sustainability

MDPI

Article

Characterization of Sustainable Food Initiatives: Preliminary Study

Sofia G. Florença [1,*], Ana Luísa Amaral [2], Filipa Costa [1], Raquel P. F. Guiné [1] and Cristina A. Costa [1]

[1] CERNAS-IPV Research Centre, Polytechnic University of Viseu, 3504-510 Viseu, Portugal; filipa.pereira@esav.ipv.pt (F.C.); raquelguine@esav.ipv.pt (R.P.F.G.); amarocosta@esav.ipv.pt (C.A.C.)
[2] ESAV—Agrarian School, Polytechnic University of Viseu, 3504-510 Viseu, Portugal; analuisaamaral@esav.ipv.pt
* Correspondence: sofiaflorenca@outlook.com

Abstract: A sustainable food system can be described as a system that ensures economic, social, and environmental sustainability to secure food and nutrition for current and future generations. The present research aimed to identify and characterize sustainable food initiatives to understand the governance framework, the motivations, the reasons for success, the typology of actors involved, and future prospects. Semi-structured interviews were conducted for seven initiatives between June and August 2024. The interviews were performed online, recorded, transcribed, and analyzed. The results showed that the main drivers of the initiatives relate to food, sustainability, and economic and social dimensions. Moreover, one of the reasons for the success of the initiatives is the availability and commitment of the people involved. These initiatives were created to meet local needs and promote sustainability as well as to encourage economic circularity, knowledge sharing, rural and local valorization, and waste management.

Keywords: sustainability; food system; initiatives; governance; characterization

Academic Editor: Giulio Mario Cappelletti

Received: 10 January 2025
Revised: 12 February 2025
Accepted: 24 February 2025
Published: 26 February 2025

Citation: Florença, S.G.; Amaral, A.L.; Costa, F.; Guiné, R.P.F.; Costa, C.A. Characterization of Sustainable Food Initiatives: Preliminary Study. *Sustainability* **2025**, *17*, 2035. https://doi.org/10.3390/su17052035

1. Introduction

The population growth, the subsequent demand for more food, and the increase in per capita income place immense pressure on the current global food system. It is estimated that if the present trend continues, between 2010 and 2050, there will be an increase in food demand in the interval between 35% to 56% worldwide [1–3].

Land exploration for agricultural purposes greatly contributes to the loss of biodiversity and ecosystems, deforestation, consumption of finite natural resources, emission of greenhouse gases and pollution and degradation of air, and water and land resources, rendering the current food systems unsustainable [4–7]. Scientific evidence shows that agriculture utilizes 40% of the earth's land and 70% of water and contributes 17% to 30% of pollutant gas emissions [8–10].

Therefore, to ensure consumers' access to safe and nutritious food, preservation of natural resources, and mitigation of the climate crisis, the global food system needs to undergo a transitional process towards sustainability, optimizing the outcomes by having high productivity with lower ecological repercussions [1,4,6].

The Food and Agriculture Organization of the United Nations (FAO) has defined the concept of a sustainable food system as a "system that delivers food security and nutrition for all in such a way that the economic, social, and environmental bases to generate food security and nutrition for future generations are not compromised" [11]. This definition means to safeguard economic, social, and environmental sustainability by increasing quality of life; fomenting social progress; meeting future generations' needs; improving

the production of adequate, nutritious, and safe food; protecting and making effective use of resources; causing a positive or neutral impact on the environment; and ensuring profitability for all actors in the food chain [4,5,11]. In a sustainable food system, food production must consider the natural resources, the environment, soil management and topographic characteristics, productivity, and diversification in culture selection, among other concerns that current food systems do not consider. For this reason, today's agricultural practices should be altered or replaced by alternative, more sustainable farming practices [4,12]. The scientific community has proposed different approaches that align with more sustainable production, such as "agroecology, organic farming, biodynamic agriculture, nature-inclusive agriculture, high-nature-value farming, precision agriculture, conservation agriculture, permaculture, regenerative agriculture, sustainable intensification, climate-smart agriculture, low-external-input agriculture, agroecological agriculture, diversifying farming systems, ecological intensification, integrated nutrient management, pest management and farming systems, mixed cropping, intercropping, and relay cropping", as described by Çakmakçi et al. [4].

The World Health Organization recommends a balanced and varied diet as a way to improve health and reduce the burden of disease. Epidemiological data show that unhealthy diets are highly linked with several non-communicable diseases, such as diabetes, cardiovascular diseases, obesity, hypertension, and cancer. Additionally, as previously mentioned, the production of food negatively impacts the environment and resources. As such, a diet that not only promotes health but also has low environmental impact allows to improve the sustainability of the current food system and prevent diseases. Diets rich in fruits, vegetables, whole cereals, legumes, nuts, and unsaturated fatty acids are recommended as nutritional interventions to improve health. A sustainable healthy diet is based on the consumption of relevant macro and micro-nutrients as well as bioactive compounds, promoting a diet that is healthy, affordable, and safe, and focuses on mitigating climatic conditions and preserving the environment [9,13–15]. Other factors that contribute to improving the sustainability of the diet include consuming local and seasonal foods that require minimum conservation and processing [16]. In this way, local food systems play an important role in achieving this.

However, the food system does not consist of only production, which is why the concept of local food systems and short food supply chains has gained attention as one of the viable solutions to make the global food system more adaptable, inclusive, and sustainable [1,17–19].

A local food system does not have a common definition, mainly because of the concept of a "local" system. While in the USA, a local product is commercialized within a 644 km radius, in Canada, the food must not cross the 50 km radius, but, for example, the European Union, defines a 20 to 100 km area. A local food system is usually described in the literature, considering three contexts: geographical proximity—distance and region; relational proximity—the relationship between people encompassed by the food system; and proximity in values—traceability, place of origin, and value. A local food system is characterized by a recognition of the producer's work, mutual benefit for producers and consumers by establishing profitability, access to nutritious and healthy food, and mitigation of environmental concerns. However, the latter may not be guaranteed by all local systems, as local productions may not use sustainable agricultural practices, although this does not happen in most cases [1,19–21]. The interactions within the local food system vary, and there are different arrangements between producers and consumers regarding sales, relationships, and levels of commitment. The distribution of the products between the producer/farmer and the consumer is conducted without or with a small number of intermediaries, thus creating a short food supply chain [1,17,20].

A local food system and a short food supply chain are not synonyms. They represent different concepts, as a short supply chain may not necessarily imply a local food source, and a local system may not encompass a short supply chain [1]. The literature describes short food supply chains (SFSC) as having the potential to improve producer's profitability, promote sustainable practices, contribute to the local economy, and bring consumers and producers closer. A SFSC can be characterized as a chain "involving a limited number of economic operators committed to cooperation, local economic development, and close geographical and social relations between producers, processors and consumers", and thus, in conjunction with local food systems and alternative framing practices, these solutions can contribute to the development of a global sustainable food system [17,18,22].

In recent years, several initiatives worldwide have been created to ensure the sustainability of food systems. These initiatives aim to give people access to quality, nutritious, and sustainable foods; combat social and economic inequalities; promote synergies between consumers and producers; enable people to know from where their food originates; promote sustainable food choices; empower participants to have an active role in the initiative; and promote overall social, economic, and environmental sustainability [23,24].

The present work aimed to make a preliminary study to identify and characterize sustainable food initiatives in order to understand their structure, model of governance, motivations, principles, reasons for success, typology of actors/institutions involved, and future prospects of these organizations.

2. Materials and Methods

2.1. Study Design

For this study, an interview guide was created to characterize sustainable food initiatives, both in and outside of Portugal, and serve as a guide for conducting the interviews. In the literature, no studies about the governance model of informal sustainable food initiatives were identified, so the interview guide was based on a search regarding the main components that characterize a governance model. The final guide consisted of two parts, the general data and the sociodemographic data, with a total of twenty-three questions for interviews conducted with Portuguese initiatives and a total of twenty-one questions for interviews conducted with non-Portuguese initiatives. In the first section, sixteen parts were included to characterize the initiatives: (1) Identification of the initiative. (2) Identification of the country of origin. (3) How many people are involved in the initiative? How many members are producers? How many are consumers? (4) How did the initiative start (project, municipal program, common idea/concern; other—what)? (5) Is the initiative/organization still active (yes—how/no)? (6) What are the main principles and motivations of the initiative? (7) At an initial stage, how did the members involved decide as a group to create the initiative? (8) What is the current structure/organization of the initiative? (9) Who currently leads the initiative? What is their role within the initiative? (10) What type of actors/entities are involved with the initiative? (11) How is the flow of information carried out within the initiative? (12) What are the main reasons for the success of the initiative? (13) Do you consider it possible to have a network without an institutional pillar (yes/no)? (14) Would the initiative be interested in being part of a national network (yes/no, only for Portuguese initiatives)? (15) Would the initiative be interested in obtaining a certification (yes/no, only for Portuguese initiatives)? (16) In the long term, where do you see your initiative going, and what resources will be available to do so? The second section consisted of sociodemographic data of the representative that was interviewed with questions regarding age, gender, education level, living environment, marital status, professional status, and activity within the initiative.

Regarding the recruitment of participants, a list was compiled considering pre-established inclusion and exclusion criteria. The sample consisted of representatives of sustainable food initiatives, aged 18 or older, whose initiatives were active or already terminated and who aimed to promote sustainable practices in the production, distribution, consumption, and waste of food. A list of twenty-two initiatives was created: seventeen Portuguese and five non-Portuguese. Of the twenty-two, only seven initiatives showed availability to conduct the interview: six Portuguese and one non-Portuguese.

2.2. Data Collection

The semi-structured interviews were conducted between June and August 2024 in Portugal and Germany, using the interview guide previously described. The interviews were conducted online by the first and second authors at a time and place chosen by the representatives. The interviews were digitally recorded after obtaining the informed consent, written or verbal, of the participants, with a varied duration between 13 min and 80 min. After every interview, the records were coded to maintain anonymity.

2.3. Data Analysis

The record of each interview was listened to and transcribed by the authors for the content analysis, with the aim of objectively and systematically describing the content of communications to interpret them. The analysis was initiated by reading the answers to each question and retrieving and summarizing the information that best answered them, i.e., a free and "floating" reading of the corpus of interviews, taking into consideration completeness, representativeness of the themes to be studied, homogeneity of the selection criteria, and relevance to the theoretical objectives [25].

Afterwards, the information was analyzed, summarized, and coded into categories to allow for a comparison between responses. More prominent expressions regarding the answers given were also selected to convey the whole meaning of the response to the asked questions.

2.4. Ethics

The study was previously approved by the Ethical Commission at the Polytechnic Institute of Viseu with the reference N.º 15/SUB/2024. All participants signed an informed consent form to participate in the study, safeguarding anonymity, confidentiality of the data, authorization to record the interview, the right to terminate the interview at any given moment, and the opportunity to ask any questions.

3. Results

The information collected from the interviews is displayed following the structure of the guide.

3.1. Sociodemographic Data

In this study, the youngest participant was 28 years old and the oldest 58, with a mean age of 44.43 $\pm$ 9.34 years. The vast majority of the interviewees were middle-aged adults (31–50 years) (71.43%), single (42.86%), women (85.71%), with a university education (100%), living in an urban environment (71.43%), and employed full-time (100%) by another (71.43%). Regarding the activity within the initiative they represented, three were coordinators, one was an executive director, one was the president, one was a monitoring technician, and one was a nutritionist.

3.2. Country of Origin

Regarding the country of origin of the initiatives, the vast majority were located in Portugal (n = 6, E1, E2, E3, E4, E5, and E6), and only one initiative had a primary location in Germany (E7). However, this last initiative was described as a network that includes countries from Europe and the United States:

> *"I suppose it's Germany, but it's a network of people, and they are spread throughout Europe and the U.S., so, it is a little bit wider than that."* (E7)

3.3. Number of People

For each initiative, the type and number of people involved varied depending on the purpose of the organization. The people involved were mainly classified into producer, consumer, partner organization, school, artesian, and supplier. In initiative E1, there were 66 producers, 4587 consumers, and 10 partner organizations. In E2, there were children from 42 schools involved and three partner organizations, among other partners not accounted for. In E3, 160 were effective cooperators, 15 were producers, 6 were artisans, and several consumers were not specified. Regarding E4, the representative only disclosed that approximately 100 people constituted the initiative, not disclosing a specific number. In E5, a total of approximately 6000 people were consumers, 7 were suppliers, 7 were producers, 140 were operationalizing elements, and 14 were partner organizations. The E6 initiative involved 12 partner organizations, and E7 had 80 partners, each going from 1 person up to 100 people.

In some cases, participants referred to having difficulties in enumerating the groups of people involved in the initiatives.

> *"It's hard. It is hard to quantify. I can roughly say that there are, at the moment, around 160 effective collaborators. And then we have other people (. . .) there are maybe 15 active producers in the agricultural area, in the handicraft area, at the moment, maybe about 6. And that's more or less it."* (E3)

> *"We are a network of organizations, so, maybe 12."* (E6)

3.4. Typology of Actors

The actors in the initiatives can be classified into producers (n = 3; E1, E3, and E5), suppliers (n = 1; E5), consumers (n = 2; E1 and E3), municipalities/parish councils/governments (n = 4; E1, E3, E4, and E7), collaborators (n = 1; E3), effective employees/project management authorities (n = 2; E1 and E3), artisans (n = 1; E3), private institutions (n = 1; E4), association/non-governmental organizations (NGO) (n = 4; E3, E4, E5, and E7), the business sector (n = 3; E1, E5, and E7), the scientific system (n = 3; E1, E4, and E7), markets/festivals/fairs/educational farms/fire brigades (n = 3; E1, E2, and E3), initiatives/informal groups/consumer groups/cooperatives/local action groups (n = 3; E1, E2, and E6), local accommodations (n = 1; E3), schools (n = 2; E1 and E3), and individual people (n = 2; E6 and E7) (Table 1).

> *"They are producers, they are consumers, they are local action groups, they are municipalities, they are Parish Councils, companies, schools, firefighters' associations. We have the academy, which has been a fundamental pillar (...). We have our own entities, the program management authorities."* (E1)

> *"(. . .) we have a very broad group here, from the hotel industry school to the wine commission, so we are talking about a multi-regional network here."* (E4)

> *"(. . .) the education division. . . networking with Social Solidarity Institutions. . . the employees assigned to the Social Solidarity Institutions' kitchens (. . .)."* (E5)

"The main are cooperatives, namely multisectoral, integral, that's it, then we have associations, individual people, informal groups, groups of consumers who are trying to create cooperatives in their areas." (E6)

Table 1. Typology of actors.

	E1	E2	E3	E4	E5	E6	E7
Producers	x		x		x		
Suppliers					x		
Consumers	x		x				
Municipalities/parish councils/governments	x		x	x			x
Collaborators			x				
Effective employees/project management authorities	x		x				
Artisans			x				
Private institutions				x			
Associations/non-governmental organizations (NGO)			x	x	x		x
Business sector	x				x		x
Scientific system	x			x			x
Markets/festivals/fairs/educational farms/fire brigades	x	x	x				
Initiatives/informal groups/consumer groups/cooperatives/local action groups	x	x				x	
Local accommodations			x				
Schools	x		x				
Individual people						x	x

3.5. The Beginning of the Initiative

Even though all the initiatives were created to meet a specific need or problem that arose, the contexts in which they started were unique. In initiative E1, the problem had to do with the *difficulty that family farmers had to reach consumers*, and so, with the project partner's will and desire to respond to this need, the solution was to implement so-called short circuits, already conducted in Portugal, France, and Italy, which involve the direct sale of products between producers and consumers without intermediaries. This resulted in valuing the producer's work, bringing consumers closer to the reality of farms, and promoting local products and a dynamic-based network of sharing and trust. For initiative E2, the project began with the opening of applications to the National Balanced and Sustainable Food Plan, created by the Portuguese government to *promote the Mediterranean diet and a balanced, diversified, and sustainable diet*. To ascertain the needs of the community, a form was created to help shape the project activities to meet those needs. Initiative E3 started with people who were looking for a way to create jobs, but the cost was spread widely, making it easier to start a business with the concern of dynamizing and enhancing the place chosen. There was a *desire to create a collective project where people could live in a different, more self-sustainable way*. For initiative E4, within an already established project, a flaw was found regarding *gastronomy*, and so, based on the Green Deal and the Farm to Fork Strategy, the program started from fork to farm: first, people need to be encouraged to eat, then sellers need to be stimulated so that farmers feel motivated to do something different and produce different type of vegetables, with a special focus on biodiversity and sustainability. There was an investment in food archaeology by compiling recipes

and making restaurants adhere to those recipes. A focus on environment, socio-economy, traceability, and economic circuits was considered. Initiative E5 did not start with the intention of being a project itself, but all *programs associated with the municipality were gathered together,* well framed, and contextualized to give rise to this project. With new legislation regarding the provision of meals to schools by the municipalities, the town realized that it could make local partnerships to provide quality meals with seasonal and local products instead of purchasing from a catering company. Initiative E6 started from a *forum of cooperatives* that decided to build a network with regular communication and monthly meetings to provide mutual support and share knowledge. Finally, initiative E7 arose when the International Research Association for Organic Food Quality and Health network started to *investigate diets*, and a group of people met and had a workshop about organic diets, from which the initiative started to take shape. The opportunity to move forward with the initiative occurred when the United Nations Environment Programs and the Food and Agriculture Organization launched a program called the Sustainable Food Systems Programme, which was seeking alignment with core initiatives regarding Sustainable Development Goal 12—Responsible Consumption and Production. The application to the program and subsequent recognition of the initiative gave the members a reliable point to start.

> *"(. . .) they applied here for PNAES, there was already an interest in this topic, being a place that works on all these issues of local production, there was already this interest."* (E2)

> *"It started as a project of some people at the time, who were looking for a way to establish themselves, to have a way of creating their jobs, in a way that, ultimately, all the inherent costs (. . ..) could be diluted (. . ..) in the municipality where it would be easier, let's say, to interact together with it in order to also be able to somehow benefit the local community."* (E3)

> *"This initiative did not begin with the intention of being a project in itself. Therefore, what we began to realize is that all the initiatives gathered together, and well framed and contextualized, gave rise to a project."* (E5)

> *"Yes, some integral cooperatives started to appear and then in 2022, we thought about organizing a forum (. . .) to understand common challenges or how to help each other (. . .) to share knowledge, etc. and resources."* (E6)

3.6. Is the Initiative Still Active?

All initiatives were active at the time the interviews were conducted and, in general, with a perspective of maintaining their activity in the long term, based on different processes: national support and promoting the commercialization between producer and public institutions.

> *"And so, to consolidate all this, we created a cooperation project (. . .) in the Rural Development Program, which allowed us to consolidate (. . .) at a national level."* (E1)

> *"At the moment we are waiting for a new support call (. . ..) We started locally, then we move on, a little, to the regional, national, etc., if it is justified."* (E3)

> *"Yes, and it will last for many more years, we have no doubt about that."* (E4)

However, because initiative E2 was incorporated into a financing program with a limited duration of one year, it was planned to finish at the end of 2024.

> *"Yes, it goes until the end of the year."* (E2)

3.7. Goals and Motivations

The main objectives and drivers for these seven initiatives relate to diverse topics concerning food and sustainability (Table 2), more specifically, promotion of healthy and seasonal eating (n = 2; E2 and E5), circularity and economic dimension (n = 4;, E1, E3, E4 and E5), food quality (n = 3; E1, E4, and E5), social dimension (n = 3; E2, E3, E4, and E5), organic food system (n = 1; E7), sustainability (n = 7; E1, E2, E3, E4, E5, E6, and E7), knowledge and experience sharing (n = 4; E1, E5, E6, and E7), rural and local valorization (n = 5; E1, E2, E3, E4, and E5), distribution/utilization of products from small/local productions (n = 4; E1, E3, E4, and E5), food equity (n = 1; E5), and reduction in/ management of food waste (n = 4; E1, E2, E3, and E5).

Table 2. Main goals and motivations of the initiatives included in the study.

	E1	E2	E3	E4	E5	E6	E7
Promotion of healthy and seasonal eating		x			x		
Circularity and economic dimension	x		x	x	x		
Food quality	x			x	x		
Social dimension		x	x	x	x		
Organic food system							x
Sustainability	x	x	x	x	x	x	x
Knowledge and experience sharing	x				x	x	x
Rural and local valorisation	x	x	x	x	x		
Distribution/utilization of products from small, local, and family farming productions	x		x	x	x		
Food equity					x		
Reduction in/management of food waste	x	x	x		x		

> *"Finding a solution for small producers, for the distribution of products from small producers."* (E1)

> *"Without a doubt, promoting the consumption of healthy and seasonal foods is something we focus on a lot (. . .) value our local products."* (E2)

> *"(. . .) the part of the social economy (. . .) circularity and sustainability, so we try as much as possible to promote this circular economy and this sustainability, even financial, of resources."* (E3)

> *"The goal of the initiative, well, I would say it's kind of difficult. Because it touches on so many areas, it's kind of difficult. But I confess that it is the strengthening of the economic and social dimensions regarding the rural aspect that is quite characteristic of these territories, and it is a different way of seeing agricultural work, of seeing the rural landscape, of adding value."* (E4)

> *"The main objective is to increase students' food literacy and provide them with quality food, ensuring equity."* (E5)

> *"(. . .) a group of people think (. . ..) that organic food systems are one form of sustainable food systems and what has been missing so far is evidence of that."* (E7)

3.8. Structure and Leadership

All initiatives had a specific model of governance, with some similarities and differences among them. Structurally, they can be divided into initiatives with legal ground

(n = 4; E2, E3, E4 and E5) or without it (n = 3; E1, E6, and E7), belonging to a national network (n = 5; E1, E3, E4, E6, and E7) or not (n = 2; E2 and E5), and having shared leadership with a coordination group followed by a horizontal hierarchy (n = 5; E2, E3, E4, E5, and E7) or having each organization promote activities within its territory (n = 2; E1 and E6) (Table 3). One aspect mentioned by several of the initiatives (n = 3; E4, E6, and E7) was that even though there was a coordination team, the initiative did not really give value or importance to hierarchy, only existing for management and to have a public voice on behalf of the initiative.

Table 3. Structure and leadership.

	E1	E2	E3	E4	E5	E6	E7
Legal structure		x	x	x	x		
No legal structure	x					x	x
Part of a national network	x		x	x		x	x
Not part of a national network		x			x		
Shared leadership and a horizontal hierarchy		x	x	x	x		x
Each organization promotes activities within its territory	x					x	

> *"We have corporate bodies, which are divided into the board of directors, the assembly board, yes, and the supervisory board. (..) We see leadership in a very open way, that is, although there is a board of directors, which, ultimately, is legally responsible, (..) but it ends up being a governance of the cooperative members."* (E3)

> *"We have no legal form, so is a loose affiliation of essentially of volunteers, and we have a simple structure. There's a group that understand itself as partners (. . .) as I would describe as something like a governing body that we call a steering committee. (..) But there isn't really, we don't put any high value on hierarchy or positions, is more of a management instrument so that we are able to work with each other."* (E7)

3.9. Communication

The flow of information was mainly carried out through periodic meetings and respective resumes (n = 7; E1, E2, E3, E4, E5, E6, and E7); however, other forms of communication were also used, such as email (n = 4; E1, E3, E5, and E7), social networks (n = 2; E1 and E3), newsletters (n = 3; E3, E6, and E7), forums (n = 2, E6 and E7), an online site (n = 1; E1), technical visits (n = 2; E1 and E5), and dialogue between collaborators (n = 1; E2) The communication information is summarized in Table 4.

Table 4. Communication.

	E1	E2	E3	E4	E5	E6	E7
Periodic meetings and respective resumes	x	x	x	x	x	x	x
Email	x		x		x		x
Social networks	x		x				
Newsletters			x			x	x
Forums						x	x
Online site	x						
Technical visits	x				x		
Dialogue between collaborators		x					

"All the information that we created within the scope of (name of initiative) is available on the (name of initiative) website, it is available on the partners' website, it is available everywhere. (. . .) When sharing information, we try to be as transversal, clear, safe for everyone and transparent." (E1)

"Through the meetings I mentioned, which are regular and in which they learn about (. . .) what is happening in the Project." (E2)

"We basically channel the flow of information through emails, through meetings we hold at the beginning, during and end of the school years and through our constant visits they also transmit information to us through these channels, it is reciprocal, the route is the same." (E5)

3.10. Reasons for Success

Numerous reasons for success were described by the participants, even though some of the interviewees raised the questions of what success is really about and how it can be measured. Despite these questions, the participants listed several reasons why they thought their initiative was successful (Table 5): having a transferable methodology (n = 1; E1); delegation and empowerment of producers (n = 1; E1); the need to have initiatives like these (n = 1; E2); the availability, will, commitment, and sensibility of the people involved (n = 3; E2, E3, and E7); having practical and free activities (n = 1; E2); respect between different parties (n = 1, E4); horizontal governance (n = 1; E4); technical knowledge at the same level as empirical knowledge (n = 1; E4); ability of municipalities to reach producers and supply quality meals (n = 1; E5); making people's lives easier (n = 1; E6); and facilitating access to information (n = 1; E6).

Table 5. Reasons of success.

	E1	E2	E3	E4	E5	E6	E7
Transferable methodology	x						
Delegation and empowerment of producers	x						
The need to have initiatives like these		x					
Availability, will, commitment, and sensibility of the people involved		x	x				x
Practical and free activities		x					
Respect between different parties				x			
Horizontal governance				x			
Technical knowledge at the same level as empirical knowledge				x			
Ability of municipalities to reach producers and supply quality meals					x		
Make people's lives easier						x	
Facilitate the access to information						x	

"The main success, I think, was creating a methodology here with procedures and tools that are easily transferable and appropriate by anyone. We never tried to complicate the system and tried to make it adaptable to the reality of each territory." (E1)

"The people. Without everyone's availability and willingness, I think the project would no longer exist, in short, it would be more difficult to maintain." (E3)

> *"(. . .) but I think the focus is trying to make life easier for people who want to create a cooperative or who already have cooperatives, so it's easier to access documents and information."* (E2)

> *"But it is respect between the parties above all, it is the horizontal governance that I was talking about a moment ago, that we do not have hierarchies here and this is very important for people to realize how important the doctor is, how important the lady who has 80 years old, right?"* (E4)

3.11. Institutional Pillar, National Network, and Certification

The initiatives were asked if they believed it was possible to have a network without an institutional pillar, to which the answer was no for two of the participants (E2 and E4); four of the interviewees answered yes (E3, E5, E6, and E7), and one responded maybe (E1).

It was also asked if the initiatives might have been interested in being part of a wider and national network of sustainable food initiatives. This question, as mentioned in the methodology, was excluded from the interview guide for non-Portuguese initiatives. Of the six initiatives questioned, four responded yes (E1, E2, E4, and E5), and two answered no, as they already were part of a national network (E3 and E6).

Regarding the possibility of having the initiative certified as a sustainable food system, of the six participants to which this question was asked, four answered yes (E1, E3, E4, and E5), one maybe (E2), and one no (E6).

3.12. Initiative in the Long Term

When questioned about where the initiative would be in the long term and what resources may be available, one answered that resources would always be available (E1), whereas another said that there was a need to apply to projects that could give added resources (E7), and another replied that they did not know what resources may be available (E4).

One of the initiatives (E2) mentioned that the project was nearing its end, making it difficult to think about the long term.

Regarding the next steps in the initiative (Table 6), three of the participants mentioned the need to modify, complete, and update the website (E1, E6, and E7); another said that people who wished to be and were already part of the initiative could develop their activity freely and autonomously, with a differentiating and sustainable path (E3); others indicated that producers could be more autonomous, empowered, and assisted in rethinking the way they produced, the quantities, and planning of what needed to be produced with a guaranteed flow (E1 and E5); one initiative said it could give more effective support to local groups that wanted to start (E6); one mentioned the need to reinforce the team (E5); another cited creating a framework for local food policies (E5); one mentioned community gardens (E5); another referenced an exchange system between cooperatives (E6); one mentioned currency between organizations (E6); one indicated offering traineeships for students or student work (E7); another mentioned encouraging other programmes to take shape (E7); one wanted to formalize the network (E1); and one mentioned promoting intergenerational interconnections (E5).

Concerning the reasons for success and the future, the interviewees mentioned that the initiatives were dynamic, with biographic changes occurring, so there was a need to adjust and realign (E5 and E7). It was also mentioned that there was always space to grow and find new ways and resources so that the initiative could last (E1 and E5). Other answers referenced the will of people to continue and to make it happen, citing the belief that the project had the potential to last long-term and remain for future generations (E3, E4, and

E7). It was also necessary for one initiative to find the key person in each organization to be the guardian of the project and motivate others (E4).

Table 6. Initiatives in the long term.

	E1	E2	E3	E4	E5	E6	E7
Modify, complete, and update the website	x					x	x
Enable people who wish to be and are already part of the initiative to develop their activity freely and autonomously, with a differentiating and sustainable path			x				
Support producers to be more autonomous and empowered and help them to rethink the way they produce, the quantities, and planning of what needs to be produced with a guaranteed flow	x				x		
Give more effective support to local groups that want to start						x	
Reinforce the team					x		
Create a framework for local food policies.					x		
Create community gardens					x		
Create an exchange system between cooperatives						x	
Create a currency between organizations.						x	
Offer traineeships for students or student work							x
Encourage other programmes to take shape							x
Formalize the network	x						
Promote intergenerational interconnection					x		

> *"Well, I don't know what resources we may have available, except for people's desire to make it happen. (..) So, yes, I'm extremely expectant, but I'm also a very optimistic person and I fully believe in these projects. Maybe that's why I see this last for generations to come, for the next century, I don't know, but yes, I fully believe in this project."* (E1)

> *"I think there is still a lot to grow, we are clearly needing to reinforce the team, we also have the whole component of organization and meetings with our producers to help them rethink the way they produce, with quantification and planning of what needs to be produced with guaranteed distribution (. . .)."* (E5)

> *"Above all, providing a more effective support service to local groups that want to create this type of projects, (. . .) in addition to having a website that is complete in terms of documentation and information (. . .)."* (E6)

> *"We are not trying to make the program bigger, what we are trying to do is rather set, give impulses or light someone else's flame and hope that they carry it on. (...) We'll probably be carrying it on at least in the way we are doing now and if we manage to get a few resources, we may have a little more support, for example, to spice up the website or to be able to communicate a little bit better through social media."* (E7)

4. Discussion

In recent years, there has been an increased interest in the impact and sustainability of the current food system. All around the world, researchers are studying and proposing alternatives to transform this system into one that aims to cultivate sustainable and ethical practices, with an emphasis on mitigating climate change, providing nutritive food, and promoting new values, equity, justice in trading, and food security [26–28]. This change is

a response to the numerous challenges that the global food system faces, hence the need for the food system to move towards a more sustainable and equitable model [29].

Equity in the food system is described in six dimensions: (1) provision of healthy and nutritionally adequate food for all; (2) affordability of food; (3) accessibility to cultural food preferences; (4) social equity; (5) prevention of discrimination by either race, gender, ethnicity, religion, etc.; (6) spatial equity in allowing geographical proximity to quality and nutritious food; and (7) food sovereignty, where people are responsible for their production and consumption of food [29,30]. A great number of the initiatives portrayed in this article showed that one of their main goals was to promote not only healthy eating but also food equity. These initiatives worked within many of the described dimensions for food equity, namely the provision of healthy food and quality food to consumers and students; strengthening of the social dimension, especially in rural areas; creation of short food circuits; and establishing initiatives where people are responsible for producing or obtaining their food.

Food is a basic human right, and not only food but nutritionally adequate food should be within everyone's reach. A healthy and nutritional diet is essential for the normal functions of the human body and prevention of numerous diseases [31–34]. Two of the initiatives gave a special emphasis to the promotion of healthy eating by developing activities and partnerships that promoted a balanced, diverse, and sustainable diet; food literacy; and knowledge sharing.

The sustainable food initiatives characterized in this study shared the belief that it is necessary to modify the existing food system, proposing different governance frameworks from the ones that currently exist.

At a more general level, two food system governance approaches have come to light: market-oriented governance and collaborative governance. While market-oriented governance is more focused on consumption economic efficiency and driven by multinational corporate interests, collaborative governance centers around a more sustainable and social-based production, prioritizing local producers and societies in a trans-sectorial approach [28,35–37]. Three of the seven initiatives in this study mentioned that the project started as a way to benefit and meet the needs of local communities and actors. All the initiatives were established to meet a particular need or problem, all going through a process of co-creation and the generation of ideas that would answer the problem at hand. This process coincides with the one adopted by the initiative Green Parallel, which, through workshops discussing the desire for a more local and organic food system, culminated in the co-creation of a collaborative local food system [38].

It was found that the objective of all initiatives was to promote sustainability, with most aiming to promote economic circularity, a set of social values, knowledge and experience sharing, rural and local valorization, and waste management. The studies conducted by Arthur et al. [35], Barbera et al. [39], and Burgess et al. [40] described alternative food networks as a set of practices related to food systems that are characterized by social, economic, and environmental sustainability; short distribution chains, a reduced number of intermediaries; proximity and interaction between consumers and producers, local markets, and production; food safety; and quality and fairer trade.

For the initiatives to materialize, it is necessary to involve numerous actors, organizations, and communities, favoring multisectoral partnerships [28,41,42]. This is in accordance with the findings of this study, where initiatives were constituted by several actors, from producers to suppliers, consumers, municipalities/parish councils/governments, effective employees/project management authorities, private institutions, association/non-governmental organizations, the business sector, and the scientific system, among others.

Governance is paramount in all systems, including the food system, encompassing all management and operationalization processes, from overseeing the different actors and their interaction to the allocation of resources, organization of everyday activities, and decision making [28,35]. Sustainable, responsible, and functional governance should consider multiple factors, namely transparency in the decision making, inclusion of multiple actors and stakeholders, co-construction, autonomy, ethics, accountability, adaptability, and dynamism [18,28,43]. It was found that the sustainable food initiatives interviewed structurally all had a shared leadership; however, while some had a coordination group, others had a more horizontal hierarchy, working synergistically and making decisions as a group. Moreover, these sustainable initiatives can be divided into organizations with a legal and formal framework or without one. Numerous alternative food systems have adopted a framework based on collaborative and participatory governance that is self-administered and with regional management, creating bottom-up initiatives that empower and include their members by having a more transparent and horizontal governance that develops the local community and articulates solutions for local difficulties [28,38,39].

Within the initiatives, the information flow was mainly conducted through periodic meetings and respective resumes as well as other forms of communication, such as email, social networks, newsletters, forums, online sites, technical visits, and dialogue between collaborators. Burgess et al. [40] found that different communication instruments, both online and offline, are used to pass information between members in similar initiatives, namely social media, digital platforms, websites, labels, and face-to-face.

Concerning the reasons for the success of the interviewed initiatives, several were mentioned, specifically transferable methodology, practical and free activities, respect between different parties, horizontal governance, and the availability, will, commitment, and sensibility of the people involved, among others. Hvitsand et al. [38] also described that the motivation among the members serves as a strong, solid base and as the driving force of such alliances.

Pertaining to the initiatives in the long term, these described the need to modify/create a platform (e.g., website) for people to communicate and develop their activity freely and autonomously, to give more effective support to local groups, to reinforce the teams, to create a framework for local food policies, to offer traineeships, to encourage other programmes to take shape, to formalize the network, and to promote intergenerational interconnection. The creation and dynamic evolution of a website is an important aspect of many of the initiatives included in this study, as digital platforms and websites have emerged as essential communication tools to support supply chains [40,44,45].

A dynamic system consists of an ever-evolving system that is complex, considering the different elements in the food system and adapting in response to the interactions it encounters [26,35,46]. In the interviews, the participants mentioned that the initiatives were dynamic, and as a consequence, there was a constant need to adjust and realign. In some cases, the need to evolve to a formalized structure was mentioned. Indeed, in research conducted by Hvitsand et al. [38], the participants found that an informal collaboration removed accountability and weakened decision making; thus, one ambitious goal of the group was to formalize the network, an interest shared by one of the initiatives in the present study.

5. Conclusions

This study aimed to characterize sustainable food initiatives to understand the governance framework, motivations, typology of actors/institutions involved, communication process, reasons for success, and future prospects.

The food system must not only be able to provide nutritionally adequate foods but also try to achieve sustainability in all its forms: economically, socially, and environmentally. All these initiatives aimed to promote the sustainability of the food system in its most diverse aspects. From the point of view of economic sustainability, several of the initiatives encouraged economic circularity and promoted fair and just trade. In terms of social sustainability, several initiatives promoted the valorization of farmers, rural territories, and local businesses; employment opportunities; equity in food provided to students; and food literacy and knowledge sharing and also assisted in meeting local needs. Regarding environmental sustainability, the initiatives encouraged more sustainable production of food, with a special emphasis on biodiversity preservation, a reduction in food waste, and consumption of local products, which helps reduce the carbon footprint.

This research had some limitations, such as the reduced sample size and the online format, which makes it difficult to capture non-verbal gestures and expressions, as well as some unclear content in the recordings. Nonetheless, these findings are a jump start for understanding the governance framework of sustainable food initiatives, serving as a foundation for other initiatives and also contributing to transformation of the sustainability of current food systems.

Author Contributions: Conceptualization, A.L.A., S.G.F. and C.A.C.; methodology, A.L.A., C.A.C. and S.G.F.; validation, S.G.F., R.P.F.G. and C.A.C.; formal analysis, S.G.F.; investigation, A.L.A., F.C., S.G.F. and C.A.C.; resources, C.A.C.; data curation, S.G.F. and C.A.C.; writing—original draft preparation, S.G.F.; writing—review and editing, R.P.F.G., A.L.A., F.C. and C.A.C.; visualization, S.G.F.; supervision, C.A.C.; project administration, C.A.C.; funding acquisition, C.A.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Portuguese Foundation for Science and Technology (FCT) grant number UIDB/00681/2020. The APC was funded by the Foundation for Science and Technology (FCT) and the Polytechnic University of Viseu.

Institutional Review Board Statement: The study was conducted by the Declaration of Helsinki and approved by the Ethical Commission at the Polytechnic Institute of Viseu with reference N.º 15/SUB/2024, approved on 06/06/2024.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The original contributions presented in the study are included in the article, and further inquiries can be directed to the corresponding author.

Acknowledgments: This work was supported by the FCT—Foundation for Science and Technology, I.P. Furthermore, we would like to thank the CERNAS Research Center (DOI: 10.54499/UIDB/00681/2020 and DOI: 10.54499/UIDP/00681/2020) and the Polytechnic University of Viseu for their support. This research was developed in the ambit of the project "RNAES—Rede Nacional para a Alimentação Equilibrada e Sustentável", Ref. PRR-C05-i03-I-000162.

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

References

1. Enthoven, L.; Van den Broeck, G. Local food systems: Reviewing two decades of research. *Agric. Syst.* **2021**, *193*, 103226. [CrossRef]
2. Molotoks, A.; Smith, P.; Dawson, T.P. Impacts of land use, population, and climate change on global food security. *Food Energy Secur.* **2021**, *10*, e261. [CrossRef]
3. van Dijk, M.; Morley, T.; Rau, M.L.; Saghai, Y. A meta-analysis of projected global food demand and population at risk of hunger for the period 2010–2050. *Nat. Food* **2021**, *2*, 494–501. [CrossRef] [PubMed]
4. Çakmakçi, R.; Salik, M.A.; Çakmakçi, S. Assessment and principles of environmentally sustainable food and agriculture systems. *Agriculture* **2023**, *13*, 1073. [CrossRef]

5. Real, H.; Soare, S.; Ferreira, C.; Marques, L.; Gonçalves, T.F. Referencial de critérios para checklist de avaliação da sustentabilidade em restaurantes. *Acta Port. Nutr.* **2021**, *26*, 18–30. [CrossRef]
6. Stefanovic, L.; Freytag-Leyer, B.; Kahl, J. Food System Outcomes: An Overview and the Contribution to Food Systems Transformation. *Front. Sustain. Food Syst.* **2020**, *4*, 546167. [CrossRef]
7. Wezel, A.; Herren, B.G.; Kerr, R.B.; Barrios, E.; Gonçalves, A.L.R.; Sinclair, F. Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. *Agron. Sustain. Dev.* **2020**, *40*, 40. [CrossRef]
8. Chartres, C.J.; Noble, A. Sustainable intensification: Overcoming land and water constraints on food production. *Food Secur.* **2015**, *7*, 235–245. [CrossRef]
9. Aleksandrowicz, L.; Green, R.; Joy, E.J.; Smith, P.; Haines, A.J.P.o. The impacts of dietary change on greenhouse gas emissions, land use, water use, and health: A systematic review. *PLoS ONE* **2016**, *11*, e0165797. [CrossRef]
10. Fitton, N.; Alexander, P.; Arnell, N.; Bajzelj, B.; Calvin, K.; Doelman, J.; Gerber, J.S.; Havlik, P.; Hasegawa, T.; Herrero, M.; et al. The vulnerabilities of agricultural land and food production to future water scarcity. *Glob. Environ. Chang.* **2019**, *58*, 101944. [CrossRef]
11. Nguyen, H. *Sustainable food Systems: Concept and Framework*; FAO: Rome, Italy, 2018.
12. Cárceles Rodríguez, B.; Durán-Zuazo, V.H.; Soriano Rodríguez, M.; García-Tejero, I.F.; Gálvez Ruiz, B.; Cuadros Tavira, S. Conservation Agriculture as a Sustainable System for Soil Health: A Review. *Soil Syst.* **2022**, *6*, 87. [CrossRef]
13. Food and Agriculture Organization; World Health Organization. *Sustainable Healthy Diets: Guiding Principles*; Food and Agriculture Organization: Rome, Italy; World Health Organization: Geneva, Switzerland, 2019.
14. Principato, L.; Pice, G.; Pezzi, A. Understanding food choices in sustainable healthy diets—A systematic literature review on behavioral drivers and barriers. *Environ. Sci. Policy* **2025**, *163*, 103975. [CrossRef]
15. Waxman, A. Prevention of Chronic Diseases: WHO Global Strategy on Diet, Physical Activity and Health. *Food Nutr. Bull.* **2003**, *24*, 281–284. [CrossRef]
16. Macdiarmid, J.I. Seasonality and dietary requirements: Will eating seasonal food contribute to health and environmental sustainability? *Proc. Nutr. Soc.* **2014**, *73*, 368–375. [CrossRef] [PubMed]
17. Jarzebowski, S.; Bourlakis, M.; Bezat-Jarzebowska, A. Short Food Supply Chains (SFSC) as local and sustainable systems. *Sustainability* **2020**, *12*, 4715. [CrossRef]
18. Paciarotti, C.; Torregiani, F. The logistics of the short food supply chain: A literature review. *Sustain. Prod. Consum.* **2021**, *26*, 428–442. [CrossRef]
19. Wood, A.; Queiroz, C.; Deutsch, L.; González-Mon, B.; Jonell, M.; Pereira, L.; Sinare, H.; Svedin, U.; Wassénius, E. Reframing the local-global food systems debate through a resilience lens. *Nat. Food* **2023**, *4*, 22–29. [CrossRef] [PubMed]
20. Macias, T. Working Toward a Just, Equitable, and Local Food System: The Social Impact of Community-Based Agriculture. *Soc. Sci. Q.* **2008**, *89*, 1086–1101. [CrossRef]
21. Garrity, K.; Krzyzanowski Guerra, K.; Hart, H.; Al-Muhanna, K.; Kunkler, E.C.; Braun, A.; Poppe, K.I.; Johnson, K.; Lazor, E.; Liu, Y.; et al. Local Food System Approaches to Address Food and Nutrition Security among Low-Income Populations: A Systematic Review. *Adv. Nutr.* **2024**, *15*, 100156. [CrossRef]
22. Jia, F.; Shahzadi, G.; Bourlakis, M.; John, A. Promoting resilient and sustainable food systems: A systematic literature review on short food supply chains. *J. Clean. Prod.* **2024**, *435*, 140364. [CrossRef]
23. Feenstra, G. Creating space for sustainable food systems: Lessons from the field. *Agric. Hum. Values* **2002**, *19*, 99–106. [CrossRef]
24. Lynch, M.; Giles, A. Let Them Eat Organic Cake. *Food Cult. Soc.* **2013**, *16*, 479–493. [CrossRef]
25. Bengtsson, M. How to plan and perform a qualitative study using content analysis. *NursingPlus Open* **2016**, *2*, 8–14. [CrossRef]
26. Allen, T.; Prosperi, P. Modeling Sustainable Food Systems. *Environ. Manag.* **2016**, *57*, 956–975. [CrossRef]
27. Balázs, B.; Pataki, G.; Lazányi, O. Prospects for the future: Community supported agriculture in Hungary. *Futures* **2016**, *83*, 100–111. [CrossRef]
28. Janin, P.; Fofiri Nzossié, E.-J.; Racaud, S. Governance challenges for sustainable food systems: The return of politics and territories. *Curr. Opin. Environ. Sustain.* **2023**, *65*, 101382. [CrossRef]
29. Ambikapathi, R.; Schneider, K.R.; Davis, B.; Herrero, M.; Winters, P.; Fanzo, J.C. Global food systems transitions have enabled affordable diets but had less favourable outcomes for nutrition, environmental health, inclusion and equity. *Nat. Food* **2022**, *3*, 764–779. [CrossRef] [PubMed]
30. Mui, Y.; Khojasteh, M.; Judelsohn, A.; Sirwatka, A.; Kelly, S.; Gooch, P.; Raja, S. Planning for Regional Food Equity. *J. Am. Plan. Assoc.* **2021**, *87*, 354–369. [CrossRef]
31. De Ridder, D.; Kroese, F.; Evers, C.; Adriaanse, M.; Gillebaart, M.J.P. Healthy diet: Health impact, prevalence, correlates, and interventions. *Psychol. Health* **2017**, *32*, 907–941. [CrossRef]
32. Eide, A. Freedom from hunger as a basic human right: Principles and implementation. In *Ethics, Hunger and Globalization: In Search of Appropriate Policies*; Springer: Berlin/Heidelberg, Germany, 2007; pp. 93–109.
33. Mudambi, S.R. *Fundamentals of Foods, Nutrition and Diet Therapy*; New Age International: Delhi, India, 2007.

34. Shridhar, G.; Rajendra, N.; Murigendra, H.; Shridevi, P.; Prasad, M.; Mujeeb, M.; Arun, S.; Neeraj, D.; Vikas, S.; Suneel, D. Modern diet and its impact on human health. *J. Nutr. Food Sci.* **2015**, *5*, 1.
35. Arthur, H.; Sanderson, D.; Tranter, P.; Thornton, A. A review of theoretical frameworks of food system governance, and the search for food system sustainability. *Agroecol. Sustain. Food Syst.* **2022**, *46*, 1277–1300. [CrossRef]
36. Ambrose, G.; Siddiki, S.; Brady, U. Collaborative governance design in local food systems in the United States. *Policy Des. Pract.* **2022**, *5*, 362–383. [CrossRef]
37. Kang, H.; Roggio, A.M.; Luna-Reyes, L.F. Governance of local food systems: Current research and future directions. *J. Clean. Prod.* **2022**, *338*, 130626. [CrossRef]
38. Hvitsand, C.; Nicolaysen, A.M.; Gjøtterud, S.; Raanaas, R.K. Piloting a co-created local and alternative food network involving professional buyers in Norway: Forces and tensions influencing viability. *J. Rural Stud.* **2024**, *110*, 103362. [CrossRef]
39. Barbera, F.; Dagnes, J. Building alternatives from the bottom-up: The case of alternative food networks. *Agric. Agric. Sci. Procedia* **2016**, *8*, 324–331. [CrossRef]
40. Burgess, P.; Sunmola, F.; Wertheim-Heck, S. Information communication tools in alternative food networks. *Procedia Comput. Sci.* **2024**, *232*, 665–674. [CrossRef]
41. Brassesco, M.E.; Pintado, M.; Coscueta, E.R. Food system resilience thinking: From digital to integral. *J. Sci. Food Agric.* **2022**, *102*, 887–891. [CrossRef] [PubMed]
42. Zurek, M.; Ingram, J.; Sanderson Bellamy, A.; Goold, C.; Lyon, C.; Alexander, P.; Barnes, A.; Bebber, D.P.; Breeze, T.D.; Bruce, A.; et al. Food System Resilience: Concepts, Issues, and Challenges. *Annu. Rev. Environ. Resour.* **2022**, *47*, 511–534. [CrossRef]
43. Ruben, R.; Cavatassi, R.; Lipper, L.; Smaling, E.; Winters, P. Towards food systems transformation—Five paradigm shifts for healthy, inclusive and sustainable food systems. *Food Secur.* **2021**, *13*, 1423–1430. [CrossRef] [PubMed]
44. Burgess, P.R.; Sunmola, F.T. Prioritising requirements of informational short food supply chain platforms using a fuzzy approach. *Procedia Comput. Sci.* **2021**, *180*, 852–861. [CrossRef]
45. Schroder, A.; Prockl, G.; Constantiou, I. How digital platforms with a social purpose trigger change towards sustainable supply chains. In Proceedings of the 54th Hawaii International Conference on System Sciences, Maui, HI, USA, 5–8 January 2021.
46. Romagnoli, S.; Tarabu, C.; Maleki Vishkaei, B.; De Giovanni, P. The Impact of Digital Technologies and Sustainable Practices on Circular Supply Chain Management. *Logistics* **2023**, *7*, 1. [CrossRef]