

Best practice guide for the implementation of innovative solutions in SFCs



MEMBER OF
BASQUE RESEARCH
& TECHNOLOGY ALLIANCE



This project has received funding
from the European Union's Horizon 2020
research and innovation programme
under grant agreement No. 773785

Index

3	List of authors	16	3.2 Step 2: Know your surroundings and your clients
5	Background and objective of the guide	18	3.3 Step 3: Identify your bottlenecks and success factors
6	1. Innovation in short food supply chain initiatives	22	3.4 Step 4: Seek and identify innovative solutions
	1.1 What is innovation in short food supply context?	24	3.5 Step 5: Selection of the innovative solution based on cost-benefit analysis
7	1.2 Classification of innovations	27	3.6 Step 6: Implement the innovative solution and go to market
8	1.3 General characteristics of a successful innovation	33	4. Examples of best practices of innovation
10	2. General best practices for implementing innovation	40	Appendix A: List of suggested questions to prepare the business model canvas
13	3. Best practices guide: a step-by-step path to innovation	45	Appendix B: List of suggested questions for knowing the SFSC's surroundings: market characteristics, competitors and customers
15	3.1 Step 1: Know your SFSC initiative		

List of authors

Coordinator Author

Eduardo Puértolas (epuertolas@azti.es), AZTI, Spain

Working team

Nombre	Email	Company	Country
Agnes Szegedyné Fricz	a.fricz@campdenkht.com	Campden BRI Hungary	Hungary
Alberto González	agonzalez@azti.es	AZTI	Spain
Alice Petrini	alice.petrini@unito.it	University of Torino	Italy
András Sebők	a.sebok@campdenkht.com	Campden BRI Hungary	Hungary
Annarita Antonelli	a.antonelli@iamb.it	Mediterranean Agronomic Institute of Bari	Italy
Annette Sutter	a.sutter@organic-services.com	Organic Services	Germany
Gerald Herrmann	g.herrmann@organic-services.com	Organic Services	Germany
Izaskun Pérez	iperez@azti.es	AZTI	Spain
Kinga Varsanyi	k.varsanyi@cmpdenkht.com	Campden BRI Hungary	Hungary
Lazar Zivkovic	zivkoviclaza@yahoo.com	University of Belgrade	Serbia
Mirjana Pesic	mpesic@agrif.bg.ac.rs	University of Belgrade	Serbia
Nina Kuljian	n.kuljian@organic-services.com	Organic Services	Germany
Raquel Rodríguez	rrodriguez@azti.es	AZTI	Spain
Silvana Nicola	silvana.nicola@unito.it	University of Torino	Italy
Victor Nedovic	vnedovic@agrif.bg.ac.rs	University of Belgrade	Serbia
Xabier Murgui	xmurgui@azti.es	AZTI	Spain

Reviewing team

Nombre	Email	Company	Country
Agnes Major	drmajor@drmajor.hu	KIS	Hungary
Betty Chang	betty.chang@eufic.org	EUFIC	Belgium
Bob Massar	bob@amped.nl	AMPED	The Netherlands
Caspar Winkelmeyer	caspar.winkelmeyer@uni-hohenheim.de	University of Hohenheim	Germany
Eugenia Petropoulou	petrope@uoc.gr	University of Crete	Greece
Foteini Chrysanthopoulou	foteini@iseki-food.net	ISEKI	Austria
Javier Casado	fjavier.casado@uni-hohenheim.de	University of Hohenheim	Germany
Kujáni Katalin	kujanikatalin@gmail.com	KIS	Hungary
Theo Benos	theo.benos@hotmail.com	University of Crete	Greece

Background and objective of the guide

In recent centuries, the agri-food system has been strongly driven by the paradigm of globalisation. It has accordingly evolved from a production and trade system primarily based on almost disconnected local economies to an interconnected and integrated global trade system. In an increasingly specialised and complex world, intermediaries, large corporations, and above all long food supply chains play a lead role. Indeed, today most of the EU population buys food from large supermarket chains. This has led not only to a loss of the connection between consumers and primary producers (consumers cannot track the food to a recognised producer or area) but also to concerns about transparency, environmental policy, workers' rights, rural development and food ethics, among others.

In the last two decades, alternative food supply initiatives and networks have blossomed across Europe and North America. Such initiatives (i.e., farmers' markets, farm shops, community supported agriculture, online shops) meant to reconnect producers and consumers have been labelled '**short food supply chains**' (SFSCs). Often operating in urban and peri-urban settings, SFSCs respond to an increasing desire of urban consumers to access secure, high-quality and sustainable food, and to producers' need to capture a higher percentage of the added value. SFSCs may act as a driver of change and a model to increase transparency, trust, equity, and growth throughout the agri-food chain.

“Short food supply chains (SFSCs) are co-operative systems that include very few intermediaries, increasing sustainability, transparency, social relations and fairer prices for farmers and consumers. Such supply chains usually involve local producers working together to promote local food which, in many cases, only travels a short distance, so farmers and consumers can communicate with each other.”

Despite their continuous development and the support of governments and authorities (from European to local level), SFSCs have faced difficulties that prevent or limit their success and progress. Some of these challenges can be resolved by applying **innovative solutions** already on the market, which could be tailored to meet the SFSCs' scale. However, small farmers and producers associated to SFSCs often do not have the resources (money, time, personal and knowledge) to find, apply, and adapt such innovations and, finally, to resolve those problems by themselves. Closing these gaps would actively contribute to transforming the SFSC into a concrete and sustainable alternative to the globalised food system.

In this context, the EU project **SMARTCHAIN** (<https://www.smartchain-h2020.eu/>) was launched in 2018 involving 43 partners from 9 EU and 2 associated countries, including key stakeholders from the realm

of SFSCs as actors in the project. The aim of this collaborative and multi-actor project is to foster and accelerate the shift towards collaborative SFSCs and, through specific actions and recommendations, to introduce innovative practical solutions that enhance the competitiveness and sustainability of the European agri-food system. One of these specific actions is the current document, a best **practice guide to help small farmers and producers involved in SFSCs to implement innovative solutions.**

Primarily based on SMARTCHAIN findings, this guide presents relevant information, **successful cases of the innovation implementation in SFSCs, a specific set of recommendations and a methodology to facilitate not only the identification of problems and needs but also the search for and application of innovative solutions.** To carry out this work, a team of 17 experts from 6 European institutions (AZTI, Campden BRI Hungary, the Mediterranean Agronomic Institute of Bari, Organic Services, the University of Belgrade and the University of Torino) from Germany, Hungary, Italy, Serbia and Spain were involved. Furthermore, based on the SMARTCHAIN's multi-actor approach, 9 experts from AMPED, EUFIC, KIS, ISEKI, the University of Hohenheim and the University of Crete (Austria, Belgium, Germany, Greece, Hungary, and The Netherlands) revised this guide.

1. Innovation in short food supply chain initiatives

1.1 What is innovation in the short food supply context?

Innovation in SFSCs can be defined as the **process** by which a **change** is induced in current procedures, resulting in **improved performance** that provides a **better 'value for money'** and a **sustained competitive advantage**. In this context, **process** is a very general concept that includes actions of different nature, such as to implement new technology, develop a new food product, use knowledge, use effective management, etc.

Innovation can happen at **any point in the value chain and in any part of the business**: production, processing, food packaging, food safety and food quality, logistics, marketing, etc.

Innovation can **improve the performance of SFSCs by eliminating/reducing their typical bottlenecks and enhancing exploitation of their typical success factors**.

The competitive advantage of an innovative initiative may be due to:

- **reduced costs** (economies of scale, longer shelf life, economic benefits resulting from increased product margin, lower transaction costs and fair prices, less distribution cost, etc);
- **product differentiation**, with gains acknowledged by purchasers due to its unique quality (high quality, local, non-manipulated/adulterated, sustainable, fresh and natural, animal welfare, etc);
- **service differentiation** based on the accessibility of products from SFSCs for consumers (geographic proximity, diverse selling points, home deliveries, greater product diversity, etc); on skills and knowledge (a potential place to learn about food production and about nature, place to educate children through play, etc); on social connection; and on trust (environmental sustainability, directly from growers, transparency, unique products, support for producers, consumer participation, etc).

1.2 Classification of innovations

According to SMARTCHAIN approach, the innovations in SFSCs may be classified as **technological, non-technological and social** (Figure 1).

Technological innovations are primarily driven by a technological invention or improvement and comprise new products (goods and services) and processes and significant technological changes of products (considerably improved) and processes. An innovation

has been implemented if it has been introduced in the market (product innovation) (OECD).

Many innovations are of a **non-technological** nature, for example in areas such as marketing, organisation management and design. Those not primarily driven by a technological invention or improvement are hence referred to as non-technological innovations. The term is not unproblematic, since a technology (for example information and communication technology) is used as an enabler to support most of today's innovations,

even when technology is not the focus or driver of the innovation (European Commission).

Social innovations are processes that change SFSC systems by changing the relationships, perspectives, and ways of thinking and acting of the actors involved, leading to the achievement of primarily social goals that benefit all (of the SFSC actors). Social innovations bring about change (new relationships, new mentalities).

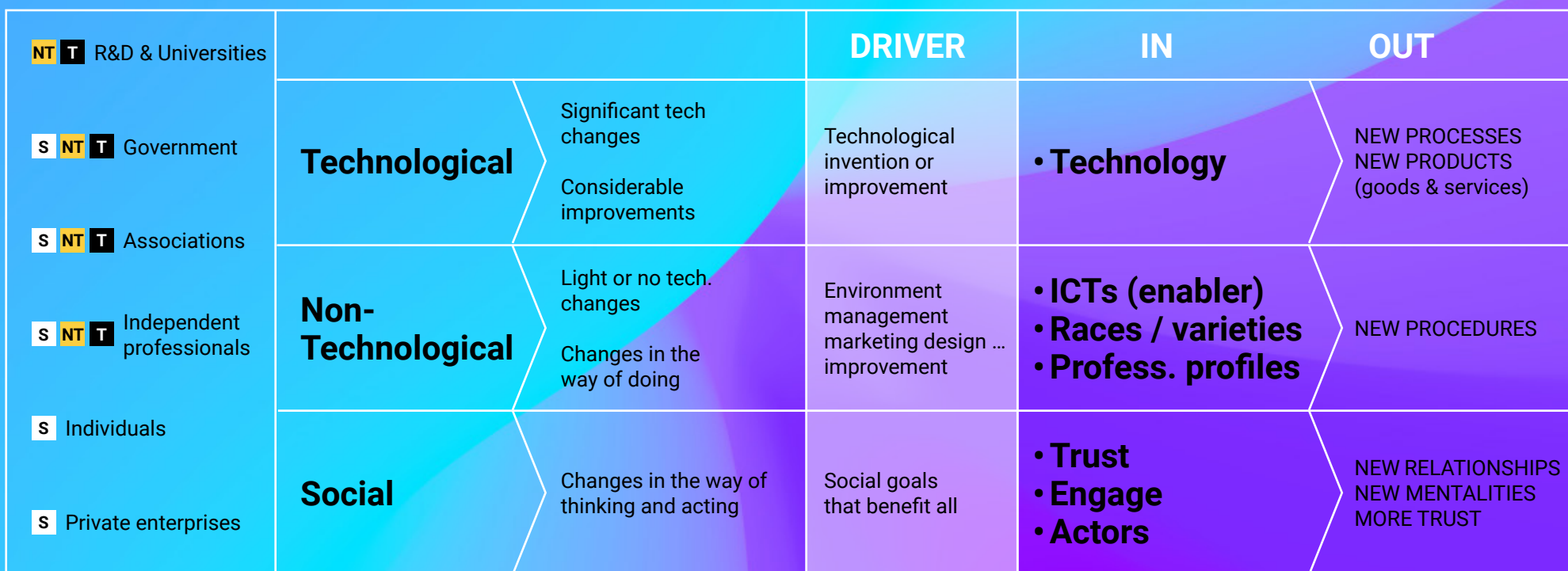


Figure 1. Diagram of the different kinds of SFSC innovations according to the SMARTCHAIN concept

1.3 General characteristics of a successful innovation

Based on SMARTCHAIN results, a list of **6 general characteristics of successful innovation in SFSCs** was established (Figure 2). These characteristics are average and all of them are not present in all the successful innovations. Examples of positive and profitable innovation can therefore be found outside of them.

The involvement of stakeholders is essential for innovation to be successfully implemented and sustainable. In average, **at least 2 stakeholders** were involved in the studied innovations of SMARTCHAIN. Stakeholder cooperation facilitates innovation in SFSCs in at least two ways: it reduces the costs of implementing innovations that promote value creation in the supply chain, and it provides relevant know-how for the implementation.

An innovation is not necessarily be associated to a high cost and an entirely new idea. **Innovative actions can have a relatively low cost and be new just for the organisation that implement them.** Indeed, a large part of the innovations in SFSCs derive from the **inclusion of innovations successfully implemented in other fields or other geographical areas.** An example of this is the rapid development of digital technologies, widely used businesses with a more complex organisational structure and in technological applications; they provide a range of new enabling functions and solutions which can be adapted to SFSCs. According to the SMARTCHAIN results, more than 90% of innovations in SFSCs are used by others in other countries or in other regions (of the home country).

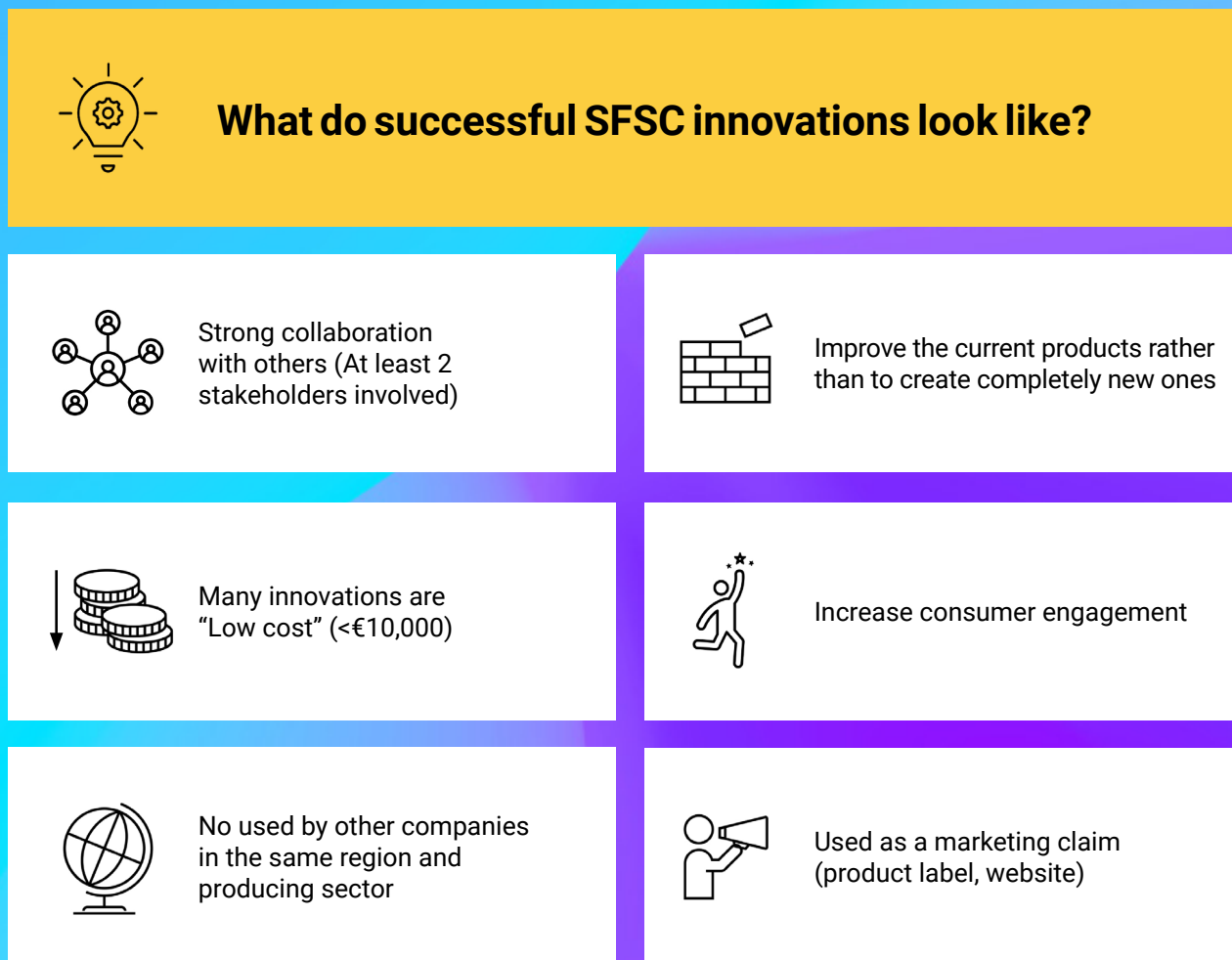


Figure 2. General characteristics of a successful innovation in SFSC.

Innovation sometimes consists of refining or improving processes or products (incremental innovation); sometimes the change is major, disruptive, and may completely reshape or redefine the way something is done (radical innovation). Incremental innovations tend to be dismissed and much greater value is put on (potentially) breakthrough innovations. However, innovations that may not be technologically significant enough to attract global attention can still be very important from an economic standpoint. Indeed, according to SMARTCHAIN, two thirds of the innovations applied in SFSCs are incremental.

As explored in SMARTCHAIN, consumers generally have little understanding of SFSCs. In some countries, SFSCs have significant problems connecting with consumers. As in any business, the way to long-term sustainability is finding the right customers who value the product and are willing to pay. Thus, a relevant number of the innovations studied in SMARTCHAIN improve **consumer engagement**, for example, by facilitating purchases, improving the connection with them, promoting social events or involving them in the production process. Consumer-related innovations are commonly associated to successful SFSC initiatives: **in successful SFSCs, consumers are often at the heart of the business.**

Finally, innovation applied successfully is commonly used as a **marketing claim** by the organisation. This means that SFSC initiatives use the applied innovation as a marketing tool: highlighting it on the label and/or on the website, using it as a key part of the respective value proposition and employing it as a sales argument when talking with restaurants, specialty retailers or catering services.

2. General best practices for implementing innovation

Based on the analysis of the 6 most important characteristics of the successful innovations, **6 general recommendations/tips/best practices were identified for implementing innovation in SFSCs:** (1) collaboration is key; (2) 'low-cost' innovation can make the difference; (3) seek innovations that work in other regions, countries or sectors; (4) select innovations that really add value to your product or service; (5) think of consumers; and (6) take advantage of innovation for marketing (Figure 3).

Collaboration is key. Stakeholders are commonly involved in the innovative solutions successfully applied in SFSCs. SFSC initiatives are characterised by a low number of employees and low human, technical and economic resources. If an SFSC initiative aims to resolve any problem or improve performance through innovation, a clear recommendation is to contact the stakeholders that have the required knowledge/experience/resource that is not present in the organisation. The process is easier when the SFSC initiative has built up a multidisciplinary network of contacts since it was established.

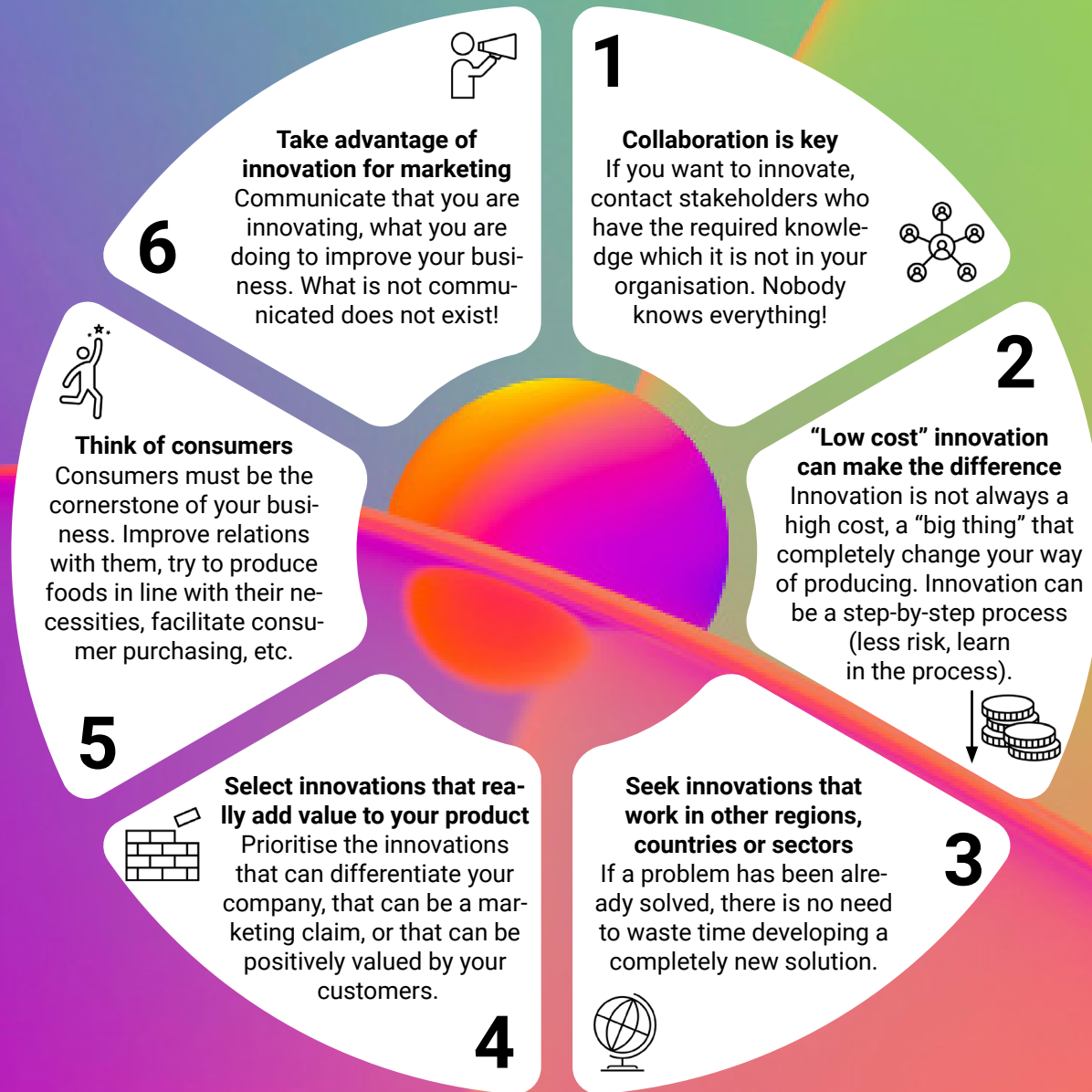
Sometimes **innovations with 'low cost' can make the difference.** SFSC practitioners commonly associate innovation with a ground-breaking and 'high-cost' solution. However, innovation is not always related to such a solution: the problem can sometimes be easily resolved by applying a simple innovation with a relative low cost. Furthermore, considering the commonly low financial resources of SFSC initiatives, the application of a high-cost innovation can be very difficult. It may completely revolutionise the way of producing or selling and provide a clear competitive advantage, but the risk of failure can be very high. Thus, in the SFSC context it is usually better to move the focus to 'low-cost' innovation, resolving problems and improving prod-

ucts and services step by step. It is less risky and the SFSC practitioners can learn during the process: **innovation must be considered as a continuous process.**

Seek innovations that work in organisations from other regions, countries or sectors. If a problem has already been resolved there is no need to waste time developing a completely new solution. There are problems that are common to the companies from other sectors, regions or countries. Investigating how they deal with these common problems can be a good and quick way to find an innovative solution or obtain inspiration. Of course, if the applied solution is industrially protected by a patent or a similar method, it is first necessary to contact the owner to apply for a use permit or patent licence. Related to the first recommendation (collaboration is key), a good network of contacts from different regions of the country, or even from other countries, can be a catalyst to accelerate the process.

Prioritise innovations that really add value to your products and services, innovations than can differentiate your company from your competitors. Independently of production sector, a company always has different problems or points for improvement, which can be resolved by different innovative solutions. Sometimes, those problems/points of improvement may be associated to organisational or internal topics not directly linked to food quality or how sales are made. Due to the SFSCs' low resources, it is recommended that priority be given to the application of innovations which can be directly associated to improvements in food quality, sales price, value proposition and the relationship with consumers and/or which can be positively valued by customers. They can clearly differentiate the organisation from the competition.

6 Tips for Innovation



Think of the consumers. Consumers are often neglected by small food companies. SFSC farmers and producers are normally centred on what they are experts in: to produce the best possible products in the best possible way. Thus, they normally think of innovation in terms of reducing production costs or improving food quality. However, as in all types of business, the customers, the consumers, must be the cornerstone. There are numerous examples of companies that produced the best products in their respective sectors but fell into crisis or even disappeared because they neglected the consumer relationship and marketing. A successful company pays attention to the consumers of its products and listens to them. Thus, a good recommendation for SFSC initiatives is to invest in innovations that improve the relationship with their consumers, enable the production of foods that are truly aligned with their necessities and facilitate consumer purchasing. **The closer the relationship with consumers, the easier it will be for them to value your products** over those of your competitors (even if they are more expensive) and **the easier it will be for them to become regular buyers** (an essential factor).

Figure 3. The 6 best practices for implementing innovation, according to the analysis made in SMARTCHAIN.

Take advantage of innovation for marketing. It is recommended that innovation be used as a marketing claim: it should be a crucial topic in the communication strategy of the SFSC initiative. In the 21st century, consumers have more shopping options than ever before, so it is essential to engage them using all available tools. **What is not communicated does not exist.** If a company does not communicate its innovations, how will the customer be able to value them? We live in an era in which the internet and social media have revolutionised social and business communication. Communicating and connecting with consumers has never been easier. A good recommendation is to communicate through the company website and social media that an innovation has been implemented, trying to indicate how it can be useful/interesting for consumers (new sales channel, new way of connecting with them, new format, new recipe, new packaging, increase shelf life, etc) and how it differentiates the company from the competition (the only company that applies it in the region, the first company that sells its products in the region through this sales channel, etc). Furthermore, **the products' packaging and labelling can also be used for communicating and marketing:** the key innovative features should also be highlighted here.

3. Best practices guide: a step-by-step path to innovation

A methodology based on a **step-by-step path has been created to innovate in SFSCs.**

The idea of this methodology is **to guide and help the internal work that should be done by the farmer or small producer on the road to innovation.** It basically consists of 6 steps:

- 1) Know your SFSC initiative;
- 2) Know your surroundings and your clients;
- 3) Identify your bottlenecks and success factors;
- 4) Seek and identify innovative solutions;
- 5) Select the innovative solution based on cost-benefit analysis;
- 6) Implement the innovative solution and go to market.

Each step usually groups a set of questions (to be answered by the SFSC practitioner) and recommendations for taking each step (and preparing for the next ones) in the best way possible. These sets of questions and recommendations aim to cover and highlight the most important **regional/local effects**, especially those associated to economic, environmental, legal-governance and socio-cultural indicators, and **the role of the different stakeholders** of the value chain.

Innovation is always associated to a non-negligible risk of error, especially in the long term. Following the SMARTCHAIN step-by-step path will not assure that the innovation will be 100% successful in the short and

long terms, though it will **increase the probability of fruitful innovation**, assuring that it is aligned with the problems, needs, markets, regional/local environment and business model of each SFSC practitioner.

Based on the experience of the SMARTCHAIN partners, **the following general points and recommendations should be considered before starting on the path of innovation:**

- **The more information, the better.** It is recommendable to collect as much business information as possible before starting on the path, especially for steps 1 and 2. SFSC initiatives that have, among others, a sales register, clear business model and mechanism to obtain feedback from customers will find the process easier;

- **The more people involved in the process, the better.** It is recommendable that everyone involved in the SFSC initiative participate in the process, or at least one representative from each company department or field of knowledge (marketing, farming, post-harvest processing, administrative, etc). This is especially important in steps 1, 2, 3 and 4. When possible, **also invite key stakeholders** (taking precautions with respect to confidential data);

- **Several sessions are required.** Due to the complexity of the work, it is impossible to do it properly in one day. From a general perspective, probably at least one or two sessions (around 3-6 hours in total) are needed to complete steps 1 to 3. Steps 4 to 6 require

more work and, consequently, more sessions. The sessions required as well as the timeline may vary, depending on the difficulty of the problems/needs found in the step 3 and the previous experience of the SFSC initiative, among others (the existence of a solid business model, previous experience implementing innovations, marketing knowledge/skills, etc);

- **Use an innovation canvas.** To facilitate conceptualisation and follow-up of the proposed step-by step process, the use of canvas concept (Figure 4) is recommended. This is even more relevant in steps 1 to 4 or when many people are involved in the analysis. The best way is to prepare large sheets of paper for each step, hang them on a wall at the SFSC facilities and then fill them in during the different sessions, using markers, pens or post-its. Of course, a software solution (presentation program, graphic design software, etc) could be used for this purpose;

- **Use a facilitator or moderator.** This person will be responsible for preparing all things required to do the work, organizing the sessions with all the people involved, explaining the work to be done and collecting the results. It could be an SFSC initiative worker who uses this guide as an instruction booklet. In any case, the presence of an **external facilitator** with previous experience in business, marketing and innovation could speed up the work a great deal. That person could be an expert from local government, technology-research centres or farmers associations.



Figure 4. Innovation canvas proposed for the step-by-step path to innovation of SMARTCHAIN.

3.1 Step 1: Know your SFSC initiative

The first step on the road to innovation is to know what **the business model of the SFSC initiative** looks like.

In certain cases, due to their limited resources, farmers or small producers are not clear about their business model or about all the properties/features of their products and services. This situation happens mainly with SFSC practitioners (1) who have always sold their products to the same few intermediaries and are starting with SFSCs, (2) who have sold products only via traditional short channels (farmers' markets, on-farm sales, etc) as a complement to the main business (sale to an intermediary) and (3) who do not have appropriate business or marketing skills/resources. Conversely, the largest SFSC initiatives with a good level of professionalism and enough resources to have a marketing department or a management department, could easily complete this step.

The regional effect could play an indirect role in the difficulty/ease of completing this step, since it is related to the level of business skills. The large professional SFSC initiatives located close to crowded towns and cities in industrialised regions of Europe are probably very familiar with their respective business models and do not need to put a lot of effort into this step. However, it may not be as obvious for a small farmer in a mainly rural region who sells some of the respective farm production to friends and neighbours and wants to innovate in SFSCs to improve competitiveness. The following proposed guidelines thus basically apply to this type of small SFSC producers.

First, it is suggested that the business model be prepared using the **canvas model** of Osterwalder and Pigneur, because it is a very adaptable and easy-to-follow methodology. From a general standpoint, the business canvas model consists of filling in the information and data needed for 9 different blocks: (1) value proposition, (2) customer segments, (3) customer relationships, (4) channels, (5) key partners, (6) key activities, (7) key resources, (8) cost structure and (9) revenue streams. To obtain more information about the canvas business model in the SFSC context, the SMARTCHAIN "**Best practice guide for improved business performance in SFSCs**" can be consulted.

To collect the key data and information needed, and facilitate the internal reflection process that the SFSC initiative must undertake, **a list of more than 100 questions** has been grouped in 8 sets (see Appendix A):

- 1) **Description of the products and services (value proposition);**
- 2) **Customers segments;**
- 3) **Sales channels;**
- 4) **Customer relationship and communication;**
- 5) **Description of the key partners;**
- 6) **Description of the key resources and activities;**
- 7) **Finance and revenue streams;**
- 8) **Cost structure.**



These questions consider, among others, regional/local, economic, environmental, legal-governance and socio-cultural factors associated to the business and the stakeholders of the SFSC initiative. This list was designed as a starting point. Thus, depending on the specificities of the SFSC initiative, the list may be complemented with more questions and/or the questions may be modified.

To answer some of the questions, it is vital to **know exactly how much and when each product/service is provided and sold during the year**. For that purpose, a production and sales register (account ledger) must be kept.

Furthermore, if there is no **specific data about the composition of the SFSC products**, it is advisable to contract a service of a private laboratory, university or technological centre that can compile it. Depending on product type, value proposition and market competition, it is crucial to quantify the possible pros and cons of the products with respect to the competition.

3.2 Step 2: Know your surroundings and your clients

The second step in this innovation process comprises **the scouting and knowledge of the business surroundings, including the market, competitors, and customers** (consumers, restaurants, caterings services, specialty retailers, etc) of the offered products or services.

This research about the company's surroundings is essential to understand **market opportunity**, determine the **customers' perception of the business**, identify the **company's strengths and weaknesses** and deter-

mine the **respective needs and problems**.

For example, an SFSC initiative may have more than 30 years of experience and a solid business model based on a good product with a PDO (certified quality), yet the competition may be implementing a better marketing strategy and producing cheaper, with similar quality. The current market niche for the SFSC initiative may be so small that the stability of the company is at risk in the medium/long term. The same thing could hap-

pen if the consumer perceives the SFSC initiative negatively because, for example, it cares less about the environment than the competition or pays its workers less, even though the price of its products is higher. In addition, **the characteristics of the market, competitors and customers may limit the possible innovations to be implemented or reduce their likelihood of success**. For example, an SFSC initiative may want to open an online shop due to the global increase in online sales during the SARS-CoV-2 pandemic; but its



top competitor may currently have one that is excellent and already has a loyal following.

A good starting point for this analysis could be to answer questions like the ones presented in Appendix B (some resemble the ones answered in step 1, customer segments). To answer many of these questions and obtain the highest possible quantity and quality of responses, at the very least **market and consumer research is required, and to have a method for obtaining consumer feedback**. If the SFSC initiative does not have the knowledge and skills for that purpose, they can be subcontracted or supported by private marketing companies, technological centres or universities. Of course, undertaking or subcontracting them may be difficult for small SFSC initiatives with low personal and financial resources. In any case, some **general recommendations** can be provided to try to obtain the necessary data and information:

- **Contact and join sectorial associations at national and/or regional level.** They normally conduct their own market/consumer research and consumer surveys and/or prepare annual reports on the market for a specific product (dairy foods, juices, organic food, etc). They may thus be a good source of data to learn the general characteristics of the market;

- **Check public statistics and reports about food consumption and prices.** Eurostat publishes data and reports at European and EU country level¹. Furthermore, national and regional governments usually conduct annual consumption surveys which provide useful data. For example, the Spanish government annually publishes comprehensive data about the consumption of different foods on its website²;

- **Consult the reports of the European Consumer Association³.** The website of this association contains specific reports about different topics and trends in the Food Sector;

- **Use Answer the Public or Google Trends⁴.** These websites provide information about what people are querying in Google. A limited number of consultations can be made each day.

- **Use Google Analytics⁵.** This tool can be used to **analyse data traffic of your website**, enabling users to be better informed about their customers. Google Analytics provides you with information to get to know your users and to learn how they interact with your website, with your content, sections or products. There are also other similar tools, both free and paid;

- **Establish a method for receiving customer feedback (suggestions, needs and complaints).** Although the cost of this is relatively low, the information obtained may be very important. Select one or several ways (contact email, WhatsApp group, online questionnaire in your website, telephone, etc). This can be highlighted in your website and in the label of your products. Of course, a record should be kept of all of them so they can be analysed individually and as a whole. Different free or paid tools, like SurveyMonkey⁶ can be used to help make online questionnaires;

- **Facilitate and encourage consumer feedback on your products.** You may be able to award discount vouchers to people who provide you with feedback about your website or respond to a short questionnaire.

1 EUROSTAT (<https://ec.europa.eu/eurostat/web/main/home>)

2 Statistics about food consumption in Spain, published by the Ministry of Agriculture, Fisheries and Food of the Spanish Government (<https://www.mapa.gob.es/es/estadistica/temas/estadisticas-alimentacion/consumo-alimentario/>)

3 European Consumer association (<https://www.beuc.eu/publication/position-papers>)

4 Answer the Public (<https://answerthepublic.com/>) Google Trends (<https://trends.google.com/trends>)

5 Google Analytics (<https://analytics.google.com>)

6 Survey Monkey (<https://surveymonkey.com>)

3.3 Step 3: Identify your bottlenecks and success factors

In this step, an internal exercise must be done by the SFSC initiative to **find all the bottlenecks (problems, needs) and the success factors (competitive advantages) which can be resolved or exploited by innovation**. After that, **they must be prioritised** to decide which one/s will be addressed in the next step. To do this work, it is suggested that the following consecutive phases be conducted:

- 1) **Evaluate the competitive position of the SFSC initiative**, based on step 1 and 2 results;
- 2) Based on that evaluation, **identify the bottlenecks and success factors**;
- 3) **Prioritise and select the most important bottlenecks and success factors to be addressed**.

EVALUATE THE COMPETITIVE POSITION OF THE SFSC INITIATIVE

In steps 1 and 2, different questions are provided for knowing and understanding the business model, the market, the customer segments and the competitors of the SFSC initiative. To evaluate the competitive position of the SFSC initiative, it is necessary to **analyse all the collected responses and unanswered questions** (a lack of information or omission can lead to conclusions that are sometimes more important than the information collected). This analysis can be conducted for the identification of 4 kinds of competitive factors: strengths, weaknesses, opportunities and threats. This analysis is commonly named **SWOT** (Figure 5) and is widely used in the business context.

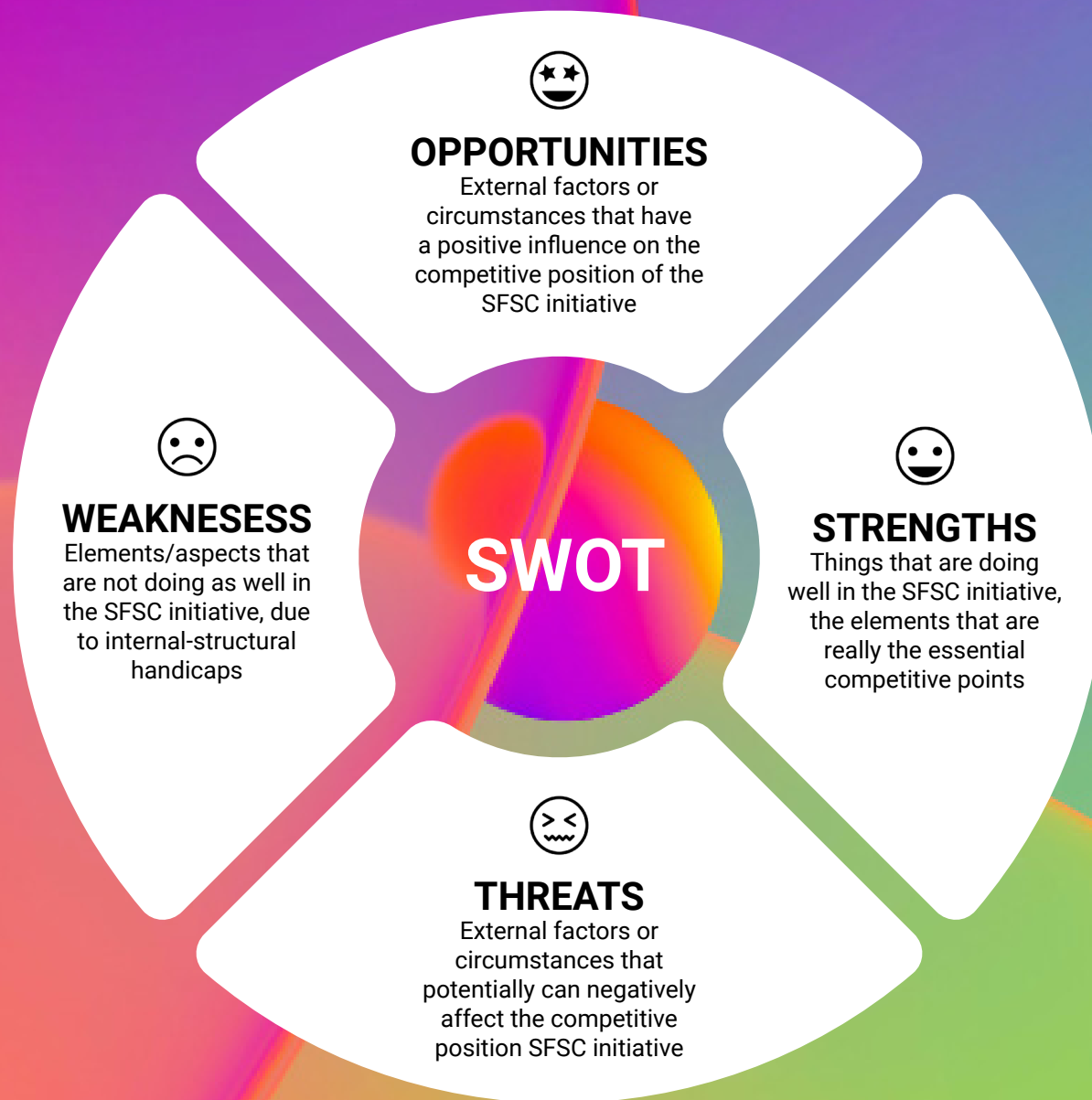


Figure 5. General scheme of the SOWT analysis (strengths, weaknesses, opportunities, and threats) to be done for analysing the competitive position of a SFSC initiative.

Strengths are the internal things that are carried out well in the SFSC initiative, the elements that are really the essential competitive points (a strong marketing plan, large benefits, a fully equipped production plant, the use of a certified quality label, the best-known producer of the specific food in the region, highly loyal customers, a very well-known brand, entire production sold without difficulty, etc).

Weaknesses are the elements/areas that are not carried out well in the SFSC initiative, due to internal/structural handicaps (lack of knowledge, no resources, small production, production seasonality, short product shelf life, etc). These elements/areas need to be improved or resolved to optimise the business and improve the competitive position (debts, no marketing, cannot sell all production, high production costs, lack of consumer engagement, no market data, microbiological problems, etc).

Opportunities are external factors or circumstances that have a positive influence on the competitive position of the SFSC initiative (a consumption trend, increase in local shopping due to the SARS-CoV-2 pandemic, increased population, lower taxes, government subsidies for the sector, competitor closure, etc). They can be current or in the short-, medium- or long-term future.

Threats are external factors or circumstances that can potentially negatively affect the competitive position SFSC initiative (temperature increase due to climate change, an economic crisis, new legal restrictions in a couple of years associated to the use of fertilisers, the presence of a new competitor in the region, higher energy prices, crops pest, depopulation, etc). Like opportunities, they can influence the SFSC at present or in the short-, medium- or long-term future.

To carry out the SWOT exercise, the best is to **progress systematically**, identifying the specific strengths, weaknesses, opportunities and threats of the SFSC initiative for **each of the set/blocks of questions in steps 1 and 2**: (1) description of the products and services (value proposition); (2) customer segments; (3) supply channels; (4) customer relationship and communication; (5) description of the key partners; (6) description of key resources and activities; (7) finance and revenue streams; (8) cost structure; and (9) business surroundings – market, competitors, and customers.

After the identification process, it is useful to **list the strengths, weaknesses, opportunities and threats in order of importance**. If different people are involved in the exercise, a voting round can be organised to agree on the order of the strengths, weaknesses, opportunities and threats.

IDENTIFY BOTTLENECKS AND SUCCESS FACTORS

According to the work done in the SMARTCHAIN project, the strengths, weaknesses, opportunities and threats must be studied carefully to detect the **company's bottlenecks and success factors**.

Bottlenecks (problems, needs) **are outcomes of weaknesses** that can hamper exploitation of an opportunity to improve the SFSC performance (**Weakness-Opportunity**) or increase the impact of a threat, reducing the SFSC performance (**Weakness-Threat**). Most of them can be eliminated or reduced by innovation.

Success factors (competitive advantages) **are outcomes of strengths that can be improved or further**

exploited by an innovation to (1) support exploitation of an opportunity to improve performance of the SFSC (**Strength-Opportunity**); or (2) eliminate or reduce a threat that can decrease/spoil the company's performance (**Strength-Threat**).

Some bottlenecks may be interconnected, having one primary problem and several secondary problems arising from it. It may sometimes be difficult to discover the original problem (the main cause) and what is a consequence. The recommendation is to deal with this in the next phase, identifying in this phase every problem/need (interconnected or not) as a bottleneck. The same applies to success factors.

PRIORITISE AND SELECT THE BOTTLENECKS AND SUCCESS FACTORS TO BE ADDRESSED

The last phase of this step is to rank bottlenecks (problems/needs) and success factors (competitive advantages) to select those whose resolution, mitigation or consideration could improve the SFSC.

First, it is useful to **analysis the influence of each bottleneck and success factor in the different key aspects of the business model and surroundings that are associated to the SFSC's competitive position** (which correspond with each of the set/blocks of questions in steps 1 and 2): (1) value proposition of products and services; (2) customer segments; (3) supply channels; (4) customer relationship and communication; (5) key partners; (6) key resources and activities; (7) finance and revenue streams; (8) cost structure; and (9) business surroundings – market, competitors and customers. To that end, it is necessary to respond questions like the following:

- Is it linked to the **value proposition of your products and services**? If yes, how does it in-



fluence them? Does it concern all your products and services or only one/some of them?

- Does it concern your **customer segments**? If yes, how does it influence them?

- Is it linked to your **supply channels**? If yes, how does it influence them?

- Does it concern how you **relate and communicate with your customers**? If so, how does it influence this?

- Is it associated to your **key partners, stakeholders and network**? If yes, how does it influence them?

- Does it concern how you produce and your **key activities**? If yes, how does it influence them? Is it associated to all your key activities or only one/some of them?

- Is it linked to your **key resources** (economic, infrastructure, personal, knowledge)? If yes, how does it influence them?

- Is it correlated to the **cost** of your products/services? If yes, how does it influence it? Can this be quantified?

- Is it connected to your **revenue streams and profit margins**? If yes, how does it influence them? Is it possible to quantify this?

- Does it **only affect you or the whole sector** at local/regional/national/European level? How? Has it already been resolved by your competitors?

- What is the time dimension? Does it **affect**

you already or will it do so in the short- or medium-long-term?

- Is it **obligatory to address it because of an external reason** (a new legal requirement, etc)?

After responding these questions, it is useful to try to **evaluate the impact of the bottleneck or the success factor for each of the analysed aspects** (value proposition, customers segments, supply channels, communication with your customers/consumers, etc). For example, a scale from 0 to 4 can be used, where 0 indicates no influence, 1 low influence, 2 medium influence and 3 high influence; 4 indicates those that it must absolutely be resolved (a new legal requirement, microbiological problem, etc).

Different bottlenecks and success factors are usually associated to various aspects with different levels of importance. For example, if there is a lack of consumer engagement, it affects not only customers/consumers, but probably also the sales channels (which may not be the good ones) or the relationship with consumers (probably a lack of communication). In general, **the more important the bottleneck or success factor, the higher the score it will receive and the more aspects it will affect.**

3.4 Step 4: Seek and identify innovative solutions

After in-depth analysis of the business model and value proposition (product or service), finishing the market discovery (customers and competitors) and identifying the main bottlenecks and success factors, the next step is to **seek and identify potential innovative solutions that can resolve or mitigate those bottlenecks (problems, needs) and improve or further exploit those success factors (competitive advantages)**.

Based on the SMARTCHAIN results, especially those corresponding to technological, non-technological and social innovations and the general recommendations for implementing innovation, **two general recommendations** for seeking information about potential innovations result: **talk with people in your network and use the SMARTCHAIN innovation platform**.

TALK WITH THE PEOPLE OF YOUR NETWORK

The **contact network** can play a crucial role in identifying innovative solutions:

• Talk with other farmers and producers.

- Regardless of whether they produce the same products as you or belong to the same association, talking with other farmers and producers and sharing information can be beneficial (1) for finding common problems and needs; (2) for identifying innovative solutions and; potentially, (3) for sharing equipment and/or solutions for common problems/needs;

- A farmer of the network may have had the same problem as you, applying an innovative solution that can also help resolve your problem;

- Contact with other farmers and small producers from other regions and countries may also be a great help when seeking innovations applied in your sector;

• Talk with local and regional governments.

- Regional and local governments, especially departments associated to rural development and food production, can be a good source of advice to identify innovations. In some cases, they work in close contact with farmers, so they have the experience of several similar cases and are familiar with cross-cutting problems and needs;

- If regional and local governments do not have a specific advisory service, they can sometimes provide the contact information of public and private entities involved in food innovation in your region;

• Talk with food-related technological and research organisations.

- Public or private entities, such as university faculties/departments, research institutes and technological centres are at the top of the innovation pyramid, so they can support you in the process;
- Most such entities have a website with a great deal of information about their research topics, projects and publications (scientific and

non-scientific). Valuable information can be found simply by reviewing it;

- It is usually easy to contact researchers and technicians. The respective contact information is supplied in the website, including name, telephone and email. Do not hesitate to contact them. If they cannot help you, they can probably at least pass on a contact who can;

• Talk with your suppliers and providers of technologies.

- You are surely in contact with the necessary suppliers and providers of raw materials (including ingredients), packaging materials, logistic services, fertilisers, agricultural machinery, food processing machines and packaging machinery, etc. If some bottlenecks or success factors are associated to some of those aspects, do not hesitate to contact them;

- They also supply other farmers or producers, so they have a cross-functional vision and perspective of the sector and respective problems;

- They are also continually innovating to offer better products and resolve the problems of their clients; they may be able to recommend a new product, ingredient, material or machinery to resolve your need;

- Sometimes they also work with companies from other sectors (food-related or not), so they may also be able to provide a solution or recommendation resulting from their experience;

• Talk with other people in your network who are not involved in your business.

– Tell your story to your friends. Sharing information and problems usually provides new perspectives on the problems and different solutions. You never know where inspiration may come from.

USE THE SMARTCHAIN INNOVATION PLATFORM

In the SMARTCHAIN project an **online innovation platform** was created, including different tools and resources on innovation in SFSC⁷. Two actions are especially recommended for identifying innovations:

• **Consult the inventory of SFSC innovations.**

– More than 140 technological, non-technological and social innovations have been compiled. They are briefly described, including contacts and providers, etc;

– The innovations cover a broad spectrum of topics, so a potential innovation can probably be found for each of the bottlenecks and success factors detected (agriculture and primary production, food safety and hygiene aspects and regulatory issues, food quality, food preservation and other processing technologies, logistics, food integrity, traceability, transparency, labelling and marketing concepts and communication tools, etc);

• **Check all the supporting information and tools of the platform.**

– Review the inventory of SFSC initiatives. A specific inventory of SFSC initiatives, including producers, associations, etc, has been created on the platform. You can consult it to obtain ideas and information regarding innovative approaches in the SFSC context in your country or of other European countries;

– Consult the publications and weblink lists. A specific set of public documents and weblinks with interesting information about SFSCs can be found in the platform. They can help you in the innovation process, expanding the network of contacts and other sources of potential innovations;

– The training section of the innovation platform contains outcomes from the Innovation and Solution-based Multi-actor Workshops held in 9 European countries (France, Germany, Greece, Hungary, Italy, the Netherlands, Serbia, Spain and Switzerland). All presentations used by the different hub managers during the workshops, containing the main results of the project, are available in 9 different languages. Additionally, the training section includes the 5-week e-learning course on Best Practices in SFSC Innovations.



⁷ SMARTCHAIN innovation platform (<https://www.smartchain-platform.eu>)

3.5 Step 5: Selection of the innovative solution based on cost-benefit analysis

In this step, **all the identified innovative solutions for addressing prioritised bottlenecks and/or success factors must be analysed to select the innovation to be implemented.**

It is recommended that each innovation be analysed in a specific **cost-benefit study from a multi-angle perspective**. The classic cost-benefit analysis weighs differences in **revenues, direct cost and transaction costs** for companies between use of the old versus the new way of working to achieve an outlet for specific quality products. This approach is centred on translating everything into **monetary impacts** (cost reduction, cost increase, lower/higher water/electricity needs, less/more labour cost, more benefits, cost of new machinery, etc). However, the **non-monetary impacts** (social impact, marketing impact, health benefits, improved wellness of workers, legal requirements, new skill requirements, etc) are of special relevance in the SFSC context and must also be considered.

COST ANALYSIS

A detailed cost study includes not only the cost incurred by incorporation of an innovation but also the costs resulting from the innovation, regarding human resources, changes in the company and possible infrastructure-related investment, etc.

Based on all the above, questions like the following should be asked and answered:

- What is the direct cost of the innovation? Taxes?

- If a loan is needed to implement the innovation, what are the conditions?

- What is the indirect cost? Is any kind of supplementary investment required?

- Materials – compressors, laptops, scanners (metal, x-ray, etc), sensors, personal protection equipment, software, etc;

- Intellectual property – licences (software, patents, processes, etc);

- Facility modifications – changes in walls/rooms, connectivity, energy power increment, compressed air, water, vapour supplies, office, production plant and warehouse furniture, human safety, etc;

- Human resources: specific profile of people (operator with knowledge in a new technology, marketing expert, etc). Is any training course needed?

- Cleaning costs.

- If the SFSC initiative does not have the necessary skills/knowledge, is it necessary to subcontract a technology centre or similar organisation to implement the innovation? What is the estimated cost?

- Does the innovation have any maintenance costs? What is the cost of spare parts? Is there a maintenance service nearby? Is it good?

- Does this innovation change something associated to your transaction costs (time, negotia-

tion power, transport, etc)?

- Does this innovation increase the environmental impact of your business (generation of wastewater, production of waste, etc)? What is the cost of managing this? There is a tax related to that?

- Does this innovation produce something to be tested/certified by third parties (security certification by a third party, validation of the new plant/equipment/process by a third party due to legal requirements, analysis of the food by a third party to be sure that it complies with legal requirements, etc)?

- Does this innovation imply more bureaucracy/paperwork?

- Is the innovation approved by the authorities or institutions that regulate the sector (regarding a new ingredient, new packaging material, new processing technology, etc)? If not, what is the cost (financial and time) of the respective authorisation?

- Do European/national/regional/local regulations and legislations affect the innovation's implementation cost (cost of the permits/certifications from authorities, cost of paperwork, etc)?

- Do European/national/regional/local regulations and legislation affect the time needed for full implementation of the innovation (time required to obtain the necessary permits/certifications, etc)?

- Is there a need for legal counsel? What is the estimated cost?

- Is it possible to share the direct and indirect cost with other farmers/producers?
- Can this innovation be funded by a crowd-funding process (rewards or equity)?
- Is there any grant or financial support from European/national/regional/local government level associated to incorporation of this type of innovation? What kind of support (loan, subsidies)? When is it paid? What are the requisites for obtaining this support?
- Based on the innovation's complexity, how long do you estimate it will take to implement it? Is this time affordable or not?
- Is there a chance that the innovation will resolve the problem but give rise to a new one? Is the risk high or low?

BENEFITS ANALYSIS

When analysing benefits that may be obtained using an innovation, some questions should likewise be asked and answered, such as:

- Does the innovation have a low/affordable price for the SFSC initiative?
- Does the innovation entail any direct or indirect discounts (permanent discount for further purchases, carriage paid, etc)?
- Does this innovation solve or mitigate any other problems of the SFSC initiative? Could it be the first step in another innovation?
- Is there a reduction in the cost of the produc-

tion process (less energy, less production time, less labour, fewer ingredients, less cleaning, less water, etc)?

- Does this innovation facilitate logistics or reduce cost (longer shelf-life, no refrigeration, less heavy or more resistant packaging, etc)?
- Is this innovation associated to increased sales (new supply channel, clear consumer need, sale in a new town, new market niche, etc)?
- Does the innovation allow a higher product price (higher quality, new premium recipe, etc)? Will customers appreciate the innovation? Will they be convinced to pay more for products?
- Does the innovation apply to only one of your products/services or to all of them?
- Can this innovation reduce taxes (lower taxes due to investment in innovation, lower environmental taxes, lower taxes associated to the creation of new jobs, etc)?
- Does the innovation reduce the company's environmental impact (less water, less energy, less waste, less chemicals, less plastics, etc)?
- Does this innovation bring customers and consumers closer (improved relations with consumers, more potential customers, increased transparency, etc)?
- Does this innovation facilitate the work and life of your customers and consumers (easier purchase process, new sales channel claimed by your clients, lower price, reduced time between purchase and delivery, new payment method,

new return policy of the company, easier use of the product at home, improved knowledge or skills, etc)?

- Does this innovation improve the consumer's health (less sugar, less fat, etc)?
- Does this innovation improve the work, health and/or life of your employees (reduced working hours with same salary, reduced hazards, improved knowledge and skills, etc)?
- Does this innovation provide you with 'extra



time' (more time for marketing, more time for friends and family, etc)?

- Can this innovation be shared with other SFSC farmers and producers in your network?

- Will this innovation improve integration of your SFSC initiative in local society? Does it increase your social recognition?

- Does this innovation result in competitive advantages over your competitors (product differentiation, differentiation in the market, building team, new connections with relevant stakeholders, higher quality, unique marketing claim in the region, lower price, etc)?

- Is this innovation difficult for your competitors to replicate?

- Can it be used as a marketing claim in the product label (transparency, social claim, environmental, animal welfare, etc)?

- Does this innovation provide an advantage, considering the market growth trends (vegan products, new protein sources, less plastics, natural foods, etc)?

- Does this innovation help meet any current legal/mandatory requirement? Is this innovation necessary to meet a legal requirement that will take force in the next few years?

- Does this innovation provide benefits in terms of management (easier sales process, easier accounting, better market knowledge, increased management knowledge, etc)?

- Does this innovation imply less bureaucracy/

paperwork?

- Does this innovation facilitate external or internal bureaucracy/paperwork?

SELECTION OF THE INNOVATIVE SOLUTION

In brief, having answered the previous questions (and other related ones), an SFSC farmer or producer will have a better understanding of the major impact, in terms of cost and benefits, of implementing an innovation.

For each of innovations that can potentially resolve a bottleneck or exploit a success factor, it is advisable to draw up **two lists, one of benefits and one of costs, trying to rank both costs and benefits in order of importance**. All the information should then be carefully studied to **select the optimal innovation** among those detected.

The **selection process is complex**, as there are **too many factors at play** (economic, social, environmental, etc) whose prioritisation and weighting in decision-making depends on the **characteristics of the SFSC initiative**, especially its size, value proposition and principles (mission and vision). For example, the price of an innovation could be cheap for one SFSC and totally unaffordable for another. Furthermore, depending on the SFSC value proposition and principles, an innovation that can resolve a problem while also reducing environmental impact or improving employees' health may be a key point to rate (even if price increases) or may not be relevant. Based on the SMARTCHAIN results regarding successful factors for innovation in SFSCs, the general tips for implementing innovation and the partners' experience, some **recommendations for selecting the best innovative option arise**:

- 1) Where possible, **quantify costs and benefits** (better to use figures than words like high or low);

2) The more complete and more realistic the information, especially with respect to quantification of costs and benefits, **the more likely it is that the right innovation will be chosen** and the **lower the risk of failure** due to an overlooked or miscalculated key factor;

3) The more people who can participate, the better. A multi-actor point of view is fully advisable (farmers, processing plant workers, commercial staff, administrative staff, carriers, etc). For example, a vote can be held using a scale from 0 to 4, where 0 indicate that it is too costly for benefits and 4 that it has too many benefits and low costs;

4) If you are in doubt about which innovation to select, **remember to ask your contacts, especially research and technology associations** and organisations, for help. If possible, try to convince some of them to participate in the selection process;

5) Innovation is not necessarily associated to high cost. If you have two possible options, the expensive is not necessarily the best;

6) Prioritise the innovation that really adds value to your products and services, the innovations that can differentiate your company from your competition;

7) If several possible innovations are similarly ranked, **prioritise the innovation that can improve the relationship with consumers – consumer engagement.**

3.6 Step 6: Implement the innovative solution and go to market

Once the cost-benefit analysis is done and the benefits outweigh the costs, it is time to **implement the technological, non-technological or social innovation** in the SFSC initiative. Thus, depending on the kind of innovation and its scope, it is also time to launch the new or improved products or services on the market.

To **maximise the chances for successful implementation and marketing, monetary savings and avoiding resource waste, an implementation and go-to-market plan with realistic stages, timings and go/no go points** is required (Figure 6). This plan should include the logical minimum progress phases that would enable evaluation of an innovation's impact:

1) Plan design. To identify the metrics to measure achievement of expectations in the different stages and phases;

2) Validation. To verify that the innovation complies with the requirements, that its application is technically and economically feasible and that the results meet expectations (pilot scale);

3) Demonstration. To show that the innovation resolves the problem in a close-to-real operating environment (industrial scale), including first market check;

4) Go to market. To define the market launch of the new process or service.

During these different stages, **the feasibility of the innovation in scenarios increasingly closer to reality**

must be done, what is known as **scaling-up**. To make that, it is necessary to define different prototype levels of increasing complexity (proof of concept, small prototype, pilot prototype, minimum viable product, market sample).

The prototyping is an easily understandable step in **technological innovation**, usually involving a technology with a direct impact on the SFSC products or services. In this case, the various scaling-up stages can differ regarding the size, form or scale of the processing equipment (laboratory, pilot, industrial scale), level of subcomponent integration, resemblance to final product, production flow (kg/h) or quantity of goods produced, etc. But the prototype concept is also broad, encompassing **non-technological and social innovations**. Their scaling-up stage can be determined by factors such as the level of engagement and involvement of the upstream, sidestream and downstream external actors (providers, other departments of the organisation, partnerships, consumers, etc), the number of people involved and the different website sections uploaded to the web, etc. An example of non-technological innovation could be a new company logo. In the case of first level of prototyping, an example could be a homemade drawing of the new logo, receiving feedback from a few trusted customers in personal conversations. The prototype level can gradually advance, involving more customers, including feedback from the previous comparison, subcontracting a graphic design company, printing some copies and using the new logo in some products, etc. An example of social innovation could be the organisation of social events for consumers. Regarding the latter, an initial prototype could be the organisation of one event with selected consumers, then scaling up the number of events or attendees.

Before beginning a more in-depth explanation of the different proposed implementation and go-to-market

plan stages, some **general recommendations and considerations** can be highlighted:

- Implementation should be based not just on **technological aspects**, but also consider the **market, organisation, and partnership aspects**;

- To establish mechanisms to ensure that the innovation will be (1) **accepted by the customers**, (2) **accepted or properly integrated by workers** and other personnel in the organisation (in the event of structural changes) and (3) **sustainable for the company in long term**;

- Regarding acceptability by customers and workers, a good strategy is **to develop the easiest version of the resulting innovation and make comparisons with them before spending too much time on the matter**. This is especially important when the innovation's cost is high (new processing equipment, new harvesting machinery, etc). It is advisable to find **'early and key adopters'** (key customers, key partners along the chain, staff, etc) as soon quick as possible to receive get valuable feedback and iterate to create better versions;

- **A robust and sound implementation and go-to-market plan is still important, even if the innovation is not directly reflected in a new or improved products or services** to be marketed and does not impact the value proposition (new internal reorganisation, new management software, etc);

- **Previously identify all expected features and improvements of the innovative solution in order to validate them**. Throughout implementation, check to make sure the envisaged pro-

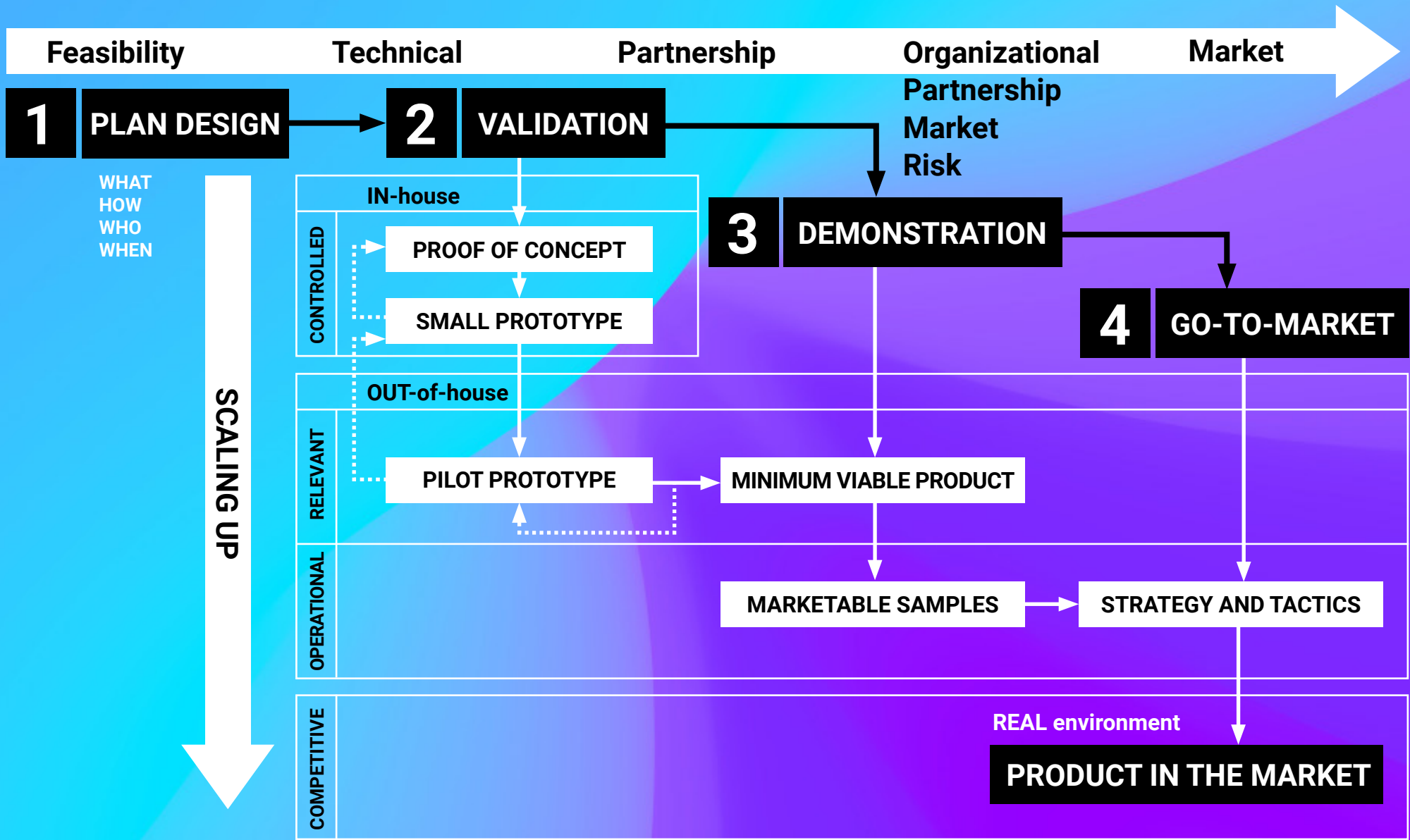


Figure 6. General diagram of the implementation and go-to-market plan proposed for innovation in SFSC.

perties and improvements actually occur when applying the changes the innovation is based on. It should also be possible to demonstrate these strengths at this phase (marketing);

- The implementation plan must enable sufficient information to be obtained, not only to verify that the expected improvements have been attained but also to **check/predict at each stage the innovation's sustainability for the organisation** and prepare to **successfully cross the market entry chasm**;

- **Establish go/no-go criteria throughout the plan.** From the concept and first prototype through to market launch, clear criteria must be determined to decide whether or not to continue the process. Hence, if the results are not as expected in a given stage, the process must provisionally pause to analyse all aspects and determine whether there is a problem with the plan's design (failed test design, early adopters not properly selected, etc) or with the innovation itself (the advantages demonstrated on a small scale are lost when scaling up, higher than projected cost of implementation, the innovation resolves the problem but creates a non-expected new one, etc). If the problem is directly associated to the innovation the process must be stopped and it would become necessary to go back to step 5 of the guide and select a new potential innovation. If the problem is associated to the plan's design, the latter can be redesigned, repeating the respective stage again;

- **If needed, involve appropriate stakeholders in the process.** The SFSC initiative probably cannot go the whole way alone. It is advisable to check the network and surroundings of the

SFSC initiative to identify the organisation(s) (university, technological centre, association, marketing company, etc) that can help you establish the plan and carry it out;

- Results at any level of the implementation and go-to-market plan can even serve as a starting point to **obtain support from governments** (financial, facilities, etc) **and/or from potential collaborators/investors** for further development or progress with implementation;

- **The plan should be adapted for each innovation and each SFSC initiative.** The plan should be tailor-made. The flowchart of Figure 6 should be adapted to the specific innovation and characteristics of the SFSC initiative. It could be very simple and short (a low-cost innovation already successfully tried by a farmer of the network) or very complex, covering 2 years (a high-cost innovation leading to a complete change in production method).

DESIGN OF THE IMPLEMENTATION PLAN

The first stage of the plan is to design the plan itself, **identifying metrics to measure the achievement of expectations in different stages and phases** as objectively as possible. Only by determining appropriate performance indicators will it be possible to verify whether the selected innovation is feasible and can function well in the SFSC initiative and to demonstrate what the core functions are and their impact on the value proposition.

First, **the plan's scope must be defined and adapted** to the specific circumstances. Sometimes it will not be necessary to go through all the stages in depth. Thus, the number and complexity of the stages and proto-

typing levels of the physical representation of the innovation during the scaling-up process (proof of concept, small or pilot prototype, minimum viable product) will depend, among others, on the type of innovation (technological, non-technological or social), the initial readiness of the innovation, the investment needed until obtaining a market (usually more in technological innovations), the SFSC's characteristics and the current competition. SFSC initiatives must therefore **answer questions** like what follows:

- Has the innovation already been validated by a third party? Do you have access to the results of this validation? Stage 2 of the plan (validation) may not be necessary; if so, you can therefore move directly to stage 3 (demonstration);

- What is the cost of implementation? If it is low, the economic risk if the process fails is also low, so the stages can be simplified to go to market as soon as possible. Conversely, if the innovation's cost is high, it may be a good idea to go slowly and move to the next stage only when clearly possible;

- Does this innovation have a major impact on your organisation? If the innovation is associated to major changes in your organisation the plan should be more complex than if the innovation were just a simple update or replacement of a current procedure.

Once the scope has been defined, **what, how, who** and **when** should be answered, not only to ensure reliable information but also to provide sufficient resources to accomplish the implementation and establish a respective timeline:



- What are all the **features of the innovation** and which ones are **critical or decisive**?
- What are the **stages** that need to be included in the plan?
- What will be the **reference model**? (a product, a process, a service, an instruction, an internal procedure, etc.)?
- What will the **up-scaling levels of the reference model for the different stages** be (proof of concept, small or pilot prototype, minimum viable product)? How will the solution more closely approach reality? What are the successive forms that it will have (physical prototype, place, document, session, website, etc)?
- What are the **expected changes with respect to your products and services or your organization**?
- What will be the quantifiable **performance indicators** to be measured, which can provide valuable information about achievement of the expected changes (organoleptic properties, nutritional properties, environmental impacts (waste, CO2 emissions, etc), shelf-life, number of consumers involved, consumer engagement level, sales, production cost, etc)?
- What will the **go/no go** criteria be for each performance indicator (20% cost reduction, product shelf-life extended by at least 10 days, 20 participants in an event, 10% increase in processing yield, etc)?
- How will the implementation **stages** be carried out? It is advisable to determine **milestones** from which to infer general and more specific

tasks and actions that should happen to make possible the validation, demonstration and go-to-market stages;

- How will **performance indicators be measured and monitored**? It is necessary to determine the method (sensory analysis with an internal panel, physicochemical analysis, registered sales, number of consumers registered for an event, device to continuously measure electricity consumption, weighing of waste generated each day, etc);
- Who will be **in charge of each defined task**?
- Who will be **in charge of measuring each performance indicator**?
- Who will be **in charge of deciding whether to go further or not**?
- Who is the **target user** of the innovation and the reference model? The target commonly comprises the consumers of the product/service. But the innovation's target can also be the SFSC staff or local authorities, etc;
- Who are the **external stakeholders** that must participate in the different stages? How and when will they participate?
- When will **each stage, task and action be performed**? Set start and end dates, determine and set **dates** for **periodical meetings** to control the status of achievements and progress of the actions (e.g. by checklist) and to detect and unblock potential bottlenecks, etc;
- When will **performance indicators be meas-**

ured and monitored?

Once the plan has been designed, it is possible to move on the next stage. In any case, it must be stated that the plan can be redefined in any of its aspects to complete any of the validation stages. **The design is thus something that can be updated and redefined according to the circumstances and results of the different stages of implementing the innovation.**

VALIDATION OF THE INNOVATION

The validation stage of the implementation journey involves **verifying that the innovation complies with the requirements, that its application is technically and economically feasible and that the improvements meet expectations.**

During validation the 'how' questions must thus be answered: **how the innovative solution will be made, how it will look, how it will function and how the target user interacts and reacts** to the overall experience with the new product/service/procedure. All of this is verified by:

- 1) Putting into practice** the innovation during **different up-scaling phases**, increasing the relevance of the results and the engagement of actors and stakeholders;
- 2) Measuring the performance indicators** in the **reference models** (whether prototypes, processes or consumers) set out in the implementation plan's design;
- 3) Analysing** the results of **performance indicators** and the scenario in which testing was carried out. (How did the test compare to expectations? What problems, if any, were

encountered? What are/were the plans, options, or actions to resolve problems before moving to the next level?);

4) Deciding whether to proceed to the next stage of implementation, based on the plan's go/no-go criteria.

During the validation, different up-scaling phases and levels of a reference model associated to the innovation (a product, process, service, instruction or even internal procedure) can be tested. Initially, **3 up-scaling levels are proposed**: proof of concept, small prototype and pilot prototype (Figure 6).

The **proof of concept** is used to ensure that **the innovation can be applied** and that **it meets initial expectations (initial feasibility)**. It can be defined as **a quick check step** before kick-starting full validation of the innovation. This first move in the up-scaling process makes particular sense if the innovation is associated to a completely new concept for the SFSC initiative (new processing step, new product, etc) and/or it has a high cost even at early stages (new equipment with a high price, need for a new production plant, etc). Hence, if the results of the proof of concept are not good, the innovation process can be stopped without excessive consumption of the SFSC initiative's resources. The proof of concept would make no sense if the innovation has been implemented by a partner of the SFSC or its cost is low and affordable.

The proof of concept is typically a small internal project. **The proof of concept must be simple**; it may be a unique unit that can be produced using available technologies, facilities, and resources (new recipe (new ingredients) produced at kitchen level, modification of the variables of a process, etc), with

or without the assistance of an external stakeholder. Thus, it may also be a preliminary test at the facilities of an innovation supplier, technology transfer centre or similar organisation. Aspects such as performance, usability, full features and all other customer-facing elements are not considered at this stage of the validation. In a relatively short time and employing few resources, a proof of concept can also help draw in stakeholders and investors for the next stages of the innovation's implementation.

The next level of the up-scaling process is the **prototyping phase**, following the proof of concept, but with a higher degree of complexity. It serves to **validate the innovation's strategic design direction, to discover errors and make changes**; it also helps **test how the target user interacts and reacts** to the overall experience with the new product, service or procedure, etc. During this phase, different levels of prototype complexity can be assessed, including resemblance of the final product/service, final capacities and final scenario of the respective use. Initially, at least 2 levels could be tested, a **small prototype** (low production, laboratory conditions, small equipment, low involvement of the final user) and a **pilot prototype** (large production, conditions closer to industrial ones, pilot equipment, high involvement of the final user).

The involvement of technology suppliers, R&D centres and other stakeholders is usually essential in the prototyping phase. As in the proof of concept, the tests can be done at the facility of an innovation supplier, technology transfer centre or similar organisation (e.g. testing a processing technology with your own product). If the innovation involves the implementation of technology, the technology can be purchased in several steps, either by acquiring higher-capacity equipment units or by duplicating the small

line. It is sometimes possible to rent the equipment in a first step and to discount the money invested in the final purchase. Larger print runs will enable **consumer tests** to be conducted with a pool of people (do they perceive and appreciate the differential features of the new product/service compared to conventional one?) and to balance costs, determine the next scale-up parameters, detect bottlenecks, simulate process performances, ensure clean and safe procedures, organise production, etc.

DEMONSTRATION OF THE INNOVATION

In the demonstration stage, **it must be proven that the innovation solves the problem in a close-to-real operating environment, including first market check.**

In the calling-up process, 2 levels are defined in this stage: the **minimum viable product** and the **market/demo sample** (Figure 6).

A **minimum viable product** is the one produced in a **close-to-real operating environment** (pre-industrial or industrial scale), from which it is possible to acquire relevant information and data to **ensure that results obtained in the validation stage are maintained at industrial scale.** It can be used to attract customers and validate a product idea early in the product development cycle.

The **market/demo sample** is the next step to be accomplished, if the results achieved with the minimum viable product are as expected. It serves to **initially check the product/service in the market before the full launch.** As the minimum viable product, it is produced in a close-to-real operating environment (pre-industrial or industrial scale). There are different ways to show that the innovation works at market

level. The demonstration sometimes involves just one single high-impact event/act, to show that something exists or is true by giving proof or evidence in a competitive environment (market testing with a select group of customers, presentation at a fair, etc). It is never too late to abandon before the launch involves more commitment.

At this stage, ideally **all the key information and activities needed to prepare the go-to-market should be known, including among others the specific needs and requirements of customers, price of the new product/service, partnerships required and supply channels.**

Furthermore, based on all the information and data collected it is fully appropriate to establish the **foreseen sales and profit** based on the marketing plan and to evaluate all the **risks of market failure**, preparing a contingency plan to resolve them.

GO-TO-MARKET

In the event that **the innovation is associated to a product or service** that is or will be sold by the SFSC initiative, **the final key and obvious stage is go-to-market**, the market launch (Figure 6).

To assure a higher probability of success, a revised **marketing strategy and tactics** must be developed, also including a plan with **go/no go criteria to stop commercialisation if the results are not as expected.** This operational plan must include different tasks that need to be fulfilled, timing for each and who is the responsible for them.

4. Examples of best practices of innovation

4.1 Technological Innovation

- Vending Machines For Agricultural Products
- Mobile Poultry Coops

4.2 Non-Technological Innovation

- Hermeneus Online Marketplace
- Common Trademark System

4.3 Social Innovation

- Employment For Handicapped People
- A Venue For Transformative Activities

Technological innovation

Vending Machines For Agricultural Products

Landwirtschaftskammer Niedersachsen, Germany



Company description

Landwirtschaftskammer Niedersachsen is an **agricultural administration and advisory institution** in the fields of agriculture, horticulture, and forestry. It is an **independent, self-governing legal entity** of public law, commissioned by the federal state of Lower Saxony.

Problem/s

Dedication to consumer **sales consumes time** and may interfere with daily production activities. Also, **consumers have limited access** to farm/production facilities; some consumers may be discouraged from acquiring products due to pick-up distance, limited opening hours, difficult public/private transportation access, etc.

Innovative solution applied

Installation of a **vending machine for farm products** that can be accessed by consumers 24 hours a day at a convenient location. Farmers have a new way to sell fresh food products directly to the public, without having to personally deal with consumers.

Cost-benefit analysis

The cost is **moderate** (€1,000-10,000). It **does not add value to the product**. However, it is a new sales channel which provides a **competitive position in terms of efficiency**, as the producers do not have to interrupt their work to sell the products.

Improving the value proposition

It can be applied to a wide variety of products, providing farmers with a new way to sell fresh food products directly to the public **24/7 at a convenient location, without having to personally deal with consumers**.

Technological innovation

Mobile Poultry Coops

Landwirtschaftskammer Niedersachsen, Germany



Company description

Landwirtschaftskammer Niedersachsen is an **agricultural administration and advisory institution** in the fields of agriculture, horticulture, and forestry. It is an **independent, self-governing legal entity** of public law, commissioned by the federal state of Lower Saxony.

Problem/s

Traditional poultry farming is not well perceived by consumers due to animal welfare issues. **Free-range farming of egg-laying hens is increasing.** However, silting, over-fertilisation and accumulation of parasites are **problems associated to this farming method.**

Innovative solution applied

Mobile **chicken coops are fully equipped, movable pens**, which can be used throughout the year to house chickens. Their movability and flexibility **prevent and/or reduces silting, over-fertilisation and accumulation of parasites.** The system can provide consumers with a transparent farming system that promotes animal welfare.

Cost-benefit analysis

The cost is **moderate** (€1,000-10,000), depending on the size of the module; **the increase in economic product financial value is low.**

Improving the value proposition

It can endow a company that uses this innovation as a **marketing claim and central value point** of its business model with a clear **competitive position.**

Non-technological innovation

Hermeneus Online Marketplace

Hermeneus World, Spain



Company description

The Hermeneus online marketplace is an initiative of Hermeneus World (Spain) for Spanish SFSC producers. This company specialises in the creation of online marketplaces and information and communications technologies (ICTs) to improve digital marketing.

Problem/s

In many cases, small producers do not have enough resources to create and maintain their own websites and online shops. Furthermore, they do not have the resources for strong online promotion and consumers are not aware of the respective website and online shop. From a marketing standpoint, establishing a trustworthy online identity is also a key to engaging consumers. Due to the SARS-CoV-2 pandemic, there is increasing demand for online orders and home delivery.

Innovative solution applied

Through an online marketplace, SFSC producers can have their websites hosted by a third party and sell their products online, controlling prices, delivery and payment methods. A good example is the Hermeneus online marketplace (<https://www.hermeneus.es/>). This digital marketplace collects the offerings of several SFSC members, generating a complete catalogue of different kinds of local food. Consumers can easily and quickly buy their SFSC foods from different producers using only one tool (Hermeneus marketplace).

Cost-benefit analysis

Hermeneus charges a flat fee to host the producer in the platform. But there is no commission per sale (neither for consumers nor for producers). The benefits for SFSC producers are several: creation of their own online store and website, better service provided to current consumers, and the ability to contact potential new consumers through the community, directly connect with consumers (no intermediary) and be part of a community involved with local commerce.

Improving the value proposition

Through a wide network of users, it is easier to reach the targeted consumer segment. An online business can begin operations, even with a small marketing budget. The direct interaction with consumers enhances the relationship with them.

Non-technological innovation

Common Trademark System

Éltető Balaton- felvidék Association, HUNGARY

Company description

The **Éltető Balaton-felvidék association coordinates the rural development activities of 59 settlements in North Balaton**, an attractive tourist area on the north shore of Lake Balaton known for its culture and cuisine. Its aim is to **support joint exploitation of resources, high-quality products and services** among scattered individual local producers and service providers, to enable better marketing, provide new trade channels and connect them with local/rural development programmes and actors.

Problem/s

Scattered local producers and service providers make high-quality products, though with a **low level of marketing, cooperation and connection with local/rural development programmes and actors**.

Innovative solution applied

The **Cooperating Balaton Uplands Trademark System** (<https://eltetobalatonfelvidek.hu>) **undertakes joint marketing of products from local and rural manufacturers and small producers**. It is a member of the **European Territorial Rural Quality** umbrella quality mark system. This quality mark **distinguishes special products in the region, helping promote products/services**. They have established 15 sales points, 13 in the area, 1 in a larger town, the seat of the county, and 1 in the capital Budapest. They also carry out **other marketing and promotion tasks** such as organising events and local exhibitions or maintaining a general website. The condition for

use of a trademark is that **the producer must cooperate with at least one other trademarked producer**.

Cost-benefit analysis

A membership fee must be paid by members of the association. This is a cost-effective method for operating the joint marketing strategy, based on the differentiation of local SFSC products from a specific area.

Improving the value proposition

Communal participation helps improve and expand the quality, quantity and diversity of the services and locally manufactured products. The cooperation helps ensure preservation and renewal of environmental and regional values, expansion of the production and service opportunities and improvement of the rural inhabitants' quality of life. The activity's success is based on **differentiation from other products, services and regions through distinguishable quality and value for money**. The importance and benefits of joint marketing and the coordinated work combining local products and services, tourism and local culture is a visible success factor.



Social innovation

Employment For Handicapped People

Lantegi Batuak (NAIA), SPAIN



Company description

NAIA is a company located in Bizkaia in Basque Country which grows and produces **100% organic salads and pre-cut vegetables**, supporting the local agricultural sector. Behind this project is Lantegi Batuak, a non-profit organisation that generates job opportunities suitable for people with disabilities, to enhance their quality and development.

Problem/s

People with disabilities have problems finding jobs. Lantegi Batuak has a significant level of social understanding and tries to help resolve this issue. Moreover, there is **strong competition in the vegetable-producing sector**. The company need **unique marketing claims** to be different, find its niche and increase the added value of its products.

Innovative solution applied

All workers of the production line are handicapped people of the region.

Cost-benefit analysis

This social innovation does not have cost. Indeed, **Spanish government subsidises 50% of the minimum inter-professional salary of the disabled people hired.** This is a very interesting innovation from both the social and the economic standpoint.

Improving the value proposition

The employment of handicapped people is used as a marketing claim in the label of NAIA products (100% Social). The company also uses this social innovation as a central value point of its business model. Some people want to support this kind of social initiative in the region and positively evaluate the company's social awareness. **There are not many food companies which focus on improving social aspects.**

Social innovation

A Venue For Transformative Activities

Allotropon, Greece



Company description

Allotropon is a venue where **members engage in social activities**. They make **social links with other members or the local community**. The Allotropon grocery store is home to Café Allotropon, which serves as a meeting point to exchange ideas and a venue for different events, such as food fairs, cultural happenings, public discussions and socially oriented actions.

Problem/s

Consumers may encounter difficulties when seeking venues to share ideas and network with people who have similar interests. SFSC initiatives find it hard to engage consumers.

Innovative solution applied

Allotropon is a venue where **members engage in social activities**. They make social links with other members or the local community. Members use the grocery store on a regular basis to exchange ideas with each other and with the local community. They organise the various **social events** that take place on the store's premises. Social economy actors supply the store with local **fair-trade products**. Agronomists regularly advise and **exchange knowledge** with members on quality and food safety issues.

Cost-benefit analysis

The cost of transforming the grocery store is **moderate** (€1,000-10,000) and depends, among others, on venue location and size.

Improving the value proposition

Members buy regularly as they feel engaged with the **social activities and local fair-trade products**. The company uses this innovation as a central value point of its business model.

Appendix A:

List of suggested questions to prepare the business model canvas

Description of the products and services (value proposition)

- Which products are sold by your company through SFSC initiatives? List them in order of importance for your business, indicating name, amount sold per month/year (t, kg), formats (e.g. 100, 500 and 1000 g), sale price, etc.
- Is the food of plant, animal or plant/animal origin?
- Is the product fresh?
- Is it a processed product?
- Is the product perishable?
- What is its shelf-life? Does it need cold/frozen storage?
- How is it packaged?
- What is the composition of the product? It is important to consider both positive and negative characteristics. For example:
 - Nutrients (vitamins, protein, etc). Have you analysed your product?
 - Is the product a special source of an essential nutrient/healthy component (any vitamin, high protein content, antioxidants, essential minerals (Ca, Fe, Mg, Se), etc)?
 - Does it contain any compound that could be harmful to health (pesticides, heavy metals (Hg, Pb) etc)?
- Is it a product with different ingredients?
 - What is the formula/recipe?
 - Do you produce all the ingredients or do you need to buy some of them? Are all of them local?
- Is your product a regional/traditional speciality?
- Can it be directly consumed, is it an ingredient for ulterior use or both?
- Do you produce organic foods? If yes: which of your product groups (cheeses, vegetables, fresh dairy, etc) are organic? What % of your total production is organic?
- Do you have any legal/regulated/certified quality label (EU organic food label, PDO, PGI, national label (specify), regional Label (specify), local Label (specify) or any other (specify))?
- Do you apply specific measures to reduce the environmental impact of your production?
- Do you employ any claim for marketing purposes in the product label, company website, etc (local product, traditional product, product without additives, healthy product, natural product, chemical-free production, food only produced in your region, premium/high quality, low carbon footprint, use of a novel technology (specify), environmentally friendly, social claim (specify), for vegans, non-GMO, free-range, others (specify))?
- Are your products based on any food trend (e.g. vegan foods)?

Appendix A:

- Are your products for a particular niche population with a special need (religion, health, etc; gluten-free, allergen-free, halal, kosher, vegetarian, infant food, etc)?
- Which services are sold by your company through SFSC initiatives (cooking course, course on how to farm food, etc)? List them in order of importance for your business, indicating name, amount sold per month/year (e.g. number of courses), number of people involved, sale price, etc.

Customers segments

- Regarding the people who consume your products (consumers):
 - What are their characteristics?
 - Are there different consumer groups?
 - Do consumer characteristics differ according to the channel used?
 - Which channels do consumers prefer?
 - Do your consumer groups differ by gender, age, etc?
 - Where do they live? Urban/rural area?
- If you also sell product through aSFSC intermediary (restaurants, speciality retailers, collectivities, etc):

- Who are they?
- Where are they located?
- What are their characteristics?

Supply channels

- What are your sales/distribution channels (own shop, cooperative shop, own online shop, online marketplace, door-to-door delivery (by phone or website), local markets, speciality retailers, consumer groups, vending machines, restaurants, collectives (hospitals, schools, etc), pick-your-own, community-supported agriculture, etc)?
- How much do you sell through each channel for each of your products?
- What is the cost of each of the channels?
- Why are these channels used and not others?

Customer relationship and communication

- Do you have a communication plan? What are its key points?
- What type of contact do you have with consumers?
- Are the different consumer groups targeted differently?
- Do you have any measures to increase consumer

engagement/purchases?

- Do you inform your consumers about the distinctive features of SFSC products?
- Do you have a method for receiving consumer feedback on your products (comments in social media, phone number, consumer focus groups, online consumer survey, etc)?
- Do you have a 'customer care service'?
- Which marketing and/or communication tools does your business (actively) use (website, social media, radio or TV advertisement, flyers, promoted events, attendance of events/fairs for local food, etc)? If it does use them, please list them in order of importance for your business and provide a brief explanation.
- If you employ social media, please specify which are you using, sorting them by the importance for your business, indicating the number of followers/contacts.

Social Media	Order of importance	N° of followers/ contacts
Facebook		
Twitter		
Instagram		
LinkedIn		
WhatsApp groups		
Other		

Appendix A:

- If you have a website or use social media, do you actively manage those channels? If the answer is yes, please specify how (by measuring visitors, followers; how they impact sales, etc).
- How is your product's label arranged? What information is in the label? Was it designed by a specialised company?
- Does the company have a logo? What is it? Was it designed by a specialised company? Is it shared with other farmers/producers?
- Why do you use these ways of communicating with your customers and not others? Do you know how customers want to be informed?
- Do you inform your consumers about the distinctive features of SFSC products?

Description of the key partners

- With which companies do you maintain signed/formal strategic partnerships (collaborators, alliances, joint-venture initiatives, etc)? List them in order of importance for your business, including name, location (region and country), what activities the partner(s) perform and the approximate number of interactions you have with each of them (monthly/annually). If needed, add more rows to the table.
- Which are your main suppliers? List name, location (region and country), what resources (seeds, fertilisers, packaging, etc) you acquire from the supplier(s) and the approximate number of interactions you have with each of them (monthly/annually).
- Who are your main buyers? Do you only sell your products directly to consumers? List them in order of importance for your business, including name, location (region and country), type (specialised retailer, restaurants, etc) and the approximate number of interactions you have with each of them (monthly/annually).
- With which governments/administrations do you have any kind of relationship? List them in order of importance for your business, including name, location (region and country), level (local/regional/national), nature of the relationship (local market organisation by small town council, grant or economic support, tourism initiatives coordinated by a local administration, invitation to working groups, invitation to fairs of organic products, etc) and approximate number of interactions you have with each of them (monthly/annually).

- Do you have any kind of relationship with other producers (farmer-to farmer network, membership in an association, etc)? If the answer is yes, please list the most important ones in order of importance for your business (name, location, what they do, kind of relationship and approximate number of interactions you have with each of them (monthly/annually).
- Do you share resources with any farmer or producer? Please specify what you share (farming machinery, storage facilities, fertilisers, seeds, common website, etc) and with whom.
- Do you have any connection with short food supply chain collaborative associations-initiatives? If the answer is yes, please list them in order of importance for your business, indicating whether they are local, regional, national or European initiatives.
- Do you have any connection with social/cultural/environmental associations-initiatives? If the answer is yes, please list them in order of importance for your business, indicating whether they are local, regional, national or European initiatives.

Appendix A:

Description of the key resources and activities

- Numbers of employees, including owner(s). People who work part-time or full-time under an employment contract, earning a salary. Include seasonal workers.
- Working hours per year, including hours spent by owner(s).
- What are the different departments of the company (management, administrative, marketing, etc)?
- What are the specific tasks of each person? What are the roles/kind of work done by the different people involved in the company (e.g. 5 farmers, 2 salespersons (include social media and website management), 3 administrative staff (include shipment management), 1 warehouse handler (also helps in the processing plant), 3 people at the processing plant, 1 general manager, 1 production manager)?
- What is the main infrastructure of the company (farming fields, buildings, own shop, etc)?
- Key technologies and machinery.
- For each product, describe the on-farm practices involved (planting, irrigation, pest management, harvesting, etc):
 - a. How are they done?
 - b. What are their main characteristics (including cost)?

- c. What are the variables/controlling parameters of those processes (e.g. irrigation time)?
- d. What is the cost of each process per product unit?
- e. What is the yield of each process?
- f. What is the environmental impact of each process (water consumption, energy consumption, etc)?

- What are the post-harvest processes involved for each product (mixing, peeling, cutting, thermal treatments, fermentation, filtration, bottling, packaging, etc)?
 - a. How are they done?
 - b. What are their main characteristics?
 - c. What are the variables/controlling parameters of those processes (e.g. temperature and time in thermal processes)?
 - d. What is the cost of each process per product unit?
 - e. Which is the yield of each of the processes (e.g. peeling yield)?
 - f. What is the environmental impact of each process (water consumption, energy consumption, etc)?
- What are the main activities associated to distribu-

tion of your products (e.g. logistics)?

- a. How are they done?
- b. What are their main characteristics?
- c. What is the cost of each activity per product unit?

Appendix A:

Finance and revenue streams⁸

- Total annual turnover (€) of the company for the last 3 years. Total annual turnover: total amount of money a business earns in a year, including taxes, i.e. the sum of your total sales.
- Total annual profit after taxes of the company (€) for the last 3 years. The profit of your business after paying the corresponding taxes. This is mainly calculated as total annual turnover minus company costs minus taxes.
- For each product/service and the last 3 years, how much does the practitioner earn (profit) for each unit sold (€/t, €/kg, €/packaged product, etc)?
- Average profit margin (% with respect to sale price) of each of the products sold in the last 3 years. Profit margin (%): the difference between the total cost of making and selling something and the price as sold. For example, if the average sale price of product A is €1/kg and the total production cost (including materials, fertilisers, labour, insurances, marketing, etc) is €0.75/kg, the average profit margin of product A is 25% (€0.25/kg).
- Has the SFSC initiative received any kind of grant or financial support from administrations/governments/private companies (at local, regional, national, European level)? If yes, specify administration/government, programme/call, for what, year and amount (€).
- Do you benefit from any tax reduction due to your activity (employing handicapped persons, SMEs, local production, R&D, etc)? If yes, specify the reduction and the administration.

Cost structure⁹

- For each of your products/services and the last 3 years, what is the production cost for each product/service unit (€/t, €/kg, €/packaged product, etc)?
- Total annual costs including taxes (€) of the company for the last 3 years.
- Annual taxes (€) paid by the company for the last 3 years.
- Annual labour cost (€) for the last 3 years, including labour cost of owner (s) if there is a payroll.
- Annual material cost (€) for the last 3 years (seeds, fertilisers, packaging, etc).
- Annual operating consumption costs (€) for the last 3 years (oil, electricity, water, phone, etc).
- Annual building, equipment and machinery cost (€) for the last 3 years (including depreciation/rent).
- Annual cost (€) in patents and property rights (e.g. licences) for the last 3 years.
- Annual cost (€) associated to quality labels/certifications (e.g. organic certification) for the last 3 years.
- Annual cost (€) in research & development & innovation for the last 3 years.
- Annual cost in marketing activities for the last 3 years (website, advertisement, etc).

- Annual insurance cost for the last 3 years.

⁸ If the company sell using SFSCs and conventional long chains, the best is to answer these questions considering both the whole company (SFSC+ non SFSC), and then SFSC and non SFSC products separately. It is key to understand the importance of SFCS in the company, possible difference of prices for the same product depending on the selling channel, etc.

⁹ If the company sell using SFSCs and conventional long chains, the best is to answer these questions considering both the whole company (SFSC+ non SFSC), and then SFSC and non SFSC products separately. It is key to understand the importance of SFCS in the company, possible difference of prices for the same product depending on the selling channel, etc.

Appendix B:

List of suggested questions for knowing the SFSC's surroundings: market characteristics, competitors and customers

General characteristics of the market

• What are the main socioeconomic aspects of your selling zone/municipality/region?

–Population

–Population distribution by age/average salary/municipality or neighbourhood

–Average salary

–Salary distribution by age/municipality or neighbourhood

–Rural/urban

–Extension

–Main food companies of your subsector

• What are the main cultural aspects of your region/municipality/sale zone with respect to food (consumption of more fish/meat/fresh vegetables than other countries/regions, food specialities, presence of native vegetable varieties or animal breeds, etc)?

• How much is the type/s of product/s or service/s you sell consumed in your sales zone/municipality/region?

• Which are the key stakeholders of the SFSC and/ or your type of products/services in your sales zone/ municipality/region? Do you have a relationship with all of them? If not, what is the reason?

Competitor profile

• Do you face a lot of competition in your sector?

• Have you noticed an increase in competition in the past 3 years?

• Who are your competitors (both long and short chains)?

• What are the characteristics of the products of your competition?

–Do they sell cheaper or more expensive than you?

–Are their products better or worse than yours?

–Do they produce more or less than you?

• What is the key difference between their products and yours? Is it a matter of food characteristics and price or is there something else (human relations, good service, best marketing/promoting, etc)?

• Are these competitors in a better preference position compared to your company's offering company? Why?

• What are the strengths of the competitors?

• What are the weaknesses of the competitors?

• Are the competitors' products more attractive than yours? Why?

• What sales channels do they use? Are they the same as the ones you use?

• Do the competitors sell their products to other types of clients than you do?

Customers profile

• Regarding the people who consume your products (consumers):

–Who are your consumers?

–Are there different consumer groups? Do your consumer groups differ by:

* gender? If yes, approximately what percentage is female?

* age? If yes, approximately what percentage are the age ranges of young (< 30 years old), middle-aged (30-55 years old), seniors (+55);

* whether they live in an urban/rural area? If yes, approximately what percentage is rural/urban?

* any other factors (interests, ethical issues, environmental, economic level, available time for shopping, etc). If yes, please give details and approximate percentage of total sales that this segment comprises.

–Are they always the same or do they vary greatly over time? Are they loyal?

–Are you paid well (on time and on budget)?

–Regarding all these questions concerning consumers, can you answer them for each of the short food supply channels that you use? Do consumer characteristics differ according to the channel used? Which channels do consumers prefer?

• If you also sell products through an SFSC intermediary (restaurants, speciality retailers, collectives, etc):

–Who are they?

–Where are they located?

–What are their characteristics?

–Are they always the same, or do they vary greatly over time? Are they loyal?

–Do they always buy the same number of products?

–Are you paid well (on time and on budget)?

–Do you understand the purchase acts and patterns of each customer?

–Do you have a list of potential customers you are not selling to yet? Who are there? Why do you not sell to them?

• Why do you think consumers/SFSC intermediaries buy your products? What are the most important factors/drivers/motivations for them when shopping for food products (freshness, taste, quality, price, convenience, human factor, etc)? Do those reasons differ according to type of product or retail channel?

• Why do you think consumers/SFSC intermediaries buy the products of your competition? What are the most important factors/drivers/motivations for them when shopping for the competition's products (freshness, taste, quality, price, convenience, human factor, etc)? Do these reasons differ according to type of product or retail channel?

• What are the main obstacles to buying food products for customers/SFSC intermediaries?

• Are the consumers/SFSC intermediaries willing to pay more for some of your food products? For what kind of products or product attributes?

• In your view, how aware are consumers/SFSC intermediaries of the social and environmental impact of current food production? Are they aware of the distinction between short and long food supply chains? Do you actively explain these aspects to your consumers and clients?

• What do you think the consumers' and SFSC intermediaries' wants/needs/values are when it comes to your products? Does this differ according to different consumer/SFSC intermediary characteristics?

• Do you know if consumers/SFSC intermediaries want to know about your business/products/services? About the food production process/benefits (health, environmental, support for local economy? Percentage of profit earned through direct selling as compared to long chains?

• Do customers/clients positively perceive the brand/policy of the company?

• Do customers/clients perceive the transparency of the company (win-win relationship, consumers well-informed about attributes and production, fair prices for both, etc)?