
Are alternative food networks winning strategies to increase organic SMEs profitability? Evidence from a case study

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Abstract: The aim of this study was to understand how and how much alternative food networks (AFNs) contribute to increasing the profitability of the organic SMEs, compared to traditional organic sales channels. For this purpose, an economic analysis and an in-depth interview were carried out in a case study located in the Sicilian northern coast. Findings showed a clear convenience of the participation to alternative food networks compared to the case in which all farm production was conferred to traditional sales channels, highlighting an increase both of farm profit (+76.9%) and net income (+72.1%). However, the in-depth interview revealed that AFNs are a mean, not only to have economic benefits, but also to satisfy consumers' social and environmental needs. According to the findings of this study, alternative food networks could represent a strategy to increase the profitability of many small and medium-sized farms (organic and non-organic) managed by the farmer and his family, especially in an increasingly global and diversified market.

Keywords: local food; short supply chain; economic sustainability; business management; business performance; Sicily; net income; organic farming; profit; farm shop; farmers' markets.

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1 Introduction

Over the last years, the European agricultural industry has experienced several changes increasingly oriented towards a greater sustainability (Galati et al., 2015, 2016). Among these changes, there has been a constant increase of farmers involved in both organic farming and alternative food networks (AFNs). The reasons of these two trends are attributable to consumers reaction to the conventional agro-food system, which responds to an economic configuration of efficiency that does not ensure high-quality products in terms of nutritional values and environmental sustainability (Wilson, 2013; Morris and Kirwan, 2011; Pascucci et al., 2011; Tregear, 2011). In fact, consumers perceive organic farming and AFNs as more environmentally sustainable practices, since the organic method is not harmful to natural resources and AFNs ensure short distance transportation of food (Verhoog et al., 2003; Hughner et al., 2007; de Magistris and Gracia, 2008; Lanfranchi et al., 2014). Moreover, organic products and those sold in AFNs are perceived by consumers as safer compared to the conventional ones and more socially sustainable, as consumers buying local food contribute in recirculating financial capitals

among several economic actors of the territory (Feenstra, 1997; Van Passel, 2013; Trydeman-Knudsen et al., 2014).

The increasing consumers' interest in organic products had stimulated large-sized enterprises in Western countries to adopt organic certification (Guthman, 2002) resulting in a transformation of organic farming from a network of local producers and consumers to a global institutionalised and industrialised system (Guthman, 2004), characterised by the same competitive factors of conventional agriculture. In this context, many organic SMEs had turned their attention to AFNs as a strategy to increase their economic sustainability and survive in the globalised market (Hearn et al., 2018).

The economic literature, have mainly studied the AFNs phenomenon under consumers' perspective, by examining the main psychological and motivational factors affecting participation (Migliore et al., 2015b; Tudisca et al., 2014, 2015), while very few studies had examined this issues from the managerial perspective, in order to provide useful information to farmers adopting sustainable production methods. In this respect, no study had analysed the SMEs profitability in AFNs compared to the traditional sales strategy of organic products.

In line with this, the aim of this study was to understand whether and how much AFNs are more profitable compared to the traditional sale strategy of organic product. In order to respond to this aim, a case study analysis has been carried, focusing on an organic SME located in the northern coast of Sicily (Southern Italy), which adopts both AFNs and traditional organic sale channels. Italy is the sixth most important country in the world in terms of organic areas which amount to 1.5 million hectares, and the percentage of organic farms participating in AFNs was about 32% against 20.3% of conventional farms (ISTAT, 2012). Sicily, in the national context, is one of the most important Italian region in terms of surface devoted to the organic production (23.1% of the total Italian agricultural area), and for organic producers (18.9% of the Italian farmers), denoting an increase of organic area of 52.9% in 2015 compared to 2010 (SINAB, 2016).

In order to analyse the profitability related to the alternative choice, parameters chosen were the net income and the profit. In particular, in order to be able to quantify the economic benefits deriving from AFNs adoption, we compared the case study sales strategy with a hypothetical case in which overall production was conferred to the traditional organic sales channel. The findings of this study could provide indications on SMEs that face competitive problems on organic products market, by showing a comparison between the profitability that organic SMEs could obtain in the adoption of AFNs as a sales strategy and in the adoption of the traditional organic sales channel.

2 AFNs characteristics: a brief literature review

The beginning of the 'alternative' food movement can be identified in the late 1970s. The AFNs emerged in developed economies as a reaction to two fundamental trends in the globalised food system. On one side, there were growing concerns of consumers related to food scares and increasing attention given to environmental issues related to the industrialised food system. On the other side, there was a continuous pressure on farm incomes caused by the long-run decreasing trend in agricultural prices and the so-called 'technological treadmill' within industrial forms of agriculture, which required farms to

continuously invest in new technologies in order to reduce production costs (Randelli and Rocchi, 2017).

According to a commonly referenced definition by Feenstra (1997): [AFNs are] “rooted in particular places, aim to be economically viable for farmers and consumers, use ecologically sound production and distribution practices, and enhance social equity and democracy for all members of the community.” AFNs refer to the connections between consumers, producers, and sellers of organic, local/regional, sustainably grown, and other artisanal and niche food not produced by the conventional system (Goodman et al., 2012). They allow building personal interaction between producers and consumers, which appears to be highly valued by consumers as a means to build relationships of trust, ensuring the authenticity of the production (Adams and Salois, 2010; Aguirre, 2007; Moore, 2006). Different typologies of AFNs were identified in the international literature, all characterised by interesting relational structures that govern market transactions. More in depth, the most important are: box schemes (Hashem et al., 2018; Brown et al., 2009), farm shop (Bond et al., 2008), the Italian Solidarity purchasing groups (Migliore et al., 2014b; Brunori et al., 2012), farmers’ markets (Benedek et al., 2018; O’Kane and Wijaya, 2015), pick your own (Carpio et al., 2008) and communities supported agriculture (Schnell, 2007; Cooley and Lass, 1998).

AFNs were described as a manifestation of individuals’ intentions to reconnect with the local food producers and to re-embed themselves in community-based values and institutions (DeLind and Bingen, 2008). In this context, AFNs emphasised the importance of safeguarding and protecting environmental, economic and social elements of food production and consumption (DeLind, 2002; Migliore et al., 2014a). The reasons behind this consumers’ interest were also due to the perceived benefits that foods sold in AFNs are better for the environment and also for society (Migliore et al., 2015a). AFNs determine a lower environmental pressure (e.g., air pollution, soil pollution, loss of biodiversity and noise pollution) and great social benefits (e.g., recirculation of capital resources among several economic actors of a territory) compared to traditional market channels (Van Passel, 2013).

AFNs reconfigure relations between producers and consumers, encouraging more harmonious community relations among actors into food supply chain (Kirwan, 2006), where relations of trust between food producers and consumers are established (DuPuis and Block, 2008). Consumers recognise AFNs a means to satisfy their need to conserve particular social and environmental attributes of farming that they perceive as valuable (Giampietri et al., 2016). For example, consumer motivations to participate in AFNs were often oriented toward preserving the capacity for smaller-scale local farms to thrive and for producers to deepen their engagement with local communities (Lyson, 2005; Migliore et al., 2015b).

According to the literature, AFNs were also recognised by farmers to have many benefits (Migliore et al., 2015b; Tudisca et al., 2014). In particular, through the reduction of intermediaries along the supply chain, AFNs contributed to affect positively the farm annual revenues, by allowing farmers to obtain a higher remuneration of productive factors compared to mainstream sales channels (Rosol, 2018). This is due also to the fact that farmers can better manage the price of products by reducing the production costs related mainly to the transport and packaging costs (Miralles et al., 2017). However, Migliore et al. (2015b) showed that farmers motivations to participate in AFNs were not only driven by economic factor, that is the maximisation of profit, but also by the purpose

to satisfy environmental and social needs. What emerges is that AFNs represent an important initiative aimed at encouraging the socio-economic development of marginal rural areas, valorising and revaluating them by means of agri-food products, and fully enhancing farm human capital (above all farmer's family), avoiding phenomena of rural exodus still present in many areas (Alonso, 2015; Tudisca et al., 2014). However, the literature focused its attention on the profitability of SMEs in AFNs compared to the traditional sales channels of conventional food products (Tudisca et al., 2015), but no study provided information on the comparison between the profitability of SMEs in AFNs and the profitability of SMEs in traditional organic channels. Considering that the latter is a sales channel more profitable than the sales channel of conventional products.

Although the literature emphasised many benefits associated with consumers' and farmers' participation in AFNs, they are not free of criticism. Firstly, scholars pointed out that efforts to re-localise food provisioning were often exclusionary in terms of both race and class (Glaze and Richardson, 2017; Goodman et al., 2012). Doherty (2006) suggested that these alternatives risked becoming a socially and economically exclusive movement for white, middle-class participants. These barriers underscore issues of income disparity, poverty, and food-access inequality more broadly, and require a structural and societal change to rectify (Hodgins and Fraser, 2018). Both Goodman (2004) and Hinrichs (2003) stressed that the promotion of the 'local' spatial scale within popular and academic discourse around AFNs ignored the fact that this concept is socially constructed and often socially-contested.

Another criticism deals with the fact that AFNs cannot be the only way to sell products especially in areas with low population density, since food products can hardly be absorbed exclusively by local demand, but farmers have to support AFNs with conventional sales strategy (Sini, 2009). The same is true for medium-large enterprises, where economies of scale and scope are of particular importance for the purpose of determining competitive advantage, and therefore, entrepreneurs have a marginal interest in adopting AFNs as a sale strategy.

Another aspect to be considered in the adoption of AFNs is represented by the costs that enterprise has to incur, varying depending on the AFNs typology and the intensity of the relationship with consumers (Bazzani and Canavari, 2013). Specifically, farmer deals with costs related to diversification of farm's supply (e.g., increase of human resources skills, increase of business investments, and management of a greater productive portfolio) and costs arising from the presence on the market (e.g., compliance with legal obligations for food safety and hygiene, employees used for sales, higher packaging costs, higher transport costs if entrepreneur participates in farmer's markets, higher electric energy, and water consumption costs for the farm shop). Moreover, in some cases, only certain farmers may gain permission to sell at farmers' markets, but attempts to bound place are not always successful (Blumberg, 2018). Last but not least, the labour intensity of producing foods in AFNs is sometimes overlooked but poses a significant challenge to long-term viability. Farmers engaged in AFNs, in fact, invested significantly more time in maintaining the health of their soils by practicing crop rotation, growing a greater diversity of crops and building organic matter with cover crops and compost. Because much of this work is unpaid, the added labour requirements pose an obstacle to the financial viability and social sustainability of alternative production methods (Allen, 2016).

3 Materials and methods

In order to respond to the aim of this study, a case study approach was used. The case study method is extensively utilised in the management literature in order to understanding specific characteristics and mechanisms of the business performance (Chrisman et al., 2012; De Massis et al., 2012; Yang et al., 2006). Case studies are most commonly associated with qualitative research, however, quantitative data can readily be incorporated into a case study where appropriate. Their ability to investigate cases in depth makes them a useful tool for descriptive research studies and in applied research (George and Bennet, 2005). One of the more controversial design issues in case study research is whether or not a single case is sufficient. Objections to a single case could arise from concerns about the representativeness of the chosen case, the extent to which generalisability is possible, the tendency for the collection or analysis of data to be biased so as to confirm the researcher's preconceived opinion. Yin (2009) suggested that there were some reasons for a single case design, namely that the case is critical in some way (e.g., in theory testing), that it, is either unique or typical, that it is revelatory or that the study is longitudinal, comparing the case at different points in time.

In this study, we decided to analyse, as case study, a non-conventional agricultural enterprise, strongly oriented towards innovation integrated with traditions, and which focused its choices on the principles of environmental sustainability. By means of the case study method, we are able to refute or not our research hypothesis: whether AFNs adoption could increase the profitability of organic farm.

The survey was carried out in 2017 and technical-economic data were collected by using a questionnaire (Iaffaldano, 2015) organised in three different sections. The first section aimed to acquire general information about the enterprise (i.e., farm size, utilised agricultural area per crops, legal form, number of employees and farm investments). The second part of the survey collected data on the production process on the operational and economic point of view (i.e., farming operations, inputs required for crops growing, human labour and yield and sales price). The end section contained questions on sales channels adopted, with specific reference to the AFNs.

In order to compare the economic efficiency of two alternative scenarios related to the adoption of AFNs, we used the profit (P) and the net income (NI) as economic indicators. The following scenarios had been envisaged:

- Scenario A Actual case study sales strategy: 60% of the farm production conferred to traditional sales channels (local traders) and 40% to AFNs (farm shop and farmers' markets).
- Scenario B Hypothetical case: 100% of farm production conferred to traditional sales channels (local traders).

As regards the technical-economic data for hypothetical scenario, the '*ceteris paribus*' principle was adopted using the same data collected for the case study analysis.

The first profitability indicator, the profit is equal to gross production value minus all production costs. More in detail, the gross production value was obtained by multiplying the farm production volume as average value of last two crop years (2015/2016–2016/2017), in order to minimise variations due to unfavourable weather

events, and the sale price of each production referred to 2017 year. In this calculation, the single payment scheme (SPS), granted under Council Regulation (EC) No. 1307/2013, and direct subsidies in the form of agri-environment payments under Council Regulation (EC) No. 1305/2013, were not taken into consideration in view of the fact that they were independent of the typology of market channel. For the assessment of the production costs, we considered both fixed and variable costs, valued at the current prices (2017 year). In particular, the following equation was used to assess the profit (P):

$$P_i = GPV_i - \sum K_i \quad (1)$$

where GPV_i is the gross production value, and K_i is the costs related to the acquisition of inputs outside the firms (seedlings, pesticides, fertilisers, irrigation water, fuel, services, organic certification and packaging), quotas on durable capitals (depreciation, maintenance and insurance costs of machinery and rural building), taxes and contributions, labour, interests and administrative expenditures.

As regards the NI, the decision to consider it as an economic parameter to express a judgement of economic convenience of the AFNs, was determined by the fact that every entrepreneur, in his/her decision making process, makes choices to maximise the remuneration of production factors that he/she brought farm (Kilian et al., 2006). The NI, in fact, can be described as the return to the farmer and his family for their manual and managerial labour and for the assets they have invested in the farm (Phimister et al., 2004). Net income is equal to gross production value minus all costs actually incurred by entrepreneurs and was determined according to:

$$NI_i = GPV_i - \sum K_f \quad (2)$$

where GPV_i is the gross production value, and K_f is equal to all costs actually incurred by entrepreneurs, excluding costs related to the production factors provided by the same entrepreneurs. In particular, we considered the costs related to the acquisition of inputs outside the firms (seedlings, pesticides, fertilisers, irrigation water, fuel, services, organic certification and packaging), depreciation, maintenance and insurance cost of machinery and rural building, taxes and contributions, and labour provided by external workers.

On the bases of the valued profitability indicators was possible to verify the impact in terms of profitability that AFNs entailed compared to an exclusively traditional sales strategy in the organic farming.

Finally, in order to understand the reasons that led farmer to adopt AFNs and the benefits reflected in the business performance, an in-depth semi-structured interview was administered to the entrepreneur. This method was largely adopted by many scientists in the social sciences and was conducted in order to gain a thorough insight about a specific issue. This tool allowed researchers to explore individuals' experiences and how they attributed meaning to aspects of their everyday life (Beattie et al., 2018). The intention is to get the informants to talk in their own terms, hence questions tend not to be too specific allowing for a range of possible responses (Meert et al., 2005). They do not offer researchers a route to 'the truth' but they do offer a route to partial insights into what people do and think (Longhurst, 2009). In this way, it was possible better understand whether AFNs adoption could increase the profitability of organic farm.

4 Case study

Founded in 2000, 'Nonno Nino's farm', located in the Municipality of Terrasini in the northern coast of Sicily, is marked in the regional agro-food scenario as a business strongly oriented towards innovation, enough to receive a special award for innovation at the Best in Sicily event for the invention of tropical agro pharmacy. The entrepreneurial passion of the current owners, Rosolino and Benedetto Palazzolo, was the basis of a deep change that characterised the enterprise. This led farm, over the years, to produce not only traditional vegetables and citrus fruits, but today, it diversified its supply with the production of tropical fruits (including papaya, mango and banana), and more recently coffee, recognising that the future of agriculture is not only the organic local production but especially niche products. It is, in fact, an example of a family-run business that was able to combine innovation and traditions, which are increasingly focused by more conscious consumers. Entrepreneurs performed part of the manual work assisted by three workers and personally dealt with the direct sales of farm products both in the farm shop and in the farmer's markets participation. Therefore, with regard to sales channels, the enterprise adopt for some of the products, a truly original form of sale: customers chose the products they need directly from the field and purchase them in farm shop. All this shows a farmer with high entrepreneurial skills, attentive to the evolution of markets and consumers' needs, with a propensity to risk management.

All enterprise choices are based on the principles of environmental sustainability. In fact, in 2008, the Nonno Nino's obtained organic certification, but over the years, entrepreneurs tried to go beyond the rules of organic by applying homoeopathic principles to plants and crops. In 2008, the entrepreneurs decided to participate in AFNs and they joined in Coldiretti Campagna Amica Foundation, with a view to protecting the environment and to further increase the added value of organic products. Before that, in fact, the entire production was conferred to local fruit and vegetable wholesalers, resulting in a minimum contractual power of entrepreneurs during price negotiations. The empirical analysis showed that the enterprise allocated 40% of the production to AFNs, by means of a 30 square metres farm shop where consumers could buy products and through the participation to several farmers' markets in the municipalities of Terrasini and Palermo. In particular, once a week entrepreneurs participated in farmers' markets to which they conferred 25% of annual production, while 15% was sold directly in the farm shop. The remaining 60% of farm production, instead, was conferred to local traders specialised in organic products in the municipalities of Palermo, Capaci and Terrasini. The choice to allocate only 40% of farm production to AFNs was linked to the capability of absorbing of this sales channel in relation to the local demand. Therefore, considering that the farm is located in a low population density area, experience led entrepreneurs to determine this threshold, which allowed them to obtain the best economic results.

5 Results and discussion

The economic analysis for the two scenarios and a comparison between them is shown in Table 1. By comparing the two research scenarios, as well as in other studies (Detre et al., 2011; Hardesty and Leff, 2010; Lohr and Park, 2010) economic analysis showed a clear convenience of the real farm sales strategy (Scenario A) compared to the case in which all farm production were conferred to traditional sales channels (Scenario B),

highlighting an increase of the profit (+76.9%) and of the NI (+72.1%). In particular, with reference to the Scenario A, revenues attributable to AFNs were equal to 56,080.00 € (29.6% of total GPV), arising from farmers' markets participation (35,050.00 €) and farm shop (21,030.00 €).

Table 1 Economic analysis

<i>Items</i>	<i>Scenario A</i>	<i>Scenario B</i>	<i>A/B var.</i>
	<i>(Euro)</i>	<i>(Euro)</i>	<i>(%)</i>
GPV	189,730.00	133,650.00	42.0
Vegetables	127,690.00	92,650.00	37.8
Tree crops	62,040.00	41,000.00	51.3
Operating expenses	55,967.50	46,629.50	20.0
Seedlings	14,550.00	14,550.00	-
Fertilisers	9,150.00	9,150.00	-
Fuels and lubricants	4,300.00	2,740.00	56.9
Irrigation water	5,000.00	5,000.00	-
Pesticides	2,547.50	2,547.50	-
Organic certification	700.00	700.00	-
Packaging	16,720.00	10,692.00	56.4
Other costs ^a	3,000.00	1,250.00	140.0
Quotas on durable capitals	10,635.00	10,335.00	2.9
Depreciation costs	6,405.00	6,355.00	0.8
Maintenance fees	3,280.00	3,130.00	4.8
Insurance fees	950.00	850.00	11.8
Tributes	5,975.00	5,475.00	9.1
Labour	17,300.00	12,500.00	38.4
Farmer's family	9,800.00	5,000.00	96.0
Wage earners	7,500.00	7,500.00	-
Administrative expenses	7,589.20	5,346.00	42.0
Interests	3,896.84	3,418.24	14.0
Interests on current costs	956.84	778.24	22.9
Interests on durable capital	2,040.00	1,740.00	17.2
Interests on land value	900.00	900.00	-
Net income	109,652.50	63,710.50	72.1
Profit	88,366.46	49,946.26	76.9

Note: ^aIt includes costs for electric energy, water consumption of farm shop and food safety and hygiene rules.

Source: Our processing of directly collected data.

The highest profitability of case study was due essentially to the GPV increase (+42.0%), caused by two main reasons. The first, in line with what obtained by Aguiar et al. (2018), was the absence of intermediaries along the supply chain that allowed farmer obtaining sales prices on average 50% higher than those adopted for traditional channels. The

second reason was the higher willingness to pay of consumers towards organic AFNs products compared to conventional ones, recognising them an added value, and ultimately, a higher sales price. In this regard, results obtained from Galt et al. (2017) on a sample of 1149 members of CSAs in the USA, supported our findings by highlighting that consumers were willing to pay a premium price for products in AFNs compared to traditional channels.

Moreover, the entrepreneurial choice to commercialise a share of farm production by means of AFNs (equal to 40%) allowed farmer to product a mix of high quality products, but aimed at different, specific, market segments, by further increasing the overall profitability of farm (de Roest et al., 2018). In this way, as several authors emphasised (Malagon-Zaldua et al., 2018; Polidori et al., 2008), the entrepreneur obtained a higher remuneration of productive factors, re-appropriating of a value portion which usually was dispersed in the various stages of the long supply chain, becoming price-maker. In particular, in the case study, the increase of GPV assumed such much importance on farm profitability, to overshadow the contextual increase of all costs related to productive factors.

As regards the operating expenses economic analysis showed an increase equal to 20.0% compared to Scenario B. The participation to AFNs, in fact, involved higher logistical and management expenses compared to traditional sales channels, related to: participation in the farmer's markets, creation of a differentiated farm labelling and packaging by crop and sales modality, compliance with legal obligations for food safety and hygiene, and electric energy and water consumption for the farm shop (Belletti and Maressotti, 2013). Among operating expenses of surveyed farm, the cost items that showed an increase were fuels and lubricants (+56.9%), packaging costs (+56.4%), costs related to energy and water consumption of farm shop, and food safety and hygiene rules, while others cost items did not highlight variations. This appears evident if we consider that in the Scenario B, the packaging costs represented the second cost item (22.9% of operating expenses) as farm products were often commercialised in undifferentiated and not labelled boxes. In this scenario, in fact, the main cost item was purchase of seedlings (31.2% of operating expenses), while the incidence of fertilisers, irrigation water and pesticides were increased.

With concern to quotas on durable capitals, they remained substantially unchanged between the two scenarios, as only the presence of farm shop influenced the highest value in Scenario A. As well, the tributes did not denote significant increase between the two scenarios, as the only difference would be represented by the annual permissions to sell at farmers' markets.

Manual labour, instead, showed a substantial increase in relative terms (+38.4%) in the case of AFNs adoption. This was in line with Bruce and Som Castellano (2017) who showed that organic farmers engaged in AFNs needed significantly more time in farming operations and incurred higher management costs for the use of wage earners. However, because farmer and his family were personally occupied in the farmers' markets participation and in direct sales of products in farm shop, he did not have the necessity to employ other workforce eliminating further costs related to wage earners and their social security and insurance contributions. Workforce of farmer's family, in fact, represented 56.6% of annual manual labour, while costs for labour provided by wage earners were equal to 43.4%.

Therefore, case study denoted one of the most positive aspects of AFNs participation, as it fully utilises the work of the farmer's family, creating employment and developing

entrepreneurial skills, in line with Mundler and Laughrea (2016). However, it should be noted that in many cases much of this work is unpaid, and the labour requirements deriving from AFNs adoption, could represent an obstacle to the financial viability and social sustainability of farms, as highlighted by Carolan (2016) and MacAuley and Niewolny (2016).

Among costs of productive factors, administrative expenses showed the highest increase in relative terms (+42.0%), as AFNs adoption required a greater entrepreneurial involvement. As denoted by Roep and Wiskerke (2012) in a research that involved seven European countries, and by Galati et al. (2014, 2017) on Italian SMEs, entrepreneurial involvement was associated with a constant updating both of the managerial skills and the farm market strategy.

Economic analysis highlighted that AFNs adoption involved also an increase of interests value equal to 14.0%, mainly represented by higher interests on current costs (+22.9%) and durable capital (+17.2%). This occurred as for AFNs were required higher costs compared to traditional sales strategy related to operating expenses, maintenance fees and manual labour (Michel-Villarreal et al., 2019).

Subsequently, in order to better understand the main motivations affecting the choice of the two entrepreneurs to adopt AFNs as a complementary sale channel, an in-depth semi-structured interview was conducted and collected data were discussed. As pointed out by the interviewee, the most important perceived benefit resulting from the AFNs adoption was a greater profitability, compared to the case in which the firm conferred all production to traditional sales channels. This result was consistent with Martindale et al. (2018) in three different AFNs cases studies located in the UK, Italy, and China and with the findings of Traversac et al. (2011), which showed as French wine producers preferred selling directly to customers instead of conferring bulk wine to wine companies. The second most important benefit was related to the timely availability of capital which could allow the entrepreneur both to easily introduce product and/or process innovations and to be able to quickly deal with events that could cause loss of production (adverse weather conditions, disastrous events and market fluctuations) (Riaz et al., 2012; Crnčan et al., 2011). This answer confirms results reported by Tudisca et al. (2015) by means of an empirical analysis carried out on 30 Sicilian small-sized farms adopting the direct sales. These authors, in fact, denoted that the adoption of direct sales produced positive effects on the farm's economic performance as entrepreneurs increased the cash availability in the business activities and reduced the capital required for the coverage of the short-term debts. In addition, the interviewee confirmed that AFNs adoption represented also an opportunity for greater efficiency of human resources inside the firm, as denoted also by Weiler et al. (2016). However, this presupposed that in the farm family there was a state of under-employment because the possible economic advantage created would otherwise be absorbed by the need to employ external sales staff (Biewener, 2016).

As regards the motivations that led entrepreneur to adopt AFNs, the interview showed that the higher sale prices of organic products was the most important one. The interviewee, in fact, declared that the absence of intermediaries along the supply chain allowed him to obtain higher profitability compared to traditional sales channels, as highlighted by other studies (Holloway, 2008; Renting et al., 2003). He affirmed that through AFNs farm profitability increased over the last years, essentially because he re-appropriated a portion of the value that was usually dispersed in the various stages of

the long supply chain, as shown by Bandarra (2011). The second motivation was linked to the opportunity to create customer loyalty. The entrepreneur declared that AFNs are able to create a relationship with consumers, allowing him to fully enhance organic products and to transmit his knowledge and links with the territory. He said that consumers through AFNs had the opportunity to purchase organic products at lower prices compared to traditional sales channels and for this reason they were induced to establish a relationship of loyalty. These results were consistent with what Renko et al. (2010), Seyfang (2008) and Taylor et al. (2005) have shown in their studies on farmers adopting AFNs as sales strategy. Environmental awareness was another key motivation for the entrepreneur's participation in AFNs. This denoted a new multifunctional vision of farming that meets the EU guidelines and the new consumer's needs, respecting and recovering territorial, environmental and ecological values, as shown by Renting et al. (2009) and Thilmany et al. (2008) in their studies. Moreover, this result was in line with Migliore et al. (2015b) who found that farmers in AFNs were also strongly motivated by the desire to satisfy social and environmental needs. The entrepreneur affirmed that among the reasons that led him to adopt AFNs, the diversification of the business strategy assumed a key role, because it represents a winning strategy in order to remain competitive in increasingly globalised market. This statement confirmed that entrepreneurs who participate in AFNs are able to update their skills and to modify the market orientation of farms, as reported by other studies (Rahmawati et al., 2016; Frank et al., 2012). In contrast to the other studies' findings (i.e., Harris, 2010), farmer assigned to the geographical location of the farm a low importance for AFNs adoption, highlighting how his choice was due essentially to economic, social and environmental reasons. Therefore, interview denoted as AFNs represented a social, economic and environmental option for farmer's family, strengthening local markets and reconnecting producers and consumers. In this way, our findings were also consistent with the qualitative analysis conducted by Darolt et al. (2016) on a sample of seven organic SMEs located in France and Southern Brazil.

6 Conclusions

This is a first study comparing the profitability between the AFNs sales strategy and the traditional organic sale channels. Findings showed a clear convenience of the SME investigated to adopt AFNs channel compared to the case in which overall production were marketed through the traditional sales channels, as emerged by the greater values of both the profit (+76.9%) and the NI (+72.1%). This was due essentially to the higher sales prices of food products sold in AFNs by farmer compared to traditional channels, thanks to the absence of intermediaries along the supply chain. The decision to combine AFNs with the traditional sales channels was due to several motivations, among which the opportunity to obtain a premium price for organic products, gain customer loyalty, and satisfy social and environmental needs.

These results provide several theoretical and managerial implications. On the theoretical point of view, this study enriched the knowledge about the economic sustainability of SMEs adopting AFNs sales strategy. On the managerial perspectives, findings could be useful for entrepreneurs that would diversify their sales channels to improve their environmental and economic performance. In particular, the detailed analysis of the fixed and variable costs provided valuable information to entrepreneurs

operating in similar sectors to perform informed decision related to the business management. The diversification of sales channels, as in our case study, could be considered as a winner strategy to reduce risks associated to market changes and prices fluctuation of products in the mainstream sales channels.

The current research faces a few limitations that can be seen as fruitful avenues for future research endeavours. First, the analysis of a single case study deals with a technical issue that is represented by a variant of what is known as selection bias, particularly with respect to excluding cases that could contradict our results. In addition, this approach is not suitable to generalise the findings, although our study provide quantitative data that can be useful for further deeper analysis. Finally, this approach does not allow experimental and statistical controls, and then internal validity can be hard to establish. Another limitation comes from the few profitability indicators used. Taking into consideration, these limitations further comparative research is clearly needed, as well as a larger research sample, to overcome limits to the external validity of the results and to investigate the analytical effort proposed in this article. Furthermore, additional economic and financial indexes should be used in order to validate the economic sustainability of AFNs sales strategy.

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