

D8.8 Database of academic publications from the project

Work Package 8

UHOH



Document Identification

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Executive Summary

This document constitutes the deliverable "D8.8 Database of academic publications from the project" in the context of WP8 and has been compiled by the partner UHOH. The deliverable aimed to present an overview of the peer-review publications generated by the SMARTCHAIN project.



Table of Contents

1.	Introduction	5
2.	SMARTCHAIN Special Issue	€
3.	Additional peer-review publications	. 13



1. Introduction

During 3 years (01.09.2018 - 31.08.2021), SMARTCHAIN has been working intensely to foster and accelerate the shift towards collaborative short food supply chains. Through specific actions and recommendations, the project has introduced new robust business models and innovative practical solutions that enhance the competitiveness and sustainability of the European agri-food system.

Within WP8 "Dissemination, communication and exploitation", the main objective of T8.3.3 (Dissemination among academics, M5 - M36) was to identify opportunities for partners to publish SMARTCHAIN research in leading journals, to ensure the efficient dissemination of results and findings of this project in the scientific community, and to maintain a database of publications from the project. All academic publications, as well as popular articles, will be accessible via the SMARTCHAIN Innovation Platform ("Publications" section, https://www.smartchain-platform.eu/en/resources/publications). As the main outcome of T8.3.3, the University of Hohenheim (UHOH), SMARTCHAIN Coordinator, was responsible for the preparation and the future publication of a SMARTCHAIN Special Issue (10 articles) on the project results and findings in the **ISEKI** "International Journal of Food Studies" (https://iseki-foodopen Journal ejournal.com/ojs/index.php/e-journal).



2. SMARTCHAIN Special Issue

The IJFS (https://iseki-food-ejournal.com/ojs/index.php/e-journal), a journal of the ISEKI_Food Association, is an international peer-reviewed open-access journal featuring scientific articles on the world of Food in Education, Research and Industry. This journal is a forum created specifically to improve the international dissemination of Food Science and Technology knowledge between Education, Research and Industry stakeholders.

In collaboration with the International Journal of Food Studies (IJFS) Scientific Committee, the University of Hohenheim (UHOH, SMARTCHAIN Coordinator) invited in August 2020 all SMARTCHAIN partners to write manuscripts based on the project results to the **IJFS Special Issue**. The deadline for submission was the 28th of February 2021.

10 manuscripts were submitted by the end of February. These manuscripts, coordinated by the WP leaders, included findings and results from WP1 (Conceptual and analytical framework), WP2 (Technological and non-technological innovations), WP3 (Social innovations), WP4 (Food-related consumer behaviours), WP6 (Innovation Platform) and WP9 (Coordination and management).

Table 1 shows the general information of the 10 submitted manuscripts and their corresponding status. By the preparation of this document, 6 out of 10 manuscripts have already been accepted for publication in the IJFS Special Issue. The remaining 4 manuscripts are still under review.

WP	Article title	Contact author(s), organisation	Status
1	Exploring the obstacles to the development of Short Food Supply Chains: Empirical evidence from selected European countries	Lazar Živković, UOB Mirjana Pesic, UOB	Submitted
2	Application of digital solutions to improve the operation of Short Food Supply Chains	Viktória Parrag, CBHU Ágnes Fricz Szegedyné, CBHU András Sebök, CBHU	Submitted
2	Value propositions for improving the competitiveness of short food supply chains built on technological and non-technological innovations	András Sebok, CBHU Kinga Varsanyia, CBHU	Submitted
3	Understanding social innovation in short food supply chains: An exploratory analysis	Eugenia Petropoulou, UOC Theo Benos, UOC	Accepted
4	Barriers and facilitators of purchasing from short food supply chains in Europe: Insights from stakeholder perspective	Camille Aouinaït, WBF Danilo Christen, WBF	Accepted
4	Barriers and facilitators of purchasing from short food supply chains: Evidence from consumer focus groups in Germany, Spain, Greece and Hungary	Betty Chang, EUFIC Camila Massri, EUFIC	Accepted
6	An online innovation platform to promote collaboration and sustainability in short food supply chains	Foteini Chrysanthopoulou, IFA	Submitted
6	Gamification for sustainable food transitions: Supporting multi-level cooperation in short food supply chains through GAIN	Danika Moore, AMP Bob Massar, AMP	Accepted



9	SMARTCHAIN	Francisco Javier Casado	Accepted
	Towards Innovation - driven and smart	Hebrard, UHOH	
	solutions in short food supply chains	Dimitrios Argyropoulos,	
		UCD	
9	Motivations and barriers for engagement in Short Food Supply Chains: Insight from European focus groups	Camille Aouinait, WBF	Accepted

Table 1. General information and current status of the 10 submitted manuscripts to the SMARTCHAIN Special Issue.

Below more detailed information about the 10 submitted manuscripts can be found:

1) Exploring the obstacles to the development of Short Food Supply Chains: Empirical evidence from selected European countries

Authors: Lazar Živković (UOB), Mirjana Pesic (UOB), Hanna Schebesta (WUR), Viktor Nedovic (UOB)

Abstract: This paper explores the challenges in meeting the regulatory requirements of short food supply chains in 9 European countries based upon findings from the European H2020 3-year project "SMARTCHAIN". The assessments of the barriers that small food producers face in meeting different regulatory requirements are presented. Drawing on the results of 10 multi-actor workshops that involved 124 participants, the most problematic policy frameworks for short food supply chains and key obstacles in different regulatory requirements are summarized. This research shows that the current EU and national regulation is an obstacle to the development of short food supply chains meaning that additional efforts are needed to tailor the regulation to small food producers involved in short supply chains. Furthermore, it is necessary to consider the introduction of more effective support measures for short food supply chains.

Keywords: short food supply chain, obstacles, regulatory requirements, policy support, SMARTCHAIN, H2020

2) Application of digital solutions to improve the operation of Short Food Supply Chains

Authors: Viktória Parraga (CBHU), Ágnes Fricz Szegedynéa (CBHU), András Sebőka (CBHU)

Abstract: Short food supply chains (SFSCs) are today widely promoted due to the positive impact on social, economical and environmental sustainability, though the short chains face several specific challenges e.g. meeting the needs of consumers and in ensuring feasible operations. The application of innovative solutions and digitalisation can support the actors of SFSCs to achieve these goals.

Based on the innovativeness and applicability of SFSCs innovative methods, solutions and systems were collected and a systematic analysis of the needs of the SFSCs for technological and non-technological innovations was carried out. Based on the analysis, a recommendation has been prepared for the participating SFSCs regarding the potential innovations.

A significant proportion of the identified solutions have digital elements and has been assessed as applicable solution in the case of the studied SFSCs. The current work provides an overview about the potential implementation of the collected innovative solutions having digital elements and addresses the main needs and issues of FSFCs where the application is relevant. Highlighted areas of implementation are

Keywords: SFSCs, innovation, digitalisation, digital solution



3) Value propositions for improving the competitiveness of short food supply chains built on technological and non-technological innovations

Authors: András Sebok (CBHU), Kinga Varsanyia (CBHU), Katalin Kujani (KIS), Vilma Xhakolaric (UNIBO), Agnes Szegedyne Fricz (CBHU), Alessanda Castellini (UNIBO), Diana di Gioa (UNIBO), Francesca Gaggia (UNIBO), Maurizio Cannavari (UNIBO)

Abstract: There is growing consumer demand for the products and services of the short food supply chains (SFSCs) in recent times. A procedure was developed to identify the technological and non-technological innovations that can be used to improve the performance and competitiveness of the SFSCs. The needs of the SFSCs for innovative solutions were collected by interviewing 18 SFSCs from 9 countries. An inventory was prepared to contain 136 technological and non-technological innovations, meeting these needs. The innovations were collected from the good practices of the 18 SFSCs and state of the art. The success factors and bottlenecks, also the current value propositions of short food supply chains, were identified for the successful operation of each organization. By considering the bottlenecks, success factors, and the current value propositions of each short chain case study, further screening of the practical innovations, new, upgraded value propositions were proposed that provide added value for the consumers. The new, upgraded value propositions can serve as a starting point for developing a strategy for improving the competitiveness of a short food chain organization through the application of innovations.

Keywords: short food supply chain, value proposition, technological innovation, non-technological innovation, competitiveness, success factors

4) Understanding social innovation in short food supply chains: An exploratory analysis

Authors: Eugenia Petropoulou (UOC), Theo Benos (UOC), Irini Theodorakopoulou (UOC), Constantine Iliopoulos (AGRERI), Alessandra Castellini (UNIBO), Vilma Xhakollari (UNIBO), Maurizio Canavari (UNIBO), Annarita Antonelli (IAMB), Damiano Petruzzella (IAMB)

Abstract: Short food supply chains (SFSCs) are alternative food chains that have gained ground and contribute to the global food system's sustainable transition. To explore how to enhance their capacity to act and benefit society at large, we turned to scholarly and policy work on Social Innovation (SI). We concentrated on understanding what SI in SFSCs is and how it may stimulate their potential, following a two-phase approach. In Phase 1, employing a two-step systematic literature review, we generated a rich database of SI definitions, but no suitable definition was found. We proceeded to craft a domain-specific systems-centred definition, positing that SFSCs can be seen as social living systems, while SIs in SFSCs may be seen as processes that bring about change (e.g., new mentalities) and result in the creation of sustainable value for the actors involved and beyond. With the aid of an additional scholarly review, we also determined that the drivers of SI that matter are those that secure actor engagement in the co-design and co-development stages of SI (e.g., training). In Phase 2, we attempted to empirically validate the findings from Phase 1 in 12 Community of Practice (CoP) events in nine European countries. We found partial support for the SI definition, strong support for the vital role of trust, and concluded that, in any SFSC, it is critical to have a group of dedicated actors that have realized their role as (co-)leaders in co-shaping their own future.

Keywords: Short food supply chains; Social Innovation; Social living systems; Community of Practice; Actors' engagement; Trust



5) Barriers and facilitators of purchasing from short food supply chains in Europe: Insights from stakeholder perspective

Authors: Camille Aouinaït (WBF), Danilo Christen (WBF), Christoph Carlen (WBF), Camila Massri (EUFIC), Malou Reipurth (EUFIC), Sophie Hieke (EUFIC), Adrienn Hegyi (CBHU), Katalin Kujáni (KIS), Ágnes Major (KIS), Ágnes Szegedyné Fricz (CBHU), Verena Hüttl-Maack (UHOH), Dennis Gawlik (UHOH), Eugenia Petropoulou (UOC), Begoña Alfaro (AZTI), Elena Santa Cruz (AZTI), Marieke Lameris (NBC), Jasper Kuitems (NBC), Frank Janssen (NBC), Susanne Braun (UHOH), Betty Chang (EUFIC)

Abstract: Thirty-two expert stakeholder interviews were conducted to examine consumer attitudes, values and preferences in relation to short food supply chains. The interviewees represented the views of consumers, producers, and other actors who work with or within short food supply in seven European countries (Belgium, Germany, Greece, Hungary, the Netherlands, Spain and Switzerland, one EU region in Belgium and at the EU level).

Consumers were generally perceived to be aware of the environmental impact of food production. There were regional differences, with consumers in northern European countries tending to have a greater understanding of environmental and social issues tied to food production than their southern counterparts do. In terms of preferences, consumers would like to shop for local food the way they shop at the supermarket: having varied food products all in one place, available all year round, accessible, and not too expensive. The relative lack of convenience and high prices associated with short food supply chains products were seen as the major barriers to their purchase. Consumers were thought to buy the products because of health and environmental benefits, a desire to support their local community, and a preference for tradition. However, relatively few consumers purchase products regularly from SFSC. The main segments are people who believe in short food supply chains values, middle class families with young children and elderly people. More can be done to educate and engage consumers regarding short food supply chains, and market research is needed to inform which strategy is likely to be most effective in specific contexts such as the regional level.

Keywords: consumer awareness; consumer behaviour; environmental impact; short food chains; sustainable consumption; stakeholder interviews

6) Barriers and facilitators of purchasing from short food supply chains: Evidence from consumer focus groups in Germany, Spain, Greece and Hungary

Authors: Betty Chang (EUFIC), Camila Massri (EUFIC), Malou Reipurth (EUFIC), Eugenia Petropoulou (UOC), Verena Hüttl-Maack (UHOH), Dennis Gawlik (UHOH), Katalin Kujáni (KIS), Viktória Szente (KIS), Adrienn Hegyi (CBHU), Ágnes Szegedyné Fricz (CBHU), Elena Santa Cruz (AZTI), Theo Benos (UOC), Camille Aouinaït (WBF), Débora Campos (AZTI), Begoña Alfaro (AZTI), Frank Janssen (NBC), Irini Theodorakopoulou (UOC), Constantine Iliopoulos (UOC), Sophie Hieke (EUFIC)

Abstract: This study aimed to identify the barriers and facilitators of consumers purchasing from short food supply chains (SFSC). Eight focus groups were conducted with consumers in the rural and urban areas of Germany, Spain, Hungary and Greece. Participants generally felt that increasing the convenience of purchasing SFSC products (in terms of a proximal location and being able to purchase a wide range of produce in one place) was a prerequisite for them to buy such products. Food quality in terms of taste, freshness, and organic production were also taken into account in purchase decisions, and there appears to be a greater focus on health rather than the environmental implications of organic production, although the environmental aspects are also appreciated. Some participants also like the idea of supporting their local community through purchasing from local producers and/or retailers. It was believed that small-scale production and SFSC result in better quality food, but participants had less confidence in the hygiene and food safety standards of SFSC



compared to longer chains. Participants thought that consumers would purchase local food if they could more easily access a variety of local food in one place, such as through supermarkets, cooperatives, and farmers shops, markets, or an online platform that aggregates producers.

Keywords: consumer awareness; consumer attitudes; short food supply chains; local food; sustainable consumption; focus groups

7) An online innovation platform to promote collaboration and sustainability in short food supply chains

Authors: Foteini Chrysanthopoulou (IFA), Marieke Lameris (NBC), Gunter Greil (IFA), Dusan Vudragovic (IPB), Katherine Flynn (IFA)

Abstract: A sustainable Short Food Supply Chain (SFSC) requires collaboration among all actors, which nowadays is facilitated by information and communication technologies (ICT). However, not all SFSC stakeholders network with others in this way, and it is not clear what will draw them to ICT interaction. A simple, user-friendly website, the SMARTCHAIN Innovation Platform, evolving since March 2019, may facilitate interaction and cooperation among SFSC stakeholders. This article presents the Platform's development and evaluates its efficacy and impact by analysing data from Google Analytics (GA) and other sources. Primary Platform features promote communication and information sharing: these are the i) Innovation Hubs in 9 European countries, ii) Inventories including 150 SFSC innovations and 50 SFSC initiatives, iii) Resources databases of Publications and Weblinks and, iv) Training section. GA showed that visitors to the Platform increased slowly in the 16 months since its start, and the number of page views increased with the amount of time on the Platform. The most visited page of the Platform was the information-providing Innovation Inventory. Most Platform users were in partner countries of the SMARTCHAIN project, but not all Innovation Hubs had high numbers of users. Most users arrived at the Platform by direct link, but LinkedIn was the most important originating social network. Taken together, these data suggest growth potential for an easy-to-use website that provides useful and up-to-date information but little inclination for SFSC stakeholders to use an online Platform for communication.

Keywords: SMARTCHAIN, agri-food, innovation platform, short food supply chain, local food systems, sustainability

8) Gamification for sustainable food transitions: Supporting multi-level cooperation in short food supply chains through GAIN

Authors: Danika Moore (AMP), Bob Massar (AMP), Mark Frederiks (AMP), Remco Veltkamp (UU), Hens Runhaar (UU)

Abstract: The food system has become globalized and industrial. As a consequence, food travels long distances to reach consumers and its production is over-reliant on chemicals, leading to high levels of carbon emissions and soil degradation. Short food supply chains (SFSCs) have been advocated as more sustainable alternatives and have been explicitly mentioned by the Dutch government and the EU as viable strategy towards achieving sustainability goals. While SFSCs have proven successful on a small scale, scaling and mainstreaming them has proven difficult due to low margins, high costs, and steep learning curves. The inefficiencies are particularly glaring when compared to the highly efficient, albeit energy and resource intensive, commercial supply chains. In practice, SFSCs therefore remain isolated success stories failing to contribute to systemic change in food systems. Several frameworks have been proposed to better



conceptualize change in food systems, but many take still too narrow a lens, excluding certain actors or processes. This paper introduces the GAIN transition model, a novel framework based on gamification which seeks to provide a holistic and actionable framework for SFSC actors to coalesce and strategize around a common vision. We illustrate the underlying principles of GAIN and its potential for institutionalizing SFSCs. We find that thus far, GAIN has helped to catalyze action and has proven a useful tool which provides a common language for actors to navigate this complex space. Future research, and more dissemination are needed to conclude with more certainty on the real-world impact of GAIN in terms of enabling and strengthening SFSCs.

Keywords: short food supply chains, governance, multi-actor collaboration, the Netherlands, gamification

9) SMARTCHAIN Towards innovation - driven and smart solutions in short food supply chains

Authors: F° Javier Casado Hebrard (UHOH), Susanne Braun (UHOH), Dimitrios Argyropoulos (UCD)

Abstract: In recent times, Short Food Supply Chains (SFSCs), i.e., supply chains in which the number of intermediaries between farmer and consumer are minimal or ideally nil, and local markets have flourished in Europe, both in rural and urban areas. SMARTCHAIN is a 3-year Horizon 2020 multi-actor project of 43 partners from 11 European countries, including key stakeholders from the short food supply chain domain – a kaleidoscope of 'actors' where science meets a wide range of non-technical disciplines and stakeholders across the agri-food value chain. Its central objective is to develop a portfolio of technological, organisational, social and digital innovations, which will be validated in a Living Lab approach (18 pan-European use cases on short food supply chains) ensuring powerful co-creation and testing. SMARTCHAIN will develop 9 national Innovation Hubs and the SMARTCHAIN Innovation Platform, a digital portal for building a stakeholder community, and facilitating engagement, communication and knowledge exchange across stakeholders. This special issue focuses on the most recent developments with respect to innovation in short food supply chains and publishes original research articles in this field.

Keywords: Short food supply chains, food system, innovation, smart solutions, sustainability

10) Motivations and barriers for engagement in Short Food Supply Chains: Insights from European focus groups

Authors: Camille Aouinaït (WBF), Danilo Christen (WBF), Christoph Carlen (WBF), Louise Mehauden (IA), Patricia Mora (IA), Bob Massar (AMP), Mark Frederiks (AMP)

Abstract: A key task with SMARTCHAIN project is the analysis of positive and negative, internal and external driving forces that are acting on the development of short food supply chains (SFSC). Two focus groups with stakeholders of the agricultural sector and SFSC were conducted in the Netherlands and Switzerland, aiming at identifying motivations and barriers that stakeholders face regarding SFSC. A first fundamental topic addressed by participants was the one related to the definition of SFSC. Many consumers are confused about what is local, what is meant by direct, does local correspond to organic? It is far from consensual, "short" being often associated with local, direct, small, fair, ecological, etc. However, a series of positive and negative factors influencing SFSC development, and the involvement of agri-food stakeholders could be identified. Namely, the unique relationship built through direct contact between producers and consumers, the economic balance that producers can find in engaging in SFSC, the increasing number of SFSC initiatives, the farm resilience, and territorial strategies that are being developed seem to be the most positive aspects, that can explain the moving trends towards these types of distribution channel.



On another hand, many internal and external hindering factors were also identified, such as a weak communication and marketing capacity of producers, a lack of efficiency and cooperation between peers. The fierce competition of conventional distribution, using green washing, together with a profusion of labels, price issues, and unsuitable standards were mentioned as the main threats faced by SFSC actors.

Keywords: collaboration, communication, focus groups, local food, mass market competition, sustainability

As soon as the manuscripts under review are accepted and the SMARTCHAIN Special Issue is openly published in the IJFS, the 10 articles will also be uploaded to the "Publications" section on the SMARTCHAIN Innovation Platform (https://www.smartchain-platform.eu/en/resources/publications). It is important to highlight that, after the official end of the SMARTCHAIN project (31.08.2021), the SMARTCHAIN Innovation Platform (https://www.smartchain-platform.eu/) will remain accessible thanks to the decision of 5 new H2020 projects (CO-FRESH, FAIRCHAIN, PLOUTOS, LOWINFOOD and FOODRUS) to keep using and updating it with their own innovations, results and findings in the coming years, ensuring the sustainability of the SMARTCHAIN legacy.



Figure 1. Logos of the 5 H2020 projects (RUR-06-2020 & RUR-07-2020) which will ensure the sustainability of the SMARTCHAIN Innovation Platform.



3. Additional peer-review publications

For different reasons, WP5 (Integrative sustainability assessment) and WP7 (Business and policy recommendations) were not able to contribute to the future IJFS Special Issue. In the case of WP5, it was impossible due to a delay in the data collection from the case studies as a consequence of the COVID pandemic. For WP7, the main results and findings of this specific WP were expected by the end of the project and, for that reason, it was no possible to have them ready for the Special Issue. However, WP5 and WP7 leaders agreed to publish their research and findings after the official end of the project in selected leading open-access journals.

An additional SMARTCHAIN peer-review publication has been written by UNIBO. Its detailed information can be found below. UNIBO has recently paid the Gold Open Access fees to the Journal of Cleaner Production, so this article will be openly available pretty soon.

Exploring the economic, social, and environmental dimensions of community-supported agriculture in Italy

Authors: Marco Medici (UNIBO), Maurizio Canavari (UNIBO), Alessandra Castellini (UNIBO)

Journal: Journal of Cleaner Production, Volume 316, 2021, 128233,

ISSN 0959-6526,

https://doi.org/10.1016/j.jclepro.2021.128233

Abstract: The diffusion of community supported agriculture (CSA) in Italy is a very recent phenomenon. The purpose of this paper is to investigate the current status and the evolution of this reality, understanding the social, environmental, and economic benefits for CSA members and the local context. Based on access to CSA data and participant observation during a CSA meeting, a thematic network analysis was adopted to analyse a large piece of information spanning from social, economic, and environmental topics as well as existing relationships between different CSA. Later, we interviewed CSA representatives about CSA production structure and several issues concerning their sustainability, including the role played by CSA members; the economic self-sufficiency; the environmental impact associated with food production. Findings highlighted that in general, the CSA phenomenon in Italy meets sustainability goals, even with different levels of members' involvement, working conditions, economic viability, and environmental impact from a community to one another, with desirable further improvements along all dimensions for most of them. Social transformations in which consumers take the role of producers and consumers at the same time with increased responsibility have been observed. In this context, the members' degree of responsibility contributes to distinguishing CSA in its full sense from CSA initiatives somehow started as ethical purchasing groups, with lower levels of commitment by members, then trying to trigger a higher involvement. The lack of policy support is containing further CSA diffusion and consolidation: new mechanisms are necessary at least to figure out, recognise, and reward the mitigation of environmental impacts characterising local food production and distribution.

Keywords: Sustainable agriculture, Civic agriculture, Urban agriculture, Alternative food network, Short food supply chains

As soon as this publication is openly published in the Journal of Cleaner Production, it will also be uploaded to the "Publications" section on the SMARTCHAIN Innovation Platform (https://www.smartchain-platform.eu/en/resources/publications).