local communities. While this could provide important insights for policy making, these experiences can also guide other municipalities in their future efforts. Best practices from around the world could also provide a reference and guidance for future projects.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

Chapter 4

4. Exploring Collaboration and Consumer Behavior in Food Community Networks and Constraints Preventing Active Participation: The Case of Turkey

Abstract: The term Food Community Networks (FCNs) has been introduced to define a governance structure where consumers and producers integrate their functions to promote socially just, environmentally conscious and healthier ways of food provisioning for communities. We use Theory of Planned Behavior (TPB) to explore how consumers' behavioral intentions are shaped to participate in FCNs in Turkey. We extend the theory by exploring if collaboration is a factor that influences consumer participation. The findings show that the extended construct in our study, that is collaboration, positively and significantly predicted consumers' attitude, while attitude, along with subjective norm and perceived behavior control (PBC) had significant and positive effects on consumers' intention to participate (co-produce) in FCNs. Consumers regarded time constraints as the biggest issue preventing active participation, while, lack of volunteers taking responsibility and lack of communication within the communities were suggested as governance challenges that need to be addressed. This research can contribute to the debate on the importance of collaboration in food communities, towards adopting collaborative governance structures on a local scale; and shed light on the relatively novel experience of FCNs in Turkey.

Keywords: Consumer behavior; food communities; food community networks; collaboration; governance challenges; co-producers; theory of planned behavior

Publication information: Kurtsal, Y. and Viaggi, D. (2020). Exploring Collaboration and Consumer Behavior in Food Community Networks and Constraints Preventing Active Participation: The Case of Turkey. Sustainability 12(8), 3292; https://doi.org/10.3390/su12083292

Accepted: **2020-04-15** | Published Online: **2020-05-17** |

4.1. Introduction

The rapid development of alternative local food networks and short food supply chains, especially in the last two or three decades in many parts of the world represents an effort to build a renewed model and a sustainable paradigm in the food system, in response to the practices of the dominant industrial system and negative externalities associated with them. These initiatives call for more just, equal and sustainable food systems, through a process of re-embedding food production, distribution and consumption practices, both in a social and a spatial sense (Matacena, 2016). In the same direction, there is a growing body of literature that is emphasizing the place of food beyond being just a commodity on the market, towards being a focal point, that is influenced through the role of consumers, that articulate the relation to society as a political matter (Mestres & Lien, 2017). Seyfang and Smith (2007) introduced the term grassroots innovations to describe networks of activists and organizations generating novel bottom-up solutions, that involve people at the community level experimenting with social innovations and the capacity to build resilience at a community level (Seyfang & Smith, 2007). Communities, they argue, through the development of raised levels of awareness, empowerment and capacity building, have the potential to make a contribution to more profound "paradigm change" within society (Seyfang & Smith, 2007; Galli et al., 2014). Meanwhile, Pascucci (2010) introduces the term Food Community Networks (FCNs), to define a governance structure where consumers and producers strongly integrate their functions by organizing a "club", in which resources, decisions and responsibilities are shared among participants, towards more sustainable, just and resilient food systems (Pascucci, 2010b). These networks are usually not very formalized and rely on mutual collaboration among consumers and between consumers and producers, usually supported by strong ethical movements. Some well-known examples are Community Supported Agriculture (CSA) practices born in the United States, Solidarity Purchasing Groups (SPGs) in Italy and Association pour le Maintien d'une Agriculture Paysanne (AMAP) in France (Kneafsey et al., 2013). In this regard, there have been numerous studies that aimed to explain the main motivations of consumers participating in local food networks, and through which mechanisms their level and type of involvement are shaped (Grasseni, 2014; Randelli & Rocchi, 2017). In these networks, individuals engage in common actions, such as co-producing and distributing food products, or sharing resources or risks, in order to produce and have access to ecological food products (Pascucci et al., 2016). In this regard, collaboration is key to food communities as consumers collaborate

with each other as well as with producers to organize and govern these networks (Grasseni, 2014a). Some studies argue that the main goal of the self-organized consumers in these groups, which also in some cases call themselves "co-producers", or "pro-sumers" (Renting et al., 2012), is to bring consumption in line with the ethical principles of political consumerism, and collaborate to bring fair prices for small producers, while at the same time reducing the negative environmental, social, economic and cultural externalities associated with the industrial food system (Pascucci et al., 2016). Meanwhile, other studies link these motivations to personal traits and values (Wahlen & Laamanen, 2015; Roos & Hahn, 2019; Kirwan et al., 2013). Etgar (2008) presents a model for consumer engagement in co-production, and explains that there are numerous social benefits linked to participating in co-production processes, including social networks, and belonging to communities (Etgar, 2008). Andretta and Guidi (2017) questions how consumers and producers come together in co-production processes to act together in times of economic crisis, suggesting that in the adverse context of an economic crisis, local alternative consumerism practices can develop alternative processes through civic food networks and achieve better outcomes (Andretta & Guidi, 2017).

This study uses the Theory of Planned Behavior (TPB) (Ajzen, 1991) to explore how consumers' intentions are shaped towards participating in FCN initiatives in Turkey, in order to understand the key elements of the local food movement in terms of both community networks and local food consumption. In this direction, the aim of this study is to explain consumer behavior and intentions to participate in FCNs in Turkey, through an extended TPB; in this context, perceptions towards collaboration within the food community will also be presented. The study will also touch upon the main motivations of consumers to participate in these communities as well as main constraints that are preventing them to participate more actively, and recommendations for improvement. In our study, we use the term FCN, to refer to food communities, where consumers come together (either formally or informally) to select local producers to directly purchase their food products from and meet on a regular basis.

The main novelty of the paper is to be found in its empirical contribution. While the aim of the investigated bottom-up organizations is to provide networks of economic solidarity through social relations by utilizing the shortest possible distribution channel, different motivations, including utilitarian and ethical ones, seem to underline consumers' choices to participate in these groups. As

these motivations are not fully known, the main contribution of this paper is to reveal insights into the phenomenon of participation in FCNs and intentions of consumers. In addition, we focus on the experience of the Turkish FCNs, a country where FCNs have been emerging recently, and where the novel experience of these bottom-up initiatives is not studied. In the face of global challenges and the urgent need to change national food systems to more sustainable ones, understanding the dynamics within local food networks is of utmost importance towards sustaining these newly emerging systems and to lay the ground for policy making. Hence, while aiming to provide insights into this understudied phenomenon of participation in FCNs, especially in the case of a developing country like Turkey, and give rise to implications for both future research and practice, we rely on TPB, a theory that is well-established and tested successfully across many different fields, and which provides the opportunity for us to direct empirical research towards exploring the intentions of consumers to participate in FCNs.

In the literature, certain studies used TPB to explain the intentions of individuals to purchase and consume organic or green products (Fleșeriu et al., 2020; Wang et al., 2019; Jan et al., 2019; Wang et al., 2019), and local food products (Kumar & Smith, 2018; Menozzi et al., 2017; Shin & Hancer, 2016). On the other hand, the theory has been used by some scholars to study the intentions and behavior of individuals to participate in local initiatives. Some examples include studies using TPB to explain the factors behind citizen participation in local recycling schemes (Ioannou et al., 2013; Thi Thu Nguyen et al., 2018; Al Mamun et al., 2018), forest ecosystem management programs (Yang et al., 2007), local community forest management (Apipoonyanon et al., 2020), air pollution control schemes (Xu et al., 2020) and source waste separation activities (Okonta & Mohlalifi, 2020; Tian et al., 2019). On the other hand, some studies used the theory to explain the involvement of individuals in community supported agriculture (CSA) programs, and their experiences of belonging to a CSA group and diet-related outcomes (Wharton et al., 2015), while other studies focused on participation behavior of youth in urban agricultural programs (Tiraieyari & Krauss, 2018), as well as participation of university students in urban agricultural programs (Tiraieyari & McLean, 2017). Hence, to our knowledge, although the theory has been used to explain how intentions of citizens and individuals are shaped to participate in some local community initiatives, the use of the theory to study the factors affecting the decision to participate in local food communities is limited. Moreover, although, there are numerous studies discussing the importance of collaboration and collective action in dealing with complex problems, in the food systems

(Koski et al., 2018), perception of consumers towards collaboration and collaborative governance mechanisms within FCNs are not studied. In addition, there is no scientific research studying the Turkish case of consumer participation in FCNs, hence, consumer motivations and behavior related to participate in these networks is unknown. In this regard, this study can contribute to efforts to unravel consumer behavior in food communities in Turkey, in order to shape their future and to design local policies accordingly.

The paper is organized as follows: first, in Section 4.2, we present the theoretical background of TPB, our hypothesis and propose an adapted theoretical framework introducing the aspect of collaboration into the theory. We also present the research design and methodology (Sections 4.2.2-4.2.5). We then present our findings in Section 4.3. Finally, we discuss the implications of our results (Section 4.4) and provide conclusions (Section 4.5).

4.2. Materials and Methods

4.2.1. Research Model and Hypothesis

In this study, we use Ajzen's Theory of Planned Behavior (Ajzen, 1991) (see Figure 8) as our theoretical framework, and further propose an Extended Theory of Planned Behavior (see Figure 9, presented in this Section after the introduction of the hypotheses), to assess the factors affecting the intentions of consumers to participate in FCN initiatives. In our extended theory, we introduce the component of Collaboration as an antecedent of Attitude towards behavior, which is also an original contribution of our study to the literature.

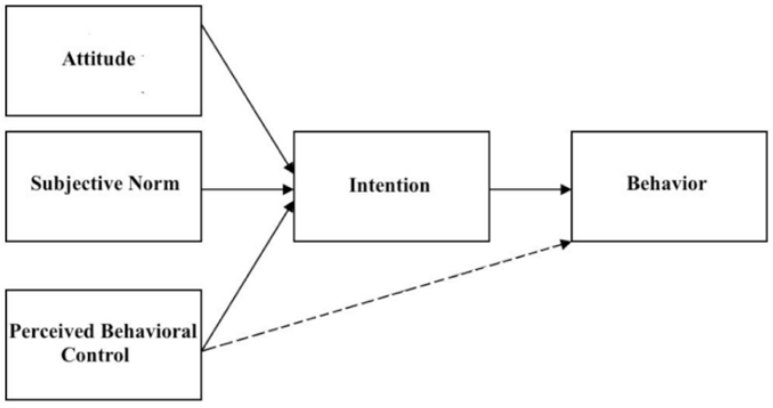


Figure 8. The Theory of Planned Behavior (Ajzen, 1991)

Here, the term "participation" is conceptualized by referring to the definition of Grasseni (2012) while discussing GAS practices in Italy. According to this definition, participation in FCNs is coined as consumers organizing themselves in groups in a local context (usually neighborhoods or provinces), who hold regular meetings to select their providers and organize logistics. By creating new direct producer/consumer economic circuits, they wish to responsibly collaborate with the farmers, enabling them to conduct an economically viable business, but also negotiating quality criteria and encouraging "conversions" to organic farming (Grasseni, 2014a). The Theory of Planned Behavior (TPB) suggests that behavior depends on both motivation (intention) and ability (behavioral control). Intentions, in turn, are related to attitudes (ATT), subjective norm (SN), and perceived behavioral control (PBC). Attitude refers to a person's beliefs about the expected effects of a particular behavior; SN is a person's perceived social approval regarding a behavior and PBC is a person's perceived capacity to perform a behavior (Kumar & Smith, 2018). Ajzen (1991) argues that if ATT, SN, and PBC are strong, the intention will be strong, which will lead one to perform the given behavior. In this direction, the hypotheses that we discuss below are taken from Ajzen (1991) (apart from H5, that introduces Collaboration as a novel contribution), and are adapted to include FCNs in the wording, for the purposes of our study.

Hypothesis 1: Consumers' attitude towards participating in Food Community Network has a positive influence on their intention to participate.

Attitude towards a behavior represents the degree to which an individual, values a behavior, as being positive or negative, good or bad. Some studies discussed the strong direct and positive influence of attitude towards behavioral intention towards food consumption, namely local, organic or green products (Kumar & Smith, 2018; Irianto, 2015; Tran & Vinh, 2016; León-Bravo et al., 2017). Kumar and Smith (2017), who studied consumer motivations to support and purchase local foods, using TPB, also proposed three factors to impact attitude toward local food: health consciousness, concern for the environment, and concern for local economies (Kumar & Smith, 2018).

Hypothesis 2: Consumers' subjective norms have a positive influence on their intention to participate in Food Community Networks.

Subjective norms are perceived as a social pressure to engage or not to engage in certain behavior (Vallerand et al., 1992). Subjective norms are determined by a set of normative beliefs which consist in the expectations of individuals' reference group formed by their immediate social network, such as

family, friends, colleagues or neighbors, and argued to be positively related to behavioral intention (Ajzen, 1991).

Hypothesis 3: Consumers' perceived behavioral control has a positive influence on consumers' intention to participate in Food Community Networks.

A behavior is influenced by the presence of adequate resources and ability to control barriers to behaviors. The more resources and fewer obstacles individuals perceive, the greater their perceived behavioral control and the stronger their intention to perform behaviors (Ajzen, 1991). Moreover, both the social cognitive theory (Bandura & Adams, 1977), and modified learning theory (Wallston, 1992) suggest that even though a person thinks that a behavior will produce positively valued outcomes, they will be motivated to (try to) perform the behavior to the extent that they are confident in their ability to perform it successfully. Hence, for behaviors that are dependent on (the perception of) certain skills, competence, planning, cooperation of others, time, money, or the handling of other external or internal hindrances (Ajzen, 1991), action will thus be a product of both outcome and efficacy expectancies (Bandura & Adams, 1977), which together make up Perceived Behavioral Control.

Hypothesis 4: Consumers' perceived behavioral control has a positive influence on consumers' participation in Food Community Networks

Individuals with a high perceived behavioral control are more likely to adopt a behavior (Schultz & Oskamp, 1996; Ajzen, 1991). Hence, Ajzen (1991), proposes a direct positive relation between PBC and behavior. In fact, he argues that behavior depends jointly on intention and behavioral control, noting that to the extent that a person has the required opportunities and resources, and intends to perform the behavior, he or she should succeed in doing so.

Hypothesis 5: Consumers' belief towards the existence of collaboration in the group has a positive influence on their attitude towards participation in Food Community Networks.

Community initiatives often operate as partnerships or coalitions, where participants work towards similar needs, goals, common purpose or mission, and collaboration is key to this process (Smith et al., 2018). Ideally, collaborations operate as a model of shared power, with all participants involved as equals in decision making and problem solving (Fawcett et al., 1995). Moreover, ensuring citizen participation in local governance structures requires trust and belief in their co-participants (Afolabi, 2018). Collaboration is also vital to the success of local food systems, and the importance of collaboration

in food networks and local communities are stressed in the literature often (Duarte Alonso & Liu, 2011; Lawson et al., 2008; Min et al., 2005; Dollahite et al., 2005). Within local food systems, collaboration is used to improve important functions such as marketing, transportation, brokering, storage, packaging, and distribution (Miller & McCole, 2014). Considering the many ways in which collaboration is central to local food systems, the emergence of collaborative organizational structures such as food hubs, local food networks, and communities of practice around food systems comes as no surprise (Miller & McCole, 2014). Despite some differences in how these concepts operate on the ground, the overarching similarity is that they all focus on developing partnerships and collaborations to advance a shared mission or purpose concerning local agriculture and food (Miller & McCole, 2014). In the case of food community networks, citizen–consumers, collaborating with other citizen-consumers and citizen–producers, actively reshape their relations with different stages of the food system and start revaluing the social, cultural, environmental meanings of food (H. Renting et al., 2012).

According to Musso and Weare (2015) collaboration increases trust and social capital and this in turn leads to building capacity for local problem-solving and collective action (Musso & Weare, 2015), while Karpouzoglou et. al. (2016) add that face-to-face dialogue is at the heart of a process of building trust, mutual respect, shared understanding and commitment (Karpouzoglou et al., 2016). Ansell and Gash (2007) and Emerson et. al. (2012), on the other hand, who used collaboration and collaborative arrangements, in the public administration domain, add that shared ownership of process, shared commitment, transparency in decision making, common understanding, common problem definition and common values are key to collaboration, and that the presence of these aspects will lead to successful collaborative governance practices (Ansell & Gash, 2007; Emerson et al., 2012). In this direction, collaboration in this study is conceptualized as the perception of consumers as to the extent of which they believe there are aspects of collaboration existent in their food community, and how this influences their attitude towards participating in FCNs. The indicators of the construct are: (1) transparent decision-making procedures within the group; (2) having a say in the decision-making processes of the group; (3) sharing same values with the participants of the group; (4) and feeling trust towards other participants of the group (Emerson et al., 2012; Ansell & Gash, 2007).

Previous studies used trust, which is a central indicator of collaboration, as a construct to extend the TPB in several different areas of research, including citizens' trust in affecting their willingness to

use bus-based park-and-ride facilities (Ibrahim & Borhan, 2020), trust in organic labels in affecting purchase of organic products (Nguyen et al., 2019) and academics' intention to share knowledge (Fauzi et al., 2019). Tao and Fan (2017), by using a modified Decomposed Theory of Planned Behavior (DTPB) (Taylor & Todd, 1995), consider the relationship between trust, commitment and future intentions, argue that online trust influences the perception towards reliability of data from internet and affects online purchase behavior intention (Tao & Fan, 2017). Garbarino and Johnson (1999) on the other hand, who studied the relationship between trust and behavior intention, in the area of consumer confidence in the quality and reliability of services offered by the organization (Garbarino & Johnson, 1999), have verified the relationship between trust and behavioral intention.

While the main elements of TPB are generally accepted, it has been suggested at many occasions that the model would benefit by the inclusion of more constructs in terms of explanatory quality (Sommer, 2011). In this study, we use the formative variable "collaboration", an aspect that is central to local governance structures (Warm, 2011) and food community networks (Thorsøe & Kjeldsen, 2016) to extend the TPB.

Hypothesis 6: Consumers' intention to participate in Food Community Networks has a positive influence on their actual participation in the group.

Ajzen (1991) argues that intention is an indication of an individual's readiness to perform a given behavior, and Intentions are immediate antecedent of behavior (Ajzen, 1991). Ajzen also notes that a behavior is a function of compatible intentions and perceptions of behavioral control in that perceived behavioral control is expected to moderate the effect of intention on behavior, such that a favorable intention produces the behavior only when perceived behavioral control is strong. In the case of participation in FCNs consumers' intention to participate will be analyzed through their stated intention to participate.

In accordance with the hypotheses presented above, we propose the below Extended Theory of Planned Behavior (see Figure 9) to identify aspects that are influencing consumers' behavior to participate in FCNs.

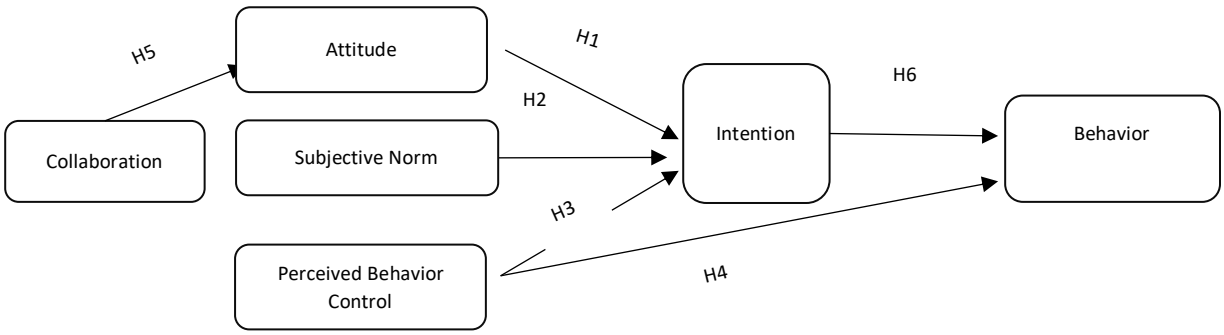


Figure 9. The Extended Theory of Planned Behavior (Elaboration of the Authors)

4.2.2. Research Measures

The proposed research framework in this study has six latent variables or constructs, all coming from and pre-defined by Ajzen (1991)'s TPB, except for the latent variable of Collaboration. The attributes are presented in Annex C. Five variables are measured on a 7-point Likert Scale: 1- Strongly Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Neither agree nor disagree, 5 – Slightly agree, 6 – Agree, 7 – Strongly Agree. One variable, Participation Behavior, is measured on a 6-point frequency scale: 1 – Never, 2 – Once every two months or less frequent, 3 – Once a month, 4 – Two or three times a month, 5 – Once every week, 6 – Two times a week or more frequent.

In this study, we referred to both reflective and formative variables. With reflective (or effect) measurement models, causality flows from the latent construct to the indicator. However, not all latent constructs are entities that are measurable with positively correlated items; hence, in formative measurement models' causality flows in the opposite direction, from the indicator to the construct (Bollen & Lennox, 1991). Although the reflective view dominates the psychological and management sciences, the formative view is common in economics and sociology (Hair, 2014b). Accordingly, in this study, attitude towards participation in FCNs represents the extent to which the consumer values positively or negatively the performance of the behavior; and it is a latent reflective construct with four items (Ajzen, 1991). Subjective norms are a formative construct consisting of three items adapted from Clement et al. (2014), measuring the extent to which people who are important to an individual approve and support participation in FCNs (Clement et al., 2014). Perceived behavioral control consists of situational factors and resources like time, money and knowledge that facilitate the conditions that determine individuals to participate in FCNs, and it is a formative construct with four items, of which

two are adapted after Ajzen (1991) and two are developed for the context of this study. Collaboration is a formative construct with four items that are adapted from Ansell and Gash (2007) and Emerson et. al. (2012) for the purposes of this study (Ansell & Gash, 2007; Emerson et al., 2012). Consumers' intention variable is measured as a formative construct with three items, which are adapted from Ajzen (1991).

4.2.3. Translation and Pretesting

The questionnaire utilized in this study was initially developed in English based on previous literature, and then translated into Turkish. A back-translation technique was used to ensure the consistency between English and Turkish. Furthermore, pretesting was used to ensure the effectiveness and comprehensibility of the questionnaire. Two professors and two volunteers from each food community network detected in Turkey were invited to test the questionnaires and minor revisions have been made to improve the questionnaire.

4.2.4. Data Collection

The data of the study came from an online survey that has been implemented in Turkey. Quantitative data analysis was performed to assess the significance level of TPB factors and the relationship among them. We have chosen to conduct a quantitative study, followed by a preliminary field research, consisting of interviews with producers, coordinators and consumers (the results of which were explained in detail in the previous chapter). Performing the analysis in this order has given us opportunity to previously determine the current situation in the case of Turkey, where scientific research or knowledge is almost non-existing regarding the topic of question, and then to collect quantitative data that accommodates higher generalizability. The attributes and indicators employed in the analysis and the details regarding construction of the survey questions are presented in Annex C. Meanwhile, we were also able to collect qualitative data as part of our online survey, through two open-ended questions utilized, which provided us with some insights about the challenges related to the process and proposals for improvement, from the perspective of consumers.

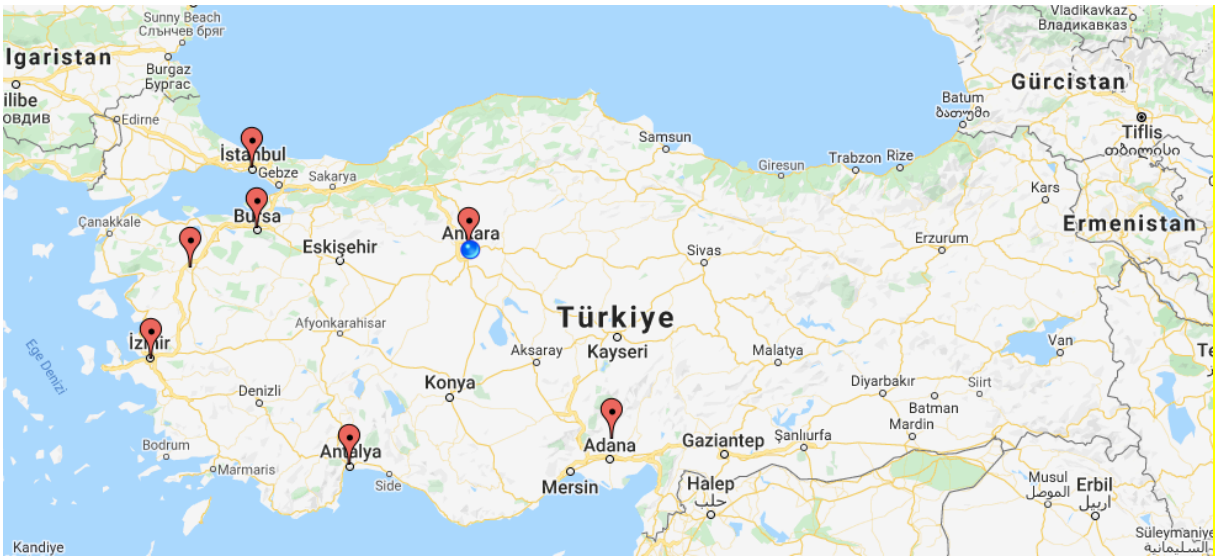
In this study, the definition that has been used for "food communities" was: all communities that are established, where consumers come together (either formally or informally) to select producers to

directly purchase their food products from and who come together through meetings or purchase days on a regular basis. All of these groups, one way or another, although on different levels, are in very close contact with their producers and put into use some measures to either directly or indirectly support their producers. While some of them only purchase food with weekly orders, others also pay for their new investments on the farm, or reimburse for their losses or provide yearly guarantee of purchase. The preliminary field research and desk-research conducted prior to the survey has revealed some well-known food community groups in Turkey. Following this first round, other groups have been found and reached through snowball sampling and personal contacts made during the first round. As result, a total of 33 groups were reached. According to the findings of our research and contacts with experts in this field, Turkey, being in its early stages of food community practices has still a very limited number of food community initiatives. Hence, apart from the ones that are very small, local and known only by its very close environment, all well-known groups have been reached. These groups have been contacted through e-mails or messages sent through Facebook pages, asking them to share the survey with their participants. A cover letter was also shared, explaining the aim and the target audience of the survey, in addition to aspects of confidentiality and privacy of data. The target audience in this study has been determined as all individuals that are one way or another part of food communities/groups and who purchase food products from producers of these groups, or who take part, take responsibility or volunteer in these groups either actively or passively. Among the groups reached, 18 has agreed to take part in the survey (2 in Ankara, 4 in İzmir, 8 in İstanbul, 1 in Adana, 1 in Balıkesir, 1 in Antalya, 1 in Bursa). Thus, the survey has been shared with all members of the groups, those agreed to take part, through e-mail and WhatsApp groups, depending on which social media mediums the group uses. The data was collecting during the period of January-March 2020, and a total of 214 people has participated in the survey.

The Map below shows the location of the cities from which the data was collected from, in other words, the cities from where the participants of the survey were located in. Bearing in mind the distribution and the total number of food community networks in Turkey, this sample gives a well representation of the food community networks that are currently operational in Turkey. This geographical distribution also shows that currently in Turkey, food communities are found in the

western part of the country, or at least those that are found in the western part are visible in the social media or internet platforms, and well-known among food communities of Turkey.

Map 3: The cities from which the data was collected from



4.2.5. Data Analysis

In this study, we used partial least squares structural equation modelling (PLS-SEM) with SmartPLS v.3.2.9 software, to analyze our quantitative data. The inclusion of a relatively complex model that assesses the direct, and indirect relations, and the smaller sample size (Hair, 2014b), with formative scales, PLS-SEM has been regarded as a more suitable approach. Finally, the use of PLS-SEM allowed us to employ formative scales. We evaluated the research model in two steps: the outer model (measurement model) and the inner model (structural model) (Hair, 2014b). We then applied the resampling procedures (i.e. bootstrapping) to 2,000 resamples (Hair, 2014b).

4.3. Results

4.3.1. Descriptive Statistics of the Sample

Table 14 below presents the descriptive statistics of our sample.

Table 14. Descriptive Statistics

Variables	Categories	Frequency	Percentage
Gender	Female	155	72.40%
	Male	59	27.60%
Age	Less than 18	1	0.47%
	18-25	6	2.80%
	26-35	51	23.83%
	36-45	73	34.11%
	46-55	50	23.36%
	Above 55	33	15.42%
Education Level	Below High	0	0.00%
	High school	11	5.10%
	Pre-University	6	2.80%
	University	93	43.50%
	Graduate	104	48.60%
Background (Rural-	Rural-rooted	32	15.20%
	Urban-rooted	179	84.80%
Employment	Employed	194	91.10%
	Not-employed	19	8.90%
Collar	Blue-collar	7	3.87%
	White-collar	174	96.13%

According to Table 6, 72.4 percent of participants consisted of women. This may suggest that women were more inclined to take part in the survey; or it may be the case that participants of food community networks are highly consisted of women in Turkey, as making the food selection, bringing food home and feeding the household/family may be regarded more as a task of women. 48.6 percent of the participants had graduate degrees (master or Ph.D.), while in total 92.1 percent of participants had a University degree or higher, indicating that the sample had reflected only a certain part of the society. This is also in line with the arguments in the literature that food communities, and alternative food networks, to put it in a broader picture, reflects only a limited part of the society that is highly educated, and have relatively higher access to financial resources (Wilson, 2013). The fact that 96.13

percent of the respondents in our sample work in the city as white-collars, which generally have higher income then blue-collar workers, also support this argument. In addition, 84.8 percent were from an urban background. This is in line with the discussions that those consumers who live in the city and who do not have direct access to rural areas or directly involved in agricultural production are more connected to FCNs, as in order to access healthy and trusted products from local producers, this is one of the few ways to do it (Initial face-to-face contacts with food community members in İzmir, Turkey). Table 15 below shows the results of the ranking made according to the responses received from survey participants, to the questions asking their beliefs/motivations about participating in FCNs in Turkey. These beliefs were asked in 7-point Likert Scale in the survey, and then for each item, those responses of 6 (Agree) and 7 (Totally Agree) were summed up, to form the scale of motivations for participation (Responses of 6 and 7 were given a value of "1", while all the rest of the responses were valued as "0"; and then all responses rated as 1 have been summed for each item). According to the rating, the respondents were part of these networks mostly because here, they could have access to healthy products for themselves, and because by participating in these networks, they could contribute to promoting local tastes and products. The second in line was consumers' belief that by participation in these networks, they could support local farmers. It was noted that issues related to contribution towards combatting climate change or waste reduction were among the least rated items.

Table 15. Motivations / Beliefs About Participation

Beliefs about Participation	Percentage
Healthy for the participant	13,0%
Promoting local tastes and products	13,0%
Supporting local farmers	12,7%
Healthy for the family/close ones	11,9%
Better tasting products	11,7%
Community with like-minded people	10,2%
Fighting climate change	9,7%
Reducing waste	9,0%
Engage in debates about local food	8,9%

We also were able to collect responses by two open-ended questions that were part of our online survey, which could reveal the main barriers associated with being active consumers/co-producers in

FCNs; and what the participants of good communities would change, if they could, about the networks they are part of. The open-ended questions received high number of responses (117 and 98 responses collected respectively), which provided us with useful insights. The results are detailed in Table 16 and 17 below. Out of a total of 117 open-ended responses collected, 53 percent of the responses were related to personal constraints faced by consumers, out of which, the highest percentage came from constraints faced due to "having little or limited time / having limited time because of too much work" (62.3%). Time constraints were followed by accessibility problems (19.7%) and the need for serious planning for each meeting (16.4%). Personal challenges, on the other hand, were followed by constraints related to group dynamics (21.4%). This cluster included insufficient number of people that are taking responsibility as volunteers in the group (36%) as its highest component, followed by difficulties associated with the lack of awareness of consumers that are part of the group (24%), especially those "who wants to see these groups operate as supermarkets" and "those who do not understand the aspect of being a community". These aspects were then followed by difficulties related to communication and taking decisions in the group (16%), lack of communication with producers (16%) and finally "coordinators and old members not being so open to new or different members", which was also expressed as "grouping or bunching" in the group. The next group of constraints were related to products (17.9%), related to their high price (71.4%) or lack of variety (28.6%), and the final group of constraints revealed was regarding operational challenges of the group (7.7%).

Table 16. Barriers Preventing More Active Participation

Main category	Sub categories	Percentage
Personal challenges		**53,00%**
	Lack of time/lack of time due to too much	62.3%
	Accessibility problems/need to travel far	19.7%
	The need for serious planning for each	16.4%
	Not believing to be able to make a	1.6%
Group dynamics		**21,4%**
	Lack of people taking responsibility/volunteering	36.0%
	Lack of awareness of consumers	24.0%
	Lack of communication inside the group/not being able to arrive at decisions	16.0%
	Lack of communication with producers	16.0%

Main category	Sub categories	Percentage
	Grouping/clustering of participants	8.0%
Products		**17,9%**
	High price of products	71.4%
	Lack of product variability/lack of products	28.6%
Operational challenges of the group		**7,7%**
	Lack of a decent place for purchase days/meetings	50.0%
	Organizational problems with purchase days	30.0%
	Other organizational/logistical problems	20.0%

Meanwhile, out of all participants who proposed an aspect that needs to be changed or improved (98 open-ended responses collected), the two aspects that had the highest percentage (21.4%) were: first, the necessity to have a larger number of volunteers who are willing to/ready to take responsibilities in the group; and second, improvements regarding operational matters and the place/space allocated for the group meetings. Then followed, with 16.3 percent, the necessity to pursue more effective communication processes with producers (Details are provided in Table 17 below).

Table 17. Proposals for Improvement

Aspects proposed	Percentage (%)
More volunteers that are ready to take	21.4%
Improvements with operational matter and place/space of meetings/purchases	21.4%
More effective communication with producers/ having a better grip on production processes	16.3%
More appropriate and just pricing	10.2%
Improving communication in the group	9.2%

Aspects proposed	Percentage (%)
More awareness about the food system and about the group	8.2%
To be able to reach a higher number of consumers	7.1%
Other	6.1%

4.3.2. Evaluation of Measurement Model

The structural model in this study uses the extended TPB model, whose constructs are illustrated in Figure 9. The goal of the model is to explain the role of Collaboration (CD), Attitude (ATT), Subjective Norm (SN), Perceived Behavior Control (PBC) on Intention (INT) to participate in FCNs. Both the outer model and the inner model need to be evaluated. The outer model consists of the indicators (measures) and corresponding latent constructs. The inner model consists of the outcome variable and the path coefficients and the extracted R^2 or variance explained among other key parameters that need to be checked for acceptable and significant results.

i. Outer Model Results

Extant studies state that conventional factor and internal consistency analyses should not be employed to assess composite constructs with formative indicators (Diamantopoulos & Siguaw, 2006; Jarvis et al., 2003). Hair et. al. (2014) recommend three steps for testing the fitness of formative measurement models: First, assessment of convergent validity, then collinearity and finally, significance and relevance of indicators (Hair, 2014a). Accordingly, in our study, we evaluate the fitness of our formative constructs (CD, SN, PBC and BEH), by testing for indicator collinearity and statistical significance of relevance of the indicator weights (Hair, 2014a). We were not able to test for convergent validity because of certain limitations (see Discussion section for details). A formative measurement model is based on a multiple regression. Each indicator has a distinctive relation to the latent variable, and high multicollinearity makes the validity problematic (Diamantopoulos & Winklhofer, 2001). Thus, reliability evaluation for formative constructs is to assess the assumption of no multicollinearity (Diamantopoulos & Siguaw, 2006). In this regard, Variance Inflation Factor (VIF) is evaluated (see Table 18). Our evaluations showed that VIF values are well below the threshold of 5. Accordingly,

multicollinearity was not a worry (Hair, 2014b). In addition, all the VIF values were smaller than 3.3, showing that there are no concerns regarding common method bias (Texas A&M International University et al., 2012).

Table 18. Variance Inflation Factor (VIF) Values

Attributes	VIF
BEH2	1.449
BEH3	1.629
BEH7	1.180
CD2	2.173
CD3	3.078
CD4	2.661
PBC1	1.057
PBC2	1.162
PBC4	1.160
SN1	1.811
SN2	1.811

On the other hand, we tested for the significance and relevance of indicators by evaluating outer weights and outer loadings of the items (Diamantopoulos & Siguaw, 2006; Chin, 1998) (see Table 19 and 20). According to Sarstedt et. al. (2017), if the outer weight is statistically significant the indicator is retained. If the weight is not significant, but the indicator's outer loading is 0.50 or higher, the indicator is still retained if the theory supports its inclusion; yet, if the weight is not significant and the loading is also low (<0,50), then the indicator should be removed from the model (Sarstedt et al., 2017). As a result of this, BEH4, BEH5, BEH6, CD1, PBC3 and SN3 have been removed from the model, having both insignificant outer weights and low outer loadings (<0.50). BEH2, BEH7, CD2 and PBC1, on the other hand, having insignificant outer weights but high (>50) and significant outer loadings (0.555, 0.574, 0.773 and 0.561 respectively) were kept in the model.

Table 19. Outer Weight Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT1 <- ATT	0.264	0.265	0.016	16.419	0.000
ATT2 <- ATT	0.300	0.299	0.013	22.529	0.000
ATT3 <- ATT	0.257	0.258	0.016	15.948	0.000
ATT4 <- ATT	0.270	0.269	0.013	21.329	0.000
BEH2 -> BEH	0.169	0.134	0.263	0.642	0.521
BEH3 -> BEH	0.733	0.590	0.350	2.095	0.036
BEH4 -> BEH	-0.008	0.023	0.309	0.027	0.979
BEH5 -> BEH	0.065	0.041	0.278	0.232	0.816
BEH6 -> BEH	-0.571	-0.419	0.414	1.380	0.168
BEH7 -> BEH	0.528	0.407	0.309	1.710	0.087
CD1 -> CD	-0.046	-0.041	0.105	0.434	0.664
CD2 -> CD	0.133	0.130	0.139	0.956	0.339
CD3 -> CD	0.397	0.387	0.172	2.310	0.021
CD4 -> CD	0.575	0.573	0.142	4.053	0.000
INT1 <- INT	0.538	0.536	0.022	25.001	0.000
INT2 <- INT	0.502	0.505	0.020	24.984	0.000
PBC1 -> PBC	0.376	0.358	0.197	1.908	0.057
PBC2 -> PBC	0.572	0.544	0.169	3.391	0.001
PBC3 -> PBC	-0.064	-0.062	0.212	0.301	0.764
PBC4 -> PBC	0.488	0.460	0.195	2.498	0.013
SN1 -> SN	0.577	0.566	0.254	2.273	0.023
SN2 -> SN	0.469	0.439	0.259	1.815	0.070
SN3 -> SN	-0.114	-0.091	0.246	0.464	0.643

Table 20. Outer Loading Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT1 <- ATT	0.922	0.921	0.018	52.025	0.000
ATT2 <- ATT	0.942	0.941	0.011	86.392	0.000
ATT3 <- ATT	0.872	0.871	0.022	39.078	0.000
ATT4 <- ATT	0.927	0.926	0.015	63.725	0.000
BEH2 -> BEH	0.555	0.454	0.217	2.554	0.011
BEH3 -> BEH	0.845	0.694	0.221	3.828	0.000
BEH4 -> BEH	0.429	0.375	0.247	1.735	0.083
BEH5 -> BEH	0.250	0.206	0.209	1.199	0.231
BEH6 -> BEH	0.052	0.067	0.276	0.187	0.852
BEH7 -> BEH	0.574	0.467	0.204	2.815	0.005
CD1 -> CD	0.377	0.371	0.097	3.877	0.000
CD2 -> CD	0.773	0.764	0.061	12.638	0.000
CD3 -> CD	0.920	0.908	0.044	20.833	0.000
CD4 -> CD	0.955	0.944	0.031	30.907	0.000
INT1 <- INT	0.964	0.963	0.010	94.832	0.000
INT2 <- INT	0.958	0.958	0.012	78.623	0.000
PBC1 -> PBC	0.561	0.532	0.174	3.222	0.001
PBC2 -> PBC	0.794	0.748	0.108	7.328	0.000
PBC3 -> PBC	0.401	0.383	0.173	2.322	0.020
PBC4 -> PBC	0.738	0.694	0.137	5.389	0.000
SN1 -> SN	0.933	0.888	0.091	10.300	0.000
SN2 -> SN	0.880	0.836	0.109	8.086	0.000
SN3 -> SN	-0.424	-0.388	0.229	1.854	0.064

On the other hand, we assessed the reflective measurements through three common aspects of PLS analysis: convergent validity, internal consistency reliability, and discriminant validity (see Table 21 and 23). As, Hair et. al. (2014) underlines, the reflective measurement models need to be assessed on their composite reliability, convergent validity and discriminant validity; yet the criteria for reflective measurement models cannot be applied to formative measurement models (Hair, 2014a). Henseler et. al (2015) further add that HTMT-based criteria assumes reflectively measured constructs; and applying them to formatively measured constructs is problematic, because neither the monotrait-heteromethod nor the heterotrait-heteromethod correlations of formative indicators are indicative of discriminant validity (Henseler et al., 2015). For this reason, in tables 21 and 23 below, we only show the values for the two reflective items of our model (ATT and INT).

To assess internal item reliability, we resorted to Nunnally's (1978) rule of thumb of 0.60 (Nunnally, 1967). Items of all reflective variables had ratings above the 0.60 threshold and were statistically significant (see Table 21 below). We further ensured internal consistency by calculating composite reliability (CR). All CR scores were above the 0.70 benchmark (see Table 21). Regarding convergent validity, we calculated the average variance extracted (AVE) for all reflective measures. All AVEs of reflective measures were above the 0.50 threshold (Table 21). Furthermore, factor loadings were greater than 0.60, apart from PBC1, which was kept in the model as it was close to the threshold of 0.60 (0.562) (see Figure 10).

Table 21. Cronbach's Alpha, Composite Reliability and Average Variance Extracted (AVE) Values

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
ATT	0.936	0.940	0.937	0.787
INT	0.917	0.919	0.918	0.848

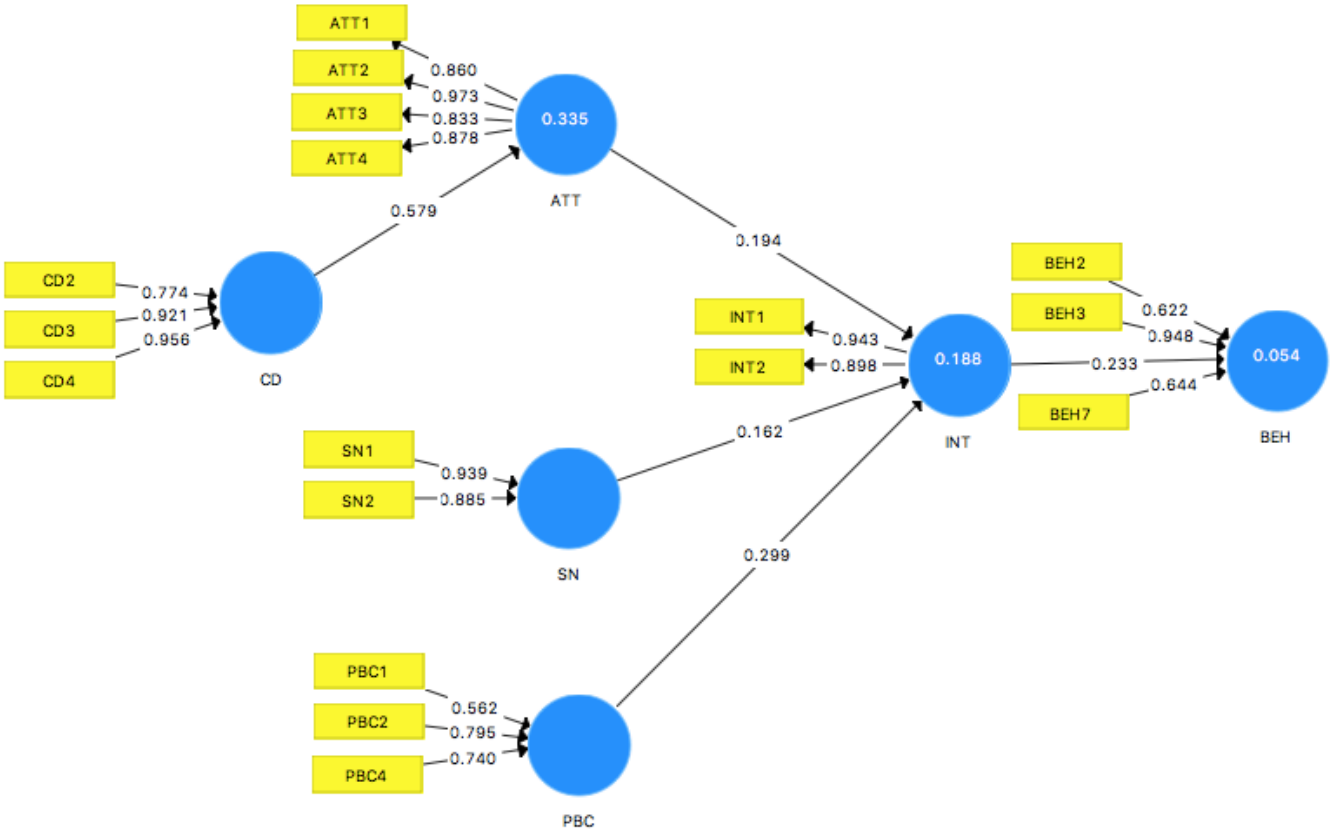


Figure 10. PLS-SEM Model with Indicator Loadings and Structural Coefficients

Similarly, all indicator loadings were higher than their respective cross loadings, providing further evidence of discriminant validity (see Table 22).

Table 22. Cross Loadings

	ATT	BEH	CD	INT	PBC	SN
ATT1	**0.860**	-0.076	0.494	0.211	0.018	0.101
ATT2	**0.973**	-0.057	0.573	0.199	0.042	0.180
ATT3	**0.833**	-0.002	0.483	0.190	0.001	0.244
ATT4	**0.878**	-0.032	0.499	0.228	0.010	0.202
BEH2	0.042	**0.622**	0.028	0.145	0.282	0.134
BEH3	-0.021	**0.948**	0.035	0.221	0.335	0.165
BEH7	-0.117	**0.644**	0.014	0.150	0.430	0.100
CD2	0.448	0.040	**0.774**	0.413	0.134	0.155

	ATT	BEH	CD	INT	PBC	SN
CD3	0.533	0.041	**0.921**	0.390	0.072	0.234
CD4	0.553	0.024	**0.956**	0.374	0.028	0.111
INT1	0.246	0.206	0.392	**0.943**	0.314	0.242
INT2	0.182	0.223	0.373	**0.898**	0.304	0.242
PBC1	0.187	0.121	0.172	0.189	**0.562**	0.149
PBC2	-0.114	0.386	-0.034	0.267	**0.795**	0.139
PBC4	0.035	0.353	0.033	0.248	**0.740**	0.150
SN1	0.174	0.173	0.175	0.246	0.233	**0.939**
SN2	0.205	0.139	0.137	0.232	0.123	**0.885**

Finally, in line with the suggestion of Henseler et. al. (2015), the heterotrait-monotrait (HTMT) ratios are all lower than 0.85 (see Table 23), which suggests that discriminant validity has been established between our two reflective constructs (ATT and INT); and that the upper confidence bounds (97.5%) are less than 1 (Henseler et al., 2015).

Table 23. Heterotrait-Monotrait Ratio (HTMT)

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
INT -> ATT	0.233	0.235	0.071	0.408

Although, composite reliability, convergent validity and discriminant validity tests are only applicable to reflective models (Hair, 2014; Henseler et al., 2015), as described above, we present two additional tables in Annex D, that are showing the discriminant validity and composite reliability values of all of our constructs (including the formative ones), to make sure of the fitness of our model. For the purposes of these analyses, we treated all of our variables as reflective variables (by converting them to reflective measures in SmartPLS), and re-conducted the tests. The findings presented in Table 32 (see Annex D) suggest that the Cronbach's Alpha results are over 0.60, which according to Nunnally's rule

of thumb of 0.60 (Nunnally, 1967) is acceptable; while all composite reliability scores were above the 0.70 benchmark; and all AVEs values are above the 0.50 threshold (Hair, 2014a). Furthermore, the results presented in Table 33 (see Annex D), show that the HTMT ratios are all lower than 0.85, suggesting that discriminant validity has been established (Henseler et al., 2015).

Taken together, the results lend sufficient assurance that the reflective measurement model fits the data well.

ii. Inner Model Results

Upon confirming the reliability and validity of the constructs, we proceed with the evaluation of the structural model shown in Figure 11 below. This figure displays the path coefficients together with their significance values and the corresponding R2 of the constructs. It was found that all relationships in this structural model are significant (see Table 24), hence, all constructs were kept in the model. Meanwhile, all hypotheses were accepted. On the other hand, the R2 values of Intention is in line with prior studies (Lortie & Castogiovanni, 2015), while R2 of Attitude could be regarded as high, and R2 value for Behavior is lower than prior studies (Hair, 2014b).

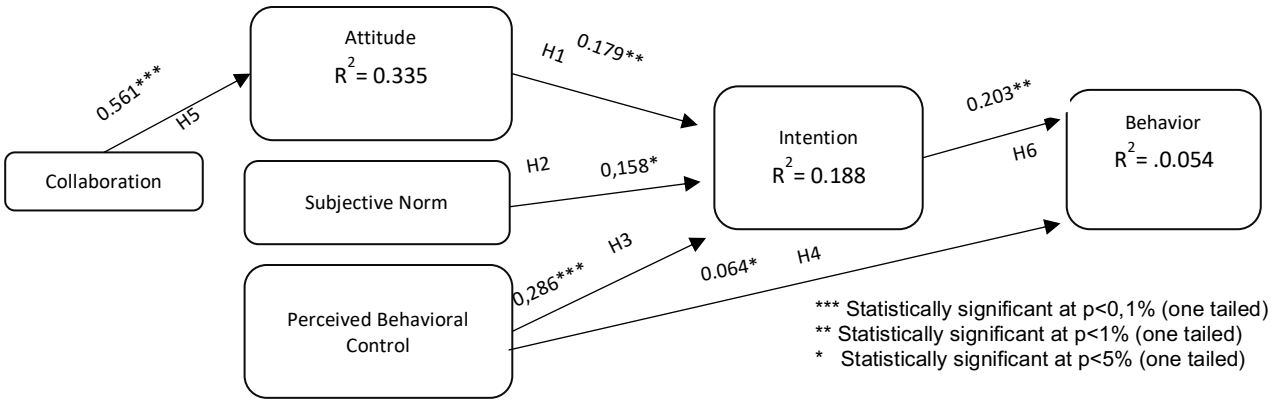


Figure 11. PLS-SEM Model

Table 24. Path Coefficients and P Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT -> INT	0.179	0.178	0.066	2.703	0.007
CD -> ATT	0.561	0.568	0.077	7.289	0.000
INT -> BEH	0.223	0.244	0.073	3.073	0.002
PBC -> INT	0.286	0.297	0.056	5.104	0.000
PBC -> BEH	0.064	0.074	0.030	2.139	0.033
SN -> INT	0.158	0.161	0.066	2.396	0.017

We have conducted this analysis in two parts to observe both direct and indirect relations to behavior. First, we observed the direct relations between our constructs Attitude (ATT), Subjective Norm (SN) and Perceived Behavioral Control (PBC) to Behavior (BEH), before adding Intention (INT) into the model as a mediator, to test the theory. Table 25 shows that we could identify significant direct relations between PBC and BEH, but not SN and ATT. However, the change in the magnitude and significance of direct relationships of ATT, SN and PBC to behavior as well as their significant relationship to Intention, indicate a mediating effect (Table 26). In addition, the results show full mediation for the relationship of ATT and SN to behavior, because of the non-significant direct effects and significant indirect effects. For the relation of PBC to behavior, we specify a complementary mediation effect since both the direct relation and indirect relation of PCB to Behavior is positive and significant.

Table 25. Direct effects between Attitude, Subjective Norm, Perceived Behavioral Control and Behavior

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT -> BEH	-0.071	-0.070	0.078	0.912	0.362
CD -> ATT	0.561	0.566	0.080	7.033	0.000
CD -> BEH	-0.040	-0.040	0.045	0.889	0.374
PBC -> BEH	0.494	0.504	0.056	8.845	0.000
SN -> BEH	0.075	0.089	0.069	1.094	0.274

Table 26. Total effects: Direct and indirect relationships

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT -> BEH	0.040	0.044	0.022	1.817	0.069
ATT -> INT	0.179	0.178	0.066	2.703	0.007
CD -> ATT	0.561	0.568	0.077	7.289	0.000
CD -> BEH	0.022	0.026	0.015	1.548	0.122
CD -> INT	0.101	0.103	0.045	2.231	0.026
INT -> BEH	0.223	0.244	0.073	3.073	0.002
PBC -> BEH	0.064	0.074	0.030	2.139	0.033
PBC -> INT	0.286	0.297	0.056	5.104	0.000
SN -> BEH	0.035	0.040	0.022	1.591	0.112
SN -> INT	0.158	0.161	0.066	2.396	0.017

In this study, we have also attempted to use gender, rurality and employment as control variables, however, all three of these have shown to have path coefficients that were insignificant; hence, they were not used in the model.

4.4. Discussion

Our findings suggested that consumers' intention to participate in FCNs could be predicted by Attitude (ATT), Subjective Norm (SN) and Perceived Behavioral Control (PBC) in addition to Collaboration (CD). ATT, SN and PBC were found to have all significant positive effects on participation intention, which was supported by the TPB, and some other similar studies that aimed to explain the participation in urban agriculture initiatives (Tiraieyari & Krauss, 2018; Tiraieyari & McLean, 2017), and organic food consumption behavior (Nguyen et al., 2019). Hence, our overall results confirmed that the TPB model and its measures, with also the addition of collaboration, were suitable for the studied group. Our findings suggested that PBC had the strongest and most significant influence on intention. In our study, PBC refers to the individual's perception of his or her ability to participate in FCNs. In line with Ajzen's work (1991), PBC has been assessed in two components: self-efficacy and controllability. In our study, the influence of self-efficacy, which was measured by the perception of ease to participate in FCNs, was lower than measures of controllability. Meanwhile, the items measuring constraints related to time and financial resources and the obligation to purchase food products from industrial food chains were utilized to explain individuals' ability to participate in these networks. While, the item measuring the influence of having access to financial resource has been removed from the model, being insufficient to match the quality criteria, the influence of having access to time had the strongest influence on the perception of the ability to participate in FCNs. This finding was also supported by the responses collected with the open-ended questions as part of the survey (see Table 8), where lack of time was argued to be the biggest constraint standing in the way of more active participation. Subsequently, individuals who faced constraints (such as lack of time, or inability to easily buy food products from food communities, as opposed to industrial chains), were losing their motivation or strong positive attitudes regarding participation.

Moreover, the results showed that ATT and SN influence behavior of consumers to participate in FCNs, only through the mediation effect of Intention, as supported by the TPB. We also observed, in the case of PBC, that indirect and direct PBC measures were significantly correlated, which fits the premise of TPB and the role of indirect measures. Furthermore, the direct influence of PBC to BEH was much stronger than its indirect effect through the mediation effect of INT. This strong direct link may

suggest that strong PBC leads to people being more persistent to try to implement a behavior, meaning that members of FCNs who perceive to have more control over participation in FCNs try harder to do so.

Collaboration on the other hand had a strong positive relationship with Attitude. Several authors have suggested to add new constructs to the TPB in order to improve the explanation of intentions and behavior (Visintin et al., 2012). In our study, collaboration, which was the antecedent of attitude, could explain 0.335 of the construct (which had the strongest explanatory power in our model). Furthermore, the addition of collaboration was able to increase, although slightly, the explanatory power of our model (R^2 of intention increase to 0.188, from the value of 0.171; and R^2 of behavior increased to 0.054 from 0.05). In this regard, our findings show that collaborative mechanisms within the group needs to be taken seriously and implemented meticulously, in order to increase the level of participation. While this study did not find significant differences in measures by any demographic feature, future research may focus on this issue in an attempt to find differences among age, gender education, and more important among background of participants (urban versus rural) or work status (employed, unemployed or retired) in affecting their intentions to participate in FCNs.

In addition, some deeper insights that were also collected through open-ended questions also revealed some of the governance challenges that may stand in the way of achieving the above-mentioned collaborative outcomes. Our findings revealed that one of the most repeated governance challenges was lack of volunteers that are ready to take responsibility in the groups, and the fact that responsibilities and tasks piling up on a limited amount of people, is creating fatigue and operational problems. Another important point was the lack of communication among consumers, as well as between consumers and producers, which is creating many problems within the groups. Hence, while, these challenges need to be addressed carefully within each food community, it should also not be forgotten that addressing these challenges may also help strengthen the collaboration mechanisms within the group, hence resulting in stronger participation by consumers.

Our study is subject to a number of limitations. Firstly, the study considers “participation in FCNs” as a behavior, and “intention to participate in FCNs” as the behavioral intention. So, in this regard, a definition was provided for the participants of the survey, to explain what is meant by “participation”. In Turkey, food community networks use the term “co-producers” to address the

consumers/participants of these communities, referring to those who are willing to work with other consumers and producers and to take a greater responsibility in local food systems, in order to became active consumers, rather than passive end-users. Hence, the contacts with community coordinators, and pretesting of the survey have revealed that what is meant by "participation in FCNs" was generally clear for these groups. Yet, it is still believed that a more concrete and specific conceptualization of the behavior could have been understood even better by participants. Understanding the reasons and motivations behind participation in FCNs is a broad area and for future research, it may be plausible to work on more specific behavior "within the participation concept" to be able to capture the details of this phenomenon (such as "buying healthy products from FCNs", "supporting farmers in FCNs", or simply "going to weekly meetings of FCNs", and so on). In addition, one of the most important limitation in the present study regards the relationship between intentions to participate and actual participation (behavior). Intentions have been found to predict behavior quite well across many studies (Vallerand et al., 1992). However, while we found a positive and a significant relationship between these variables, as expected; the R^2 at 0.041 had been quite low, to have explanatory power of intention to actual participation. This low value could have been caused by another limitation of the study, which is related to the collection of the data for behavior (behavior of participation in FCNs) at the same time as behavioral intentions, despite intention being a precedent of behavior. Due to a low response rate predicted in the case of a second round of data collection from the same participants, a decision was made to measure behavior, in the form of stated regular behavior of participants, rather than actual past behavior measured at a later point in time. This decision, however, was also consistent with numerous studies, including those, focusing on similar topics such as organic food or green product consumption and purchasing behavior as well as recycling intentions (Fleșeriu et al., 2020; Jan et al., 2019; Bai et al., 2019; Al Mamun et al., 2018).

Another limitation was the inability to test our formative variables in our model by conducting a convergent validity test. Convergent validity is the extent to which a measure in the model correlates with other measures (or items) in the same constructs. In this regard, Hair et. al. (2014) propose that when evaluating formative constructs, we have to test whether the formatively measured construct is highly correlated with a reflective measure of the same construct (Hair, 2014a). In order to be able to executive this approach, it is necessary to utilize a reflective latent variable in our data collection phase

and to collect data also for this additional construct. One of the limitations of our research was that due to several constraints, we were not able to include in our online survey the necessary reflective constructs, which would give us a chance to test the convergent validity of our four formative constructs (namely CN, SN, PBC and BEH). Yet, we were still able to employ the assessment of collinearity and significance and relevance of indicators. It is also worthwhile to note that we had to remove numerous items from our initial model (namely BEH4, BEH5, BEH6, CD1, PBC3 SN3) as they did not fulfil the outer weight and outer loading requirements; while at the same time, the Cronbach's Alpha value of PBC was considered low (0.61), as it was just above the acceptance limit of 0.60 (see Appendix D).

In addition, another important limitation of our study was due to its small sample size and consequently, its low representativeness. Larger samples of consumers' of FCNs in Turkey would have made our data and findings stronger. Furthermore, comparisons with other countries, which have longer history and tradition of food communities, could make the research fruitful. In addition, better familiarity with a behavior may also lead to the TPB to work better, in terms of statistical robustness, which could explain the phenomenon of participation in FCNs better. Recommendations for future research and application may include the testing of other variables, including a wider range of personal characteristics, that may impact participation behavior in FCNs, and that may increase the explanatory power of the model.

4.5. Conclusions

This study examined the extended framework of the TPB model, in which collaboration was added as an antecedent of attitude towards consumers' participation in FCNs. While collaboration is regarded to be one of the most crucial aspects of local food networks in general, and FCNs in particular, our study was able to address the effect of collaboration in consumers' attitudes towards active participation. With collaboration exerting a strong influence on the attitude towards participation, the coordinators and participants of FCNs should be aware of the importance of a collaborative governance mechanism in place within the groups and how consumers' perception is influenced depending on the extent of which they believe collaboration is existent with the group. While addressing this issue, the main challenges raised by consumers as part of our research, also may inform governance mechanisms within groups: namely, regarding constraints with time, and challenges of organization and lack of volunteers taking

responsibility; and problems associated with communication within consumers and between consumers and producers. In other words, enhancing collaboration within groups and overcoming challenges raised by participants can strengthen the participation of consumers in these groups, which is an important factor for these initiatives to thrive and sustain. Furthermore, although several studies used TPB to explain the participation behavior in local initiatives (e.g. urban agriculture programs, local community forest management, air pollution control schemes), to our knowledge, our study is the first to explore participation behavior in the context of food community networks.

Given that food communities in Turkey, which have a rather short history, are flourishing since the last a decade, and they are claiming to still find appropriate ways and solutions to how to make these networks work and function (preliminary field research), the research appears to be conducted in an appropriate time. More specifically, our research contributes to knowledge in three areas: First, consumers' intentions towards participation in FCNs is still an untapped issue, while the relation of collaboration to attitude has not been studied yet with regards to theory of planned behavior, and finally FCNs in Turkey is still a black box, and any additional findings in this context can be of great use for understanding local food systems and for local policy making that could support agricultural areas and small scale local farmers.

Chapter 5

5. Discussion

This section of the thesis is structured as follows: First, under section 5.1, a short background of the thesis and the aims of the study are presented, along with the research questions of the thesis. Then, in section 5.2, the approach of the thesis is presented. Table 27 provided under this section also contributes to summarizing of the papers found in this thesis. In section 5.3, we first present a table (table 28) to give an overview of how main findings were derived from the four Research Questions of the thesis, and a summary of the contribution and policy implications arising from the thesis. Following this table, we discuss in detail findings of each of the research questions under four sub-headings, denoted from i. to iv, namely (i) Governance mechanisms and tensions; (ii) Adaptations and recommendations towards improvement; (iii) Motives for participation; and (iv) Learning and knowledge sharing in SFSCs. Then, in the remaining of the Discussion section, we provide main limitations of the thesis and recommendations for future research in section 5.4, and finally in section 5.5 we discuss policy implications of the thesis.

5.1. Background, aim of the study and research questions

The literature on local food systems and SFSCs focus mainly on their potential capacity to create societal change through innovative ways (Wiskerke & Ploeg, 2004; Seyfang & Smith, 2007; Brunori et al., 2016; Lamine et al., 2012), their premise to create more sustainable solutions in the food systems through social embeddedness, and "relocalization" of food (Renting et al., 2012; Renting et al., 2003; Maye, 2013; Dansero & Pettenati, 2015; Goodman et al., 2012; Brunori et al., 2016; Sonnino & Marsden, 2006; Allen et al., 2003; Hinrichs, 2003), as well as their contribution to local, territorial or rural development (Allen et al., 2003; Purcell, 2006; Manganelli et al., 2019; Born & Purcell, 2006; Goodman, 2009; Hinrichs, 2003). Rather less focus was directed towards dynamics of learning and collaborative innovation within local food systems, and the governance mechanisms surrounding them. In addition, outcomes from the perspective of both consumers and producers, governance challenges experienced along the way and the ways to adapt to these challenges are not studied widely.

Towards this end, the research conducted within this study aimed mainly to examine three mechanisms at play, namely, governance, collaboration and learning in SFSCs, reveal their outcomes

and identify associated challenges experienced from the perspective of both farmers and consumers. These mechanisms, which work both individually and in interaction with each other in the scope of SFSCs, reveal important and relevant indications of how SFSCs function. Hence, understanding these mechanisms could lead to taking the necessary steps towards strengthening the interaction and types of networks between the actors involved, improving trust, shared understanding and efficiency and transparency of decision-making processes within groups, and eventually contribute to the innovativeness and sustainability of local food systems, through improving the skills and capacity of farmers, while increasing knowledge and awareness of consumers towards agri-food systems.

In this direction, the research questions this thesis aimed to answer were: (1) What are the mechanisms through which SFSC initiatives are organized and governed in the case of Turkey, and how are governance structures of these initiatives shaped; (2) What are the related challenges and constraints associated with these processes, from the perspective of SFSC actors, and what are adaptation mechanisms adopted, or propositions to cope with them; (3) What are the individual motivations behind participation in these initiatives, from the perspective of both farmers and consumers; (4) How are the processes of collaboration, information and knowledge sharing and learning shaped as part of these initiatives; and finally (5) What are the outcomes associated with these processes?

While attempting to answer these questions, our primary point of departure has been the perspective of and challenges experienced by smallholders in Turkey. SFSCs, in addition to their premise of providing healthy, quality, ecological and just products to their customers, they also have a strong purpose to provide solidarity and empowerment to farmers, through establishing new and alternative forms of social relations among farmers and consumers (Manganelli et al., 2019a). However, in the case of local food systems, or SFSCs, studying the processes or the outcomes focusing only on farmers, would provide us with only the half of the story. The particularity of SFSCs lies in the fact that these networks represent a significant reconfiguration of producer-consumer relations and the spaces where these are performed (Goodman & Goodman, 2009b). Moreover, as discussed in the literature, as well as in this thesis, most of these initiatives are initiated and self-organized by consumers; hence, in the case of SFSCs, consumers are not merely passive purchasers of food, who are disengaged with food politics, but to a large extent active, engaged citizen-consumers that possess societal and transformative objectives (Bos & Owen, 2016; Brunori et al., 2016; Lutz, 2013). Hence, in this study our purpose has

been to draw a holistic picture of SFSCs, based on the perspective and the experience of both farmers and consumers.

5.2. Approach of the thesis

In order to answer these research questions, we conducted our research in three interconnected but separate parts that consisted of three separate papers: (1) The first is a literature review aimed at understanding the key issues related to learning and knowledge creation and exchange within SFSC initiatives, where we also propose a learning framework aimed at identifying learning mechanisms among SFSCs. (2) The second is a research paper, reliant on a multiple-case study conducted in the city of İzmir (Turkey), where we addressed governance mechanisms that are partaking in SFSCs, and related challenges and tensions arising as a result of these processes, as well as associated individual, community and local outcomes from the perspective of SFSC actors. We use in this part an adapted collaborative governance framework towards exploring the collaborative governance processes within seven selected SFSC cases. Finally, (3) the third is a research paper, where we present the results of a survey we conducted in 18 food community groups, in seven different cities in Turkey, in order to understand the factors influencing consumer participation in food community networks, and the type of individual constraints faced, and governance challenges experienced in these networks from the perspective of consumers. We present below in Table 27 the summary of the main aspects of each paper, namely their title, aims, the research questions they pose and the theoretical framework and data collection method they use (while this table is a compact version, presenting the main aspects of each paper, a more detailed version of the table is found under Annex E, Table 34). Meanwhile, in the next section we provide a detailed discussion of main findings.

Table 27. Summary of the main aspects of each paper in the thesis

	Paper I	Paper II	Paper III
Title	Exploring learning mechanisms and knowledge creation and sharing dynamics in SFSCs: A literature review	Exploring governance mechanisms, collaborative processes and main challenges in SFSCs: The case of Turkey	Exploring collaboration and consumer behavior in food community networks (FCNs) and constraints preventing active participation: The case of Turkey
Aims	Providing an overview of learning mechanisms and outcomes in SFSCs, via a literature review, focusing on governance mechanisms that are adopted and how through these mechanisms, knowledge creation and exchange are triggered.	Exploring the mechanisms through which civil society driven SFSCs are governed in İzmir (Turkey), referring to actors involved, institutional processes adopted and challenges experienced.	Understanding underlying factors of consumer intentions and behavior to participate in FCNs in Turkey, while identifying main governance challenges experienced by participants of these communities, in order to inform local policy.
Research Questions	(1) What are the main characteristics of scientific papers published on this topic; (2) What are the main theories or frameworks that have guided the literature on the topic; (3) What are the learning outcomes experiences; (4) How an adapted framework can look like which can contribute to literature towards exploring learning mechanisms in SFSCs?	(1) What are the mechanisms through which SFSCs are initiated and operated; (2) How collaboration takes place within these groups and through which processes; (3) What are the outcomes of these processes in terms of individual, community and local impacts experienced on the ground and challenges associated with them?	(1) What are the underlying factors that affect the participation of consumers in FCNs; (2) What are the key constraints experienced in these groups that are standing in the way of more active participation by the consumers?
Theory/ conceptual framework used	N/A	Adapted collaborative governance framework	Theory of planned behavior
Data & method	Literature review	Multiple-case study of seven short food supply chain initiatives in the city of Izmir	Survey of 214 consumers, that have been gathered from 18 food community groups

Paper I	Paper II	Paper III
	(Turkey); semi-structured in-depth interviews with 41 farmers, 32 consumers, 11 coordinators, and 5 experts.	(food community networks), from seven cities of Turkey.

5.3. Discussion of main findings

In this section, we first provide a table (table 28) to lay out each of the research questions this thesis aimed to answer in the first column, and present the main findings relating to each of the research questions in the second. Then we summarize main contributions attained while answering each of the research questions (column 3), and finally provide a summary of main policy implications of the thesis (column 4). We have not allocated specific policy implications to each of the research questions, but rather kept the column of policy implications as an overarching one. Following the table, we discuss in detail findings of each of the research questions under four sub-headings, denoted from i. to iv, namely (i) Governance mechanisms and tensions; (ii) Adaptations and recommendations towards improvement; (iii) Motives for participation; and (iv) Learning and knowledge sharing in SFSCs.

Table 28. Research questions of the thesis and the main findings

Research questions (RQs)	Main findings	Contribution	Policy implications

1) What are the mechanisms through which SFSC initiatives are organized and governed in the case of Turkey, how are governance structures of these initiatives shaped, and what are the associated challenges?
 	
Papers that addressed this RQ: II and III
	Multiple-case study conducted in Turkey revealed differences of:
	- Governance mechanisms, institutional frameworks, differing levels of shared understanding in seven cases studied
	- Formality of organizational structures, leadership mechanisms
	- Food community networks (FCNs) adopt less defined governance structures implemented by volunteers;
	- Rural-rooted farmers attached to more formal networks; reported bigger difference (social and economic) in their livelihoods
	
	• **Differing governance tensions:**
	- FCNs (governance tensions are highest):
	  - Managing tasks on a voluntary basis
	  - 107 out of 214 participants said they "never" volunteer in their group, while only 9 out of 214 said they volunteer 2-3 times a month
	  - Lack of communication among members, inefficient decision-making processes
	  - Challenges of scaling up
	  - Need of resources: physical space, knowledge, skills, human capital
	- Initiatives governed by civil society organizations (CSOs) (resource tensions are the highest):
	  - Lack of consumer demand and interest
	
	Similarity: All groups argue current agricultural policy framework is hurting small-scale farmers.
		• Demonstrating some of the main differences and similarities among SFSC initiatives selected on a city-level case in Turkey, and identifying main governance challenges/tensions that are experienced in these initiatives
		• An adapted Integrated Collaborative Governance framework used to explore governance mechanisms and challenges in the scope of SFSC initiatives in Turkey
			1) Multi-stakeholder approaches needed to address rural development goals
			• Goals and concerns of SFSC initiatives in Turkey are closely linked to rural development goals adopted.
			• SFSCs become crucial in supporting rural farmers, to market their products, contribute to local economic development, and to reach rural development objectives (e.g. fighting rural poverty).
			• They can be used as policy tools as practices of citizens' collective self-organization in addressing rural or local problems.
			
			2) Municipalities to take responsibility to promote and increase the reach of SFSCs
			• SFSC initiatives can collaborate with other local actors such as municipalities, public schools, or local organizations or community projects. In this way, the variety of citizens and geographies reached can be widened.
			• In Turkey, local municipalities, including those of İzmir, Seferihisar, Ovacık and Nilüfer take initiatives through

2) What are the adaptation mechanisms adopted, or propositions to cope with them?	**Multiple-case study conducted in Turkey revealed:** • Initiatives had efforts to revisit or adapt their governance modes for improvement: - FCNs suggested: Switching to a more formal structure, or professionalize the voluntary system (by paying salaries) - Farmers' markets lacked close connection between consumers and producers and shared values. They proposed organizing additional events, to bring participants together. - The Slow Food market initiated a "collective kitchen" project where consumers can also engage in the process, and get to know other consumers and producers.	• The SFSC movement in Turkey is starting to get academic and policy attention only recently. Hence, research on the topic is very limited; and the realities of SFSCs in Turkey, and governance mechanisms and challenges experienced	

Research questions (RQs)	Main findings	Contribution	Policy implications
Papers that addressed this RQ: II and III	• All cases noted a necessity for public administrations and local municipalities to increase awareness among citizens through campaigns or special courses. • All participants believe there is a need of a policy framework to support these initiatives to survive and develop. **The survey conducted throughout Turkey revealed:** • Necessity to have a larger number of volunteers (21,4%) • Improvement regarding operational matters (a space needed for group meetings) (21,4%) • Better communication with group members (16,3%) • More just pricing for products (10,2%) • Need to improve awareness of participants about sustainable food systems (8,2%)	by these initiatives are unknown. • Exploring adaptation and feedback mechanisms, and propositions for improvement would be helpful in taking the necessary steps to tackle governance challenges they are experiencing.	establishing farmers' markets, farmers' cooperatives, seed exchange platforms or groups, and by organizing events, festivals or social projects, to support farmers and to raise awareness on alternative modes of collaboration. • These examples can be extended. **3) Public policies, action and regulations supporting small-scale farmers needed** • The interviews showed farmers join these SFSC networks because they have to find new and alternative channels to market their products and to be able to remain in agriculture (current national policy framework not supporting farmers). • This shows the need to revise the policy context – and urgent need to support farmers • In this regard, extending the reach of SFSCs through facilitating policies could also contribute to the efforts of supporting small-scale farmers – local/rural policy goals are in line with the aims of SFSC initiatives • Public sector could play a more prominent role in supporting expansion of the social and physical infrastructure needed for future cluster development of SFSC initiatives, such as those of
3) What are the individual motivations behind participation in these initiatives, from the perspective of both farmers and consumers? Papers that addressed this RQ: II and III	**The survey conducted throughout Turkey (using Theory of Planned Behavior) explored participation intention in FCNs:** • Attitude, subjective norm, perceived behavioral control (PBC) and Collaboration had significant positive effects on participation intention. • PBC (measured by self-efficacy and controllability) had the strongest influence. • Collaboration had a strong positive relationship with attitude. **Open-ended questions revealed:** • Motivations of consumers for participation: - Highest: buying healthy products - Lowest: combatting climate change and waste reduction - Constraints hindering participation: - Personal challenges (53%): Lack of time, accessibility problems - Group dynamics (21,4%): Lack of volunteers taking responsibility - Products (17,9%): High price, lack of variability - Operational challenges (7,7%): purchase days, logistic problems **Multiple-case study conducted in Turkey revealed:** • Producers' motivations included: To eliminate mediators and receive a just price for their products (Nature's Shop); to gain financial autonomy and a source of income (Slow Food Earth Market); pursue ethical production; be among first and limited number of organic producers (EcoBazaar); and eliminating middlemen, find new marketing channels and be together with like-minded people (FCNs). • Consumers' motivations included: Accessing healthy and local food; and to support producers.	• Among the very few academic studies that aims to identify and study in detail, food community networks in the case of Turkey; and first study that aimed to explain the participation intention of consumers in food communities in Turkey. • The SFSC movement in Turkey is starting to get academic and policy attention only recently. Hence, research on the topic is very limited; and the realities of SFSCs in Turkey is still unknown.	

Research questions (RQs)	Main findings	Contribution	Policy implications
4) How are the processes of collaboration, information and knowledge sharing and learning shaped as part of these initiatives? Papers that addressed this RQ: I and II	**Literature review (Scoping review)** • Types of learning that are most frequently studied/experienced in the scope of SFSCs are: social, informal, transformative, experiential, collective, life-long and organizational learning. • Some of the frameworks/models used to study learning mechanisms in SFSCs are: social capital theory, consumer-producer interaction (CPI) model, participants' motivation approach, actor network theory (ANT), transformative learning and critical consciousness theories, entrepreneurial learning model, intergenerational learning, integrative sustainability approach, and organizational theory. **Learning outcomes according to different SFSCs** - **Box schemes**: Relies on collection of weekly boxes from farms/producers. - Knowledge gained by consumers are limited to knowledge about vegetables, seasonality of food, new recipes, knowledge on food storage and waste management - Increased awareness of sustainable food systems - **CSAs**: Relies on regular meetings between consumers and producers. - Involves long-term face-to-face in-depth interaction - Attention is given more to consumer learning – in the literature - In addition to learning at box-schemes (above), consumers gain knowledge on realities of farming, farmers' perspectives, wider understanding and awareness towards local and global food systems - Informal and social learning through experience sharing, and learning-by-doing - Exchange of local lay knowledge (or traditional knowledge) – technical knowledge utilized by farmers to grow food in the specific agri-ecological context - Desire to learn more: as consumers learn, they are motivated to learn more by their own means of further research - Farmers learn about consumers' preferences, and information about alternative channels - **Farmers' Markets:** Mostly organized by farmer groups or local/civil-society organizations, where farmers meet consumers in a market place to sell directly their products to consumers. - Attention is given to farmer learning – in the literature - Farmers develop entrepreneurial knowledge and skills - through accumulation of experience, and interpersonal exchange among actors, including producers, consumers, managers	• Knowledge sharing and learning in the scope of SFSCs are among the important outcomes of interaction that takes place among consumers, producers, and between them. However, studies that focus on these mechanisms are rare in the literature. • An adapted framework is proposed that incorporates theories of experiential learning, activity and community of practice. • It is proposed for exploring learning mechanisms in food community networks (e.g. CSA). • FCNs maintain a high sense of community and a division of labor between consumers and producers, and based on resource pooling.	farmers' markets or urban gardens. **4) Awareness raising and enhancement of skills necessary** • Farmers and coordinators raised the need for public policies to provide (1) awareness raising among both producers and consumers, and (2) experience building in the agri-food sector. • Farmers no longer possess knowledge to conduct sustainable food production and maintain their resilience; and citizens do not know about sustainable food procurement methods. • Outreach and public awareness building activities could have facilitating outcomes for the SFSC initiatives, and help to contribute to enhancing healthy and nutritious eating habits in Turkey. **5) SFSCs can be used to contribute to learning efforts** • Our research showed that in the scope of SFSCs knowledge sharing and learning mechanisms are at work, including experiential, social and collective learning. • Both consumers and producers learn many aspects related to sustainable production, consumption and procurement issues. • Providing linkages between SFSCs and formal education institutions,

Research questions (RQs)	Main findings	Contribution	Policy implications
	- Diffusion of knowledge (like in a cluster) and best practice take place - Informal knowledge gained adds to farmers' confidence, professional satisfaction and autonomy, which, in turn, are strong motivators for further learning - Peer to peer learning – also motivator for young and new farmers - Farmers learn marketing or management skills, via interaction with consumers **Multiple-case study conducted in Turkey revealed:** • Farmers' perception towards sharing information differed: - At FMs, knowledge sharing was not common among farmers. Farmers noted (being mostly rural-rooted) they knew about agriculture since childhood; knowledge sharing was not necessary. - At FCNs, stronger culture of knowledge sharing is present, which is consistent with the community aspect of these groups. Especially, urban-rooted producers (new peasants) engaged in knowledge sharing as much as they could.		in the form of courses, field work, internships or term projects, may extend the learning effects of SFSCs beyond their own members.

Below we provide in detail findings relating to each of the research questions under four sections: (i) Governance mechanisms and tensions; (ii) Adaptations and recommendations towards improvement; (iii) Motives for participation; and (iv) Learning and knowledge sharing in SFSCs.

i. Governance mechanisms and tensions

The first research question this thesis asked was: What are the mechanisms through which SFSC initiatives are organized and governed in the case of Turkey, how are governance structures of these initiatives shaped, and what are the associated challenges? In order to answer this question, we made use of papers II and III of the thesis. Paper II presented the findings of a multiple-case study conducted in the city of Izmir, where seven SFSC initiatives were explored, and Paper III presented the findings of a survey conducted throughout Turkey among consumers of food community networks. With regard to this research question, the aim has been to explore the governance mechanisms that are found in our selected SFSC cases, and associated governance as well as individual challenges that are experienced by the main actors of these initiatives, namely farmers and consumers.

Manganelli et al. (2018) argued that as SFSCs develop, different governance tensions arise both within their organization as well as in the institutionalization processes in which they are embedded, while the agri-food literature does not sufficiently account for the governance complexity of these initiatives. Accordingly, in order to explore the governance mechanisms of SFSCs as part of this research, we studied main actors, initiators, and collaborators of each of our selected cases, in addition to the operational mechanisms, activities undertaken to govern them, roles taken by participants inside the groups, in addition to institutional frameworks including but not limited to inclusion criteria of farmers, how these criteria are enforced and audited, and the operational model of each initiative. Exploring these aspects provided the opportunity to identify, the similarities and differences among these initiatives, in addition to understanding how these structures lead to differing governance challenges, or tensions (Manganelli et al., 2019).

We collected data by means of in-depth face-to-face interviews with farmers, consumers, and coordinators that are part of selected SFSC initiatives in the city of Izmir (Turkey) in the scope of Paper II, and by online questionnaires applied to consumers that are participants of different SFSC initiatives throughout Turkey, in the scope of Paper III. Paper II provided data from seven SFSC initiatives, of

which three of them were initiated by civil society organizations (CSOs), and the remaining four were self-organized food communities, initiated by consumers. These four self-organized groups fall in the category of what we call as Food Community Networks (FCNs) in this study, by relying on the definition of Pascucci (2010). In the scope of Paper III, on the other hand, we focused solely on the experience of FCNs. These type of SFSC initiatives are particularly interesting and unique, mainly because they seek to reshape the nature of buying and selling agricultural products by forming alliances between farmers and consumers, by dividing the true cost of production fairly among the end consumers of the products (M. Ostrom, 2007). Maestripieri (2017) called them social innovations, as they promote empowerment and social integration in the society, by aiming to overcome pre-existing socio-economic structure and by promoting the social participation of consumers and producers in the food systems. While Paper II was able to provide us with the perspective of farmers, consumers and coordinators (or initiators), Paper III provided us with the perspective of consumers, strengthening the insights we gained via Paper II further. As part of Paper III, consumers that participated in the survey ranged from those that were active consumers, to less active ones. Active consumers include volunteers, who take responsibility in organizational tasks of the group, and coordinators, who are in charge of organizing the volunteers of the groups. Less active consumers, on the other hand, include those, who only participated in the purchase days organized by these groups in order to pick-up the food products they ordered. Hence, in this thesis we were able to provide a holistic approach, with regard to presenting the perspectives of both farmers and consumers, in addition to coordinators, initiators, and some of the collaborators of SFSC initiatives, in order to explain the phenomenon in question.

In terms of findings, we first explored the governance structures of our selected cases. Paper II revealed that in these seven initiatives, there were differences among the formality of organizational structures and leadership mechanisms, in addition to formality of inclusion criteria of farmers, and the extent of which these criteria were enforced. We found that those initiatives that were organized and governed by civil society organizations adopted stricter criteria and auditing mechanisms, which were implemented with the collaboration of multiple organizations, including local municipalities or other local civil society organizations. This was also in line with other studies in the literature (Skog et al., 2018; Yacamán Ochoa et al., 2019; van der Jagt et al., 2017; Jones, n.d.). In the case of FCNs, however, the governance structures were less defined and were implemented by volunteers, which was also supported by other studies in the literature (Yacamán Ochoa et al., 2019; Manganelli & Moulaert, 2018;

Bellante, 2017). Furthermore, aspects of a shared sense of identity and community were also being perceived differently among actors, in which the community-aspect of FCNs gave more opportunities to its participants to establish a culture of a shared identity. However, the level of which some of the FCNs had stronger ties also were dependent on the level of social or political beliefs shared by the participants.

Then, we explored the governance tensions experienced in relation to the governance structures addressed above. The combined findings of Paper II and III revealed governance tensions, which were experienced on different levels, namely: Governance tensions experienced on an initiative-level (which was gathered from the interviews of coordinators, farmers and consumers), and individual challenges and constraints experienced by both consumers and farmers.

Our findings from in-depth interviews (Paper II) revealed the governance tensions experienced on an initiative-level in two parts: First, governance challenges experienced by initiatives governed by CSOs, and those by FCNs. The main challenge that was mentioned by all members and coordinators of initiatives governed by CSOs were regarding the lack of consumer demand and interest, or the seasonal aspect of this demand, that is causing mainly resource challenges within the initiatives (Manganelli & Moulaert, 2018). Yacaman (2019) also explained that despite the growing interest by consumers in locally produced food, one big problem pointed out by the producers involves the current lack of interest by citizens in local food products. Similar to our findings, Yacaman (2019) also related this issue to lack of awareness or familiarity of consumers to these products, and initiatives, but also due to low level of awareness campaigns promoting fresh and seasonal products. Meanwhile, on the side of FCNs, the challenges mentioned during in-depth interviews with coordinators and consumers, were mainly regarding the organizational side. One of the most significant organizational challenges, which was mainly associated with the informal structure of these initiatives, has been regarding the insufficient number of volunteers taking responsibility and this in turn, resulting in difficulties to complete tasks in time and creation of fatigue within the volunteers. Findings from Paper III also supported this point. One of the most repeated governance challenges, mentioned by the consumers, through open-ended questions, was lack of volunteers that are ready to take responsibility in the groups, and the fact that responsibilities and tasks piling up on a limited amount of people, is creating operational problems. Besides, one of the survey questions of Paper III also reveals the frequency of voluntary activities the consumer of the groups engaged in. In this regard, the descriptive statistics obtained for this question

could reveal that out of 214 survey participants only nine of them mentioned that they volunteer or take responsibility within the groups once a week or more, while three of them volunteer 2-3 times a month, meanwhile 107 participants noted that they "never" volunteer or take responsibility in the groups that they are part of. Another important point was the lack of communication among consumers, as well as between consumers and producers, which is creating many problems within the groups. This finding is also in line with other studies that reported governance challenges that are experienced by food communities, which are governed by informal mechanisms, mostly reliant on voluntarism (Yacamán Ochoa et al., 2019; Manganelli et al., 2019b; Mount et al., 2014). Particularly Yacaman (2019) also set out a similar scene, while discussing the case of box schemes in Spain. Yacaman (2019) argued that these initiatives' major vulnerability is that they depend on consumers' involvement and self-management, and hence, the tasks are generally voluntary, entailing rotation among group members, as opposed to professionalized management. This calls for a given consumer profile based on commitment and responsibility and sufficient time to spare, all of which generally constitutes a limitation to increased demand, which is in turn a prerequisite for scaling up the offer. Similarly, the FCNs that we have interviewed in the city of Izmir, whose operational structure depend on purchase days, during when consumers directly purchase the weekly products directly from farmers, also mentioned that they have limited physical space, infrastructure and resources for organizing these days. As it is not possible to scale up, due to what Yacaman (2019) explained as glass-ceiling, when these organization do not have the means to grow or scale-up due to such constraints, they rather choose to replicate. In other words, they establish other initiatives, most commonly in different neighborhoods, depending on the previous experience of previously established initiatives, but also sometimes depending on them also for resources, infrastructure, expertise or volunteers for conducting the necessary tasks.

Our study was also able to reveal individual challenges and constraints on the side of both consumers and farmers. Consumers mentioned constraints that are standing in the way of their more active participation in these groups (Paper III). One of the most common constrains mentioned was time constraints, as consumers argued that making purchases from these groups are time-consuming, and requires a significant amount of planning. Another constraint was related to the high price and lack of variety of products. With regard to comments made regarding high price of products, consumers were more in agreement that the prices of products were high. Yet, some consumers argued that this was a "sacrifice" they wanted to make to support producers (Paper II), and that they are aware that

production of organic or ecological products by small holders was more costly and involved significant efforts. Regarding comments made on the lack of variety of products, consumers had more disagreement on the topic. Some argued that they wanted to see more varieties of products here, so they would not have to make purchases from industrial chains, and that the only way they can keep buying their food products here, is through having access to more varieties here. Others, on the other hand, criticized this view, arguing that "some consumers treat these initiatives as industrial chains and forget that here, we have a bigger purpose". They also argued that "if majority of consumers are interested in their own benefits without having social or political concerns, then these initiatives probably cannot be long-lasting". Pascucci et al. (2016), in this direction, studied the effects of individual values in addition to transactional conditions on participation in alternative food networks (AFNs), and found that transactional factors were significantly associated to participation in these networks. Cembalo et al. (2015), on the other hand, analyzed values and food-related lifestyles, as well as transaction costs and socio-demographics to study consumer participation in AFNs, and argued that participants typically look at price and taste criteria; and although transaction costs do not affect participation directly, they do so through food-related lifestyles.

When we move on to the individual challenges experienced by farmers (Paper II), one of the most common challenges were regarding the income gained from these networks not being sufficient by itself. It was argued that this income has to be backed by other activities, such as ecotourism, or gastronomy, or other occupations, such as being involved in other part time jobs for income, or income earned by other members of the family. It was mostly mentioned that SFSCs, rather than providing farmers with profits, enabled social networks, learning and experience sharing opportunities. Farmers also mentioned gaining new channels of marketing through word of mouth and a motivation to carry on in the agricultural sector. Yacaman (2019) also underlined that the sector cannot always find sufficient demand for the total production, and as a result, in some areas producers value SFSCs more for promoting their products than for the turnover. Other studies on SFSCs also mentioned low levels of financial gains attained by farmers, while the associated gains were more on the side of sharing experiences, social learning as a result of established networks, or having found a "safe space" to share new ideas and create partnerships (Skog et al., 2018; Yacamán Ochoa et al., 2019; Bellante, 2017). Although, this comment concerning low earnings was made by the majority of farmers, the significance of this challenge to each farmer varied considerably according to the following aspects: Their family

income as a whole, the magnitude of their production, whether or not they were selling their products through other channels – to other markets, or initiatives -, and whether or not they became farmers later in life or they are coming from farmer families. In the case of becoming farmers later in life, which has also been addressed as "new-peasants" (van der Ploeg, J., 2018), or in the context of this thesis, as "urban-rooted farmers", these farmers mostly had other occupations or other sources of income, which made it relatively easy for them to pursue selling in these networks for ethical motivation.

ii. Adaptation and recommendations towards improvement

The second research question this thesis asked was: What are the adaptation mechanisms adopted by the SFSC initiatives in Turkey, and propositions to cope with the challenges experienced? In order to answer this question, we made use of papers II and III of the thesis. Paper II presented the findings of a multiple-case study conducted in the city of Izmir, where seven SFSC initiatives were explored, and Paper III presented the findings of a survey conducted throughout Turkey among consumers of food community networks.

Mangenelli et al. (2019) mentioned that AFNs have to revisit or change their modes of governance in order to handle the governance tensions that take place within their organizational structures, calling this capacity as self-reflexivity of AFNs. Our findings also revealed some efforts within SFSC initiatives to revisit or to adapt their governance modes for improvement. In this regard, Paper II revealed some suggestions of group members, mainly coordinators and volunteers, towards switching to a more formal structure (e.g. cooperative), or to professionalize the system by lifting the voluntary aspect of coordination (e.g. providing a salary to those that take responsibility), while others argued that this leads to bureaucratization of these initiatives, compromising the autonomy of their structures. Other studies also mentioned SFSCs that occasionally formalize their organizational structure by setting up a co-op, in order to overcome their vulnerability of depending on only consumers' involvement and self-management for pursuing their tasks (Yacaman, 2019). In the meantime, some scholars also mentioned the trade-offs that SFSCs had to experience, between governance tensions caused by the informal structures and the risk of losing the "alternative" quality of these networks, as well as dissociating them from its local rootedness and community connectedness (Yacamán Ochoa et al., 2019; Nchanji, 2017; Renting et al., 2012; Manganelli et al., 2019b).

In the meantime, consumers and volunteers that were part of the initiatives we surveyed, also revealed some of their recommendations for improvement within their groups (Paper III). These answers were collected through open-ended questions as part of the questionnaires implemented, in which it was asked to the participants what they would propose to be changed within the groups, which, also in their opinion, would allow for more active participation by the consumers of the groups. Out of all participants who proposed an aspect that needs to be changed or improved (98 open-ended responses collected for this question), two aspects had the highest percentage (21,4%). First, the necessity to have a larger number of volunteers who are willing to and ready to take responsibilities in the group. This was also in line with the suggestions made during the in-depth interviews we conducted as part of Paper II). Second, improvements regarding operational matters and the place or space allocated for the group meetings. Then followed, with 16,3 percent, the necessity to pursue more effective communication processes with producers; more appropriate and just pricing for products (10,2 percent); improving the communication within the group (with other members of the group) (9,2 percent); the need to increase the level of awareness among consumers (participants of the initiatives) about the food system and about the mission and the operational aspects of the group (8,2 percent); and finally, the need to be able to reach a higher number of consumers (7,1 percent). Meanwhile, an aspect that was mentioned very rarely during our field research, but was discussed by some other studies was the need of skills in leadership. Emerson (2018) discussed the importance and the need of attaining skills such as leadership, in collaborative governance arrangements. She noted that multiple skills are needed for the sustainment of such organizations, and if leadership is lacking at various scales, there may be need for sustained investment in leadership training, mentoring and awareness building before moving forward.

Another recommendation towards improvement was in the area of increasing multi-stakeholder approaches. In this regard, the coordinators and volunteers of the groups that we interviewed (Paper II) noted the necessity for public administrations and local municipalities to step in to increase awareness among citizens regarding ecological and ethical food, through awareness raising campaigns or special courses. In addition, a need of a policy framework to support these initiatives to survive and develop was also underlined. Our research showed that the SFSC initiatives, that are initiated and organized by CSOs, and that have more formal structures, are already have close links to local

municipalities or other local organizations. They conduct some projects and events in collaboration with these municipalities and organizations, and also benefit from some support offered, in the form of visibility, resources or some facilities, like buildings or market places offered to the SFSC initiatives. In return, municipalities, who are supporting these initiatives also are accepted as good practice cases, and they also gain visibility and a good image. The coordinators of self-organized FCNs, on the other hand, noted that although they are aware of the importance and significance of partnerships with other organizations, and especially local municipalities, they were not yet ready to establish these kinds of partnerships. The reason was mainly due to not having the structures in place to pursue more formal forms of organization, as well as their infrastructures not being ready to scale-up. Meanwhile, other studies in the literature also highlighted the importance of collaboration among organizations and participatory governance mechanisms, in which multiple actors from different levels and sectors need to work together to achieve common goals (Yacamán Ochoa et al., 2019; Nchanji, 2017; Reis, 2019; Manganelli and Moulaert, 2018; Dedeurwaerdere et al., 2017; Jones, 2018). Nchanji (2017) argued that in the case of local food systems, neither formal or informal systems are always successful in resolving governance issues, and underlined the importance of including multiple stakeholders in the processes. Meanwhile, the importance of the involvement and the role of the public sector and local governments were particularly discussed in the literature, which were argued to be critical towards creation of local food solutions. Some policy recommendations mentioned in these studies included governments to pursue awareness campaigns, or local municipalities to promote initiatives aimed at public procurement of local products for canteens, or facilitating direct sale by means of public aid through fairs, events and dissemination and adapting legislation and regulations to facilitate the process (Yacamán Ochoa et al., 2019). Some scholars argued that although the role of civil society, mainly organized through social movements seems crucial for food democracy, sustainable food economy also requires the active role of public authorities in order to use the capacity of re-localizing public procurement and to ensure some principles of social equity between social groups (Hassanein, 2008). Wellbrock et al. (2013) argued that although as noted by Ostrom (1996), "citizens can play an active role in producing public goods and services of consequence to them", yet public officials still play a major role, either encouraging or discouraging citizen contribution. Ilbery and Kneafsey (2000) and Higgins et al. (2008) are among those researchers that discussed the role of the government for providing mainly financial support for those programs that facilitate AFN formation and function (Denny et al., 2016).

Meanwhile, some other studies also argued that it is important to include the role of the state, in the sense that for studying food governance, it is necessary to explore the ways in which the state, NGOs and civil society are evolving and enrolling actors (Marsden et al., 2000). Meanwhile, other studies underlined the role of local or municipality governments in shaping local food policies, and collaborating or partnering with local food organizations. Matacena (2016) argued that many cities and municipal governments are elaborating their own set of urban food policies, through adoption of urban food strategies or establishment of food policy councils; and in many localities, a municipal-based response is offered and these play a facilitating role in development of an alternative to the conventional food system and contribute to the overall sustainability of food provisioning (Matacena, 2016). It is further noted that there is increasing local-level engagement with food policy through food policy councils, food charters, and local government involvement in food which brings formal institutional resources and governing capacity to support ongoing activities such as community gardens, buy-local campaigns, organic production, and alternative markets that have been pursued almost exclusively by civil society actors (Dwiartama & Piatti, 2015).

iii. Motives for participation

The third research question this thesis asked was: What are the individual motivations behind participation in these initiatives, from the perspective of both farmers and consumers? In order to answer this question, we made use of papers II and III of the thesis. Paper II presented the findings of a multiple-case study conducted in the city of Izmir, where seven SFSC initiatives were explored, and Paper III presented the findings of a survey conducted throughout Turkey among consumers of food community networks (FCNs). In the scope of Paper II, through in-depth interviews with farmers and consumers, we were able to gather information about the motives of both farmers and consumers to be part of these networks. Through the survey conducted as part of Paper III, on the other hand, we were able to ask a wider, and a larger number of consumers, who were part of FCNs, their motives to be part of these networks. In this section, we first discuss the motives of consumers to be part of these networks, followed by those of farmers.

The findings that we have obtained utilizing the Theory of Planned Behavior (TPB) model as part of Paper III were able to reveal some insights regarding the factors that can explain consumers' participation intention in food community networks (FCNs). Within this theory, intention to conduct a

behavior is explained through attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC) (Ajzen, 1991). Attitude is a factor that explains if participation in FCNs is regarded as gratifying, satisfying and important to the participants, in addition to making them proud. Social norm is the factor that explained to what extent participants' intention to participate was influenced by the perspective of people close to them or their social circles' opinions regarding participation, and finally perceived behavior control explains to what extent participants believe they have control over participation in terms of having sufficient time or resources to purchase from these groups (controllability), and how much they believe they can make a difference in the local food systems through their participation in these groups (self-efficacy). According to our findings, all three factors had significant positive effects on participation intention, while PBC had the strongest and most significant influence on intention. Besides, a variable for collaboration has been added to the model to understand whether the attitudes of consumers in our sample had been influenced by the belief that there were aspects of collaboration present in their groups. The collaboration variable has been measured in terms of the perspective of consumers towards existence of trust, transparent and democratic decision-making processes and shared values inside of the groups. According to the findings, collaboration was a factor the influenced the survey participants attitude towards participation in these groups, positively and significantly. This finding suggested that collaboration within groups and collaborative governance mechanisms adopted in the groups are a factor to be considered by the coordinators and volunteers of the groups, while making decisions about the organization and governing of the groups.

However, it is worthwhile noting that our inner model findings revealed that the aforementioned three factors of ATT (which also includes collaboration), SN and PBC could only explain 18,8 percent of the intention to participate in the model. In other words, there were still numerous reasons behind participation in these networks that our model could not explain. For this reason, findings from in-depth interviews that we have conducted (Paper II), and questions posed to consumers that are part of FCNs, through open-ended survey questions (Paper III) provided additional insights. According to survey results, the reasons provided by consumers related to why they were part of these networks were as follows in descending order: In order to access healthy products (13%), promoting local tastes and products (13%), supporting local farmers (12,7%), healthy for the family and close ones (11,9%), to access better tasting products (11,7%), in order to participate in a community with like-minded people (10,2%), to contribute to combating the effects of climate change (9,7%), contributing

to reduction of waste (9%), and engaging in debates about local food systems (8,9%). This order was also in line with the statements of the consumers during the interviews. For all of the consumers that were interviewed, having access to trusted, clean and healthy food products was their primary motive to participate in these networks. A few of them also underlined that they have cancer patients in the family, or a new-born child, and that is why they wanted to have access to healthy and ecological products. Meanwhile, for a majority of consumers, another strong motive to be here was to support the producers, and to contribute local food production systems. Meanwhile for a majority of consumers, social relations and networks established here was the third motive for being here, and they stressed the importance of being together with like-minded people in a community. They further noted that they constantly share information, knowledge, experiences, recipes and solutions with each other, which was also consistent with the findings of Paper I, that discussed the learning mechanisms within SFSC initiatives. Environmental concerns, on the other hand, was mentioned only a few times, and hence was not among the primary concerns of the participants. In the literature, previous studies on participation in SFSCs have also distinguished between personal desires that serve the individuals' own well-being and socio-ecological concerns (Dobernig & Stagl, 2015; Pascucci et al., 2016). Zoll et al. (2017) noted that when participants stressed the importance of social relationships, togetherness, solidarity, or supporting local agriculture, it was often also their priority or original motive of participation. The authors also underlined that participants valued different forms of social interactions. While, some noted that they joined these groups to be with like-minded people, others stated that although it was not their primary motive, in the course of time, the relationships within the SFSC community became important and a priority for them. Meanwhile, similar to our findings, other research also found that the desire to obtain "good food" was particularly important motive for the participants, while motives relating to political issues and environmental concerns, although important, were not the original or priority motive (Zoll et al., 2017).

On the side of the farmers, social networks gained here, and being with like-minded people were among the priorities. Through these networks, hence through word-of-mouth and recommendations arising from these groups, they mentioned they were able to obtain valuable marketing channels. A few of the farmers mentioned that "it is difficult for farmers to take care of their farms and at the same time find the time to search for marketing channels, so it is important to be here". In fact, all farmers linked to FCNs mentioned that the income earned here was not their priority, as the income they could earn

through these networks were very limited. One farmer noted that "his earnings could only meet his transportation costs to arrive there". Thus, it is for these social relations and marketing channels that they value prior to earnings or any other gains. Blasi et al. (2015), meanwhile, found that the primary motivation among farmers' participation in FCNs was their willingness to be appreciated for the quality of their products, while the economic implications were much less important, although they said the income for these networks also provided them with additional earnings that contribute to their livelihoods. Rather, for farmers linked to farmers' markets, our results revealed that (Paper II) the income gained was regarded to be much more important for them, yet, all of the farmers there also noted that social networks and being together with like-minded people were of utmost importance. Some farmers noted that: "Being here makes them realize that they are not alone, and gives them hope to carry out in the agricultural sector". Apart from social networks, "staying outside of the industrial food system" and ethical reasons also had an importance for many farmers. They repeatedly noted that they are part of these networks because they would like to "avoid the industrial food systems". Some farmers stated that they prefer to be here because when they sell to the wholesalers, their products never find their worth, and they lose a lot of money. Meanwhile, one farmer, who had an organic certificate that sold his products at the farmers' market noted that: "I know I can make a lot more money if I sell my products at a rich/popular neighborhood or an organic store, but I want to be here instead". Meanwhile, another farmer, who switched to ecological production following his many years of using industrial production methods, noted that "he no longer wants to sell any products, that he cannot comfortably feed his own children with". Moreover, some of the farmers in FCNs, mentioned that the reason they are part of these groups are not only to sell their products, but also buy healthy products in return (those products that they are not producing in their farms). Last but not least, a few farmers noted that in their villages, there is usually no exchange of knowledge or information and no opportunities for learning and "everyone wants to keep everything to themselves", hence, they value the relations established here. This aspect is also in line with the findings we obtained as part of Paper I, which we also explain in detail in the following sub-section (sub-section iv). Regarding findings from the literature regarding farmers' motivations to join SFSCs, Charatsari et al. (2019) revealed that farmers' willingness to participate in SFSCs are affected by their level of competencies on issues such as management, entrepreneurship, marketing, networking and cooperation. Demartini et al. (2017), on the other hand, found that farmers' motivation towards SFSCs can be described by components including the sharing

of intangible values of the local production, market expectations, the economic value of the SFSCs, the ability to regain market power and the co-certification mechanism established between the farmers and the consumers. All in all, we can argue that far more studies were focused on consumers' motivations to be involved in SFSCs, as opposed to farmers'. One reason for that could be the fact that a majority of these initiatives, apart from farmers' markets, depend on consumers' initiative to survive, and often consumers are those who initiate, organize and manage these groups, finding and picking their own farmers to purchase their products from.

iv. Learning and knowledge sharing in SFSCs

The fourth research question this thesis asked was: How are the processes of collaboration, information and knowledge sharing and learning shaped as part of SFSC initiatives? In order to answer this question, we made use of papers I and II of the thesis. Paper I aimed to present the findings of a literature review conducted that explored knowledge sharing and learning mechanism within SFSC initiatives, and proposed a framework that can be used to study learning dynamics in the scope of food community networks; and Paper II presented the findings of a multiple-case study conducted in the city of Izmir, where seven SFSC initiatives were explored.

We believe that the topic of knowledge sharing and learning has been neglected in the local food systems literature, although it can be critical in paving the way towards establishing sustainable solutions in local food systems. Besides, as far as we know, there has not been any scientific review paper previously written on this particular topic, which has important implications for local food systems and policy. Sumner (2016) argues that generally food and learning have been rarely addressed at the same time, arguing that in fact food is inherently pedagogical and it is not only an object of learning but also a vehicle for learning (Flowers & Swan, 2012). She further adds that what we learn by engaging in human endeavors, has deep and enduring implications for the sustainability of our food system and the world. Hence, in order to fill this gap, we studied in this thesis, learning and creation and transfer of knowledge within SFSCs, in order to explore if and in which ways farmers and consumers have learnt from each other, and their perspectives towards sharing knowledge with each other. Hence, we have done that through a literature review (Paper I), and through interviews conducted with SFSC participants in the city of İzmir (Paper II). Finally, we propose a framework to explore this topic further in future research. In the remaining of this sub-section we explain our findings

in the following order: Theories and frameworks used in the literature to explore this topic (Paper I); learning outcomes for consumers, followed by farmers, using the combined findings of Paper I and II; and finally discussing the differences observed towards learning outcomes of farmers, addressing possible reasons behind these.

Firstly, the findings of the literature review identified the relevant scientific papers discussing either directly or indirectly, learning mechanisms or outcomes within SFSCs, although the research on learning in SFSC initiatives were rather limited and dispersed. The findings revealed that the types of learning that were most frequently mentioned in the published papers, were social learning, transformative or transformational learning, informal learning, experiential learning and collective learning (Paper I). Following the identification and evaluation of these scientific papers, we have classified the theories and frameworks found in the literature under some categories. We used these particular categories, in an attempt to present our findings of the literature review in a clear and easy way to follow. The categories we have introduced in Paper I, to present the findings of the theories and frameworks used in the literature to discuss learning mechanisms within SFSCs, were as follows: (1) Consumer-producer interaction-based models, (2) Transformative learning models as an adult learning process, (3) SFSCs as innovative learning spaces, (4) Sustainability indicators approach, and (5) Collaborative governance approaches.

In terms of learning outcomes, our findings from the literature review (Paper I) revealed the learning outcomes from the perspectives of both consumers and farmers. When we focus on consumers' learning, the majority of the literature explored drew attention to the way that consumers, as a result of being engaged in alternative food initiatives, learned about the story and background of the producers, and a cultural significance behind a product tied to its place of production (Opitz et al., 2017; Volpentesta et al., 2012; Hatanaka, 2020; Sacchi et al., 2018; Kerton & Sinclair, 2010; Montefrio & Johnson, 2019; Ammirato et al., 2013). They also recovered skills and knowledge about agricultural production, ways to preserve the vegetables, waste management practices, technical information about the specificities and seasonality of food, the nutrients, peoples' diets as well as new recipes, new ideas, and new ways of thinking (Everson, 2015; Opitz et al., 2017; Torjusen et al., 2008; Volpentesta et al., 2012; Montefrio & Johnson, 2019; Kerton & Sinclair, 2009; Wilkins et al., 2015; Andreatta et al., 2008). Besides, participants learned about farmers' perspectives, such as economic requirements, workflows on the farm and efforts and requirement of distribution practices, as well as the realities faced on the farm and

producers' constraints and challenges (Volpentesta et al., 2012; Everson, 2015; Ammirato et al., 2013; Kerton & Sinclair, 2009), while growing a sense of increased appreciation toward the producers (Montefrio & Johnson, 2019). Furthermore, consumers also noted to have gained knowledge and awareness about the other participants in the group (Montefrio & Johnson, 2019). Opitz et al. (2017) explained that while learning about cultivation, consumers also gained in-depth knowledge about aspects such as dependency on external factors, cultivation planning, cultivation techniques, crop-rotation and yields. For instance, they described how droughts or hailstorms may destroy the harvest, and how farmers can adapt to these climatic events. The participants also mentioned about realization of the climate change, mentioning that learning about the external factors was a process of "learning-by-doing". Meanwhile, Vogl et al. (2004) reported learning effects in self-harvest gardens due to mutual visits, where consumers' involvement in agricultural practices enabled them to understand the conditions, challenges and risks farmers have to cope with (Opitz et al., 2017). Furthermore, members noted that being part of the initiative further triggered them to research on internet about the vegetables they were buying and try to actively learn about new recipes that can be used. Our findings from the in-depth interviews with consumers (Paper II) have also been consistent with the findings from the literature. Almost all consumers that were part of FCNs in Izmir have noted that in these initiatives, all participants, including consumers and farmers, shared information and ideas about new recipes and new ways of cooking. Meanwhile, those consumers who were also producers, pursuing agricultural production activities themselves, or who have little piece of land or garden, where they produce in small amounts for their families, or even those who grow a few vegetables in their balconies, shared information in these groups, in order to ask or consult others about problems or diseases they experienced with their plants, or to share a new method that they have learned with others and so on.

Meanwhile, on the side of the producers, the literature we focused on, revealed that (Paper I) producers' interactions with consumers led them to face new systems of activities, and new technical, managerial and marketing choices, in addition to details about consumers' taste and culinary uses, which made it possible to generate ideas about new products or services (Volpentesta et al., 2012; Milestad et al., 2010). These in turn enabled farmers to develop new ways of marketing their products, through continuous feedback being received by consumers (Volpentesta et al., 2012; Milestad et al., 2010). Zamudio et al. (2016) added that farmers attained significant contribution from peer observations, through gaining knowledge about product pricing or marketing methods (Zamudio et al., 2016). In

some cases, however, the studies, also underlined that "threat of competition", such as at the setting of farmers' markets or farmer clusters, in some occasions prevented farmers' collaborative learning experiences (Zamudio et al., 2016). Beckie et al. (2012), focusing on how farmers shared informal information within farmers' markets added that by visiting many different markets each week and moving across the landscape, some farmers not only learned from other farmers but also "pollinated" each market with new products, innovative displays, and marketing ideas.

Finally, moving on to the differences observed towards learning outcomes of farmers, the findings we gathered through in-depth interviews with farmers as part of Paper II revealed how farmers regarded learning from and sharing information with other farmers within the initiatives. The findings showed that farmers' perspectives in this regard differed significantly, according to whether they were tied to farmers' markets, or FCNs. As part of FMs, the understanding of knowledge sharing and learning from each other were not very common among farmers. Farmers of these initiatives, being mostly rural-rooted, in other words, coming from farmer families, argued that they have been pursuing agriculture since childhood, and already learned everything from their families, noting that learning and knowledge sharing for them were not necessary. One producer noted: "Every farmer has their own way of doing things. We do not need to share much. I do something one way, my neighbors do it another way. We learned differently from our parents". This argument was repeated many times by the farmers in these groups. However, although these farmers argued that they do not share knowledge or information, they have underlined the importance of social networks established in these groups in the sense of a need for "socializing", establishing new marketing channels through especially word of mouth and finally to be among a like-minded group of people that provided a motivation to carry on in the agricultural sector despite all of its difficulties. As, sharing information or knowledge within farmers' markets were less common, the coordinators promoted the organization of workshops, food festivals, seminars or events, during when consumers and farmers could come together and get acquainted more. This was also in line with experiences discussed in other studies, where similar efforts were put in place to establish trust and embeddedness, such as farmers sharing their personal information with consumers in organized workshops (Bui et al., 2019; Skog et al., 2018; Petrakou et al., 2011; Papaoikonomou & Ginieis, 2017).

In the FCNs however, our findings suggested that there is a stronger culture of knowledge and experience sharing, which is consistent with the community aspect of these groups. Especially, urban-

rooted producers, in other words, farmers who have become engaged with agricultural production later in life, which were also referred to as "new peasants" (van der Ploeg, J., 2018), have argued to have the need to learn from others, engaging in knowledge and experience sharing as much as they could. It was mostly mentioned among FCNs that SFSCs did not provide them with profits (and only met their transportation costs), but rather, social networks, marketing channels, a community of "like-minded" people and learning and experience sharing opportunities. Other studies of SFSCs also mentioned low levels of financial gains attained by farmers, while the associated gains were more on the side of sharing experiences, social learning as a result of established networks, or having found a "safe space" to share new ideas and create partnerships (Skog et al., 2018; Yacamán Ochoa et al., 2019; Bellante, 2017).

While, there may be many factors behind why and to what extent individuals or groups of people chose to or were more open to exchange information with each other, or to learn from each other, culture theory poses one of the arguments that explain why and to what extent people act as they do, and how they form biases as justifications for particular social orders (Caulkins, 1999). Culture is defined as the learned behavior of a group of people that generally reflects the tradition of that people and is socially transmitted from generation to generation through social learning; it is also shaped to fit circumstances and goals (Dirette, 2014). Researchers who adopt the sociocultural-historical perspective in examining learning do so within the cultural context of everyday life, arguing that everyday cultural practices structure and shape the way people behave, and hence, learn (Pandya et al., 2019). In this regard, cultural underpinnings and hence their worldviews about the relationships with a larger group, may provide one of the explanations of why some farmers are more willing to learn from others, and others are less inclined to do so. In the same direction, it may be possible to argue that "urban-rooted" farmers, who had other occupations before becoming farmers, may be more open to share knowledge, and be open to learn from others. However, the reason for their willingness to learn and share knowledge can also be attributed to their lack of experience in agriculture and their need to gather knowledge from their fellow producers. As a young urban-rooted producer couple noted: "Me and my husband knew nothing about agriculture and we have been learning so much about different methods as well as ways to cope with challenges, thanks to being part of these networks".

5.4. Limitations and future research

This thesis is subject to a number of limitations, mainly stemming from the perspectives taken and the kind of empirical data used. First of all, the study's empirical data was collected in Turkey, the interviews having been conducted in the city of Izmir, and the online surveys implemented throughout Turkey. Prior to the initiation of the research, the intention has been to include also SFSC initiatives in Turkey, that were once operational, but then have closed down or discontinued their operations. This would provide an important insight, when studying the governance challenges or constraints within organizations, that would be useful to understand the conditions that lead to the eventual discontinuity of the organizations, or the factors that should certainly be present in order for the initiative to restart, or could continue operations. This was not possible, due to not being able to identify these initiatives apart from one or two of them, yet having identified these few ones, it was not possible to reach their previous participants. In a similar way, while attempting to understand the motivations behind participation in SFSCs initiatives, which we have done by collecting data through both interviews and online questionnaires implemented on the participants, also collecting data from non-participants, and also to those people who have once participated and then stopped, would be able to provide a much richer data for evaluating the complete picture. In other words, while participants of these groups often share similar values and an understanding, conducting evaluations among only these groups provide only one side of the picture, limiting our assessment to the perspectives of only a small and particular part of the society. Doing this may cause to overestimate the value of SFSC initiatives, and fail to focus or see the disadvantages or parts that are not working well or aspects that are excluding many individuals due to certain constraints, or certain cultural, social or political beliefs. In the case of consumers, this was not possible, due to the fact that these initiatives do not always keep data of participants in a formal way. There were excel sheets kept; however, this was to manage the weekly orders, and not to keep a record of all participants. For this reason, we could not reach those who once participated then stopped. For the case of non-participants, identifying a test group in a big city like Izmir proved to be theoretically challenging. Selecting random individuals in a supermarket close to where our selected SFSC initiatives were located could be one way to attempt to collect data from non-participants; however, this would not allow us to make healthy and unbiased inferences. In the case of farmers, who once participated and then stopped, or those who were aware of the mechanisms of the

groups, yet still avoid being part of these groups could also reveal interesting outcomes. Identifying these farmers in the case of Izmir did not seem to be a plausible idea, as the current participants of the group mentioned that some farmers were removed from the group when they broke the trust and hence had to be removed. In this case, although hearing the side of the farmers could reveal interesting insights, we believed this would not be appreciated among the food communities in Izmir. However, it can still be argued that for future research identifying past-participants, who were once participants, but then stopped, or identifying individuals who are aware and have sufficient information about these groups, but who still deliberately avoid being part of them, could provide interesting results to understand what are some of the reasons for not choosing to be part of these networks. This can also give some important ideas about which issues should be reconsidered within the groups, including organizational issues, volunteering mechanisms, issues regarding communication with farmers or consumers, decision-making mechanisms and quality or price of products.

Secondly, and perhaps more importantly, this thesis has been initially planned to include also a chapter for a comparative study between the Turkish and the Italian case. While Turkey was planned to constitute the main field work, and the main contribution of the thesis, - as this study is one of the few attempts to conduct scientific research on SFSCs in Turkey- , the Italian case would provide, not only but particularly, the opportunity to assess how differences of the policy framework, especially the influence of Common Agricultural Policy (CAP) or partnerships with municipalities or other organizations on a local level, influenced these organizations, and the tensions experienced within them. Furthermore, understanding perspectives of consumers and farmers towards SFSCs would also be interesting, as unlike Turkey, the SFSC initiatives in Italy have been around for much longer. Hence the experience of Solidarity Purchasing Groups (Gruppi di Acquisti Solidale – GAS) have been a more rooted one, than the newly-established initiatives that we evaluate in Turkey, which could provide a different perspective to our study. Besides, studying only the experience of Turkey leads to not being able to put this experience into perspective. While, experiences and functioning of local food systems are dependent on local factors, and are place-based, putting this experience of a specific place in a wider perspective has advantages to make evaluations of its parts that are working well and other parts that needs adaptations, revisions and improvements. The way many field work studies have been affected due to the conditions caused by the pandemic during the year 2020, our work also suffered from its consequences. Hence, identifying and getting in touch with the required actors, and conducting the

field work that could allow for a comparative study to be made, has not been possible. Nevertheless, in our study, we aimed to provide this perspective partly by studying other country cases with the help of a literature review paper. However, it is still possible to argue that assessing these aspects would have a value for future research, towards discussing the effects of agricultural policies, or wider policy, or country contexts, or economic or political contexts, which certainly have significant effects on the governance mechanisms of SFSCs and the tensions being experienced within them, as these organizations do not exist in isolation, and are continuously being influenced by them.

Another limitation of this study was to conduct a multiple case study with cases that are each particular and peculiar, having different profiles and ways of functioning, namely farmers' markets, food community networks (FCNs), and one local shop that mainly operates online. While, farmers' markets and FCNs are very different, mainly in terms of the responsibility consumers take in the organization and the decision-making processes, and hence the governance mechanisms that are in force, especially, the case of Doğa (Nature)'s shop differed significantly from the other six initiatives with regard to the business model and the organizational structure of the group. Nature's shop is a local shop, which is founded by an NGO towards reaching its mission, and operates in a way so that the aim is to first collect villagers' olives, produce olive oil with them, and then market them to the consumers through an online platform, as well as local events, stands and food festivals. Although Nature's shop mainly operates as an online platform that aims to bring farmers and consumers closer, its way of functioning and mission is different than a regular online platform that sells farmers' products. The Nature Foundation that is the founder of the local shop, works closely with farmers within numerous social projects, and take part in rural development initiatives, and also organizes many trainings, seminars, camping activities and similar events to gather all the interested individuals together, where it also tells the story of the farmers, and the village and the olive oil that is produced by the producers. For this reason, although we have originally had interviews with three online platforms that markets farmers' products to consumers, only Nature's shop was kept in the analysis, as it had significant efforts to bring farmers and consumers together through additional occasions, activities, projects, events and so on. In other words, although a major part of the consumers around Turkey orders Nature's shop's products online, many occasions are also created for farmers and consumers to get together, to meet and to share ideas, experiences and information about the product. Hence, we have selected this case in order to study its governance mechanisms and how these might have particular individual, community

or local outcomes. While, we believe that this particular case brings additional insights into the analysis towards understanding governance mechanisms within a particular type of SFSC initiative in Turkey, and being one of its kind in the city of Izmir, being significantly different from the other six cases made it difficult to arrive at reliable and unbiased conclusions.

Another limitation is that the research does not present a longitudinal view. In both of the empirical studies, there was an effort to explain what were some of the ideas for improvement, or what were some efforts being put by the group members, in order to attain some degree of adaptation or how to overcome challenges. While, in this way, there was an opportunity to carry the assessment, one step further, we were not able to evaluate the changes that took place over time within the groups. Having been operational for only a few years, the interviews, as well as primary and informal contacts revealed that the SFSCs around Turkey are evolving and making current changes to their operational structures. Hence, while they are enacting different rules or practices, and contacting and establishing new networks with different actors, organizations and public authorities, they are also constantly being faced with new challenges, and are pressured to find new ways to overcome them. Being able to adopt a longitudinal view and to follow these developments and progresses would provide important results; yet this was not possible due to limitations of time and resources.

In addition, another important limitation of this thesis is concerning the relatively low number and variety of SFSC initiatives studied, and the relatively low sample size reached in the scope of two of our empirical studies that involved data collection through field research. In the case of in-depth interviews conducted in Izmir, we could identify a low number of cases, mainly because of the relatively low number of SFSC initiatives found in Turkey (and, hence in Izmir), but also because there was a low number of cases that fit our criteria (mainly due to their very small size). Besides, among those we could reach seven initiatives, which were analyzed in the scope of our study. Studying only these seven cases may have led to a limited perspective regarding their functions, as well as an overestimation of the effectiveness of their solutions. Meanwhile, the peculiarities, and differences of our selected cases, which are explained above, also affected our ability to collect data from each of the case. The willingness of actors to take part in the research has varied significantly, depending on which initiatives they were part of. Hence, we had differing levels of in-depth data collected from each case. Hence, comparing them with respect to some aspects had the risk of providing biased results. For example, FCNs, in line with being "communities", and having adopted an understanding of sharing the story of their

communities with others, and in a hope to contribute to research conducted in this field, all participants of FCNs, including coordinators, farmers and consumers (co-producers) were very willing to take part in the interviews. In the case of the two farmers' markets, although all farmers of the two initiatives contributed willingly to the research, the consumers that came to buy products from the markets were not as willing to take part in the survey. Although some of them participated in the interviews, they have rushed to provide the answers, not shared many details and wanted to keep the interviews as short as possible. Hence, the depth reached, had not been the same. Still, the repetition of the same concepts by the actors showed us that a sufficient level of data saturation is reached, and also being able to triangulate the topics addressed from a perspective of farmers, consumers (including volunteers) and coordinators, when possible, gave a clear picture towards the discussions made. In the case of Nature's shop however, the limitation was the inability to reach its producers. It has been possible to conduct interviews with coordinators, employees and volunteers of the foundation, and pursue field observation during the olive harvesting and olive oil production phase, meet some of the farmers, and villagers and to discuss about the how the initiative works, due to limitations of time and the difficulties related to have access to the village that is remotely situated, in addition to the restrictions taken because of the pandemic situation, it was not possible to re-visit the village for another round of formal interviews with the farmers. Online interviews were also not possible with this particular stakeholder group. For this reason, the inability to collect data from farmers of this initiative resulted us in not being able to discuss about the individual tensions experiences from the perspective of farmers, as well as issues such as learning outcomes or sharing of information among them. Well-being aspects, aspects regarding knowledge and information exchange or generation of skills, and how and if their lives have changed with the participation in this initiative could also not be revealed. However, despite of this significant limitation, we have taken the decision to keep the case in our analysis, as the governance mechanisms explained, and the local outcomes observed, and interviews with the coordinators and employees still provide an important source of data, although provides a much more limited perspective compared to the rest of the six cases. Meanwhile, a small sample size, and hence, low representativeness, was also a significant limitation in the case of our online survey study conducted among FCNs throughout Turkey. Larger samples of consumers of FCNs in Turkey would have made our data and findings stronger.

Moreover, this study poses some limitations regarding the use of some terms and their clarity. This argument is especially relevant with regard to the terms used in order to refer to the SFSC initiatives in question, in addition to the act of "participation" in or "be part of" these initiatives. Not solely in this study, but in the literature as a whole to explain these kind of local food initiatives a variety of terms are being used. SFSCs refer to chains in which food products involved are identified by, and traceable to a farmer and for which intermediaries between farmer and the consumer are either eliminated fully or significantly reduced (Kneafsey et al., 2013). The term "alternative food networks (AFNs)" meanwhile often used as a broad term to cover those networks of producers, consumers and other actors that work together to pose alternatives to the standardized industrial modes of food production and consumption (Murdoch et al., 2009). While, these two terms refer to slightly different concepts, as these mentioned AFNs are most often able to provide an alternative to the industrial food systems by eliminating intermediaries between producers and consumers, it is also possible to argue that these two terms are very much overlapping, and hence used interchangeably in the literature at times. In this thesis, the term "SFSCs" is used, as we deliberately discuss in this study those networks where producers and consumers are brought together through short chains, we also use the term "AFNs", when we are quoting other studies, which have used the term "AFN". While, referring to the literature exactly how it was intended is important, this dual-usage of the two terms may at times cause confusion. A similar concern was present, when discussing what we call as "SFSC initiatives", and "Food Community Networks (FCNs)". Although we explain in the thesis that FCNs are a particular form of SFSC initiatives, and in this study, we analyzed a few types of SFSC initiatives, we attempted to be clear with these terms, when there is an abundancy of differing terms used, there may be room for confusion. On the other hand, the term "participation in SFSCs" has been used frequently in this thesis. The term "to be part of" SFSC initiatives was also used interchangeably at times. While, we have attempted to provide the necessary definitions to avoid any confusion, these terms can be regarded as being "vague". As in Turkey, the structures of SFSCs do not until now, entail membership or similar formal arrangements, the term to refer to "buying from these groups" or "regularly visiting these groups" also proved to be rather vague concepts. Moreover, while we were conducting the interviews with the actors of the initiatives, we had to use their relevant terminology for better results. All of the FCNs that we have contacted used the term "co-producers" to refer to their "participants", "consumers", "or volunteers", in other words, those who are willing to work with other consumers and

producers and to take a greater responsibility in local food systems, in order to become active consumers, rather than passive end-users. The farmers' markets, on the other hand, did not use a certain terminology. Nature Foundation on the other hand referred to those people who buy their products, or who contribute in any way possible to their initiative as "partners". Meanwhile, as part of the online survey implemented to the "consumers" or "co-producers" of the FCNs in Turkey, a definition was provided for the participants of the survey, to explain what is meant by "participation". The contacts with community coordinators, and pretesting of the survey have revealed that what is meant by "participation in FCNs" was generally clear for these groups. Yet, it is still believed that a more concrete and specific conceptualization of the "behavior of participation" could have been understood even better by participants for more accurate results. In the meantime, another conceptualization that was used throughout this thesis has been "learning" and "creation", "sharing" or "exchange" of "information" or "knowledge" "within SFSCs". While, there are considerable differences between information and knowledge, in the case of the relationships established between consumers and producers, the nuances between information and knowledge exchange were not always easily distinguishable in the literature, as well as in the scope of our interviews. For this reason, while using these terms, there were times when we used them interchangeably.

Last but not least, another limitation of this study has been regarding its theoretical grounding. As part of the thesis, there have been two instances where an adapted framework is proposed to guide future research (Paper I and II), and once, a prominent theory, namely Theory of Planned Behavior (TPB) has been adapted, by the addition of a latent variable to the model, namely the variable of "collaboration", in order to converge the model slightly towards the empirical topic in question. In all of these cases, the aim of these adaptations has been to address a gap in the literature, to open up a new discussion in the context of local food systems, to guide future research, and to offer a new perspective in the area of local food systems and SFSCs, departing from the data we collected through empirical research and literature review. In this regard, we did not rely on theoretical claims, but more on empirical suggestions. Hence, although the aim or claim of this thesis has not been on the side of grounded theory building, it is still worthwhile to discuss the lack of theoretical grounding as part of limitations of this research.

5.5. Policy Implications

This thesis did not claim or imply that local food initiatives or SFSCs can or should replace industrial food chains completely, or partly, or attempted to compare these two types of food procurement chains in terms of their sustainability outcomes. The aim of this thesis instead has been to evaluate the existing literature, and actual experiences on the ground (which has been done through the Turkish case study), in order to reveal some of the mechanisms that are taking place within these initiatives, and the actual outcomes, opportunities and challenges they create from the perspective of both farmers and consumers, with an aim to inform local policy decisions. In this regard, we believe that the topics that have been discussed in this thesis have important policy relevance. While, achieving sustainable consumption and production of food products carry significant importance especially in our day, which are directly linked to environmental and social impacts created around the world, urban food policy or local food policies can play an important part to contribute to this objective. This aspect is of significant relevance to especially local public authorities, as interest in local food extends beyond consumers and producers, and by decentralizing food production and distribution, local food system has a potential to generate wider public benefits. These benefits include economic and social gains for farmers, and social inclusion on a local scale, through which citizens and communities in remote or less privileged areas can also be reached. As many cities are elaborating their own set of urban food policies towards sustainable solutions, and local governments can adopt a set of urban policies integrating food issues into the many spheres of urban regulation, this could set the ground for a healthy local food system, while providing local food networks, or alternative food initiatives operating on a local level, with stronger connections, political capital and legitimization (Matacena, 2016). In this direction, departing from the literature review conducted, and data collected through in-depth interviews and questionnaires, as part of this study, we underline some points regarding how local policies or urban food policies can work hand in hand with SFSCs towards facilitating the path to more sustainable local food systems. These ideas can be listed under the following: (1) The need for facilitating public policies, action or regulations towards sustainable local food systems; (2) The importance of multi-actor collaboration on the local level; and (3) to identify, explore and to extend good case examples further. At this stage, while it should be underlined that our data comes from the case of Turkey, the literature review conducted as part of this study have suggested that this need is also found in many different

country contexts. Hence, while the local food policies should be tailor-made, and focus on the specificities of the target region in question, it can be argued that the policy recommendations that we discuss here would still have value in a wider context.

i. The need for facilitating public policies, action and regulations

The findings of this thesis suggested that there are steps that public authorities can take towards facilitating the functioning of local food systems, or in other words, facilitating the conditions for local farmers, and local food initiatives. It has been widely observed that the public policies that are currently in place fall short in supporting smallholders and securing their well-being, resilience, autonomy and livelihoods, in addition to failing to provide sustainability solutions in the agri-food sector.

During our field research, all farmers and coordinators, regardless of which initiative they are part of, underlined the necessity of "a decent policy framework" to support local food systems, and hence, local farmers. In this regard, the majority of producers and coordinators interviewed, raised the need to revise the agricultural policy framework in Turkey, so that the policies can support and protect small-scale farmers. It was argued that the current legal framework is currently not supporting the small-scale farmers, and making it more difficult for them to maintain their production and keep their land, in addition to making them more vulnerable and dependent. In this context, one of the concerns raised was the lack of accountability and transparency of the support mechanism for farmers. It was argued that besides receiving very low level of financial support by the government, the date regarding when the support will be provided, and the amount that will be received, are often uncertain; hence, farmers find it very hard to plan their production and rely on the support system. Another issue that was mentioned by numerous farmers was regarding the seed law (nr. 5553/2006), which was argued to be hurting local farmers. The farmers noted that this law obliges the farmers to use only certified seeds in order to be eligible for public support. It was argued that for farmers, the prohibition of saving, keeping and using their own local seeds would mean that they will always be dependent on other organizations for their production. They argued that the local farmers, thanks to using their local and ecological seeds for generations, also contributed to the preservation of the local culture, tastes, and heritage, and hence being dependent solely on the certified seeds would lead to the deterioration of local farmers even further. At this stage, it is worthwhile mentioning that the argument of utilization and preservation of local seeds, against promoting the utilization of certified seeds that offers better

breeding and farm productivity gains, is a subject of a big debate in Turkey, as well as in many locations in the world. While, the use of certified seeds is encouraged by the public authorities, some local municipalities, such as the Seferihisar Municipality in Izmir, take some initiatives to response to the concern of local farmers, by offering alternative local solutions to promote the preservation of local seeds and their exchange among local farmers by establishing a local seed bank, and by conducting seed exchange events or festivals throughout the year. Extending these efforts further in other localities would be a policy step that could provide alternative solutions to support farmers on a local level.

In addition to the concerns raised regarding the national agricultural policy framework, another issue that was discussed by farmers and coordinators was the need for public policies to provide (1) awareness raising, and (2) experience building to the agri-food sector. Firstly, it was argued that it is of utmost importance to increase awareness not only among citizens regarding ecological and ethical food, but also among farmers, the opportunities and realities related to ecological production. Hence, it was noted that citizens generally do not know about sustainable food procurement methods, and are not informed about SFSC initiatives. Therefore, in order to increase the consumer demand towards local food products, public awareness campaigns or trainings or courses offered could be useful. Subsequently, it was argued that outreach and public awareness building activities in order to enable knowledge sharing about the mid and long-term social, economic, environmental and cultural impacts of local food production systems, and information about specific initiatives on the ground, could have facilitating outcomes for the SFSC initiatives. Secondly, both farmers and coordinators argued that farmers need to gain knowledge and experience about ecological production methods and practices, which could be provided by public authorities or local municipalities. Meanwhile, the findings of our literature review (Paper I) also revealed that farmers are in need of skills such as entrepreneurship, marketing and ecological production. It can be argued currently the solutions offered by the current agricultural support system depend solely on technical ones. While, these are crucial, these contributions of technology or inputs, such as seeds or pesticides are argued to be widening the inequalities among farmers and increase their dependency on the companies that are suppling these inputs in the first place (Adaman et al., 2020).

In the literature, some other studies also proposed governments to pursue awareness campaigns, or local municipalities to promote initiatives aimed at public procurement of local products for canteens, or facilitating direct sale by means of public aid through fairs, events and dissemination

and adapting legislation and regulations to facilitate the process (Yacamán Ochoa et al., 2019). Beckie et al. (2012) argued that the public sector could play a more prominent role in supporting expansion of the social and physical infrastructure needed for future cluster development of farmers' initiatives, such as those of farmers' markets, as part of a broader collaborative strategy involving public, private, and social economy sectors in the scaling-up of alternative food networks. Adaman et al. (2020), on the other hand, argued that as local municipalities are stronger actors, and have wider scope of authority than other organizations such as NGOs, they have the authority and capacity to effect urban food policies that may empower farmers to become autonomous, however, there is still the need of wider public policies and a regulatory framework to support ecological production. It was also argued that improving knowledge and awareness about and access to local food systems may also be a successful approach to improving health of citizens through fruit and vegetable intake, while also improving local economies (Seguin et al., 2020).

ii. *The importance of multi-actor collaboration*

The second point in terms of policy is regarding the importance of establishing multi-actor collaboration on the local level towards sustainable local food solutions. One of the most relevant implications of this research has been associated with the necessity of effective partnerships between a variety of actors and organizations, including consumers, producers, local municipalities, institutions and communities, and civil society organizations. The findings of our study suggested that local food initiatives can collaborate with other local actors such as local municipalities, public schools, or local organizations or community projects. In this way, the variety of citizens and geographies reached can be widened. Besides, local public authorities and local food initiatives can establish links to implement shared social or culinary projects, or establish partnerships to enable local, ethical and healthy food to reach schools or canteens, or conduct local festivals, cultural events or workshops, underlining the importance of local food systems in local and rural development, as well as preservation of local tastes and heritage. In addition, as analyzed in-depth in the context of this thesis, local food initiatives can also be spaces where collaboration, exchange of knowledge and experience and social learning can take place. While knowledge creation, social learning and exchange of experiences have strong implications for aspects such as agricultural innovation and adaptation to the impacts of climate change on the side of the small-scale local farmers, they also can create a process through which knowledge regarding

traditional food, recipes and cultural heritage can be protected. Other studies in the literature also highlighted the importance of participatory governance mechanisms, in which multiple actors from different levels and sectors need to work together to achieve these common goals (Yacamán Ochoa et al., 2019; Nchanji, 2017; Reis, 2019; Manganelli & Moulaert, 2018; Dedeurwaerdere et al., 2017; Jones, 2018). As Matacena (2016) argued, to achieve sustainability goals in the local food systems, a multitude of actors to a varying degree, that are involved in the production, distribution, promotion and consumption of food must jointly and collaboratively operate to provide an opportunity for recalibrating lifestyles and food-related routines. In addition, this will need to be matched by a strong education effort, aimed at creating the cultural basis for a renewed relationship with food to take place, together with a favorable legislation to facilitate such developments (Matacena, 2016).

iii. *To identify, explore and extend good case examples*

Last but not least, we can argue that there is a lot to learn from the current best practices on the ground. City- and regional-level governments are becoming more and more crucial in promoting new forms of public intervention (Borraz & Galès, 2010), and these practices can have significant outcomes in terms of local food systems. In Turkey, local municipalities, including those of İzmir, Seferihisar, Ovacık and Nilüfer currently take important initiatives in terms of local food policies, and in facilitating the conditions for local food initiatives to flourish, and for local farmers to become more autonomous, and resilient towards economic or climatic shocks. As our research suggested, these municipalities through establishing initiatives such as farmers' markets, farmers' cooperatives, seed exchange platforms or groups, and by organizing events, festivals or social projects, enabled the local farmers to remain autonomous, and self-reliant, without the necessity to be dependent on or be in need of participating in industrial food chains and sell their products to wholesalers for a price under their worth. While in Turkey, the agriculture sector is a neglected one, and small farmers are not supported or protected sufficiently, the specific efforts on the local level will have significant contributions. In this respect, further research can focus on current efforts and implementations by local municipalities in Turkey, regarding mutual projects and collaboration with local food initiatives, in order to reveal the outcomes from the perspective of local communities. While this could provide important insights for policy making, these experiences can also guide other municipalities in their future efforts. Best practices from around the world could also provide a reference and guidance for future projects,

including well-functioning SFSC initiatives that are able to provide inclusive and affordable food products to local communities, and also examples such as food policy councils, which have been increasingly studied in the literature for their potential role and efforts towards developing sustainable local food systems (Matacena, 2016; Schiff, 2008).

Chapter 6

6. Conclusions

The present doctoral dissertation rose in a context, and from the argument that the industrialization of the food system over the past century has made small-scale and community level farming increasingly more challenging for smallholders, as competing and surviving in the same arena with corporate growers has become virtually impossible (Gomez y Paloma et al., 2020). Therefore, there is a significant need to take additional measures and establish new forms of relationships towards empowering local farmers and support local food systems. In parallel to this need, the local food movement have been gaining momentum around the globe, through a range of collective practices, that are often broadly addressed as Alternative Food Networks (AFNs) or Short Food Supply Chains (SFSCs) (Goodman & Goodman, 2009; Renting et al., 2003; Maye & Kirwan, 2013).

While these networks have been studied widely by many scholars, a significant gap lies in the literature regarding discussions on the dynamics of learning and collaborative innovation within local food systems, and the governance mechanisms surrounding them. Therefore, this doctoral thesis has aimed to examine three mechanisms at play, namely, governance, collaboration and learning in SFSCs, reveal their outcomes and identify associated challenges experienced from the perspective of both farmers and consumers. Towards this end, the findings of the thesis were derived from a scoping literature review and empirical data collected from the Turkish case, a country case, where the local food systems have not been studied widely. We used a descriptive case study methodology to study the semi-structured in-depth interviews conducted as part of seven SFSC initiatives; and we implemented partial least squares structural equation modelling by applying the Theory of Planned Behavior approach to analyze the data collected by an online survey. In the thesis, a multi-stakeholder approach has been used, to analyze the dynamics within SFSCs relying on the perspectives of farmers, consumers and coordinators of SFSC initiatives, in addition to the view of some experts.

First of all, in order to explore the governance mechanisms of selected SFSC cases in Turkey, this thesis aimed to approach the topic through the lens of collaboration, by making use of an adapted collaborative governance framework, departing from the Integrated Collaborative Governance Framework, developed by Emerson and Nabatchi (2015). Our findings revealed differences among the

formality of organizational structures and leadership mechanisms, in addition to formality of inclusion criteria of farmers, and the extent of which these criteria were enforced. It was observed that the differences in governance mechanisms, including, the means of how consumers and producers get together, how tasks are shared between actors, the decision-making processes and institutional frameworks, had resulted in different levels of collaboration among the groups. While in all cases consumers and producers had the opportunity to meet in person and to exchange ideas and information about the products and the production systems, the way they meet and how they arrange and organize for the purchase of products affected the level of their interactions and the networks they established. These differences also resulted in different challenges experienced, and required different ways to adapt or to cope with these challenges.

Our findings showed that the challenges experienced by initiatives were dependent on the governance mechanisms they adopted. The main challenge that was mentioned by all members and coordinators of initiatives governed by CSOs, were regarding the lack of consumer demand and interest. On the other hand, FCNs mainly experienced challenges on the organizational side, which was mainly associated with the informal structure of these initiatives, due to insufficient number of volunteers taking responsibility. In this regard, participants of the initiatives had differing recommendations to address these challenges. One of the most relevant findings was the need of a support mechanism or "decent policy framework" expressed by participants of all initiatives. This need was also supported by the recommendation towards the need to increase multi-stakeholder approaches in order to support the local food systems. Participants of all initiatives underlined the necessity for public administrations and local municipalities to step in to increase awareness among citizens regarding ecological and ethical food, through awareness raising campaigns or special courses, while the need to collaborate or conduct projects or joint activities with other local organizations and initiatives were mentioned. In other words, regardless of the governance mechanisms that SFSC initiatives adopted, the need for collaboration both within the groups and also with other actors of the local food system were revealed.

With regard to the motivations of consumers and producers to join these groups, our findings revealed that for farmers, the income they gain from these groups was not their primary motive. It was rather the social networks and new marketing channels established, as well as the need to be with close-

minded people, to cope with the difficulties of agricultural production was the priority. On the side of the consumers, having access to healthy, local, ecological and quality products was their first motive, which was followed by the willingness to support local farmers. Moreover, factors such as transparent decision-making processes, existence of trust and shared values among participants also affected consumers' decisions to be part of these networks. Hence, the findings pointed to both farmers' and consumers' participation in SFSC initiatives to be influenced by extent of collaborative mechanisms.

Another aim of this study has been to explore learning mechanisms and outcomes within SFSCs, which was a gap in the literature, despite its significance for innovation and establishing sustainable solutions in local food systems. In order to address this gap, this thesis proposed a learning framework for SFSCs, where experiential learning theory, Activity Theory (AT) and Community of Practice Theory (CoP), work together to address the multi-layered learning mechanisms that take place in the setting of SFSC initiatives. In the meantime, the findings of this study revealed that the governance mechanisms adopted by SFSC initiatives, in addition to the extent of collaboration within groups, also affected the level of learning among producers and consumers. Farmers in FMs were more reluctant to exchange information and experiences with each other, while exchange of information and knowledge were more common in FCNs. While, the governance mechanisms, and hence the intensity of interactions between participants affected this phenomenon, other factors such as cultural backgrounds of farmers, their worldviews about the relations with a larger group, and their levels of experience regarding agricultural production also affected their behavior.

The main limitations of the results of this thesis stemmed from the perspectives taken and the kind of empirical data used. Primarily, the study could not provide empirical linkages to other experiences around the world, where SFSC initiatives have been more rooted and have a longer history. Besides, stronger linkages to the actual policy frameworks and the wider social, environmental, economic and political contexts were not presented to explain the mechanisms of SFSCs. Besides not being able to reach a wider variety of SFSC initiatives, and a wider variety of farmers and consumers, that are not participants of these initiatives, resulted in a limited point of view presented.

To conclude, the findings of the thesis showed that exploring and understanding the interplay between the three mechanisms studied in this thesis, namely governance, learning and collaboration, had important implications for policy and further research. The findings revealed differences in

governance mechanisms among SFSC initiatives studied, including the means of how consumers and producers interact, how tasks are shared between actors and the decision-making processes and institutional frameworks adopted. These differences also influenced the governance challenges experienced by each group, including organizational, institutional and resource challenges. Besides, the governance mechanisms adopted by these initiatives also affected the extent of collaboration and learning within groups, while at the same time, the level of collaboration, - which is one of the key features and critical aspects of SFSCs -, also influenced the outcomes experienced in both of the other two mechanisms, namely governance and learning. Moreover, the extent of collaboration, including trust, transparency and democracy of decision-making processes and sharing mutual values with group members, also influenced participation of both farmers and consumers in these initiatives. This showed that, while exploring each of these mechanisms both individually, as well as in interaction, is an important step towards understanding how SFSCs work. Understanding how these initiatives function, in turn, can provide guidance on how to shape or govern local food systems, in order to establish new forms of relationships between farmers and consumers towards achieving sustainability solutions in the local food systems, and towards supporting small-scale local farmers. In this regard, introducing mechanisms that will support, regulate or facilitate collaboration within these groups, prove to be of utmost importance. Besides, establishing links to the other stakeholders of the local food system will also be critical to enable the functioning of these local food initiatives, and help alleviate challenges experienced. In cases where local food initiatives can collaborate with other local actors such as local municipalities, public schools, or local organizations or community projects, the variety of citizens and geographies reached can be widened. In addition, local food initiatives can also be spaces where exchange of knowledge and experience and social learning can take place. While knowledge creation, social learning and exchange of experiences have strong implications for aspects such as agricultural innovation and adaptation to the impacts of climate change on the side of the small-scale local farmers, they also can create a process through which knowledge regarding traditional food, recipes and cultural heritage can also be protected.

In our day, consumers are increasingly demanding healthy and trusted food products for themselves and their families, and they are becoming increasingly more aware of their own responsibility as individuals to demand for food products that are environmentally and ethically

conscious. In the meantime, the agri-food sector is increasingly held responsible for many sustainable challenges of our day, including the climate crisis, loss of biodiversity and food insecurity, while it is among those sectors that are adversely affected by the impacts of these challenges, the most. Hence, a profound transformation is required in the agri-food system in order to meet these challenges, and to provide for the growing populations of the world with healthy and nutritious diets. Towards this end, Sustainable Development Goals (SDGs) also stress this necessity and calls all countries to create and implement sustainable solutions to address the global challenges that we are faced with. Local food systems, which are characterized by close consumer-producer relationships enabled through short food supply chains (SFSCs), are one of the many efforts towards achieving sustainability solutions in the agri-food system. These initiatives enable farmers to reach consumers through diverse marketing channels, and consumers to reach ecological and healthy food products through their direct interactions with farmers. By also creating a space where social interactions between the actors of the local food systems can take place, it also allows for the creation of new ideas to flourish, which is critical towards innovation in the agri-food sector. In the face of such vast challenges, and as the demand for ecological options to feed societies increase, SFSCs offer sustainability solutions on the local level by bringing producers and consumers together around a mutual goal. This goal is twofold: Promoting healthy, quality, ecological and just products to their customers, while, providing solidarity and empowerment to the farmers. While, combatting the magnitude of challenges that we face today needs the joint efforts of all stakeholders in the society and in the agri-food system, SFSCs can play a critical role in achieving these goals by contributing to form resilient and sustainable local food systems.

Turkey, which is a country where agricultural systems are particularly vulnerable, and the sector, is still struggling to find solutions striving at modernization, the small-scale farmers are desperately seeking to find ways to survive in the face of multiple challenges. For this reason, in parallel to the increase of attention and public debate towards SFSC initiatives around the globe, a SFSC movement has also started to flourish in Turkey during the last decade. Given the rather short history of this novel movement, the SFSC initiatives are still struggling to find appropriate ways and solutions on how to make these networks work. In this regard, understanding these mechanisms can shed light to their way forward. Besides, SFSCs can work hand-in-hand with rural development plans in Turkey, in contributing to the support of small-scale farmers and local and rural development, and objectives of

accessing healthy food and allowing food security. This thesis can, hence, contribute to the understanding of an emerging country context, where a new and novel SFSC movement is being shaped, and the experience of these local food initiatives is not studied, and where local agricultural systems are being criticized in particular for the lack of innovative capacity and for the poor knowledge base, in the face of sustainability challenges. Consequently, the empirical findings of this study can lead the way to discovering the actual dynamics on the ground, and associated outcomes and challenges, which can inform local policy making that could support agricultural areas and small-scale local farmers in Turkey.

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Annex

7.1. Annex A: Scientific papers the literature review was based on (Chapter 2 – Paper I)

Table 29: Scientific Papers Evaluated

	Title	Year	SFSC initiatives studied	Type of study	Country	Reference
1	Effects of consumer-producer interactions in alternative food networks on consumers' learning about food and agriculture	2017	Community-supported agriculture (CSA), food coops, and self-harvest gardens	Case study	Germany	Opitz et al., 2017
2	Knowledge Exchange and Social Learning Opportunities in Direct Agri-Food Chains	2012	Direct food supply chains (on-farm sale, box-schemes, collective buying groups, community kitchens)	Case study /accompanied by secondary research	Italy	Volpentesta et al., 2012
3	Buying in: the influence of interactions at farmers' markets	2015	Farmers' markets	Case study	USA	Carson et al., 2016
4	Co-Creating Value in Sustainable and Alternative Food Networks: The Case of Community Supported Agriculture in New Zealand	2019	Community-supported agriculture (CSA)	Case study	New Zealand	Savarese et al., 2020
5	Enhancing Adaptive Capacity in Food Systems: Learning at Farmers' Markets in Sweden	2010	Farmers' markets	Case study	Sweden	Milestad et al., 2010
6	Transforming Food Systems Through Food Sovereignty: An Australian Urban Context	2015	Alternative urban food systems	Review	Australia	Guzmán et al., 2012
7	Buying local organic food: a pathway to transformative learning	2010	CSA, alternative organic farms	Case study	Canada	Kerton & Sinclair, 2009
8	Classifying short agrifood supply chains under a knowledge and social learning perspective	2013	CSA, box-schemes, collective buying shops, collective farmer shops	Review		Ammirato et al., 2013

	Title	Year	SFSC initiatives studied	Type of study	Country	Reference
9	Re-localizing 'legal' food: a social psychology perspective on community resilience, individual empowerment and citizen adaptations in food consumption in Southern Italy	2016	Alternative food networks	Case study	Italy	Emma & Russo, 2016
10	Learning, communicating and eating in local food-systems: The case of organic box schemes in Denmark and Norway	2008	Organic box-schemes	Case study	Denmark, Norway	Torjusen et al., 2008
11	Technocratic and deliberative governance for sustainability: rethinking the roles of experts, consumers, and producers	2020	Consumer Cooperative	Case study	Japan	Hatanaka, 2020
12	A qualitative exploration of entrepreneurial learning among southern Arizona small-scale farmers and ranchers	2016	Farmers' markets	Case study	USA	Zamudio et al., 2016
13	Pursuing dignified food security through novel collaborative governance initiatives: Perceived benefits, tensions and lessons learned	2019	AFNs / food banks	Qualitative research	Canada	Edge et al., 2019
14	Scaling up alternative food networks: farmers' markets and the role of clustering in western Canada	2012	Farmers' markets	Case study	Canada	Beckie et al., 2012
15	The Value and Meaning of Experience in Food System Learning Spaces: Reflections from the Activist and Traditional Community Perspectives	2018	Learning spaces	Qualitative research	USA	Herrera, 2018
16	Gardens as Learning Spaces: Intergenerational Learning in Urban Food Gardens	2017	Urban agriculture	Review		Hake, 2017

	Title	Year	SFSC initiatives studied	Type of study	Country	Reference
17	The Governance Features of Social Enterprise and Social Network Activities of Collective Food Buying Groups	2017	Collective buying groups	Case study	Belgium	Cuéllar-Padilla & Ganuza-Fernandez , 2018
18	Growing opportunities: CSA members, CSA farmers, and informal learning in the USA	2015	Community-supported agriculture (CSA)	Case study	USA	Everson, 2015
19	Organizing Joint Practices in Urban Food Initiatives—A Comparative Analysis of Gardening, Cooking and Eating Together	2020	Urban agriculture	Case study	Germany	Hennchen & Pregernig, 2020
20	A Multi-Actor Literature Review on Alternative and Sustainable Food Systems for the Promotion of Cereal Biodiversity	2018	Alternative food networks	Review		Sacchi et al., 2018
21	Non-governmental organizations, strategic bridge building, and the "scientization" of organic agriculture in Kenya	2008	Participatory guarantee systems (PGS)-led organic agriculture	Case study	Kenya	Goldberger, 2008
22	Conceptual framework for managing uncertainty in a collaborative agri-food supply chain context	2017	Uncertainty Management Through Collaboration in AFSCs. Uncertainty sources: Product, process, market, environment	Review		Alemany and Ortiz, 2017
23	Social innovation matters: The adoption of participatory guarantee systems within Italian alternative agri-food networks	2019	AFN	Case Study	Italy	Sacchi, 2019
24	Collective action in Localized Agrifood Systems: An analysis by the social networks and the proximities. Study of a Serrano cheese producers' association in the Campos de Cima da Serra/Brazil	2019	Localized Agri-food Systems	Case Study	Brazil	Hermans, 2011

	Title	Year	SFSC initiatives studied	Type of study	Country	Reference
25	Towards inclusive innovation in the European context - the innovation capacity of alternative networks for sustainable agriculture	2017	AFN	Case study /Connection to the SOLINSA project	Hungary	Nemesa & Augustyn, 2017
26	Sustainability transformations in the balance: exploring Swedish initiatives challenging the corporate food regime	2016	Alternative Organic networks (Organic 3.0)	Case study	Sweden	Oelreich and Milestad, 2016
27	Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture	2017	Local food networks	Case study /Connection to the RETHINK Research Programme	Austria, Denmark, France, Germany, Ireland, Israel, Italy, Lithuania, Latvia, Spain, Switzerland	Šūmane et al., 2018
28	Learning for transitions: A niche perspective	2020	Alternative niche networks	Case study	South Africa	Metelerkamp et al., 2020
29	Pathways of learning about biodiversity and sustainability in private urban gardens	2019	Urban gardens	Case study	Canada	Diduck et al., 2019
30	The role of farming systems group approaches in achieving sustainability in Australian agriculture	2005		Review	Australia	Ridley, 2005
31	Local food 2.0: How do regional, intermediated, food value chains affect stakeholder learning? A case study of a community-supported fishery (CSF) program	2020	Community-supported fishery (CSF)	Case study	USA	Montefrio & Johnson, 2019
32	Learning communities and new farmer knowledge in Canada	2018	Incubator farms	Case study	Canada	Laforgea & McLachlanb, 2018
33	A Growing Movement: Motivations for joining community gardens	2017	Urban agriculture/Community gardens	Case study	Australia / Denmark	Pascoe & Howes, 2017
34	Understanding the organization of sharing economy in agri-food systems: evidence from alternative food networks in Valencia	2017	Consumer groups / Community gardens	Case study	Spain	Miralles et al., 2017

	Title	Year	SFSC initiatives studied	Type of study	Country	Reference
35	Social Learning and Innovation at Retail Farmers' Markets	2004	Farmers' Markets	Case study	USA	Hinrichs et al., 2004
36	Creating value through cooperation: An investigation of farmers' markets in New Zealand	2008	Farmers' Markets	Case study	New Zealand	Lawson et al., 2008
37	Governance mechanisms in food community networks	2013	Community supported agriculture	Case study	USA and Canada	Pascucci et al., 2013
38	Adult Learning in Alternative Food Networks	2017	Organic small-scale farms	Case study	Canada	Etmanski and Mitchell, 2017

7.2. Annex B: List of interviews (Chapter 3 – Paper II)

Table 30: List of interviews (Chapter 3 – Paper II)

	Name of Initiative	Type of Initiative	Interviewed person
1	BİTOT	Food Community Network	Coordinator
2	BİTOT	Food Community Network	Coordinator
3	BİTOT	Food Community Network	Producer 1
4	BİTOT	Food Community Network	Producer 2
5	BİTOT	Food Community Network	Producer 3
6	BİTOT	Food Community Network	Producer 4
7	BİTOT	Food Community Network	Producer 5
8	BİTOT	Food Community Network	Producer 6
9	BİTOT	Food Community Network	Consumer/Co-producer 1
10	BİTOT	Food Community Network	Consumer/Co-producer 2
11	BİTOT	Food Community Network	Consumer/Co-producer 3
12	BİTOT	Food Community Network	Consumer/Co-producer 4
13	BİTOT	Food Community Network	Consumer/Co-producer 5
14	BİTOT	Food Community Network	Consumer/Co-producer 6
15	Homeros	Food Community Network	Coordinator 1
16	Homeros	Food Community Network	Coordinator 2
17	Homeros	Food Community Network	Producer 1
18	Homeros	Food Community Network	Producer 2
19	Homeros	Food Community Network	Producer 3
20	Homeros	Food Community Network	Producer 4
21	Homeros	Food Community Network	Producer 5
22	Homeros	Food Community Network	Consumer/Co-producer 1
23	Homeros	Food Community Network	Consumer/Co-producer 2
24	Homeros	Food Community Network	Consumer/Co-producer 3
25	Homeros	Food Community Network	Consumer/Co-producer 4
26	Homeros	Food Community Network	Consumer/Co-producer 5
27	GETO	Food Community Network	Coordinator
28	GETO	Food Community Network	Producer 1
29	GETO	Food Community Network	Producer 2
30	GETO	Food Community Network	Producer 3
31	GETO	Food Community Network	Producer 4
32	GETO	Food Community Network	Consumer/Co-producer 1
33	GETO	Food Community Network	Consumer/Co-producer 2
34	GETO	Food Community Network	Consumer/Co-producer 3
35	GETO	Food Community Network	Consumer/Co-producer 4
36	GETO	Food Community Network	Consumer/Co-producer 5

	Name of Initiative	Type of Initiative	Interviewed person
37	GETO	Food Community Network	Consumer/Co-producer 6
38	Slow Food Foça Earth Market	Farmer's Market	Coordinator
39	Slow Food Foça Earth Market	Farmer's Market	Producer 1
40	Slow Food Foça Earth Market	Farmer's Market	Producer 2
41	Slow Food Foça Earth Market	Farmer's Market	Producer 3
42	Slow Food Foça Earth Market	Farmer's Market	Producer 4
43	Slow Food Foça Earth Market	Farmer's Market	Producer 5
44	Slow Food Foça Earth Market	Farmer's Market	Producer 6
45	Slow Food Foça Earth Market	Farmer's Market	Producer 7
46	Slow Food Foça Earth Market	Farmer's Market	Producer 8
47	Slow Food Foça Earth Market	Farmer's Market	Producer 9
48	Slow Food Foça Earth Market	Farmer's Market	Producer 10
49	Slow Food Foça Earth Market	Farmer's Market	Producer 11
50	Slow Food Foça Earth Market	Farmer's Market	Consumer 1
51	Slow Food Foça Earth Market	Farmer's Market	Consumer 2
52	Slow Food Foça Earth Market	Farmer's Market	Consumer 3
53	Slow Food Foça Earth Market	Farmer's Market	Consumer 4
54	Slow Food Foça Earth Market	Farmer's Market	Consumer 5
55	EcoBazaar	Organic Farmer's Market	Coordinator
56	EcoBazaar	Organic Farmer's Market	Auditor
57	EcoBazaar	Organic Farmer's Market	Producer 1
58	EcoBazaar	Organic Farmer's Market	Producer 2
59	EcoBazaar	Organic Farmer's Market	Producer 3
60	EcoBazaar	Organic Farmer's Market	Producer 4
61	EcoBazaar	Organic Farmer's Market	Producer 5
62	EcoBazaar	Organic Farmer's Market	Producer 6
63	EcoBazaar	Organic Farmer's Market	Producer 7
64	EcoBazaar	Organic Farmer's Market	Producer 8
65	EcoBazaar	Organic Farmer's Market	Producer 9
66	EcoBazaar	Organic Farmer's Market	Producer 10
67	Foça Yogurt Cooperative	Producer Cooperative	Coordinator
68	Foça Yogurt Cooperative	Producer Cooperative	Producer 1
69	Karaburun Food Collective	Producer cooperative	Coordinator
70	Karaburun Food Collective	Producer cooperative	Producer 1
71	Karaburun Food Collective	Producer cooperative	Producer 2
72	Ege University Food Community Network	Consumer-workplace group	Coordinator
73	Ege University Food Community Network	Consumer-workplace group	Producer

	Name of Initiative	Type of Initiative	Interviewed person
74	Ege University Food Community Network	Consumer-workplace group	Consumer/Co-producer
75	Bostanlı Market	Farmer's Market	Producer 1
76	Bostanlı Market	Farmer's Market	Producer 2
77	Bostanlı Market	Farmer's Market	Producer 3
78	Bostanlı Market	Farmer's Market	Producer 4
79	Bostanlı Market	Farmer's Market	Producer 5
80	Bostanlı Market	Farmer's Market	Producer 6
81	Bostanlı Market	Farmer's Market	Producer 7
82	Bostanlı Market	Farmer's Market	Producer 8
83	Nature's Shop	Local shop /Producer collective /e-commerce	NGO representative, Coordinator
84	Nature's Shop	Local shop /Producer collective /e-commerce	Representative
85	Experts	Academia	Academician
86	Experts	Academia	Academician
87	Experts	NGOs	Nature Foundation
88	Experts	NGOs	Buğday Association
89	Local authority	Local government	Seferihisar Municipality
90	BÜKOOP	Consumer Cooperative	Coordinator
91	Tayga Organic Olive oil	E-commerce / organic shop	Coordinator
92	İnce Elek	E-commerce / organic shop	Coordinator

7.3. Annex C: Attributes and Survey Questions (Chapter 4 – Paper III)

Table 31: Attributes and Survey Questions (Chapter 4 – Paper III)

Attributes	Indicators/Survey Questions
Attitudes	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree; NA)
ATT1	Being part of and being a consumer/co-producer in a food community network/food collective is gratifying to me
ATT2	Being part of and being a consumer/co-producer in a food community network/food collective is satisfying to me
ATT3	Being part of and being a consumer/co-producer in a food community network/food collective is important to me
ATT4	Being part of and being a consumer/co-producer in a food community network/food collective makes me proud
Behavioral Belief	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree; NA)
BB1	I believe that being part of and being a consumer/co-producer in this group is healthy for me
BB2	I believe that being part of and being a consumer/co-producer in this group is healthy for my family and/or ones that are close to me
BB3	I believe that by being part of and being a consumer/co-producer in this group I can have access to better tasting products
BB4	I believe that by being part of and being a consumer/co-producer in this group I can help promote local tastes and products
BB5	I believe that by being part of and being a consumer/co-producer in this group I can help fight the negative effects of climate change
BB6	I believe that by being part of and being a consumer/co-producer in this group I can help reduce waste
BB7	I believe that by being part of and being a consumer/co-producer in this group I can support local farmers
BB8	I believe that by Being part of and being a consumer/co-producer in this group I feel like I belong to a community with like-minded people
Subjective Norm	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree)
SN1	People important to me think it is important to be part of and consume/co-producing in a food community network/food collective

Attributes	Indicators/Survey Questions
SN2	People who influence my behavior think it is important to be part of a food community network/food collective
SN3	The people in my life (e.g. school, university, company, etc.) consider as useless being part of and consume/co-producing in a food community network/food collective
Perceived Behavior Control	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree; NA)
PBC1	For me, being part of/co-producing in a food community network/food collective on a regular basis is not easy
PBC2	Although I would like to participate more actively in a food collective more often, I do not have enough time to do so
PBC3	Although I would like to participate more actively in a food collective more often, I do not have the financial resources to do so
PBC4	If I wanted to, it would be possible for me to be part of and consume/co-produce in a food community network/food collective instead of buying from industrial food networks (e.g. supermarket)
PB5	Even though I do not prefer it, I have to buy industrial food products at times
Self-Efficacy	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree; NA)
SE1	I believe that I, as consumer/co-producer can create a difference in the local food system
SE2	I believe that we, as a consumer group/food collective, we can create a difference on the local food system
Collaboration Dynamics	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree)
CD1	I have a say in the decision-making process of the food collective that I am part of, a consumer/co-producer in.
CD2	The inclusion criteria, operational mechanisms and decision-making processes of the food collective that I am part of is shared transparently with its participants
CD3	We share the same values with the other participants of the group (i.e. coordinators, consumers and producers)
CD4	I trust the other participants of the group (i.e. coordinators, consumers and producers)

Attributes	Indicators/Survey Questions
Satisfaction with policies/politics	(7 point likert scale: 1 – Strongly disagree to 7 – Strongly agree)
SP1	I am satisfied with the current national agricultural and food policies that are in place
SP2	I trust the current governmental policies/bodies in making agricultural and food sector related decisions
Intensions - INT	(7 point likert scale: 1 – Highly unlikely, to 7 – Totally likely; NA)
INT1	I want to take part as a consumer/co-producer on a regular basis, in the food collective/group that I am part of in the next three-month period
INT2	I intent to take part as a consumer/co-producer on a regular basis, in the food collective/group that I am part of in the next three-month period
INT3	I plan to take part as a consumer/co-producer on a regular basis, in the food collective/group that I am part of in the next three-month period
Personal Norm	
PN1	I feel guilty if I do not buy from local farmers
PN2	I feel satisfied if I participate or take responsibility in organizations held by the food collective I am part of
Self-Identity	
SI1	I define myself as a person who buys and eats local and ethical products
SI2	I define myself as a person who is conscious towards the environment and climate change
SI3	I define myself as a person who takes responsibility/volunteers for causes that are important to me
Behavior	(5-point scale to access frequency of activity: 1-Never, 2- Once every two months or less frequent, 3- Once a month, 4- 2-3 times a month, 5 – Once every week, 6 – 2 times a week or more frequent)
BEH1	How frequently do you participate in the activities (e.g. seminars, workshops, open days) about food systems and local food networks/food collectives
BEH2	I share information about the food collective that I am part of and about co-production to people outside of the initiative

Attributes	Indicators/Survey Questions
BEH3	I regularly communicate and exchange information with the producers and consumers of the food collective I am part of
BEH4	I visit and buy products regularly from the producers of the food collective I am part of
BEH5	I contribute in terms of resources (e.g. donations, contributions, guarantee of purchase, contributing to investments, equipment donation/sharing) to producers of the food collective I am part of
	I contribute to the production processes of the food collective I am part of (e.g. planting, maintenance, harvest etc.)
BEH6	I take responsibility/volunteer in coordinating of activities (e.g. purchase days, setting up market, communication with producers or consumers, audit processes, financial matters) in the food collective I am part of
Demographics	
Gender	Your gender: Female / Male / Not applicable (NA)
Age	Your age (open-ended)
Education	What is the highest level of school you have completed? -Middle school or lower degree -High school graduate -University graduate -Post-graduate level)
Occupation	What is your occupation? (open-ended)
Rural-Urban	Do you come from a farming background or farming family? -No -No, but I got involved in agricultural production later in life -Yes, I grew up in a farming family but I am no longer involved in agricultural production -Yes, I am currently involved in agricultural production

7.4. Annex D: Additional Tables – related to the analysis conducted as part of Paper III

Table 32. Cronbach's Alpha, Composite Reliability and Average Variance Extracted (AVE) Values (treating all of our variables as reflective variables)

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
ATT	0.936	0.954	0.839
BEH	0.715	0.871	0.772
CD	0.884	0.928	0.811
INT	0.917	0.960	0.923
PBC	0.611	0.786	0.554
SN	0.802	0.910	0.835

Table 33. Heterotrait-Monotrait Ratios (HTMT) (treating all of our variables as reflective variables)

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
BEH -> ATT	0.051	0.109	0.041	0.241
CD -> ATT	0.603	0.613	0.420	0.766
CD -> BEH	0.052	0.106	0.032	0.246
INT -> ATT	0.233	0.238	0.055	0.405
INT -> BEH	0.245	0.250	0.075	0.440
INT -> CD	0.463	0.460	0.296	0.599
PBC -> ATT	0.096	0.145	0.065	0.261
PBC -> BEH	0.456	0.465	0.287	0.643
PBC -> CD	0.117	0.154	0.076	0.262
PBC -> INT	0.369	0.372	0.220	0.511
SN -> ATT	0.233	0.245	0.105	0.391
SN -> BEH	0.220	0.226	0.061	0.392

SN -> CD	0.219	0.230	0.080	0.402
SN -> INT	0.293	0.302	0.156	0.453
SN -> PBC	0.185	0.223	0.102	0.361

7.5. Annex E: A summary of the three papers of the thesis (more detailed version)

Table 34. Summary of the papers

	Paper I	Paper II	Paper III
Title	Exploring learning mechanisms and knowledge creation and sharing dynamics in SFSCs: A literature review	Exploring governance mechanisms, collaborative processes and main challenges in SFSCs: The case of Turkey	Exploring collaboration and consumer behavior in food community networks (FCNs) and constraints preventing active participation: The case of Turkey
Aims	Providing an overview of learning mechanisms and outcomes in SFSCs, via a literature review, focusing on governance mechanisms that are adopted and how through these mechanisms, knowledge creation and exchange are triggered.	Exploring the governance mechanisms through which civil society driven SFSCs are governed in İzmir (Turkey), referring to actors involved, institutional processes adopted and challenges experienced.	Understanding underlying factors of consumer intentions and behavior to participate in FCNs in Turkey, while identifying main governance challenges experienced by participants of these communities, in order to inform local policy.
Research Questions	(2) What are the main characteristics of scientific papers published on this topic; (2) What are the main theories or frameworks that have guided the literature on the topic; (3) What are the learning outcomes experiences; (4) How an adapted framework can look like which can contribute to literature towards exploring learning mechanisms in SFSCs?	(2) What are the mechanisms through which SFSCs are initiated and operated; (2) How collaboration takes place within these groups and through which processes; (3) What are the outcomes of these processes in terms of individual, community and local impacts experienced on the ground and challenges associated with them?	(2) What are the underlying factors that affect the participation of consumers in FCNs; (2) What are the key constraints experienced in these groups that are standing in the way of more active participation by the consumers?
Theory/ conceptual framework used	N/A	Adapted collaborative governance framework	Theory of planned behavior

	Paper I	Paper II	Paper III
Data & method	Literature review	Multiple-case study of seven short food supply chain initiatives in the city of Izmir (Turkey); semi-structured in-depth interviews with 41 farmers, 32 consumers, 11 coordinators, and 5 experts.	Survey of 214 consumers, that have been gathered from 18 food community groups (food community networks), from seven cities of Turkey.
Main findings	Within the literature on learning in SFSCs, the types of learning that were addressed by highest number of scientific publications were namely: Social learning, informal learning, transformative learning, experiential learning, collective learning, lifelong learning, and organizational learning. Learning in SFSCs was mainly evaluated by the theories or frameworks, which we grouped in 5 groups as follows: (1) Learning by consumer-producer interaction-based models; (2) Transformative learning, (3) Learning within innovative learning spaces; (4) Learning evaluated through sustainable indicators; (5) Learning by collaborative governance. Meanwhile, the most widely discussed learning outcomes for consumers were: Learning about the story of farmers, cultural significance behind products, knowledge, about	There are differences of governance structures, institutional frameworks, and differing levels of shared goals and understanding among different cases studied, which also led to different governance challenges, arising as a results of different governance mechanisms at play. Some major differences among groups: (1) Formality of organizational structures, leadership mechanisms, and formality of inclusion criteria for farmers and audit mechanisms among different initiatives – food community networks (FCNs) adopt governance structures that are less defined and implemented by volunteers; (2) Rural-rooted farmers were mostly attached to more formal networks, and they mentioned a bigger difference (social and economic) in their livelihoods; (3) Differing governance tensions: Food community networks experienced more tensions on the organizational side,	Intention to participate in food community networks (FCNs) could be predicted by attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC) in addition to collaboration (CD). ATT, SN, and PBC had all significant positive effects on participation intention. PBC had the strongest and most significant influence on intention (PBC measured in terms of self-efficacy and controllability). Collaboration had a strong positive relationship with attitude. Moreover, open-ended questions revealed motivations stated by consumers to participate in these networks. The highest motivation was to have access to healthy products, and the lowest was regarding issues related to combatting climate change or waste reduction. Besides, constraints that is "standing in the way of more active participation" have been listed by participant as: (1) Personal challenges (53%): Lack of time, accessibility problems, need for serious

	Paper I	Paper II	Paper III
	agricultural production, ways to preserve vegetables, waste management, technical information about seasonality of food, and new recipes, and new ways of thinking. Learning outcomes for farmers were: New ways of marketing, knowledge about preferences and tastes of consumers, while gaining confidence, autonomy, and capacity to act, innovate and adapt to changing conditions.	including tensions to manage tasks on a voluntary basis and challenges of scaling up, need of further resources, a bigger space to conduct activities, and knowledge, skills and human capital. Initiatives governed by civil society-organized initiatives experienced less organization tensions, but more challenges regarding lack of consumer demand and interest. Similarity: Coordinators of all groups mentioned they need support from local or national authorities, either in the form of financial support, or promotion through awareness raising campaigns.	planning; (2) Group dynamics (21,4%): Lack of volunteers/people taking responsibility, lack of awareness, lack of communication, favoring of some participants over others; (3) Products (17,9%): High price of products, lack of variability; and finally (4) Operational challenges (7,7%): Lack of decent place to meet, organization of purchase days, other logistic problems. Recommendations for improvement included: More volunteers taking responsibility, improvements with operational matters, more effective communication, more awareness about food systems and about the group dynamics.
Contribution	An adapted framework proposed for exploring learning mechanisms and learning outcomes in SFSC initiatives, that incorporates aspects of experiential learning theory, activity theory and community of practice theory.	Demonstrating some of the main differences and similarities among SFSC initiatives selected on a city-level case in Turkey, and identifying main governance challenges/tensions that are experienced in these initiatives that can guide policy recommendations and future research.	Among the very few academic studies that aims to identify and study in detail, food community networks in the case of Turkey; and first study to use Theory of Planned Behavior that attempted to evaluate the underlying factors of consumer participation in SFSC initiatives.

7.6. Annex F: Interview Protocol

Interview Protocol

Initiative & Location _____
Date/time_____

My name is Yaprak Kurtsal and I am a Ph.D. student at University of Bologna in Italy; and this is my colleague İdil Akdöş , who is supporting me in the scope of my field work. I will be conducting the interview and my colleague will record the answers and keep notes while we speak.

For my Ph.D. research, I am interested to answer some questions about alternative food networks (AFNs) (and short food supply chains) in Turkey, and this interview is targeted at understanding some of the main aspects about what are some of the operational/governance issues associated with AFNs, what are some of the challenges and opportunities associated with them, and finally to understand why consumers and producers are part of these networks.

As a consumer/producer/coordinator, your opinions and insights are very valuable for my research. Please note that participation in this interview is completely on a voluntary basis, and there are no right or wrong answers to the questions that I ask. Your name will be kept anonymous, while reporting the results, and the results of these interviews will be solely used in the scope of my Ph.D. thesis, and any scientific papers (outputs) that are associated with my thesis. This interview will take around 30 minutes, and if you agree, I would like to take a voice recording of this interview, only to make sure that all of our conversation can be reflected in my research outputs. Please let me know if at any point you want me to turn off the recorder or to keep something you said off the record.
[If interviewee agrees to taking of the voice recording, start the recording here.]
[If interviewee does not agree, tell them that we will try to take complete notes of the conversation, and we will only take notes of our conversation.]

Before we begin the interview, do you have any questions? [Discuss questions] If you will have any questions during the interview, you can also feel free to ask them at any time. I would be more than happy to answer your questions.

Interview questions for Producers
(For all producers: part of community supported agriculture initiatives, farmers' markets and olive cooperative)

1. Where are you from?
- If they are not from the area: For how long have you been living here; why have you moved here?

2. Since when have you been engaged in farming/producing? Their families/parents have also been farmers or not.
- If their families are not farmers: How come have you started farming, and when?

3. Do you or your family own your land? (If yes: What is the size of your land (hectares)? If they do not own their land, how do they produce their products (e.g. rent, or work on a family member's or another farmer's land etc.)?

4. Which products do you grow?

5. Do you have any other occupation? Are you engaged in any other work outside of the farm? If yes, please tell us.

6. Where are you currently residing and how far (km) are you travelling to take part in this (AFN) initiative, and to sell your products?

7. For how long are have you been part of this initiative? (How did you learn about it; how did you join?)

8. Why are you part of this initiative? (Are you part of any other AFNs? Member of other organisations, etc?) What was your motivation to join here?

9. Which product/products you are selling here? (where else do you sell your products? Do you also sell your products in the conventional markets?)

10. Are you pursuing organic (or ecological production)? Please explain why, or why not?

11. Would you say it is profitable to sell / be part of this initiative? (are you "obliged" to sell elsewhere?) How much (what percentage) of your income is coming from this initiative?

12. Is being part of this AFN has any impacts on your:

- Business performance (sales, technical issues, knowledge, innovativeness, marketing channels)
- Well-being (Has anything changed in your (or your family's life) since you are a part of this initiative? (Economically or socially)
- Please state if there are any other impacts.

13. Do you communicate with – other producers, – consumers, AFN leaders, or other actors of the supply chain (suppliers, entrepreneurs, other companies etc)? If yes, how often do you communicate with them? What do you talk about, share with each other? Would you say that you have learned anything new from other producers, or consumers? Would you say that there any benefits of having these networks?

14. This question is directed to CSA producers: Would you tell us a bit about the procedural operational issues regarding this initiative? How are the decision-making processes work? Would you say that you have a say in the decision-making processes?

15. What are the main challenges you are faced with, being a farmer, and being a part of this initiative? Are there any aspects you would like to be changed / be improved?

Interview questions for Consumers – part of CSA initiatives

1. Where do you currently live / how far do you travel to buy from / be part of this initiative?

2. Since when are you a member/part of this initiative? How did you hear about it/how did you become engaged?

3. Are you also part of other initiatives? If yes, which ones? Please explain the type of engagement you have with all types of AFNs you are a member/part of.

4. Are you engaged in any production yourself? (If yes, where, in which amount, for which reasons?)

5. Why do you buy from here / Why are you part of this initiative (Please answer this question considering this initiative, but also repeat the answer for other AFNs you are part of)?

6. Do you volunteer or take part/responsibility in any activities/organizations of the initiative? If yes, please explain your responsibilities/tasks/how much time it takes for you? Why do you volunteer here?

7. How much of your food demand (approximately) comes from this initiative? Or general from AFNs? What other channels do you use to meet your food demand? Would you like to share any other thoughts on this issue?

8. What can you tell about the procedures and operations of the group; what kind of steps/rules do you have to follow?

9. Can you tell us a bit about how decisions are made in the group, or how are needs, operations, decisions or actions are communicated with the group? What are your thoughts about the operation of the group; would you like to change anything?

10. How often do you communicate with – other consumers, - producers, - other actors involved?

11. On what issues do you communicate about? Do you act together? Learn from each other?

12. Do you think there are any benefits of being part of an AFN? If yes, what are the benefits?

13. Do you think there are any challenges of being part of an AFN? Please tell us about the challenges you face, or see.

14. Is there anything you would like to see improved? (anything that would make you better off)

Interview questions for Consumers – part of farmers' markets

1. Gender/ age / education / where are you from?

2. Where do you currently live / how far do you travel to buy from / be part of this initiative?

3. Since when are you buying your products from this initiative? How did you hear about it/how did you become engaged?

4. Are you also part of other initiatives? If yes, which ones? Please explain the type of engagement you have with all types of AFNs you are a member/part of.

5. Why do you buy from here?

6. How much of your food demand (approximately) comes from this initiative? Or general from AFNs? What other channels do you use to meet your food demand? Would you like to share any other thoughts on this issue?

7. How well do you know the producers in this market? Do you communicate with them often? If yes, what do you share/communicate about?

8. Do you trust the producers here? Please tell us a bit about this issue.

9. Would you recommend this initiative to people you know; why?

10. Do you think there are any benefits of buying your products from here, what are the benefits?

11. Do you think there are any challenges of buying your products from here, please tell us about the challenges you face, or see?

12. Is there anything you would like to see improved? (anything that would make you better off)

Interview questions for Coordinators

1. Name of the AFN / Its status (official status / initiative)

2. Can you tell us a bit about the initiative, when was the AFN established / founded? How was it founded, and with the initiation/collaboration of whom? When it started its operations? What were the motivations behind its establishment; and what are some of its goals, values, purposes?

3. It is run by whom and how (are consumers/producers self-organized or not)

4. Since when have you been the coordinator of the group; which tasks/responsibilities do you have as the coordinator? With whom do you share the responsibilities?

5. Can you tell us a bit about how the operations of the group are undertaken; how the responsibilities are shared; the nature of the responsibilities (on a voluntary basis, or other mechanisms).

6. How are decisions taken in the initiative? Who takes them? How are the members of the group are informed about them? (Do decisions taken together? Are these mechanisms transparent?)

7. How is communication established with producers; how are they included in the group? Can you tell a bit about the criteria for inclusion (and exclusion); and processes of controls, audits? (If these processes are not formally structured, also ask: How is trust is established and maintained in the group).

8. What are some rules of the initiative; which procedures need to be followed and how?

9. How are the prices set?

10. How many participants it has? And who are they? (profile of participants, how they become participants, where they come from and so on) How do consumers engage with this initiative. Do you advertise, use social media or any other channel to inform people about the initiative? What kind of activities do you undertake (meetings, seminar etc.)?

11. How would you explain about the collaborative dynamics in the group? Would you say that there is enough communication/collaboration within the group? If yes, please explain. If no, how do you think this can be enhanced? Are you organizing any events, activities to make this happen?

12. Has there been any changes in the dynamics of the AFN in the last years? Any change is expected in the next few years?

13. What are some of the main challenges experienced (if any).

14. Has the group have to take any new decisions, or change some of the arrangements/operations in order to address some of these challenges? How do you adapt as a group when you are faced with challenges?

15. What in your opinion would be necessary to overcome some of these challenges? (If you had a magic wand, what would you change so that some of these challenges would be overcome).

16. Please share with us any other opinions, or insights you would like to share with us.