



SMALLDERS PROJECT

SMART MODELS FOR AGRIFOOD LOCAL VALUE CHAIN BASED ON DIGITAL TECHNOLOGIES FOR ENABLING COVID-19 RESILIENCE AND SUSTAINABILITY

D4.2

REPORT ON CITIZENS' NEEDS AND POLICYMAKERS' DECISION PROCESS



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EXECUTIVE SUMMARY

The international SMALLDERS project aims to develop a technological platform (SMALLDERS) that, through the use of innovative strategies and methodologies, new technologies and business models, will improve the resilience of small farms in the Mediterranean area, and thus cope effectively and efficiently with unexpected events and disruptions in their supply chains, such as those generated by the COVID-19 pandemic. Among the Work Packages of the project is the Work Package 4 (WP4) called "New business models in the smallholders' supply chain" and led by the University of Extremadura (UEX). Its general objective is to establish a reference framework for the definition of business models in the SMALLDERS platform that provides its members with new and useful ways of doing business (in the case of small producers, stakeholders, and transport companies), satisfy their needs (consumers), and support the decision-making process (public administration, entities, and organizations).

This document develops the conclusions drawn from the study of citizens' needs and the policymakers' decision-making process. Firstly, through literature review and qualitative research, the paper describes consumers' predisposition towards the use of e-marketplace platforms in the agri-food sector, as well as their perception of the value of the different functionalities and requirements this type of technological platforms may include. Secondly, the paper focuses on the role of public administrations and, through a questionnaire, summarizes policymakers' main insights on the SMALLDERS platform and its functionalities.

1. INTRODUCTION

The international SMALLDERS project (<https://smallders.com>) aims to develop a technological platform (SMALLDERS) that, through the use of innovative strategies and methodologies, new technologies and business models, will improve the resilience of small farms in the Mediterranean area, and thus cope effectively and efficiently with unexpected events and disruptions in their supply chains, such as those generated by the COVID-19 pandemic. The project also aims to provide technological improvements to reduce water consumption and improve food storage conditions in order to reduce food waste, in line with the Sustainable Development Goals of the UN's 2030 Agenda, specifically goals 6 and 12.

For the development of this international project, a consortium of 5 partners from 4 countries has been formed: Italy, France, Spain, and Tunisia. In the case of Spain, the research team of the University of Extremadura brings to the project its experience and knowledge in the description and modelling of new business models for small agricultural producers. The importance of having an adequate business model has been sufficiently demonstrated in different studies, which indicate that companies can improve their results if they allocate more resources to the experimentation of business models. For example, a 10% increase in revenue can be observed when a dedicated business model is used. For this reason, the analysis of the new business models that have emerged in the agri-food sector is one of the great challenges that researchers and professionals in the sector have been tackling in recent years. The research team of the University of Extremadura is leading the implementation of Work Package 4 (WP4) called "New business models in the smallholders' supply chain". This WP4 is being developed since December 2022 and will end by October 2024. Its general objective is to establish a reference framework for the definition of business models in the SMALLDERS platform that provides its members with new and useful ways of doing business (in the case of small producers, stakeholders, and transport companies), satisfy their needs (consumers), and support the decision-making process (public administration, entities, and organizations).

To demonstrate the potential of the SMALLDERS platform and its versatility, the project partners have planned the creation and implementation of an experimental infrastructure based on four case studies (testbeds) located in

each of the partners' countries of origin. The idea is to demonstrate not only the potentials of the SMALLDERS platform with respect to the call challenges, but also the platform's capabilities to be used in different countries and regions where boundary conditions could be different (e.g., the capability of the platform to be used in regions with limited internet bandwidth, different ICT skills of the actors involved, etc.).

The purpose of this report is to describe the citizens' needs and policymakers' decision process. The document is divided into two main parts, one dedicated to citizens' needs and the other dedicated to the policymakers' decision process. In the first part (section 2) the document focuses on citizens as consumers. It contextualizes their role in the platform, describes the methodology used and develops the conclusions of the qualitative research carried out. In addition, a proposal for a theoretical model on the intention to participate in an e-marketplace for small producers is made. All the above derives in a series of conclusions and proposals for the platform that are related to the requirements established in Deliverable D2.3. "Business Model Integration Requirements". The second part of this document (section 3) focuses on policymakers. It describes the role of public administrations and analyzes the policymakers' insights about the SMALLDERS platform. It ends with the elaboration of conclusions and proposals for the platform that are, again, related to the requirements set out in Deliverable D2.3.

2. CITIZENS' NEEDS

2.1. Contextualization and objectives of the task

One of the main goals of the SMALLDERS project is to propose innovative business models for smallholders. After carrying out in a previous phase of this project an identification and review of new business models in the agri-food sector (see Deliverable D4.1. "Agri-Food Business Models: A Systematic Review of the Literature"), we can say that the SMALLDERS platform allows smallholder farmers to implement several of these models. One of them is the use of the platform as a direct sales channel. In other words, turning the SMALLDERS platform into what is called an e-marketplace. Janita and Miranda (2013) define the e-marketplace as a way of doing business that uses Internet technology to bring together multiple buying and selling firms around a website or platform, enabling them to transact business through various mechanisms, and directed either by a neutral third party outside the exchanges that take place, or by one or more of the parties involved [buyers or sellers]. It also offers various value-added services that improve relationships between buyers and sellers. From the point of view of Business to Consumer (B2C) markets, e-marketplaces are the translation of shopping centers into the virtual world. In the case of food, it is similar to the old food markets that existed in large cities.

The rise of the Internet and social networks has given rise to a boom in e-marketplaces in both the B2C and Consumer to Consumer (C2C) spheres. The novelty and originality of the SMALLDERS platform lie in the fact that the suppliers are small agricultural producers, so that the e-marketplace becomes a process of disintermediation and a direct sales channel to the end consumer.

However, **the success of this platform as a sales channel for small producers depends on its acceptance by the end consumer.** A pre-analysis of the commercial viability of the e-marketplace resulting from the technological platform is necessary. For this reason, within task T.4.2 of the project, we first have focused on analyzing the purchasing and consumption habits of fresh food by potential consumers. Specifically, the general objective of this part of task T.4.2 has been to qualitatively identify the level of interest of potential consumers in purchasing fresh food directly from producers through an e-marketplace. This general objective has been broken down into the following specific objectives:

- To identify consumer attitudes and beliefs towards this type of fresh food shopping channel.
- To identify the socio-demographic and attitudinal profile of consumers with a greater and lesser predisposition to buy fresh food through an e-marketplace of small producers.
- To identify what conditions and what requirements or features of the e-marketplace would be conducive and valuable for the consumer to register on the platform and make purchases through it.

The knowledge acquired through this study allows us to assess the importance of many of the requirements of the platform that were included in the Deliverable D2.3. "Business Model Integration Requirements" (cf. D2.3). Specifically, those that involved the consumer directly. We highlight the following requirements:

- **Back-end functional requirements:**

Table 2.1: Back-End Functional Requirement: Logic to define customer segments.

ID: BMI002	Logic to define customer segments	REQUIRED
Description:	<p>The Back-End must ensure the necessary logic to implement forms that can be used to determine for whom this core value is created:</p> <ul style="list-style-type: none"> • Which classes (segments, markets, niches) are you creating value for? • Who are the main customers? 	

Table 2.2: Back-End Functional Requirement: Logic to define Key activities.

ID: BMI006	Logic to define Key activities	REQUIRED
Description:	<p>The Back-End must ensure the necessary logic to implement forms that can be used to determine what activities need to be executed to create this value:</p> <ul style="list-style-type: none"> • What key activities does your value proposition require? • What secondary or support activities are necessary? • What activities are important the most in distribution channels, customer relationships, revenue stream...? 	

Table 2.3: Back-End Functional Requirement: Logic to define Customer Relationships.

ID: BMI007	Logic to define Customer Relationships	REQUIRED
Description:	<p>The Back-End must ensure the necessary logic to implement forms that can be used to determine the kind of relationships the smallholder aims to establish with its customers:</p> <ul style="list-style-type: none"> • What relationship the target customer expects you to establish? • What service-product mix provides the best support for the customer relationships? • What time frame is established for the customer relationship? • How can you integrate that into your business in terms of cost and format? 	

Table 2.4: Back-End Functional Requirement: Logic to define Revenue Stream.

ID: BMI009	Logic to define Revenue Stream	REQUIRED
Description:	<p>The Back-End must ensure the necessary logic to implement forms that can be used to determine how this value is capitalised:</p> <ul style="list-style-type: none"> • For what value are the customers willing to pay? • How much is the customer willing to pay? • What and how do they usually pay? • How would they prefer to pay? • How much does every revenue stream contribute to the overall revenues? 	

Table 2.5: Back-End Functional Requirement: Customer Problems.

ID: BMI010	Customer Problems	OPTIONAL
Description:	<p>The Back-End must ensure the necessary logic to implement forms that can be used to recognize which customer problems can be solved with the value proposition:</p> <ul style="list-style-type: none"> • What can make the customer dissatisfied? • What risks are associated with the product consumption? • What barriers keep the customer away from the product? 	

- **Front-end functional requirements:**

Table 2.6: Front-End Functional Requirement: e-commerce for B2C E-market.

ID: BMI013	e-commerce for B2C E-market	REQUIRED
Description:	<p>The Front-End must provide an e-commerce platform that allows small farmers to sell their products to end consumers, without the involvement of large distributors.</p> <p>The platform should allow farmers to enter all the necessary information to identify and differentiate their products, e.g. denomination and category, product origin, price, place of production, quality identifications, sustainability identifications, presentation modalities, etc. Requirements for the e-commerce are reported in the deliverable D2.1.</p>	

Table 2.7: Front-End Functional Requirement: Content for Citizens (consumers).

ID: BMI015	Content for Citizens (consumers)	REQUIRED
Description:	<p>The Front-end consumer must be able to find products and producers organised by sections or typology. Access to products and producers should be done through predetermined sections such as, for example:</p> <ul style="list-style-type: none"> • Section by product category. • Section by geographical area. • Section by novelties. • Sections by specific characteristics such as organic food labeling, fair trade labeling, animal welfare certification, etc. <p>The requirements for the Citizens are reported in the deliverable D2.1.</p>	

Table 2.8: Front-End Functional Requirement: Requesting information.

ID: BMI017	Requesting information	OPTIONAL
Description:	<p>The Front-end consumer should be able to request additional information or clarification about the product. Such information can be answered by the producer or by other public users of the platform.</p>	

Table 2.9: Front-End Functional Requirement: Creation of multi-producer baskets.

ID: BMI018	Creation of multi-producer baskets	OPTIONAL
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Description:	The Front-End should facilitate the sharing of information among small farmers to create, on the B2C platform, basket offers of products from various producers, which can be sold as a single item to the end consumer. If needed, this requirement will be joined with e-Commerce requirements reported in D2.1.
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Table 2.10: Front-End Functional Requirement: Product traceability.

ID: BMI019	Product traceability	REQUIRED
Description:	The Front-End must provide to small farmers to provide all the necessary information so that the final consumer knows in detail the traceability of the products offered on the B2C platform, so that this information allows new business models such as subscription model, crowd-farming, etc. This requirement will be joined with Blockchain requirements reported in D2.2.	

Table 2.11: Front-End Functional Requirement: Return policy 1.

ID: BMI022	Return policy 1	OPTIONAL
Description:	The end consumer should be able to return products according to the return policy of the SMALLDERS platform.	

Table 2.12: Front-End Functional Requirement: Return policy 2.

ID: BMI023	Return policy 2	OPTIONAL
Description:	End consumers should be able to participate in a return and refund system for packaging and containers in case the producer or another stakeholder already subscribed to the platform is offering this service.	

Table 2.13: Front-End Functional Requirement: Periodic orders.

ID: BMI024	Periodic orders	OPTIONAL
Description:	End consumers should be able to subscribe/unsubscribe to a periodic ordering system (box or bag system) in order to receive	

	the product on a regular frequency, without the need to make a purchase each time.
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Table 2.14: Front-End Functional Requirement: Purchasing Experience 1.

ID: BMI036	Purchasing Experience 1	REQUIRED
Description:	The Front-end consumer (Citizens) should be able to evaluate her shopping experience. Once a purchase has been made, the buyer could rate the quality of the product and service received on a scale of 1 to 5 stars. Similarly, he/she could add a text comment (and an image) to the public profile of the product detailing the purchase experience. Requirements for the e-commerce are reported in the deliverable D2.1.	

Table 2.15: Front-End Functional Requirement: Purchasing Experience 2.

ID: BMI037	Purchasing Experience 2	OPTIONAL
Description:	The Front-end consumer should be able to read other users' comments on their purchase experiences included in the public profile of each product or producer.	

- **Non-Functional Requirements:**

Table 2.16: Front-End Functional Requirement: Consumer accessibility.

ID: BMI040	Consumer accessibility	RECOMMENDED
Description:	Consumers must have access to information on shipping costs, allowed payment systems, security in the payment system, shipping and delivery conditions (including deadlines), return policy and complaints	

Table 2.17: Front-End Functional Requirement: Return Policy.

ID: BMI041	Return Policy	OPTIONAL
Description:	The return policy for purchases within the platform should be included	

2.2. Methodology of the study

The work carried out within this part of the task T4.2 "Citizens' needs analysis and policymakers' decision process" was divided into two main phases. In the first phase, a literature review was carried out to find out what had been published academically on e-marketplaces in the agri-food sector. Subsequently, qualitative research was designed and carried out through focus groups with end consumers. As a result of this process, a theoretical model was obtained on the variables that are considered to influence the intention to buy fresh food directly from small producers through a platform similar to the one proposed in the SMALLDERS project.

2.2.1. Previous studies on e-marketplace in the agri-food sector.

Following the criteria for a systematic review of the academic literature, a search was carried out for academic articles published in journals included in the Web of Science (WOS) and SCOPUS databases and whose object of study was, in whole or in part, e-marketplace platforms for small producers.

The searching procedure was constructed by using the following structure: (Food consumer behaviour OR Food consumer shopping OR Food consumer purchase) AND (Online OR Direct channel OR E-commerce OR Marketplace) AND (smallholder OR farmer). These keywords must appear in the title, abstract and/or keywords of the article.

Thirty-five articles were identified relating to the direct sale of food via the Internet. All of these articles were read in full and discussed by 3 researchers. Of these 35, only a small number of articles, 13, analyzed these e-commerce platforms. These are very recent studies. However, not in all cases the platform analyzed was made up of small producers.

The articles identified have been grouped into three main groups according to the perspective from which they analyze the e-marketplace platform.

a) From the point of view of the platform itself:

This grouping of previous research includes articles that focus on explaining the technical functioning of the platform and only tangentially refer to the consumer, their participation, or their behavior within the platform. This research is based on case studies. Leduc et al. (2021) describe the blockchain

operation of an e-marketplace with farmers. The work by Musa et al. (2023), conducted in Brunei, aims to evaluate the responses taken during the pandemic of COVID-19 in sustaining agricultural activities and safeguarding local food supply via digital platforms. Čehić et al. (2022) present an analysis of the Web farmer's market application (WFMA) over a 5-year period, in Croatia.

b) From the farmer's point of view:

In this second block, 6 other articles have been included, whose main characteristic is that the main subject of the studies are the farmers who participate as sellers in the e-marketplace. The study by Vassalos and Lim (2016) uses a choice experiment to evaluate agricultural producers' preferences and willingness to pay (WTP) for five features offered by electronic food marketing platforms. The study was conducted through a survey carried out in the United States. The study by Dhaka (2017) aims to identify the main advantages of online direct selling platforms in the agri-food sector. It is a secondary data study conducted in India. Yang et al. (2019) provide an example of adopting e-commerce in the interaction and trading activities between participants in the food sector through a typical agricultural products e-commerce company in China, Minyu E-commerce. This is a case study with secondary information. In this case, the platform is not exclusively a grouping of small producers. Wang et al. (2022) have a threefold objective. First, they explore whether small scale farmers are willing to adopt online market as their market channels and whether there exist different types of farmers with different channel preferences. Second, they examine whether farmers are willing to adopt safer and more eco-friendly production practices if using online market channels. Third, they investigate the heterogeneity of farmers' preferences for these attributes. In this sense, these authors use the Choice Experiment technique to find out the preferences between three types of sales channels: traditional, platform or social network.

More recently, Zheng et al. (2023) explore the impact of rural e-commerce on the income of potato farmers in China through a survey. They employ a regression model. The study by Robina-Ramírez et al. (2022) was carried out in Spain with the aim of testing attributes that may influence the intention of

using an e-marketplace to buy and sell organic products. Unlike previous articles, this one analyses the e-marketplace platform both from the perspective of participating farmers and from the perspective of subscribing consumers. The authors use a survey to capture opinions and then apply structural equation modelling.

c) From the consumer's point of view:

In this third group, the most relevant for this part of the task T4.2 of the SMALLDERS project, we have included studies whose subject of analysis is the consumer (actual or potential) of an e-marketplace platform for food. In addition to the study by Robina-Ramírez et al. (2022), the following are also included: Stephens and Barbier (2021), through a case study, describe the functioning of an e-marketplace (online checkout system) and interview 18 French consumers to get their opinion and assessment of their participation in the e-marketplace; the study by Parth et al. (2021), conducted in India, aims to explore how a socio-digital platform can foster consumers responsibility in food consumption to encourage sustained responsible consumption and uncovers its possible impacts on different stakeholders in the agricultural ecosystem. It is qualitative research through interviews. Yu and Zhang (2022) analyze in China a specific case of online selling that can be linked and applied through an e-marketplace platform: livestreaming. They intend to explore the influencing factors from the levels of the platform, product, and consumer that affect consumers' attitudes and purchase intentions towards agricultural products via public-interest livestreaming. They collect information through a survey and analyse a structural equation model. Finally, the research by Liu et al. (2023) aims to focus on how the fresh e-commerce platforms can reduce consumer conversion to other forms of purchase and increase consumer repurchase. Through a survey of Chinese consumers, they argue the advantages of these digital platforms. They also analyze a structural equation model.

In summary, the literature review shows that the current interest in e-marketplace platforms is reflected in the appearance of very recent research published mainly from 2020 onwards. However, their study from the consumer perspective

is still very scarce and limited, in the sense that some of the articles have as their subject of analysis current users of the platform, not allowing to know the intentions and predisposition to use these platforms as a purchase channel by the standard consumer.

2.2.2. Qualitative research through focus groups.

Because of the fact that the concept of an e-marketplace platform for food shopping is practically unknown among potential consumers and there are only a very few real experiences in the market, it was considered that the study of consumers' predisposition towards these food shopping channel models should be based on qualitative research methods, rather than quantitative methods.

The focus group technique was chosen. Focus group discussion is frequently used as a qualitative approach to gain an in-depth understanding of social issues. It is widely used in the field of the study of food consumer behavior. In general terms, this technique consists of creating conversations among a group of people (in this case, consumers who are responsible for buying food in their households) with respect to topics that will be raised by a moderator through a semi-structured topic guide. Semi-structured questions are used to allow for open-ended responses and further discussion around specific responses.

Authors such as Kitzinger (1996) or Morgan (1996) define focus group methodology as a technique where a researcher assembles a group of individuals to discuss a specific topic, aiming to draw from the complex personal experiences, beliefs, perceptions and attitudes of the participants through a moderated interaction.

The main technical elements of the methodology used are described below:

- **Criteria for inclusion of participants.** All participants were the main or joint decision makers for food purchasing in their homes.
- **Selection of participants.** Participants were recruited through a mixture of snowball sampling and convenience sampling. Volunteers were compensated with a gift card for their participation.
- **Number of sessions and participants.** 6 sessions were organized in Badajoz (Spain), with a total participation of 41 consumers. Between 5 and 12 people participated in each session, with an average duration of approximately 2.5 hours. The following tables (2.18 to 2.23) show the data

from the Focus Group sessions conducted. The columns of the tables present: the number of participants per session, gender, age, level of education, level of monthly income, household size, and frequency of fruit and vegetable (F&V) consumption. Cells showing N/A are data not provided by the participants.

Table 2.18: Focus Group session 1.

Focus Group 1						
Badajoz, 28/06/2023						
Name	Gender	Age	Studies	Income (€)	Household size	Frequency of F&V consumption
Participant 1	F	32	University studies	3500-5000	2	Daily
Participant 2	F	27	University studies	<2000	1	Daily
Participant 3	M	40	University studies	>5000	4	Daily
Participant 4	M	55	University studies	3500-5000	2	Daily
Participant 5	M	52	University studies	2000-3500	4	Almost every day
Participant 6	M	69	Secondary	2000-3500	2	Daily

Table 2.19: Focus Group session 2.

Focus Group 2						
Badajoz, 14/09/2023						
Name	Gender	Age	Studies	Income (€)	Household size	Frequency of F&V consumption
Participant 1	M	54	Vocational training	<2000	3	Daily
Participant 2	F	40	University studies	3500-5000	4	Almost every day
Participant 3	F	43	Vocational training	2000-3500	3	Daily
Participant 4	F	27	University studies	2000-3500	N/A	Daily
Participant 5	F	30	University studies	2000-3500	2	Daily
Participant 6	M	52	University studies	>5000	3	Daily
Participant 7	F	46	University studies	3500-5000	4	Daily

Figure 2.1: Focus Group 1. Badajoz 28/06/2023



Figure 2.2: Focus Group 2. Badajoz 14/09/2023



Table 2.20: Focus Group session 3.

Focus Group 3						
Badajoz, 19/09/23						
Name	Gender	Age	Studies	Income (€)	Household size	Frequency of F&V consumption
Participant 1	M	64	University studies	2000-3500	4	Daily
Participant 2	F	49	University studies	2000-3500	4	Daily
Participant 3	F	62	University studies	2000-3500	3	Daily
Participant 4	M	47	University studies	3500-5000	3	Daily
Participant 5	F	46	University studies	3500-5000	3	Daily
Participant 6	F	46	University studies	2000-3500	3	Almost every day

Table 2.21: Focus Group session 4.

Focus Group 4						
Badajoz, 21/09/23						
Name	Gender	Age	Studies	Income (€)	Household size	Frequency of F&V consumption
Participant 1	F	51	University studies	3500-5000	4	Daily
Participant 2	F	48	University studies	3500-5000	3	Daily
Participant 3	F	47	University studies	3500-5000	4	Daily
Participant 4	F	45	University studies	3500-5000	3	Daily
Participant 5	F	56	University studies	2000-3500	1	Daily

Table 2.22: Focus Group session 5.

Focus Group 5						
Badajoz, 27/09/23						
Name	Gender	Age	Studies	Income (€)	Household size	Frequency of F&V consumption
Participant 1	M	48	University studies	3500-5000	5	Daily
Participant 2	F	50	University studies	2000-3500	4	Almost every day
Participant 3	F	55	University studies	2000-3500	2	Daily
Participant 4	F	55	University studies	2000-3500	2	Daily
Participant 5	F	48	University studies	<2000	1	Daily

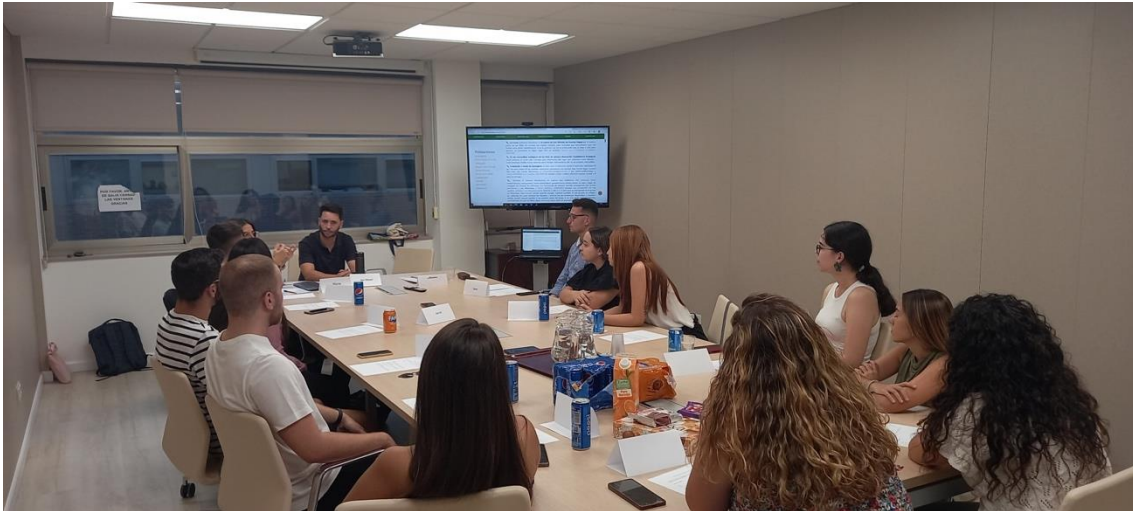
Figure 2.3: Focus Group 5. Badajoz 27/09/2023



Table 2.23: Focus Group session 6.

Focus Group 6						
Badajoz, 10/10/2023						
Name	Gender	Age	Studies	Income (€)	Household size	Frequency of F&V consumption
Participant 1	M	23	University studies	>5000	N/A	Daily
Participant 2	F	22	University studies	3500-5000	4	Only a few days
Participant 3	F	23	University studies	2000-3500	4	Almost every day
Participant 4	F	22	University studies	<2000	2	Daily
Participant 5	F	26	University studies	2000-3500	4	Daily
Participant 6	F	22	University studies	2000-3500	4	Almost every day
Participant 7	F	21	University studies	<2000	4	Only a few days
Participant 8	M	22	University studies	2000-3500	4	Daily
Participant 9	M	22	University studies	<2000	1	Only a few days
Participant 10	F	22	University studies	<2000	4	Daily
Participant 11	M	24	University studies	<2000	1	Rarely a week
Participant 12	F	22	University studies	N/A	2	N/A

Figure 2.4: Focus Group 6. Badajoz 10/10/2023



- Script.** The script used in the focus group sessions is included in Annex 1. It was designed by posing the topics to be discussed in a "funnel format": from the most general questions related to food purchasing to more specific questions about an e-marketplace for small producers. Specifically, the blocks of questions were as follows:
 - Block 1: Typical establishments where fresh food is purchased.
 - Block 2: The importance of origin and sustainability in food purchasing.
 - Block 3: Direct purchase from small farmers.
 - Block 4: Internet as a purchasing channel.

- Block 5: Online platform for small farmers.
- **Supplementary materials.** The moderators of the focus group sessions used audiovisual material to complete and explain some parts of the questions posed to the participants. Specifically, participants were shown images of various organic food labels, a real website was used to explain how the consumer groups and the box system work, another real website was also used to explain how an e-marketplace for small farmers works, and a video was shown on how the systems for sponsoring a tree or an animal work. In addition, participants filled in a quick questionnaire with basic information on their socioeconomic profile and food consumption habits.
- **Recording of the sessions.** Focus groups were audio and video recorded for subsequent reference and to aid verbatim transcription and subsequent data analysis. Verbal consent was confirmed at the beginning of each focus group.
- **Analysis of results.** Three researchers, using the traditional approach of reading the original transcribed audio and video recordings, analysed the transcripts (Braun & Clarke, 2006; Greenwood, Kendrick, Davies, & Gill, 2017). From there, a content analysis, a keywords-in-context, and a discourse analysis were carried out to obtain the main results.

2.3. Main results of the focus group sessions

This section develops the main conclusions drawn from the focus group sessions with consumers. The conclusions are discussed following the 5-block structure discussed above.

Block 1: Typical establishments where fresh food is purchased:

- Tendency to shop in neighborhood/proximity shops when it is an almost daily purchase.
- Tendency to shop in large stores when it is a large purchase containing products from different categories, including fruits and vegetables.
- Reasons to buy fruits and vegetables in neighborhood shops: proximity, personalized service, higher quality of fruits and vegetables than in large supermarkets (at its optimum point), quality-price balance, more varieties available, trust, local or nearby product.

- Reasons to buy fruits and vegetables in supermarkets: convenience, time saving, being able to buy the whole shopping basket in one place, freedom to choose the product you prefer based on what you see.
- Two key elements of fruits and vegetables purchasing: being able to see the product in situ (and choose it) and the price.
- Changes in consumption patterns during the pandemic, if they occurred (in few cases), have not been sustained over time.

Block 2: The importance of origin and sustainability in food purchasing:

- Diversity of views on the consideration of origin in the fruits and vegetables purchase decision
- However, if asked specifically about their preference for local products, the general response is yes, they prefer them to foreign products.
- A tendency to think of local produce as fresher and safer (food safety, treatments, etc.).
- In many cases, preference is given to local products with the aim of helping small producers and the local economy.
- Low level of awareness of what organic products mean.
- Low level of awareness of eco-labelling.
- Acceptance of organic fruits and vegetables being more expensive.
- They do not give it much credibility to organic production.
- Lack of concern for the environmental impact of agriculture. In many cases, this lack of concern is associated with a lack of knowledge on the subject.
- When local origin is valued, it is for its potential impact on freshness or support for the local economy, not for its environmental and carbon footprint impact.

Block 3: Direct purchase from small farmers:

- Sporadic experiences, especially in rural environments. Not that accessible in urban settings.
- Perceived benefits of direct purchasing: elimination of intermediaries (fairer prices paid to farmers), support for the local economy, perception of fresher and higher quality products.
- They consider that the farmer will earn more margin if he sells directly. Despite this, they consider that buying directly from the farmer is more expensive. This

is due to high shipping costs and because disintermediation also prevents the possibility for intermediaries to obtain advantages through economies of scale and economies of product portfolio.

- They are aware from the media of the problem of costs and low prices paid to farmers.
- They do not blame the problem on large-scale retail distribution, but on the excess of intermediaries, on the length of the distribution chain.
- They are aware that the countryside must be protected because it feeds us, but they consider that consumer has no power to influence positive changes.
- Few consumers identify buying directly from the farmer with non-personal benefits, confirming that the fruits and vegetables buyer has a self-centered and selfish purchasing behavior. There are few references to support for the local economy, nor to environmental benefits, and reference to fair prices is only mentioned when expressly asked but considering that the consumer has no influence.
- Regarding consumer groups, most consumers are aware of their existence, but with very little knowledge of how they work. They identify these consumer groups with clear disadvantages: perception of expensive, inconvenience of delivery or collection, too much quantity in each order, problems caused by baskets/boxes of a single product or by the obligation to receive pre-set products even if they do not like them, mistrust/fear of the final quality of the product.

Block 4: Internet as a purchasing channel:

- Customers are used to buying almost all types of products online, due to convenience and price.
- Increasing trend of online shopping since the COVID19 pandemic.
- Fruits and vegetables and fresh food in general are the exception. Main reasons: not trusting the quality of the product you receive, lack of personal attention, high prices.

Block 5: Online platform for small farmers:

- The idea is considered good, but the prices must be competitive (compared to what is found in corner shops and supermarkets).

- Clear barriers to entry (to subscribe or try it out) are identified:
 - Distrust about the quality and condition in which your fruits and vegetables order will arrive. They do not associate it with products that are fresher than what they can buy on the spot in a corner shop.
 - Not having the product at the time of purchase (high delivery times). In this product category, purchases tend to be daily purchases aimed at meeting immediate needs.
 - Too much product in a single purchase.
 - Lack of variety in products and boxes.
 - Doubts about the shipping costs and the final price you get for your purchase.
 - Lack of personal contact, although they generally see this as sufficiently compensated for by the information provided by producers.
- It is perceived as more focused on large consumers (understood as families, households with 4 or more members, or even restaurants) than on small households.
- Regarding platform attributes:
 - They attach importance to the platform including opinions and ratings from other consumers.
 - Information on the traceability of the product is important.
 - Information on the origin of the products (highlighting local or regional origin) would be of value to them.
 - They find the option of creating multi-product and multi-producer boxes attractive.
 - Due to the profile of the interviewees (consumers who are not job seekers in the agri-food sector), they did not consider the "job demand" functionality of the platform as valuable. It is recommended to analyze this aspect further in other WP4 tasks, especially the one focused on the study of smallholders.
- The same disadvantages are attributed to the adoption/sponsorship system. It may be an option if it is marketed as a "gift" (e.g. give a vineyard as a present).

- They do not attribute value to the possibility of visiting the farm and carrying out complementary activities. It is not an incentive to try the product or subscribe to the platform.
- Visiting and agricultural activities would be more focused on families with young children.

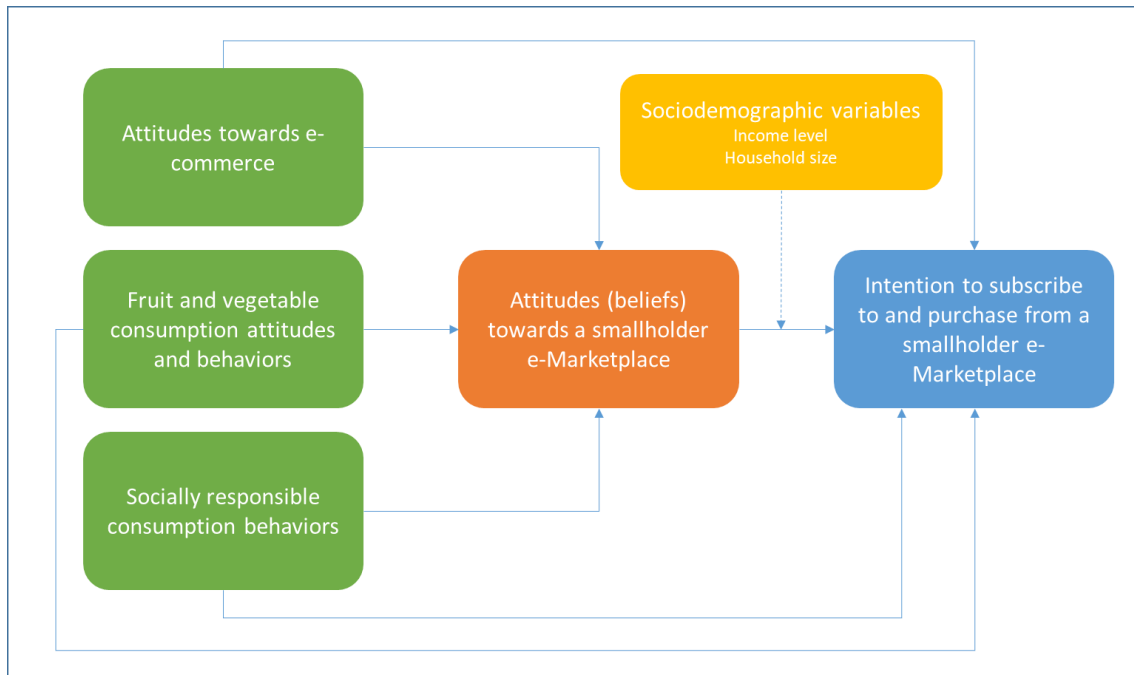
2.4. Proposal for a theoretical model on the intention to participate in an e-marketplace for small producers.

Based on the knowledge obtained through the qualitative research, a model of determinant variables in the intention to buy directly from small farmers through an electronic platform is proposed. This model is shown in Figure 2.5 and might be empirically evaluated in the future through a consumer survey.

As can be seen, the variables that seem to determine consumers' intention to participate and buy directly from a small producer through an e-marketplace are the following:

- Household size. As large quantities are sold in an e-marketplace, consumers who are members of a single or small household have shown us more reluctance to participate in this buying and selling channel.
- Income level. High price sensitivity has been found.
- Attitude towards e-commerce. Those who are more inclined to use the Internet, in general and as a purchasing channel, are more likely to try out a new purchasing and sales channel such as e-marketplaces.
- Fresh food consumption attitudes and behavior. As bulk orders are involved, consumers living in households with higher frequency of fruit and vegetable consumption and with a greater perception of the link between food and health tend to be more inclined to this new way of shopping.
- Socially responsible consumption behavior. Arguments such as the contribution to local development, support for small producers or the commitment to organic food are cited as intangible benefits that encourage purchases through this type of sales channel.

Figure 2.5: Theoretical model on the intention to participate in an e-marketplace for small producers.



2.5. Conclusions and recommendations from citizens' needs analysis

The literature review and the qualitative research conducted allow us to conclude that there is a low consumer acceptance of the use of an e-marketplace platform for small-scale farmers. The problem is not the platform itself, but the way of buying fresh products, especially fruit and vegetables. In order to minimize consumers' reluctance to use this type of platform, a series of specific recommendations are set out below on the functionalities to be included in the e-marketplace platform from the consumers' point of view. These functionalities are directly related to the requirements established in the previous Deliverable D2.3. "Business model integration requirements". Specifically, the following recommendations are listed, grouping them according to their strategic importance into two types: recommendations for key actions and recommendations for complementary actions.

Key actions (product policy):

1. To consider the use of small quantity boxes/baskets, adapted to the size of small households. *Requirements related:* ID: BMI013 e-commerce for B2C E-market.
2. To consider the use of multi-product boxes/baskets. Encourage associations between nearby producers for joint sales. *Requirements*

related: ID: BMI018 Creation of multi-producer baskets, ID: BMI007 Logic to define Customer Relationships.

Key actions (communication and promotion policy):

1. To design clear messages about the freshness of the fruit and vegetables delivered, highlighting them in an attractive way and in an attractive place on the website. *Requirements related:* ID: BMI013 e-commerce for B2C E-market; ID: BMI015 Content for Citizens (consumers); ID: BMI002 Logic to define customer segments; ID: BMI007 Logic to define Customer Relationships.
2. To highlight the local and regional origin of the products, as well as design messages to support the local/regional economy. It would be advisable to include in the platform the option of using the buyer's location to offer products of nearby origin. *Requirements related:* ID: BMI013 e-commerce for B2C E-market; ID: BMI015 Content for Citizens (consumers); ID: BMI002 Logic to define customer segments; ID: BMI007 Logic to define Customer Relationships.
3. Preferably highlight personal benefits for the shopper and, secondarily, environmental and social benefits. These benefits would focus on the quality of the product and its freshness (time of harvest and delivery time), positioning it as something that cannot be found in large supermarkets or neighborhood shops. It is also possible to play with the healthy positioning of fruit and vegetable consumers. The link between organic foods and health for consumers must be exploited. According to research on consumption of organic foods, the healthy factor has more weight than the protection of the soil itself or the contribution to the fight against climate change. Technical information on the environmental impact of an agricultural operation must be incorporated to convey credibility, but it must be communicated using the priorities of the end consumer (health) and their own language. The consumer does not have the knowledge or interest to exclusively value technical environmental information. *Requirements related:* ID: BMI013 e-commerce for B2C E-market; ID: BMI015 Content for Citizens (consumers); ID: BMI002 Logic to define customer segments; ID: BMI007 Logic to define Customer Relationships.

Complementary actions:

1. It is recommended to include videos showing the products. For instance, videos showing the preparation of a real order to appreciate the process and the quality of the fruit and vegetables included. The positive impact on the consumer of including photos and videos of the products is very clear. *Requirements related:* ID: BMI013 e-commerce for B2C E-market; ID: BMI015 Content for Citizens (consumers).
4. To create an order return or compensation system to give consumers more peace of mind. *Requirements related:* ID: BMI022 Return policy 1; ID: BMI041 Return Policy.
5. To include a section to collect opinions and evaluations from other users. *Requirements related:* ID: BMI036 Purchasing Experience 1; ID: BMI037 Purchasing Experience 2.
6. To include an instant response chat to resolve possible doubts that may arise for the consumer regarding the order, thus avoiding leaks during the purchasing process. *Requirements related:* ID: BMI017 Requesting information.
7. To include forms for direct contact with farmers to resolve doubts about products, shipments and other aspects related to orders. *Requirements related:* ID: BMI017 Requesting information.
8. To include the option to save pre-selected product lists for future purchases based on previous purchases, thus increasing the speed of product selection during the purchase process. *Requirements related:* ID: BMI013 e-commerce for B2C E-market; ID: BMI015 Content for Citizens (consumers).
9. To facilitate mechanisms (promotions, offers) to incentivize the first purchase and/or registration on the platform to build trust. *Requirements related:* ID: BMI013 e-commerce for B2C E-market; ID: BMI015 Content for Citizens (consumers); ID: BMI002 Logic to define customer segments; ID: BMI007 Logic to define Customer Relationships.

3. POLICYMAKERS' DECISION PROCESS.

3.1. The role of public administrations

Public administrations play a key role in the agri-food supply chain, through policies and regulations that should promote fair competition, transparency, and price stability by contributing to the development of more efficient price structures.

In our case, as users of the SMALLDERS platform, public authorities have a place to interact with other actors in the agri-food chain, especially farmers. Thus, based on the information that small producers have decided to share, policymakers can be aware of their needs and difficulties, market trends, the use of innovative technologies, and interactions with other actors in the supply chain, among other aspects. Sharing of information with the government can be even more relevant during crises (e.g. pandemics) to gain a better understanding of the social and economic situation of smallholders during these periods and to take prompt corrective measures, such as providing economic incentives or facilitating access to credit.

On the SMALLDERS platform, regional, provincial, or local governments (policymakers) can create their own account. During the registration procedure some data and information such as the name of the contact person, the name of the represented office, location and address, email, telephone, website, password, etc. are requested. Policymakers can access the list of all smallholders registered on the platform or select a specific group, e.g., those located in a specific city, province, or region. In addition, policymakers can publish on the platform relevant information for the different stakeholders, including upcoming funding opportunities, business opportunities, contacts with regional, national, or international chambers of commerce, relevant regulations, etc.

The SMALLDERS platform includes a specific module for use by policymakers, called "Module Policymakers", with the following functionalities (c.f. D3.2):

- Access to information provided by smallholders.
- Direct channel of communication with smallholders.
- Publication of relevant and useful information for smallholders.

Specifically, policymakers will be able to include on the platform those documents that report on new regulations or draft regulations applicable to agri-food related sectors and make them visible to all small farmers, as well as establish direct channels of communication with these agents to gather their opinion on rules and regulations in their field of action, report on calls for aid and subsidies, or request bids in public procurement processes.

Table 3.1: Front-End Functional Requirement: Policymakers interaction module 1

ID: BMI032	Policymakers interaction module (module management 1)	REQUIRED
Description:	Through the front-end, the Policymakers must be able to upload documents reporting new regulations or draft regulations applicable to agri-food related sectors and make them visible to all Smallholders (indeed, this information can be relevant for the Smallholders business model). Requirements for the Policymakers interaction module are reported in the deliverable D2.1.	

Table 3.2: Front-End Functional Requirement: Policymakers interaction module 2

ID: BMI033	Policymakers interaction module (module management 2)	OPTIONAL
Description:	Policymakers should be able to create public forums to gather opinions on future regulations or public measures related to the agri-food sector.	

Table 3.3: Front-End Functional Requirement: Policymakers interaction module 3

ID: BMI034	Policymakers interaction module (module management 3)	OPTIONAL
Description:	Policymakers should be able to upload to the platform information on subsidies and grants relevant to SMALLDERS users.	

Table 3.4: Front-End Functional Requirement: Policymakers interaction module 4

ID: BMI035	Policymakers interaction module (module management 4)	OPTIONAL
Description:	Policymakers should be able to solicit bids for public procurement tenders.	

At this point, we would like to know in a little more detail what is the vision of the Public Administrations about this project. To this end, we have prepared a questionnaire designed to provide primary information on the potential use of this type of platform by policymakers in their decision-making process.

The questionnaire was distributed among the partners of the project with the aim of collecting insights from different public administrations in different countries. Table 3.5 shows the details of the organisms answered the questionnaire.

Table 3.5: Public administrations surveyed.

Country	Organism	Department	Contact
Spain	Regional Government Junta de Extremadura	Directorate General of Cooperatives and Social Economy	Mr. Juan Gabriel Montero Málaga Head of Department
Tunisia	Regional Agricultural Development Commission of Nabeul	Agricultural Studies and Development Division	Hatem Ben Thameur Director of Agricultural Studies and Development

An additional contact with the councilor's agriculture staff in the Italian Emilia Romagna region was made. At this moment, no response was received.

3.2. Policymakers' insights about the SMALLDERS platform

The questionnaire was structured in 4 parts:

- Basic information: contact details of the public authorities surveyed.

- Knowledge of the project: how they came into contact with the project.
- Participation in the platform: about the functionalities of the platform.
- Role of policymakers on the platform: about the potential use of the platform by the policymakers

According to the answers received, some relevant results are highlighted:

- The policymakers did know the project through their relationship with members of the consortium, mainly because of their condition of external partner or as an organization interested in the results of the project.
- Regarding their **knowledge about the functionalities** of the platform, the policymakers considered them as quite useful, assigning 4 points out of 5.
- Regarding the **usefulness of the functionalities** related directly to the small farmers, the policymakers assessed them as the most relevant, with a valuation of 4.5 out of 5. The usefulness of the platform as a repository obtained an average valuation of 3.5 out of 5.
- Other remarkable comments about the functionalities of the platform were:
 - “I would recommend including functionalities that are easy to use and that allow a fluid and manageable exchange of information, including the possibility for users to attach video or audio files”.
 - “In addition, it would also be interesting to create informal cooperation and/or marketing groups, both horizontal and vertical, in order to generate synergies in the agri-food sector and promote restructuring processes to encourage the integration of small farms into supra-structures for the marketing of their businesses”.
- Regarding the **potential use of the platform**, the policymakers mentioned some advantages of using this kind of technologies in their relationship with smallholders, for example: access to updated data on farms; monitoring of product traceability; possibility of interaction with small and medium-sized producers for the exchange of detailed information; as a way for creating a relationship of trust between public administration and smallholders; to analyze the current context for possible immediate, medium and long-term interventions; to define strategic plans to support

smallholders in short, medium and long term; or to produce predictive actions and react in time.

- Among the **advantages of using the platform for smallholders**, the public authorities mentioned 1) the possibility of making contributions, in an accessible way, in the regulatory processes that, directly or indirectly, could affect them; 2) as a specialized information point for certain administrative procedures or formalities; 3) as a way of communication with smallholders to identify, explore and understand their problems and expectations as well as their needs in order to be able to assist, support and monitor them; or to define adequate diffusion programs.
- Finally, the policymakers identified **some advantages of using the platform for other stakeholders**, for example: to know the costs related to the entire supply chain of a given agricultural product; to intervene correctly and beforehand with other political decision-makers; or gain insights into market needs.

3.3. Conclusions from policymakers' decision process.

In general, the policymakers expressed a great interest in the platform SMALLDERS and assessed very positively its functionalities for making decisions based on the information provided by different users, specially, by the small producers. Several advantages of using the platform were identified by policymakers, in line with the requirements previously defined by the consortium in the deliverable D2.3. Specifically, using the platform as an information and communication point with smallholders and as a way for creating long term relationships. In addition, policymakers also indicated other strong points of the platform such as its ability to improve market conditions for smallholders or as a repository of information.

Nevertheless, the development and implementation of such functionalities will require a further collaboration with public authorities in order to increase the utility of the platform, not only for policymakers, but also for other stakeholders.

4. REFERENCES

- Čehić, A., Šugar Korda, T., Oplanić, M., & Brščić, K. (2022). Internet use as a form of direct sales for agro-food products- Empirical evidence before and during the COVID-19 pandemic. *Journal of Central European Agriculture*, 23 (1) pp. 220-231.
- Dhaka, S.S. (2017). Impact of Growing E-Commerce on Indian Farmers. *Indian Journal of Economics and Development*, 13(2), pp. 596-599.
- Janita, M. S., & Miranda, F. J. (2013). Exploring Service Quality Dimensions in B2B e-marketplaces. *Journal of Electronic Commerce Research*, 14(4), 363-386.
- Kitzinger, J. (1995). Introducing focus groups. *British Medical Journal*, 311, pp. 299-302.
- Leduc, G., Kubler, S., & Georges, J.P. (2021). Innovative blockchain-based farming marketplace and smart contract performance evaluation. *Journal of Cleaner Production*, 306, pp.127055.
- Liu, M., Jia, W., Yan, W., & He, J. (2023). Factors influencing consumers' repurchase behavior on fresh food e-commerce platforms: An empirical study. *Advanced Engineering Informatics*, 56, pp. 101936.
- Morgan, D. L. (1996). Focus Groups. *Annual Review of Sociology*, 22, pp. 129-152.
- Musa, S.F.P.D., Haji Besar, M.H.A. & Anshari, M. (2023). COVID-19, local food system and digitalisation of the agri-food sector. *Journal of Indian Business Research*, 15 (1), pp. 125-140.
- Parth, S., Manoharan, B., Parthiban, R., Qureshi, I., Bhatt, B., & Rakshit, K. (2021). Digital technology-enabled transformative consumer responsabilisation: A case study. *European Journal of Marketing*, 55(9), pp. 2538-2565.
- Robina-Ramírez, R., Chamorro, A., and Moreno-Luna, L. (2022). Organic and online attributes for buying and selling agricultural products in the e-marketplace in Spain, *Electronic Commerce Research and Applications*, 42, pp. 100992.
- Stephens, R., & Barbier, M. (2021). Digital fooding, cashless marketplaces and reconnection in intermediated third places: Conceptualizing metropolitan food provision in the age of prosumption. *Journal of Rural Studies*, 82, pp. 366-379.

Vassalos, M., & Lim, K.H. (2016). Farmers' Willingness to Pay for Various Features of Electronic Food Marketing Platforms. *International Food and Agribusiness Management Review*, 19 (2), pp 131-149.

Wang, H. H., Jiang, Y., Jin, S., & Zheng, Q. (2022). New online market connecting Chinese consumers and small farms to improve food safety and environment. *Canadian Journal of Agricultural Economics*, 70(4), pp. 305-324.

Yang, X., Chen, X., Jiang, Y. & Jia, F. (2019). Adoption of e-commerce by the agri-food sector in China: the case of Minyu e-commerce company. *International Food and Agribusiness Management Review*, Vol. 23 (1), pp. 1-15.

Yu, Z., & Zhang, K. (2022). The Determinants of Purchase Intention on Agricultural Products via Public-Interest Live Streaming for Farmers during COVID-19 Pandemic. *Sustainability*, 14, pp. 13921.

Zheng, S., Yu, L., & Fu, H. (2023). Has Rural E-Commerce Increased Potato Farmers' Income? Evidence from the Potato Home of China. *Potato Research*, pp. 1-21.

Annex I: The consumers' semi-structured questionnaire

PRESENTATION

Good morning/afternoon. My name is _____. Thank you for collaborating with us in this research that aims to identify and analyse the purchasing behaviour of fresh food. This research is part of a European Union project in which universities from 4 countries are collaborating.

The methodology we are going to use is the group dynamic or focus group, which consists of commenting on and debating among the participants the topic being researched based on a set of questions that we are going to ask. The aim is not to conduct an interview, but to create informal conversations among everyone. No one opinion is better than the other, they are all valid and correct, so feel free to answer them. You can speak up when you feel it's appropriate to do so, and you can qualify or comment on what another colleague has said.

But first, please fill in the short questionnaire we have given you. (see table 2.18 and following)

...

To create an environment of trust that favors conversation, we will start with a brief introduction of each of us, in half a minute we will tell you what we are called and what we do. And feel free to help yourselves to coffee during the session.

...

Now that we have broken the ice, let's get started. As we have said, I will ask you open questions and you are free to answer them in any order you like.

BLOCK 1. Common shopping establishments

1.- In what type of establishments do you usually buy fresh food, e.g. fruit and vegetables? *(do not mention unless clarification is needed: large hypermarkets, supermarkets, small specialised shops, neighbourhood shops, etc.).*

2.- Why? What is/are the reason(s) for this choice *(without mentioning if no clarification is needed: prices, freshness, personal treatment, etc.)?*

3.- During the period of restrictions due to the pandemic, did you change in any way the place where you bought food? And if you did change, have you kept it afterwards?

BLOCK 2. Origin and sustainability

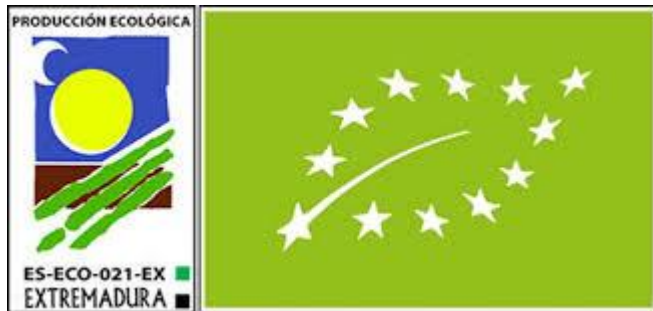
4.- When you buy fresh food, do you usually inform yourself about the origin of the product *(ask them to elaborate on why or why not)?*

5.- In the shops we can find food produced in the region, others in Spain and even from other countries. For example, watermelons from Morocco or mangoes from Latin

America. Do you give preference to local foods, produced in our region or close to where we live, and why? (*Attention: the answer to this question can be given with the previous one, so it is possible that it is not necessary to ask it directly*).

6.- Do you know what organic food is?

7.- Do you know how to identify organic food and the official label that identifies it (*wait for answers and **show a picture***)? (European label and regional label)



8.- When you buy food, do you take into account the environmental impact it may have had? For example, the carbon footprint or CO₂ emissions from transporting it from the place where it is produced to the cities.

BLOCK 3. Direct purchase from the small farmer

9.- Have you ever bought food directly from the farmer (if necessary, clarify whether it is from the farmer's own farm or from the farmer's own shop)?

10.- Why have you done it or why have you never done it or not done it more than once (*do not mention unless we need them to need answers: freshness, reduction of pollution, direct treatment, fair price, etc.*)?

11.- (if the subject does not come up directly because the focus is on supporting the farmer) What benefits or advantages can buying directly from the farmer bring you, as consumers? (*Note: at the end of these two questions there should be comments referring to both benefits for the consumer and benefits for the farmer*).

12.- Do you consider the prices that small farmers receive for their production to be fair?

13.- Do you think that the consumer can influence the fairness of food prices for the farmer? Do we have power or can we not influence this situation?

14.- (while we ask the question we show the website: <https://familiahevilla.es/consumo.php>) We are now going to talk about the so-called consumer groups or subscription box systems. These are groups of consumers and farmers that establish a mechanism whereby the farmer sends the consumer a basket or box of food periodically, for example, every week or every 15 days, and collection is agreed at certain public or private places, such as a workplace. Have you ever heard of them or do you know of any of them?

15.- If you were to receive information about the existence of a consumer group near you, would you sign up to it? Why?

BLOCK 4. Internet as a purchasing channel

16.- Let's move on to another topic, the Internet. Referring to any product, not only food, do you buy on the Internet? What kind of products do you buy on the Internet?

17.- Have you noticed that you are buying more online since the pandemic?

18.- And now we focus exclusively on food, have you ever bought food on the Internet, how often?

19.- For those of you who have, what kind of food, and has it ever been fresh food?

20.- Regardless of whether you have bought them or not, what advantages and disadvantages do you see in buying fresh food over the Internet? In other words, what are your reasons for buying or not buying online?

21.- In what type of online shops have you bought food? We mean whether you have shopped on the website of shops like Carrefour, in the food section of Amazon, in small online shops or even on the producer's or farmer's own website.

BLOCK 5. Online platform for small farmers

22.- In order to sell on the Internet, a farmer or small agricultural enterprise can create his own online shop, i.e. his own website where his products can be bought. But there is another possibility. These are the online trading platforms, a grouping of agricultural producers to sell their products together. We are going to show you a real example:

<https://www.crowdfarming.com/es>

How would you feel about such a platform and would you buy through it?

23.- (ask if you do not obtain answers through the previous question) What advantages and disadvantages do you see in buying directly here, instead of in a supermarket or a neighbourhood shop?

24.- (if not already mentioned) Do you think that buying fruit and vegetables online guarantees you fresh, quality produce?

25.- As you can see on the web, there are also systems that allow consumers to sponsor a tree, an animal or a small vegetable garden. In exchange for a fair price for the farmer or livestock farmer, the consumer receives the fruits of this adoption (show video: <https://www.youtube.com/watch?v=JEsVHr5hTWQ> (olive tree)). What do you think of this, under what conditions would you be willing to adopt, or why wouldn't you do it?

26.- This type of online sales platform allows an interaction between the consumer and the farmer that can go beyond buying and paying. For example, the farmer can offer a system in which the consumer visits his farm, spends a day there and picks up the food

he buys directly. For example, suppose we want to buy cherries from El Jerte and the system allows us to specify a day to pick the cherries that we are going to take with us and even carry out some rural leisure activities during that day. As consumers, what do you think? Would you buy food that includes this option of visiting the farm?

Annex 2: The policymakers' questionnaire

QUESTIONNAIRE

Thank you for taking a few minutes to answer the questions in this questionnaire. Your answers will help us to improve our knowledge of the decision-making processes of policy makers. All information provided will be treated confidentially and its use will be limited to the scope of the project.

PART 1: CONTACT

Please complete each section with the information requested in red.

Agency	<i>Ministry, Council, Delegation, ...</i>
Department	<i>Directorate General, Service, Section, ...</i>
Contact person	<i>Name and surname (position)</i>
Contact address	<i>Email. Phone</i>

PART 2: KNOWLEDGE OF THE PROJECT

Please complete each section with the information requested in red.

Did you know the SMALLDERS project?	<i>Yes/No. If no, please review sections 2 and 3 of this document.</i>
If so, how did you hear about it?	<i>– Through those responsible for the project: project coordinator, researchers, external partners, ... – Through their social networks: Facebook, LinkedIn, X – Through participation in events organised by the project: workshops, focus-groups, congresses, ... – Others: point out</i>
Do you know of other projects like this one?	<i>If yes, please indicate which ones.</i>

Do you know of other entities or organisations that might be interested in this project?	<i>If yes, please indicate which ones.</i>
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PART 3: PARTICIPATION IN THE PLATFORM

Please complete each section with the information requested in red.

Did you know the basic functionalities of the platform?	<i>Yes/No. If no, please review sections 2 and 3 of this document.</i>				
Do you consider that the SMALLDERS platform can be a useful tool in your decision-making process?	<i>Nothing</i>	<i>Very little</i>	<i>Something useful</i>	<i>Quite useful</i>	<i>Very useful</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
According to the section 3, please, order the functionalities offered by the "policymakers module" for your decision making process (1 means top priority)	<i>Functionality</i>				<i>Priority order</i>
	<i>Direct channel of communication with smallholders</i>				<i>Choose 1, 2, 3</i>
	<i>Access to information provided by farmers</i>				<i>Choose 1, 2, 3</i>
	<i>Information and documentation repository</i>				<i>Choose 1, 2, 3</i>
Assess the usefulness of the "Direct channel of communication with smallholders" functionality for your decision making process	<i>Nothing</i>	<i>Very little</i>	<i>Something useful</i>	<i>Quite useful</i>	<i>Very useful</i>

Assess the usefulness of the “Access to information provided by farmers” functionality for your decision making process	<i>Nothing</i>	<i>Very little</i>	<i>Something useful</i>	<i>Quite useful</i>	<i>Very useful</i>
Assess the usefulness of the “Information and documentation repository” functionality for your decision making process	<i>Nothing</i>	<i>Very little</i>	<i>Something useful</i>	<i>Quite useful</i>	<i>Very useful</i>
What other functionalities would you recommend being included?	<i>Indicate which ones and briefly explain.</i>				

PART 4: THE ROLE OF PUBLIC ADMINISTRATIONS IN THE PLATFORM.

Please answer and briefly comment on each of these questions.

What advantages can the platform offer to public administrations?	<i>Indicate which ones and briefly explain</i>
What advantages can the presence of public administrations on the platform offer to small farmers?	<i>Indicate which ones and briefly explain</i>
What advantages can the presence of policy makers on the platform offer to other stakeholders (consumers, large producers, distributors, cooperatives, transporters)?	<i>Indicate which ones and briefly explain</i>
Do you have any additional comments?	<i>Indicate which ones and briefly explain</i>

THANK YOU VERY MUCH FOR YOUR COOPERATION