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Short Food Supply Chain and Resilience: An Analysis during COVID-19 Pandemic in Inner Areas of Campania Region

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Abstract: COVID-19 pandemic highlighted food systems' fragility, especially concerning global trade. On the other hand, the pandemic underlined the resilient character of Short Food Supply Chains (SFSCs), as citizen-consumers continued to buy through such sales channels, in order to limit virus spread, and farms developed innovations and rapid strategic responses. In a fragile context, such as that of inner areas, SFSC may represent, for farms, a significant competitive tool to increase their resilience. This study aims to investigate the degree of resilience of farms in inner areas of Campania Region (South Italy) and the role of SFSC during the pandemic. A questionnaire was administered to a sample of wineries in inner areas of Campania in order to detect their resilience score, which was measured, according to literature, through three variables: effectiveness, flexibility, and responsiveness. A linear regression was run to identify variables affecting farms' resilience. Results show that both farmers' and farms' characteristics turned out to affect farms' resilience score, such as the turnover, the use of SFSC, and farmers' age and education. This study's findings could be helpful for decision-making in the development of inner areas, and for providing targeted policies to manage unexpected events in different scenarios.

Keywords: supply chain strategies; wineries; wine sector; resilience score; vulnerable areas



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1. Introduction

COVID-19 had an impact on the lives of billions of people, not only with regard to individual health but also concerning the economic, social, and financial behavioral systems, with significant effects on existing structural paradigms in every country and region of the world. The restrictions imposed by health authorities and experts have forced people into isolation, with significant consequences also on their food purchasing and consumption habits. The pandemic emergency has highlighted the limits of our health systems but also the fragility of our food systems, emphasizing how they can be easily interrupted [1,2].

In this global crisis context, the planetary trade and logistics management of foods, which in the last decades led to important changes in citizen-consumers' eating habits, have been adversely affected by international restrictions [3]. As for the local food market, after a period of partial/total closing, the pandemic highlighted citizen-consumers' willingness to buy local, through short food supply chains (SFSC), such as direct-to-consumer sales, e-commerce, and home delivery, in order to limit virus spread [1], contributing to increasing the interest they showed in local foods in recent years [4,5].

In fact, the modern responsible citizen-consumer shows new purchasing behaviors covering different variables related to the ethical and social attributes of foods, such as production techniques, product origin, and social issues [6]. Through the promotion of a new model of a multifunctional farm, all these aspects can be promoted and valued, in particular, with the valorization of the SFSC, which also may represent a response to the asymmetric contractual power that affects the food supply chain [7,8]. By virtue of its

ability to help stabilize farmers' incomes, this model is also strongly encouraged by the Common Agricultural Policy (CAP) which aims, among others, to build a smart e resilient agricultural sector, also stimulating growth and employment in rural areas [9].

Through SFSC, citizen-consumers can show the intentions to reconnect with local food producers and to re-embed themselves in community-based values and institutions [10–12]. Furthermore, SFSC allows producers to develop direct relationships with their supply chain partners and buyers. In light of the above, the citizen-consumer can be considered a co-decision maker of business choices [4,10], since he is closer to the farm and the territory, contributing to creating welfare and shared value [7].

The health emergency, therefore, underlined the resilient character of the SFSC, as citizen-consumers continued to buy through such sales channels, and farms developed some innovations and rapid strategic responses [2,4]. In particular, in a fragile context, such as that of inner areas, often left on the sidelines of social and economic processes, characterized by depopulation and lack of services, SFSC may represent, for farms, a significant competitive tool, to implement or to improve, in order to increase their resilience and, thereby, their capability to respond to an unexpected event, such as COVID-19 pandemic.

Several studies have analyzed the impact of COVID-19 on food supply chains and food supply chains' resilience [4,13–19], but none focused on the role that SFSC may have, in terms of resilience, on vulnerable territories in the context of the pandemic. Therefore, this study aims to investigate, through a pilot test, the phenomenon linked to the SFSC for farms in inner areas of the South of Italy, and specifically to:

(RQ1) Analyze the degree of resilience of farms in inner areas through SFSC, during the COVID-19 pandemic;

(RQ2) Investigate the factors affecting such degree of resilience;

(RQ3) Understand how the pandemic affected the use of the SFSC for such farms.

The paper is organized as follows. In Section 2, the theoretical background of the study is discussed. In particular, after an analysis of the major contributions to the literature concerning SFSC, the section focuses on its resilient character and its role during the COVID-19 pandemic. Section 3 focuses on the methodology, describing the questionnaire design, data gathering, and data analysis. Section 4 presents the results of the empirical analysis and the subsequent discussion. Conclusions, limitations, policy implications, and future research trajectories are shown in Section 5.

2. Literature Review

Over the last few years, SFSC has been at the center of scholars' interest due to its ability to respond to the demands of citizen-consumers, increasingly interested in the intangible attributes of foods, such as origin, health, and sustainability. Specifically, the SFSC is characterized by the reduction of operations along the food supply chain and the distance between the places of production and consumption. As a result, farmers become protagonists in the sale, as they are allowed to create direct contact with consumers [20]. Several studies also investigate the link between SFSC and sustainability [21–23]. According to Ilbery and Maye [24,25], SFSC represents a sustainable alternative to the long globalized food supply chains in terms of socio-economic and environmental benefits, generating ethical impacts on human health and, more generally, on collective well-being.

Based on the different relationships between food production and consumption, three types of SFSC can be identified [26–28]: *face-to-face*, *spatial proximity*, and *spatially extended*. The *face-to-face* occurs when a consumer buys the product directly from the producer/processor, who personally guarantees the quality of his products and manages to establish, thus, a relationship of trust with the consumer. In this category, in addition to the widespread direct sales and farmers' market, online sales are also included. *Spatial proximity* is characterized by limited retail in the specific production territories through some intermediaries working on behalf of producers and, therefore, are able to indirectly guarantee product authenticity. Consumers, in this case, are only informed about the local origin of the products; it is the specific case of the consumer cooperatives or Solidarity

Purchasing Groups. Finally, the third type, *spatially extended*, concerns wider relationships, extended in time and space, where food information is exported outside the production context, without consumers having any direct experience with the places of origin. Even in this case, we can refer to SFSC as, according to the authors, the element that characterizes it is the value of the information reaching the consumer.

Part of the scientific debate on SFSC has highlighted its social, economic, and environmental benefits [29].

Kirwan [30] analyzes SFSCs mainly from the sociological point of view, for their potential contribution to rural development. The author considers farmer's markets as the most appropriate channels for the marketing of organic products and for local products, and stresses that direct sales allow consumers to understand the traditions, the culture, and the working methods as they can live personal experiences with the productive realities.

Some scholars [31,32] pointed out that SFSC strategies imply a re-evaluation of the role of the farmer, which seeks to regain space along the food supply chain. The creation of SFSC channels is more interesting for small farmers, who want to increase their business [33]. Brown and Miller [34], in fact, have shown that the main reason for encouraging small farmers to embrace direct sales is the possibility of obtaining a higher income than that obtained from the marketing of foods through traditional channels.

According to Cicatiello and Franco [35] the main characteristic of the SFSC consists of the total decision-making autonomy of the farmer, who returns to being the protagonist of the chain as he can make his own productive and commercial choices and, therefore, earn the amount he has already predetermined. The relationship created through direct sales represents a confrontation between producer and consumer, from which some ethical and cultural aspects related to food can emerge. In addition, the economic benefits of SFSC strategies fall also on citizen-consumers, who can enjoy reduced prices since food is purchased directly from the farm, without any added value being retained by intermediaries [36–38]. Therefore, the SFSC can become a real competitive tool for multifunctional and diversified farms, in response to the asymmetric contractual power that characterizes the agri-food chain. Furthermore, according to Bullock [39], SFSC generally implies the adoption of eco-sustainable agricultural practices, such as organic or integrated farming, and contributes to supporting the rural economy by facilitating its growth, as it safeguards local employment and strengthens the link between small farms in the area. Thus, the SFSC can be seen as a rural development tool, useful for the economic and social revitalization of inner areas [26,40,41].

Marsden et al. [26] argue that one of the key characteristics of the SFSC is its ability to re-socialize and re-localize production spaces, which helps to create a close relationship between producers and consumers. Brunori et al. [42], instead, also propose an analysis of the SFSC as a process of productive re-localization, considered, from the farmers' point of view, as a repositioning strategy on the market allowing them to face the globalization of food systems.

Previous contributions discuss the resilience of the SFSC. According to Christopher and Peck [43] (p. 2) supply chain resilience is "the ability of a system to return to its original state or move to a new, more desirable state after being disturbed". While, Hohenstein and colleagues [44] (p. 108), define supply chain resilience as "the supply chain's ability to be prepared for unexpected risk events, responding and recovering quickly to potential disruptions to return to its original situation or grow by moving to a new, more desirable state in order to increase customer service, market share and financial performance". The concept of resilience is particularly suitable for SFSC, due to its characteristics [19,45], including little bureaucracy, rapid decision-making, quick and effective internal communications, shorter decision chains, capacity for fast learning, ability to adapt routines and strategies quickly, and greater external uncertainty, which can favor the businesses showing more flexibility and agility [46]. Smith et al. [47] identified several resilience indicators within SFSCs in the wake of a natural disaster, such as high levels of flexibility during the disruption, relying on locally sourced produce, and locally coordinated teams of drivers.

Furthermore, SFSCs exhibit strong relationships between different actors in the supply chain, particularly between producers and consumers, which facilitated better information flows and supply chain stability [46]. Pulighe and Lupia [48] stated that SFSCs represent drivers of regional and local food security, as they are less susceptible to global changes. According to Mac Mahon et al. [49], the response of SFSCs during times of crisis, such as flooding in Australia, was of resilient character, as SFSCs were able to continue to source from local producers and deliver to their customers, while long food supply chains were not. Such results are in line with SFSCs response to the COVID-19 pandemic, as they were able to meet citizen-consumers' demand for safe and local foods [4,16,50] and represent a resilient strategy for farms that were encouraged to innovate through such sales channels. As a consequence, SFSCs may represent also a strategic lever for farms in territorial contexts, such as inner areas, characterized by depopulation; lack of jobs, innovation and services; and poor infrastructure [51,52]. For this reason, investigating the role of SFSC during the COVID-19 pandemic for farms in vulnerable territorial contexts may allow us to identify new strategic actions to implement in order to increase their degree of resilience. Despite the studies mentioned, literature exploring the resilience of SFSCs is categorically scarce, and no contribution investigates its role in a weak territorial context. For this reason, the current study focuses on the measurement of the degree of resilience of farms in inner areas of the South of Italy and investigates how SFSC may affect the degree of resilience during the COVID-19 pandemic.

3. Materials and Methods

Figure 1 shows the flowchart of the methodology adopted in this study. In particular, in order to achieve the study's aims, a questionnaire was administered, through direct interviews, to a sample of wineries with diversified activities in inner areas of the Campania region, in the South of Italy. As this study is considered a pilot test, the sample is relatively small and farms have been identified with the help of the Protection Consortium and entities operating in the area under investigation.

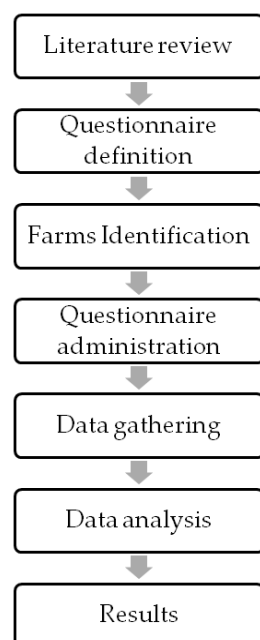


Figure 1. Flowchart of methodology.

The questionnaire consisted of five sections: the first section aimed to detect the structural characteristics of the farms under analysis. In particular, it regarded information concerning farms' years of activity, total agricultural area (TAA), utilized agricultural area (UAA), legal form, number of employees, and turnover. The second section investigated

the consequences of the pandemic on farms' activities, such as changes in turnover and its causes, strategies adopted to face the pandemic crisis, and recourse to debt. The third section aimed to detect information on SFSC. In particular, within this section, information about the years of SFSC and the different types of SFSC practiced has been collected. The fourth section of the questionnaire concerned farmers' socio-demographic characteristics, such as age, gender, and education. The last section focused on the measurement of the degree of resilience of the farms under investigation. Specifically, resilience assessment was implemented according to Vargas and González [53]. They developed a resilience measurement model based on three attributes (Table 1): (a) *effectiveness*, that is, the ability to change or react with little penalty in time, effort, cost, or performance. Effectiveness, in turn, is made up of two components: *reliability* and *exhaustivity*; (b) *flexibility*, namely the ability to respond to changes within an appropriate time frame. It is divided into four components: *volume flexibility*, *delivery flexibility*, *mix flexibility*, and *products flexibility*; (c) *responsiveness*, which indicates the ability to do all the things right and is made up of three components: *reactivity*, *speed*, and *visibility* (not included in our measurement model, as it concerns the ability to know the identity, location, and status of entities transiting the supply chain [54], which is not well-suited to SFSC).

Table 1. Resilience measurement model's variables [53].

Group	Measurement	Definitions	References
Flexibility	Volume	"Ability to change the level of aggregated output."	De Toni and Tonchia [55] Slack [56]
	Delivery	"Ability to change planned or assumed delivery dates."	
	Mix	"Ability to change the range of products made or delivered within a given time period."	
	Products	"Ability to introduce novel products, or to modify existing ones."	
Responsiveness	Reactivity	"Ability to evaluate and take needs into account quickly."	Golden and Powell [57] Vernon [54]
	Speed	"Ability to cover needs quickly."	
Effectiveness	Reliability	"Ability to deliver the correct product, to the correct place, at the correct time, . . ."	Supply Chain Council [58]
	Exhaustivity	"Ability to realize the goals."	

Such attributes were valued by assigning to each variable a score ranging from 0 to 3. The final resilience score, ranging from 0 to 24, was used as a dependent variable in a linear regression model. The aim of this model is to analyze the strength and the direction of the relationship between predictors and an outcome variable [59]. Several prior studies have used such a methodology in analyses concerning determinants of farms' attitudes, characteristics, and behavior [60–63]. In order to identify variables affecting inner area farms' resilience, the structural characteristics of the farms interviewed and farmers' information were used as independent variables, as shown in the following Equation (1) [59].

$$Y_i = \beta_0 + \beta_1 YA_i + \beta_2 UAA_i + \beta_4 Debt_i + \beta_5 Employees_i + \beta_6 Turnover_i + \beta_7 SFSC_i + \beta_8 Age_i + \beta_9 Education_i + \beta_{10} Gender_i + \beta_{11} Activity_i + \varepsilon_i \quad (1)$$

where Y_i is the dependent variable of the model, that is the resilience score; β_0 is the y -axis intercept/constant; β_i is the regression coefficient; and ε_i represents the random error term. Details of the independent variables included in the model are shown in Table 2.

Table 2. Independent variables included in the linear regression model.

Variable	Description	Measurement
YA	Farms' years of activity	Continuous variable
UAA	Utilized agricultural area	Continuous variable
Debt	Need to recourse to debt due to the pandemic	Dummy variable (0 = no; 1 = yes)
Employees	Number of employees	Categorical variable (0 = family labor force; 1 = less than 5 employees; 2 = 5–10 employees; 3 = more than 10 employees)
Turnover	Farms' turnover	Categorical variable (0 = less than €50,000; 1 = €50,000–100,000; 2 = €100,000–250,000; 3 = more than €250,000)
SFSC	Years of SFSC	Categorical variable (0 = less than 5 years; 1 = 5–10 years; 2 = more than 10 years)
Age	Farmers' age	Continuous variable
Education	Farmers' degree of education	Categorical variable (0 = primary school; 1 = secondary school; 2 = high school; 3 = university degree; 4 = master and/or PhD)
Gender	Farmers' gender	Dummy variable (0 = female; 1 = male)
Farm Labor	Farmers' activity	Categorical variable (0 = mostly outside the farm; 1 = mostly farm activity; 2 = exclusive farm activity)

Descriptive data analysis was carried out in order to describe farms' and farmers' characteristics, the effects of the pandemic on farms' activities, and information concerning SFSC. Data analysis was performed using the software for statistic and data science, STATA 15.

4. Results and Discussion

4.1. The Sample

The study involved 77 wineries in the inner areas of the Campania region. Statistics concerning the farms are shown in Tables 3 and 4. In particular, the sample consists mainly of individual farms (74%) operating, on average, for more than 20 years, with an average UAA of 13 ha, and an average TAA of 14 ha. These are, therefore, small farms with mostly few employees: in fact, 27% of the sample employs only a family labor force, while 40% includes less than 5 employees. For 66% of the farms under investigation, the turnover is less than €100,000, while 33% of the sample has a turnover higher than €100,000. All the farms interviewed use SFSC channels (most of the sample for more than 10 years), such as direct sales (69%), home delivery (45%), e-commerce/app (38%), wine tourism (22%), and farmers' markets (10%).

Table 3. Statistics concerning the farms under investigation: years of activity, UAA, TAA.

Variable	Mean	Std. Dev.	Min	Max
Years of activity	21.90	18.97	3	107
UAA	12.83	20.52	1.3	160
TAA	14.18	21.90	1.5	160

Table 4. Statistics concerning the farms.

Variable	Mean	Frequency	Std. Dev.	Min	Max
Legal form	0.792		1.260	0	3
Individual farm		74%			
Family farm		1%			
Cooperative		4%			
Others		21%			
Employees	1.234		0.985	0	3
Family labor force		27%			
Less than 5 employees		40%			
5–10 employees		25%			
More than 10 employees		8%			
Turnover	1.286		1.191	0	3
Less than €50,000		36%			
€50,000–100,000		30%			
€100,000–250,000		11%			
More than €250,000		23%			
SFSC	1.558		0.659	0	2
Less than 5 years		4%			
5–10 years		25%			
More than 10 years		71%			

The study also investigated information concerning the farmers (Table 5). In particular, 74% of farmers are male, while 26% are female, with an average age of 49 years old (ranging from 25 to 74). The farmers have, on average, a medium/high degree of education (48% have a high school diploma, and 37% have a university degree or a master's/PhD). Only 15% of the farmers mostly work outside the farm, while 85% of the farmers work exclusively or mostly on the farm.

Table 5. Statistics concerning the farmers.

Variable	Mean	Frequency	Stv. Dev.	Min	Max
Gender	0.247		0.434	0	1
Male		74%			
Female		26%			
Education	2.234		0.742	1	4
Primary school		0			
Secondary school		16%			
High school		48%			
University degree		34%			
Master and/or PhD		3%			
Farm Labor	1.364		0.742	0	2
Mostly off-farm labor		15%			
Mostly farm labor		33%			
Exclusively farm labor		52%			

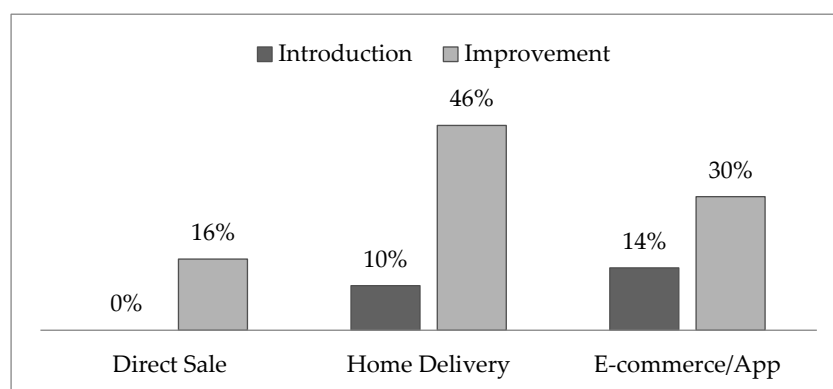
4.2. Consequences of the Pandemic

A specific section of the questionnaire aimed at investigating the consequences related to the pandemic crisis on the activity, turnover, and strategies of the farms analyzed. In particular, 85% of the farms interviewed reported a decrease in turnover due to the pandemic, mostly by 40–50% (Table 6). For the remaining 15% of the sample, turnover did not change (no farms reported an increase in turnover). Despite this, only 27% of the sample had to get into debt to overcome the difficulties caused by the pandemic.

Table 6. Turnover reduction.

	Mean	Frequency	Std. Dev.	Min	Max
Turnover reduction	1.532		1.781	0	5
Less than 10%		13%			
10–20%		13%			
21–30%		20%			
31–40%		16%			
41–50%		27%			
More than 50%		11%			

The pandemic affected the use of SFSC for 73% of the sample (Figure 2). In particular, 19.6% of farms under investigation stated they had to introduce new sales and short-chain services due to the pandemic, mainly home delivery (10%) and e-commerce and/or mobile/web app (14%). While 52.9% of the sample improved short-chain services such as direct sale (16%), home delivery (46%), and e-commerce and/or mobile/web app (30%).

**Figure 2.** Effects of the pandemic on the use of SFSC.

Such results are in line with previous contributions, which highlighted the role of e-commerce and home delivery during the pandemic. In fact, according to Bhatti et al. [64] e-commerce grew very fast during the pandemic, due to the isolation conditions individuals have been forced to live in. As Chang and Meyerhoefer [65] pointed out, the variety of products sold on e-commerce platforms also increased during the pandemic, which has helped to attract also niche consumers to such sales channels. A key role has been played by food delivery apps [66], and, in general, by online food delivery services implemented by commercial and restaurant activities. In fact, according to Gavilan and colleagues [67], during the COVID-19 pandemic, innovation in the online food delivery business increased the experiential value for citizen-consumers, and accordingly, their willingness to purchase. Such results show how the pandemic has contributed to increasing the degree of digitization of farms, also in vulnerable areas such as the inner areas, where farmers are less likely to adopt innovations.

4.3. Resilience and SFSC

Farms under investigation have, on average, a high resilience score, equal to 17. As shown in Table 7, the resilience score is affected by different variables, related both to the farms and the farmers.

Table 7. Linear regression results.

Resilience	Coef.	St. Err.	t-Value	p-Value	[95% Conf Interval]	Sig
Years of activity	−0.015	0.028	−0.55	0.589	−0.072 0.042	
UAA	−0.002	0.002	−0.82	0.415	−0.006 0.003	
Debt	0.723	1.145	0.63	0.531	−1.587 3.033	
Turnover	1.448	0.823	1.76	0.086	−0.212 3.108	*
Employee	−0.429	0.623	−0.69	0.495	−1.687 0.829	
SFSC	1.451	0.780	1.86	0.069	−0.199 3.022	*
Age	0.114	0.039	2.96	0.005	0.036 0.192	***
Education	2.075	0.758	2.74	0.008	0.562 3.589	***
Gender	1.478	1.180	1.25	0.217	−0.903 3.858	
Farm Labor	1.633	0.746	2.19	0.034	0.127 3.138	**
Mean dependent var			17.385	SD dependent var	3.113	
R-squared			0.966	Number of obs	77.000	
F-test			119.041	Prob > F	0.000	
Akaike crit. (AIC)			290.450	Bayesian crit. (BIC)	309.962	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Concerning farms' variables, turnover and the years of SFSC positively affect the resilience score. Therefore, as the turnover and the years of SFSC increase, the resilience of the farms investigated increases. Such results, which confirm the crucial role of the SFSC in terms of resilience, are in line with previous contributions: Guo et al. [68] underscore the importance of e-commerce, in maintaining the resilience of the agri-food supply chain; Thilmany and colleagues [4] stated that SFSCs, such as local markets and local and regional food systems, increased their degree of resilience during COVID-19 pandemic, as they were forced to innovate in order to respond to market demand and policy changes; Michel-Villarreal et al. [46] analyzed SFSC components and characteristics, and stated that it possesses different supply chain resilience capabilities. As for the turnover, Perrin and Martin [69] also investigated the relationship between such variables and farms' resilience. The authors, through the case-study methodology, found that a higher turnover is associated with high levels of resilience. Furthermore, they also relate the turnover trend to SFSC, highlighting that reductions in turnover are associated with the loss of direct selling.

As regards farmers' variables, the age, degree of education, and level of involvement in the farm activity also positively affect the dependent variable. In fact, the older, more educated, and more involved in farm activities the farmer is, the more resilient the farm is. Therefore, this study showed that the use of digital marketing tools in the pandemic era could have benefited from farmers' age and level of education. Such results are new in the literature, as there are no previous studies aimed at analyzing the link between a farmer's characteristics and a farm's degree of resilience.

The results also showed a good degree of financial resilience: the pandemic led to a halving of the turnover of the farms investigated but without increasing debt levels. Most farms, following the pandemic, have improved SFSC services and introduced new forms of experiential e-commerce. This is a very interesting aspect that, paradoxically, the pandemic has favored [70–72]. Not only was there a simple recourse to traditional forms of e-commerce but there was also a search for innovative models that would still be able to provide an experience to the citizen-consumer, even if virtual. This has greatly improved the willingness to purchase online.

5. Conclusions

During the COVID-19 pandemic, citizen-consumers' demand for SFSC channels increased, due to the restrictions aimed at reducing the virus spread. Consequently, farms implemented a process of development and improvement of such channels, changing their investment priorities. Such a dynamic also concerned farms in inner areas, and in particular those in inner areas of Campania, who showed strong flexibility and adaptive capability to face pandemic consequences. In particular, through the introduction and improvement of SFSC channels, such as direct sales, home delivery, and e-commerce, the farms under investigation have been able to overcome the difficulties linked to the pandemic, expanding their range of sales services, while responding to citizen-consumers' new requirements. Furthermore, SFSC represented a long-term strategy, as most of the farmers stated that they will continue to use it. Such a choice allowed farms in inner areas to increase their degree of resilience and development, as SFSC turns out to positively affect the resilience score (given by the sum of the scores assigned to the flexibility, responsiveness, and effectiveness variables). Specifically, the latter turned out to be influenced by both farm's and farmers' variables: turnover and the years of SFSC positively affect the resilience score; farmers' age, degree of education, and level of involvement in farm activity also positively affect it.

The study's findings are almost new to the literature, as there are no previous contributions aimed at investigating the degree of resilience of farms in vulnerable territories during the COVID-19 pandemic and the link between both farms' and farmers' characteristics and such degree of resilience.

Despite limitations essentially related to the sample, which is small and only includes wineries, the study findings provide useful implications for both decision-makers and practitioners, as they contribute to the debate on resilience and SFSC as, despite there being different contributions analyzing the impact of COVID-19 on chains' resilience, none focus on the role that SFSC may have, in terms of resilience, on vulnerable territories.

The results of the study could provide a reference for decision-making in inner area development, and to design targeted policies (with EAFRD/ERDF/ESF Funds integrated action) in order to manage increasingly unexpected changes in different scenarios. In particular, targeted actions could be taken into account in the enhancement of the SFSC as a tool to reconnect citizens and territories through experiential models of purchase and consumption of food products. Future lines of research could focus on such actions or refer to other vulnerable territories. Furthermore, future studies may consider a wider sample, also including farms operating in other sectors, in order to generalize the results.

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