BUSINESS ADMINISTRATION AND ACCOUNTING STUDIES

ELISA TRUANT

THE BUSINESS MODEL OF ORGANIC COMPANIES

Sustainability approaches through districts

G. Giappichelli Editore

3

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To my little princes

Index

pag.

4.

The organic sector

5.

The organic districts

6.

Methodology

7.

Findings

pag.

Introduction

Climate change and, particularly, more severe and frequent atmospheric events, such as droughts and sudden variations in local temperatures, late frosts and intense heat waves, are becoming visible to all. Climate change is a global problem that affects everyone's life, the availability of food products, the loss of biodiversity, the degradation of land and freshwater, and the economic stability of production activities (Millennium Ecosystem Assessment, 2005). The scientific community has warned us that temperatures will increase globally; this is likely to have a significant adverse impact on agricultural productivity (Millennium Ecosystem Assessment, 2005), since due to its nature, agriculture depends on specific climate conditions and is therefore particularly vulnerable.

In this context, the European Common Agricultural Policy (CAP) favours and supports farmers' commitment to the protection of ecosystems and the transition to a more sustainable agriculture. This pressure for a more sustainable land use management translates into the CAP reform for the 2014-2020 period, aimed to be a flagship initiative for the delivery of more environmental and climate-friendly agriculture, encapsulated in the slogan "public money for public goods" (Stolze et al., 2016). To achieve the environmental goals, the EU can use the key instruments of Pillars 1 and 2. Specifically, the first Pillar aims at supporting, from a financial point of view, farmers who adopt sustainable agricultural practices (green payment), such as crop diversification, maintenance of existing permanent grassland and the safeguarding of 'ecological focus areas'(edges of fields, hedges, trees, fallow land, landscape features, biotopes, buffer strips, afforested areas or nitrogen-fixing crops). The second Pillar focuses, instead, on rural development funds, especially in terms of restoring, preserving and enhancing ecosystems dependent on agriculture and forestry, promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agricultural, food and forestry sectors.

Organic farming is considered to be a sustainable agricultural practice and has therefore become the true protagonist of the CAP reform. Organic farming has also been recognised for its contribution to public goods (Stolze et al., 2016) and for its potential to contribute to environmental protection, rural develop-

ment and animal welfare (EC, 2004; Häring et al., 2004; Nieberg et al., 2007).

Simultaneously, it must be highlighted that organic farming is experiencing a period of rapid growth: the organic agri-food market in the EU has developed significantly in recent years, reaching a total value of approximately 30 billion Euro with a 13% growth rate in 2015 (Willer et al., 2018).

While EU public policies and funds (such as those established by the two Pillars) have played an important part in the development of the organic sector, regional authorities have showed huge potential in supporting organic approaches, and consequently market development, as they can tailor and adapt policies to the needs of local policy makers and stakeholders. In this regard, the EC proposal for an *Action Plan for Organic Food and Farming* (Lampkin and Stolze, 2006) encourages regions to find the most adequate policy and funding mix to support the development of the regional organic sectors, and it provides a greater degree of regional focus to respond to specific needs (Lampkin and Stolze, 2006). More specifically, regions have to trigger the sustainable development of their territory, favouring the development of technological innovations, clusters and networks as important elements in their strategies, providing a favourable sustainable business environment to foster competitiveness and innovation, especially for small and medium enterprises. At the same time, organic enterprises represent a possible driving force for sustainable economic development, adapting themselves and exploiting their innovative potential to face climate change, regulations and market pressures. In this regard, for example, the distinctive characteristics of organic companies show, compared to the average of agricultural enterprises, simpler legal forms with younger company managers, more flexible land ownership structures, a greater degree of modernization, and more attention to the environment and to multi-functionality (Greco et al., 2012).

Despite the great attention that the organic sector is receiving on a political and scientific level (Watson et al., 2008; Wolf et al., 2015), there is a lack of detailed studies that focus on organic enterprises and, more specifically, on the key drivers at the basis of their business models that enhance the value creation process. The company business model requires a holistic approach in describing how companies do business and in explaining how the value generation takes place in a network that involves suppliers, partners, distribution channels and the local community.

Moreover, in the context of the organic sector, the potential of organic farms to innovate and create sustainable business models has not been investigated.

Specifically, business model innovation has also been identified as a crucial factor for the transition to a sustainable future (Hansen et al., 2009), leading to changes in company business strategies and in designing sustainable

business models. The latter requires the setting up of new business models or reviewing those that exist in a sustainable way. Therefore, the challenge is to focus not only on financial sustainability, but also on environmental and social aspects. This renovation focus allows to generate new opportunities and new ways for the company and its network to create, deliver, and capture value (Bocken et al., 2014; Schaltegger and Wagner, 2011).

The business model features and the consequent sustainable economic, social and environmental development of organic companies and of the local territories in which they operate can also be influenced by the presence of organic districts (or organic regions) that have been increasing in Europe since 2009.

According to the International Network of Eco Regions Association, an organic district is "a territory naturally devoted to organic, where farmers, citizens, public authorities, realise an agreement aimed at the sustainable management of local resources, based on the principles of organic farming and agroecology" (INNER, 2017). Usually, organic districts have a higher percentage of organic farms or organically grown land than the average in other territories.

Belonging to the organic district can lead to the creation of a territorial "brand image" that should help companies to grow and increase their profitability, encouraging cooperation and the creation of information networks, stimulating green tourism and activities oriented to safeguarding the local environment. In addition, companies involved in the boundaries of organic districts should be more inclined to create sustainable value for themselves and for the territory, as they are considered not only as stand-alone entities but as part of a larger, holistic system – the organic district – that brings together a multitude of actors involved in different ways in the value chain.

Indeed, the establishment of these districts aims at safeguarding the sustainable use of the territory, but also at grouping and coordinating the whole organic supply chain, stimulating the territorial development and, in this way, transferring the values of organic farming to other economic and social sectors (Schermer, 2005; Stotten et al., 2017).

However, the progress of organic districts in Europe is still in its early stages of development and the definitions are vague. Little is known about their presence or their possible effects and benefits.

In addition, the phenomenon of organic districts has not been particularly investigated in literature.

Based on these premises, the research has multiple purposes: first, the phenomenon of organic companies and organic districts has been explored, both in Italy and abroad, focusing also on the history, regulations and on the state-of-the-art in order to increase knowledge on such topics.

Moreover, an accurate analysis of the existing literature was carried out to identify the defining elements of company business model in the agricultural sector, placing particular focus on organic enterprises. The literature review aims at bridging the existing gap on business models in the agri-food sector (Ulvenblad et al., 2014). Therefore, the aim of this paper is to increase the understanding and knowledge of company business model in the organic sector, both from a theoretical and empirical viewpoint, with a specific focus on sustainability.

The research also aims to increase the knowledge of how organic districts influence the sustainable value creation of companies operating on their territory.

Consequently, some research questions were identified: firstly, *based on the existing literature, what are the business model characteristics, with a specific focus on sustainability elements, of organic companies operating within organic districts*?

Then, based on a survey conducted on a sample of organic enterprises, *what are the business model features of organic companies operating within organic districts, with a specific focus on sustainability dimensions*?

Finally, *does belonging to an organic district generate benefits for the companies and for the territory*?

The work is structured as follows. First, an overview of the organic sector is presented, together with the regulatory framework and the current trend. Second, the research gives an insight into the phenomenon of organic districts determining the state-of-the-art both at a national and international level. Third, the research method is described, the methodology specifically being twofold: first, a literature analysis is conducted in order to study the existing literature on business models, business model innovation and business model sustainability of organic companies; second, through a survey questionnaire conducted on a sample of Italian organic companies and organic districts, the features of sustainable business models are investigated.

Then, the research shows the results achieved in terms of literature review together with the emerging conceptual frameworks of sustainable business models. After this theoretical review, the research explores the empirical results referred to the general features of organic company business model, with a specific focus on sustainability aspects and districts. Furthermore, the evidence on the economic, social and environmental benefits deriving from belonging to organic districts is presented, together with a company profiling.

Finally, the discussion, conclusions and the future directions of the research are provided.

1.
Organic farming

1.1. Organic definition and principles: a brief overview

In existing literature, there are different definitions of organic farming but if we compare them, we find two common traits: the refusal to the maximum extent possible of chemical products, and the insistence on biological cycles, on the biological activity of the soil, on biodiversity, and on the soil restitution of nutrients through wastewater. Organic agriculture combines traditional conservation-minded farming methods with modern farming technologies, in order to exclude synthetic inputs such as pesticides and fertilizers. Unlike conventional agriculture, which relies heavily on external input, organic agriculture relies on ecosystem management. It is a farming system which excludes the use of synthetic chemicals such as fertilizers, pesticides, or antibiotics in both crop and livestock farming. This is accomplished by using, where possible, cultural, biological and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system (FAO/WHO, 2001).

A detailed and exhaustive definition of Organic Agriculture can be found in the European Commission Regulation 834/2007, which states that: "*Organic production is an overall system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes*". Another important contribution to define the organic method comes from the International Federation of Organic Agriculture Movements (IFOAM), which defines organic agriculture as a "*holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity*" (IFOAM, 2005).

Terms such as Organic, Biological, Biodynamic, and Ecological are recognised as organic farming in the EU regulations, although they consist of

a broad spectrum of methodologies which are based on specific and precise standards (FAO/WHO, 2001; IFOAM, 2005).

The general principles of organic farming, summarised in the documents of the IFOAM standards, go beyond simple technical aspects, but aim to affect actions and processes along the entire food supply chain and offer guidance for research in organic agriculture (Niggli et al., 2016). They refer, therefore, to the methods adopted for the management of soil, water, plants and animals at all stages of production, processing, distribution and consumption of products. The organic values of sustainability and earth protection are based on four main principles presented below (Luttikholt, 2007; Stotten et al., 2017):

– Principle of Health: organic agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.

– Principle of Ecology: organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.

– Principle of Fairness: organic agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.

– Principle of Care: organic agriculture should be managed in a precautionary way.

Those core principles, which address the ambition of the innovative and inclusive development of organic agriculture (Arbenz et al., 2016), are considered to be an important trigger of sustainability while minimizing the negative effects of globalization (Luttikholt, 2007). Some countries have decided to stimulate territorial development on the principles of organic farming. For example, in Europe, the national Rural Development Plan (RDP), which is the main tool for planning and financing the agricultural and agri-food system in each member state required by the Common Agricultural Policy (CAP), aims to create policies and incentives to convert to organic farming. The interest of agricultural policies on the organic-agricultural method aims to transfer its principles to a territorial, rural development approach, contributing to the social and economic regeneration of a territory. In this way, the principles of organic farming will spread throughout the entire supply chain, including private and public consumers and stakeholders in other economic sectors (Schäfer et al., 2008).

Due to the increasing importance of territorial development, the local dimension has become "*a marketing necessity besides an important point on the organic movement reflection*" (Stotten et al., 2017). Thus, organic farming is not only a sustainable method of production, but a holistic approach (in the

sense of IFOAM) that can create multiple benefits, which can potentially contribute to territorial development (Commission of the European Communities, 2004; Pugliese, 2001; Stotten et al., 2017).

In the next paragraph, a brief description of the history of organic agriculture is made.

1.2. The history of organic agriculture through its main phases

Organic agriculture arose in the early twentieth century and it has gone through several phases: Organic 1.0, Organic 2.0, and Organic 3.0, which is still under development (Niggli, 2014; Rahmann et al., 2017).

The first phase, *Organic 1.0*, is defined as the period of organic pioneers, where the organic phenomenon began to take root. This period was characterised by the growing industrialisation of agriculture and an increase in the awareness of the connections between health, food and the way in which food was being produced. In those years, the need for a radical change in the way of practicing agriculture became apparent.

The beginning of such phase can be traced back to Rudolf Steiner's 1924 course on bio-dynamic agriculture, which triggered the evolution of organic agriculture in Europe (Paull, 2011). Bio-dynamic agriculture proposes an agricultural model based on scientific and holistic knowledge linked to spiritual thought. Steiner's method considers human beings as part of the cosmic equilibrium that has to be understood in order to live in harmony with the environment. It is characterised by the close integration of animal and vegetable productions that allows agricultural activity in a self-sufficient system.

Other pioneers living in different parts of the world began to experiment different ways of practicing agriculture and organic agriculture as we know it. In the 1930s and 1940s, organic farming and soil protection achieved a great relevance in Britain thanks to Lady Eve Balfour and Sir Albert Howard in Switzerland, to Hans Mueller and J.I. Rodale in the United States, and to Masanobu Fukuoka in Japan (Vogt, 2007). These pioneers greatly influenced organic agriculture development in their countries through their farming, advocacy and scientific work (Vogt, 2007). In 1948 in Italy, Alfonso Draghetti (1888-1960) published "Physiological Principles of the Farm" in which he discussed how organic principles can support the theory that the farm operates as a whole system (Draghetti, 1948). Draghetti is acknowledged as one of the fathers of organic farming research in Italy and in 1969; he founded the "Associazione Suolo e Salute" in Turin, along with Francesco Garofalo, professor of phytosanitary at the University of Turin.

The second phase, called *Organic 2.0*, stretches from the 1970s to present. The research and practice of organic agriculture expanded worldwide after the 1960s; organic crop production and animal welfare were further developed in alignment with the practices envisioned by the pioneers. In particular, the expansion of organic agriculture started with the oil crisis of 1973 and the growing sensitivity to agro-ecological issues. Organic 2.0 is characterised by the definition of production and processing standards, the discipline for certifications, the first official regulations and the establishment of a mutual vision that characterise organic agriculture as we know it today. Organic claims became regulated in great detail. Official regulation was first introduced in Europe and in the United States of America in the 1980s. By 2015, 82 countries in Africa, in the Americas, in Asia, in Europe and Oceania had implemented organic regulations. The foundation of IFOAM in 1972 and the first world organic conference in Sissach (Switzerland) can be seen as the starting point of the organisation of the organic movement, followed by the debut of research on organic topics. Because of the support and efforts of individual scientists and organisations such as IFOAM, research facilities and institutions that conduct research on organic agriculture have been established worldwide (Vogt, 2007). During the 20th century, a number of private organisations committed to research on organic food and farming were formed across the world, e.g. the Rodale Institute in 1947, Forschungsinstitut fur biologischen Landbau (The Research Institute of Organic Agriculture in Switzerland, Germany and Austria) in 1974 and Elm Farm Research Centre in 1982 (Frankfurt). Public funding for research on organic agriculture became available during the 1980s and departments of ecological and organic agriculture began to appear in Universities in Europe. Academic researchers also began to be interested to the organic phenomenon: the journal of Biological Agriculture and Horticulture, established in 1982, and the American Journal of Alternative Agriculture (now Renewable Agriculture and Food Systems), established in 1986, were landmarks in the publication of scientific information relating to organic agriculture. Publications of organic farming research in mainstream journals were rare before the late 1980s and early 1990s (Watson et al., 2008); for example, the first publication in the Journal of Agricultural Science, Cambridge was in 1993 (Watson et al., 2008).

Despite the increased attention over the last century to organic agriculture, the steady growth of certified land and the market value of organic products, only 1% of the world's farmland is cultivated organically and the global consumption of organic products is still a small proportion (Arbenz et al., 2016).

Therefore, a discussion about the future of organic agriculture began in 2010 and the term *Organic 3.0* was introduced. Organic 3.0 refers to the next

phase of modern organic agriculture in which organic agriculture is expected to go from niche to mainstream, where the adoption of truly sustainable farming systems and markets based on organic principles and on a culture of innovation, of progressive improvement towards best practice, of transparent integrity, of inclusive collaboration, of holistic systems, and of true value pricing becomes relevant (Arbenz et al., 2016). The strategies for Organic 3.0 include the empowerment of rural areas, eco-functional intensification and the development of food for health and well-being. All these goals are in accordance with the purposes of the United Nations General Assembly (September 2015) which formulated the 2030 Agenda for Sustainable Development and announced the Sustainable Development Goals (SDGs) (UN, 2015). Among the 17 SDGs, two have a special relevance for Organic 3.0 strategies: SDG 2: "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture" and SDG 12: "Ensure sustainable consumption and production patterns" (Rahmann et al., 2017).

For completeness, there will be a discussion about the current debate on the conventionalisation of agriculture in the next paragraph.

1.3. The debate on conventionalisation

The progressive integration of organic products within the food system and its penetration into supermarkets has gone hand in hand with the erosion of the values that had originally characterised the organic sector and with the so-called conventionalisation of organic agriculture. According to the conventionalisation phenomenon, organic farming is becoming a slightly modified version of modern conventional agriculture, resulting in many of the same basic social, technical, and economic characteristics. Smaller farms become bigger, labour is replaced by mechanisation and other industrial inputs, and marketing becomes export-oriented rather than local (Dantis et al., 2009; Hall and Mogyorody, 2001).

The central point of the debate is that companies that have converted to organic production since the 80s-90s are less loyal to the inspiring principles of organic farming than the pioneers of the movement. Furthermore, it is claimed that recently converted companies incorporate more elements of industrial agriculture, with the consequence of reducing potential benefits for the environment, human health, and social welfare, therefore being less sustainable (Abitabile et al., 2013). Contribution to this process comes not only from the entry into the sector of large-scale industrial companies or from the growth and diversification of those which are already present, but also from the diffusion of organic products in conventional commercial channels and

supermarkets. The accusation against the large-scale retail channel (mass distribution) is to have penetrated the organic market, pushing it towards conventionalisation, to "clean up" its image and make it greener (Darnhofer and Bellon, 2009).

The conventionalisation of organic production is also a phenomenon that has gained growing interest in the academic world since it was raised in relation to US farmers (Buck et al., 1997); this phenomenon has also been investigated in other countries and continents, such as Europe (Best, 2008; Darnhofer et al., 2010; De Wit and Verhoog, 2007; Navarrete, 2009), Australia (Lockie and Halpin, 2005), New Zealand (Rosin and Campbell, 2009; Schewe, 2014) and also Brazil, China, and Egypt (Oelofse et al., 2011). Most of these case studies explain how the expansion of organic production towards a more industrial model is in contradiction with its values of sustainability, along with its ethical and social values (Allen and Kovac, 2000). The debate on conventionalisation focuses now on the identification of the theoretical and legislative indicators, which allow to analyse the weakening of organic agriculture principles (Abitabile, 2013; Darnhofer et al., 2010).

2.
The regulatory framework

2.1. The international regulatory framework

The 80s were marked by the strong industrialisation of agriculture, which was overwhelmed by a significant amount of chemicals and pesticides. At the same time, the establishment of the European Economic Community (EEC) and the access of Mediterranean countries into Europe, marked by a strong agricultural vocation, opened the doors of the European market to organic producers.

In this context, the organic movement, which expanded from Europe to America, was especially related to the quality of food and standards that are necessary to create consumer trust and to provide assurance that production processes are similar across different farms (Krishnamurthi, 2016). Consumers supported a persistent demand for organic agriculture, stressing the need for regulation that identifies the criteria that must be respected in order to certify products.

Governments took a while before drafting the legislation to set standards; however, at the end of the 1970s, local and national governments began to regulate organic agriculture (Morgera et al., 2012). The first organic regulations appeared in Oregon and California (United States) in 1974 and 1979 respectively (Greene, 2001; Morgera et al., 2012). In Europe, France was the first country to adopt an organic regulation (1985).

The recognition that organic agriculture could help countries to achieve environmental goals further encouraged Governments to adopt agri-environmental laws to promote organic farming. In response to this requirement in 1991, the European Community introduced the EEC Regulation 2092/91, a regulatory intervention that, for the first time in the history of agriculture, disciplined a production method. Regulation (EEC) n. 2092/91, amended and supplemented several times, defines the technical production rules, the products that can be used for defence, fertilization, preparation and conservation of products and the rules for labelling products. The regulation, therefore, indicates not so much

what is forbidden, but what one needs to do or can use to be able to certify production under organic farming. In 1999, this was integrated with common standards for organic livestock production (EEC Regulation 1804/99).

With the reform of the Common Agricultural Policy (CAP) in 1992 (EEC Regulation 2078/92), measures for financial support of organic farmers were introduced with the European Agricultural Fund for Rural Development (EAFRD), implemented by the Rural Development plan in 2000 and translated into regional support programs. These make Governments become strong drivers for the further development of organic farming (IFOAM and FAO, 2002). Indeed, public funding is essential, especially in the conversion period from conventional to organic as it is characterised by a long-term process (at least 2 years); it requires a high level of commitment to succeed and often entails financial risk.

Direct support to organic and converting producers is seen by some Governments as a means to meet increasing consumer demand as well as to transfer income to farmers. The first country in Europe that introduced public financial support for organic farmers was Denmark in 1987, aiming to cover economic losses during the conversion period.

As part of the CAP Reform, member states implemented various organic farming policies according to this legislative framework (Lampkin et al., 1999). By 1999, all EU member states, with the exception of Luxembourg, had introduced policies to support organic farming within the agri-environment programme (EC Reg. 2078/92). Despite the common framework of this programme and the regulatory base provided by EC Reg. 2092/91, the payment rates, eligibility and other conditions of the schemes in each country vary widely, particularly with regard to livestock production.

Over the last decade, the CAP has been the key policy for the development of organic farming in Europe, as it has programmed to have over 10 million hectares supported by CAP funds through the EU's national and regional rural development programmes.

The rest of the developed world also took part in this organic regulatory process. For example, the US Organic Food Production Act 1990 was set into force in 2000, and in 2002 the United States Department of Agriculture established the standards of the US National Organic Program (NOP).

In Japan, the Japan Agricultural Standards for Organic Agricultural Products and their Processed Foods was set into force in 2001 by the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF).

The main goals of governmental regulation are to create a set of rules to protect consumers and producers against fraud, and to regulate international trade and certification.

2.2. The European regulatory framework

To comply with the new CAP Reform and to answer to the various legal gaps that have arisen from the regulation (EEC) n. 2092/91, from 1st January 2009, the new Regulation (EEC) n. 834/2007 repealed the previous one (Appendix A). This regulation created a framework defining in detail the requirements for agricultural products or foodstuffs bearing a reference to organic production methods. The rules not only define the methods of production for organic crops and livestock but also regulate the labelling, processing, inspection and marketing of organic products within the European Community and the import of organic products from non-member countries, providing organic producers with clear rules (e.g. how organic food should be produced to meet consumers' demands). Indeed, one of the major aspects that distinguishes organic farming from other approaches to sustainable farming is the presence of internationally acknowledged standards and certification procedures (Stolze, 2016).

To protect and guarantee consumers that the organic product is compliant with the 2007 legislation, the European legislator set up a labelling system and a logo (Figure 1) that can be used by companies only if organic products exceed a rigid process. To ensure that the control system works properly, farmers and processors undergo inspection at least once a year from the control bodies; only the companies that are compliant with the controls, and therefore that achieve an organic certification [1], can use the relative logo.

Figure 1 – *European Organic Logo*

Source: https://ec.europa.eu/agriculture/organic/downloads/logo_it.

Moreover, organic foods are not allowed to contain Genetically Modified (GMO) ingredients. Although there is a percentage of non-organic ingredients

[1] The organic certification will be discussed in the next chapter (see chapter 3).

allowed in foods labelled organic, even these non-organic ingredients are not allowed to contain GMOs.

Thanks to the constant growth in both production and consumer demand, in recent years organic farming has developed significantly from a relatively anarchic sector to a still small, but well-established and professional industry (Wilson, 2018). Therefore, on 22nd May 2018, a new EU regulation was issued with the aim of guaranteeing fair competition for farmers and operators and encouraging the development of organic production in the EU. Other important amendments were introduced to ensure a gradual move towards a compliance-based import regime (also for third country import), an improvement in the control system, and a simplification of the certification system. The new Regulation will enter into force on 1st January 2021 and the most important innovations will be:

– greater harmonisation between countries 'organic production standards through the phasing out of a number of exceptions and derogations';

– strengthening of the control (very strict checks along the entire supply chain);

– enlargement of the scope of organic rules (covering a wider list of products such as salt, cork, beeswax, maté, vine leaves, palm hearts);

– easier certification process (also for small farmers through new rules on the group certification system);

– policies oriented to the reduction of risk of accidental contamination from pesticides.

2.3. The Italian regulatory framework

The national legislation on the production and labelling of organic products was anticipated by some regional regulatory interventions. Officially, Legislative Decree n. 220/1995 regulates organic production in Italy, (implementing Regulation EEC N. 2092/91) (Appendix B). This Decree has been further integrated with the requirements of Regulation EC N. 834/2007 (RRN, 2017), thanks to Ministerial Decree of 27 November 2009, N. 18354, which lays down the rules for implementing the EU regulation of 2007. In addition, specific decrees and explanatory or prescriptive measures were subsequently issued by the Ministry of Agriculture, Food and Forestry (MiPAAF).

However, many regional initiatives that discipline, support and promote the production, processing, storage and marketing of organic products are based on legislation older than the European directives. This has resulted in long-term

plans for the development of the regional organic agri-food sector and whose goals are encompassed in the Rural Development Plans (RDP).

In 2000, the implementation of the Finance Act introduced the use of organic Protected Designation of Origin (PDO) and the Protected Geographical Indication (PGI) products in the daily diets of public canteens. Almost all the Italian regions have produced legislation in this area and many municipalities have introduced organic food in public school meals. The regions, in many cases, provide grants for the associations of organic operators for the implementation of specific programs of technical assistance and dissemination, processing, promotion and marketing of organic products and food education.

Another important law that is still in the process of being adopted is the one presented in 2013 by Parliament members Fiorio and Cenni, titled "Arrangements for the development and competitiveness of agricultural and agri-food production using organic methods" (Chamber of Deputies, draft law C 302). This draft law was approved by the Chamber of Deputies on May 2017 and it is scheduled to be discussed in the Senate assembly in this current year. Its most important contribution, if the law is approved, will be the definition of the essential characters required to identify an organic territory as an "Organic district" or Eco region tool to improve the organic sector. For an organic district to be recognised, it is necessary that a specific geographical area demonstrates that agriculture, breeding, and food and beverage processing are specific to the local territory to which they belong. Another requirement is to pursue and restore local breeds and seeds, traditional agriculture and breeding technologies (Chamber of Deputies, draft law C 302).

3.
The certification system

3.1. The international certification system

As the demand for organic products has increased and more conventional distribution networks such as supermarkets have entered the market, the development of organic standards and certification has gained importance. Many countries have defined their own standards, while certain private associations continue to develop their own organic labelling systems. The IFOAM Basic Standards (IBS) together with the Codex Alimentarius Guidelines for organic agriculture (FAO) were adopted in 1999 and have been the international guidelines used by national and private standard-setters (Rundgren, 2002). The United States, the European Union, Canada, and Japan have their own organic legislation, and the label "organic" can be used only by certified producers. The certification system is intended to protect consumers from fraud and to facilitate organic identification during the purchase phase. In many developing countries, where organic laws do not exist, certification is managed by NGOs and private Company Law (Neuendorff et al., 2002).

The harmonisation of certification between countries would facilitate international trade, and for this reason some agreements are already in place. International certification bodies (e.g. IFOAM) are working on harmonisation efforts. In some cases, formal agreements do not exist between countries, thus, organic product for export is certified by agencies from the importing countries. Some countries have established permanent foreign offices for this purpose.

IFOAM introduced the "IFOAM Family of Standards" in 2011, which is an attempt to simplify harmonisation. The aim is to establish the use of one single global reference (the COROS) to access the quality of standards, rather than focusing on bilateral agreements.

Generally, certification gives organic farming a distinct identity and credibility and makes market access easier. For farmers wanting to demonstrate the

organic quality of their production to their buyers, there are several certification options, described hereunder (EuropeAid, 2012):

1. Third Party Certification (TPC): The most widely used model is Third Party Certification, carried out by an independent body. This type of certification is often a precondition for gaining access to larger markets for organic products. In Europe, North America, Japan, Brazil, South Africa, China, India – labelling agricultural products as "organic" requires inspection and certification from an accredited certification body.

2. Smallholder Group Certification based on an Internal Control System (ICS) (a special type of third-party certification-TPC): a TPC version adapted to the local conditions of developing countries is the Smallholder Group Certification. Here, several small-scale farmers with similar farming practices (whose market collectively can be certified together) operate with internal "inspectors", inspecting every farm, and an accredited certification body auditing the group's Internal Control System.

3. Participatory Guarantee System (PGS): Participatory Guarantee Systems are locally focused quality assurance systems. They certify producers based on the active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange.

These certification options are provided by different Control Bodies (CB).

3.2. The European and Italian certification system

The quality control of organic productions is based on a uniform "control system" throughout the European Union. Italy follows the control system imposed by the European Union; therefore, it is similar in every EU country. Companies that want to start organic production notify their intention to the Region they belong to and to one of the CB, authorised according to European and national legislation (Legislative Decree 220/95) (SINAB, 2016). From the moment of notification, the duration of the so-called conversion phase of the farm depends on the type of production carried out (Reg. EEC 2091/92).

Generally, the control and supervisory system has a number of distinct actors that perform different and complementary tasks:

– The Ministry of Agriculture, Food and Forestry (MiPAAF): it is the public authority of reference and is the referent at European level. The Ministry authorises the CBs and oversees the CBs and their activities.

– Regions: they receive notifications from operators and are responsible for

setting up company registers; they also exercise surveillance activities on CBs.

– NAS, STATE FOREST BODY, etc.: perform control activities as in the traditional sector.

– ACCREDIA: performs the activity of accreditation of the CBs.

– Operators: they have obligations and responsibilities towards what they produce, transform and market. Every operator (farmer, processor, trader, importer or exporter) is checked at least once a year.

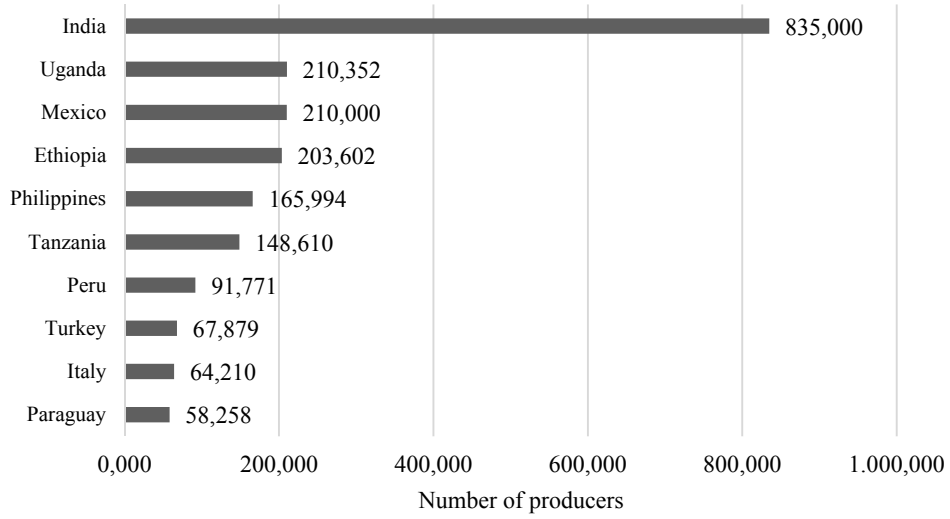
– Control Bodies: these private organisations perform control and certification activities on companies and provide the Public Bodies with data and a detailed report on their activities.

4.
The organic sector

4.1. The organic sector worldwide: an overview

The report edited each year by Ifoam and Fibl titled "The World of organic agriculture" illustrates the main statistics and trends on organic farming worldwide. The edition published in March 2018 contains data recorded in 2016. In 2016 there were about 2.7 million organic producers all over the world, with a share of 80% located in Asia, Africa and Latin America (Willer et al., 2018). Ifoam and Fibl recorded a relevant increase in the number of organic producers in the world from 2015 to 2016, 300.000 producers (+ 13%), to be precise.

Figure 2 – *Top ten countries with the largest number of organic producers 2016*



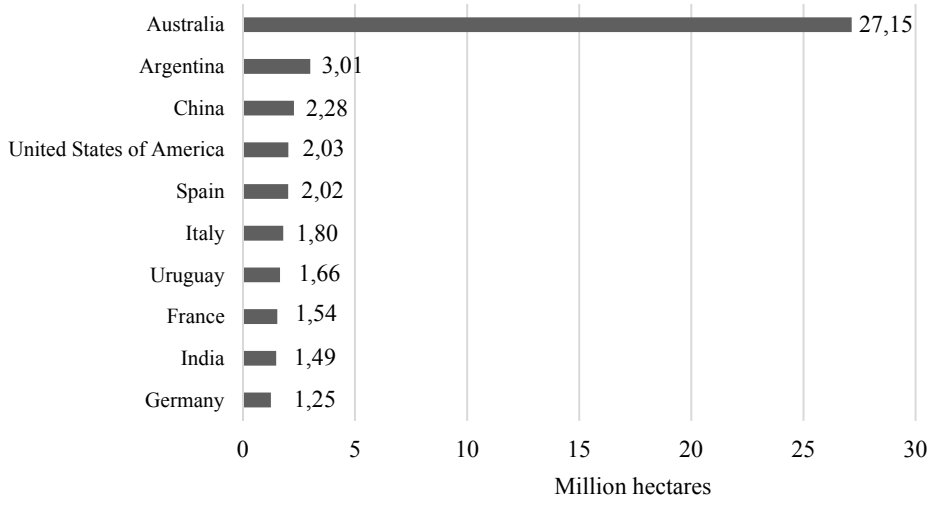
Source: Willer et al., *FiBL survey*, 2018.

Figure 2 shows the top ten countries with the largest numbers of organic farmers. India (835,000) is in first place, gathering more than 30% of the total number of organic producers, four times the value of the second and third largest organic producers, Uganda and Mexico (respectively 210,352 and 210,000). Interestingly, more than the 80% of organic producers live in developing countries. Italy is in ninth position and is the first European country in terms of the number of organic producers (Willer et al., 2018).

Over the last 10 years, there has been a constant increase of land converting to organic agriculture worldwide (+ 83.5%). In 2016, 57.8 million hectares of land were cultivated as organic agricultural productions; 47% of them were located in Oceania, 23% in European countries, and 18% in North and South America. Therefore, compared to the 2000s, organic farmland has increased five-fold (Willer et al., 2018). Nevertheless, the share of the world's agricultural organic land remains very limited if compared to conventional agriculture, as it represents only 1.2% of total arable land.

Australia is the country with the largest area of organic land (27 million hectares) (Figure 3), followed by Argentina (3 million hectares) and China (2.3 million hectares). The "most organic country" is Liechtenstein which has a 38% share of organic agricultural land across its territory, followed by the islands of French Polynesia (31%), Samoa (22.4%) and Australia (21.9%).

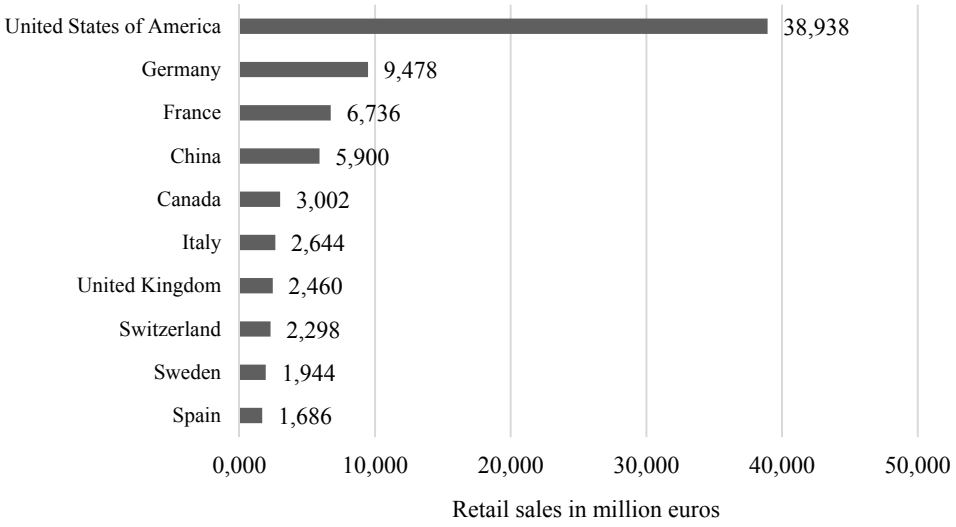
Figure 3 – *Top ten countries with the largest areas of organic agricultural land (2016)*



Source: Willer et al., *FiBL survey*, 2018.

The leading countries in terms of market expense for organic food are USA, followed by Germany, France, China, Canada and Italy (Willer et al., 2018). Figure 4 shows that: USA annual retail sales in 2016 amounted to 38,938 million Euro, while Germany (second in the rank) only amounted to 9,478 million. This data is confirmed by the statistics of the per capita consumption which illustrates that in the US, citizens spend an average of 117 Euro on organic food, followed by European (41 Euro) and Australian (26.5 Euro) citizens. In developing countries, the average expenditure per capita remains very low (Latin America 1.3 Euro, Asia 1.7 Euro, and no data for Africa).

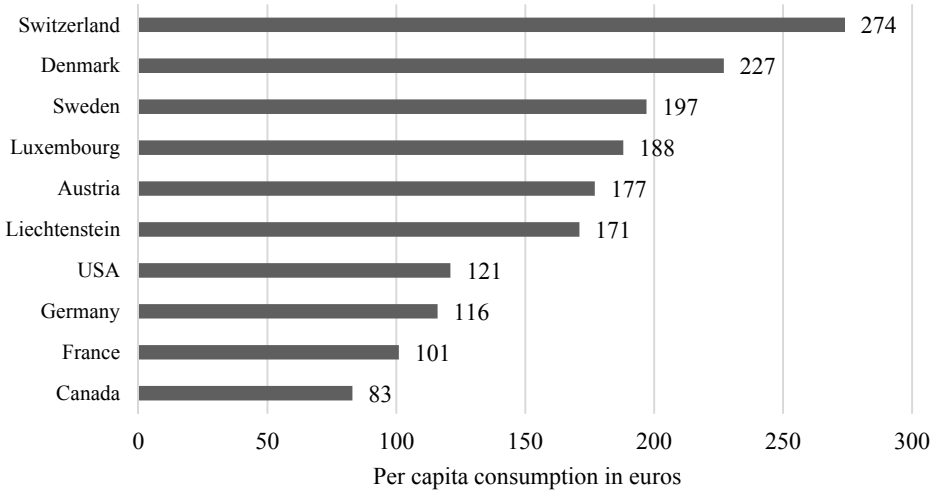
Figure 4 – *Top ten countries with the largest markets for organic food (2016)*



Source: Willer et al., *FiBL-AMI survey*, 2018.

In 2016, according to the world data recorded by Ifoam and Fibl, there was a market growth in every country, often in the double digits: Irish and French organic markets increased their retail sales by 22% each (Willer et al., 2018). The highest per capita consumption of organic food was recorded in Switzerland (274 Euro), followed by Denmark (227 Euro) and Sweden (197 Euro) (Figure 5).

Figure 5 – *Top ten countries with the highest per capita consumption in 2016*



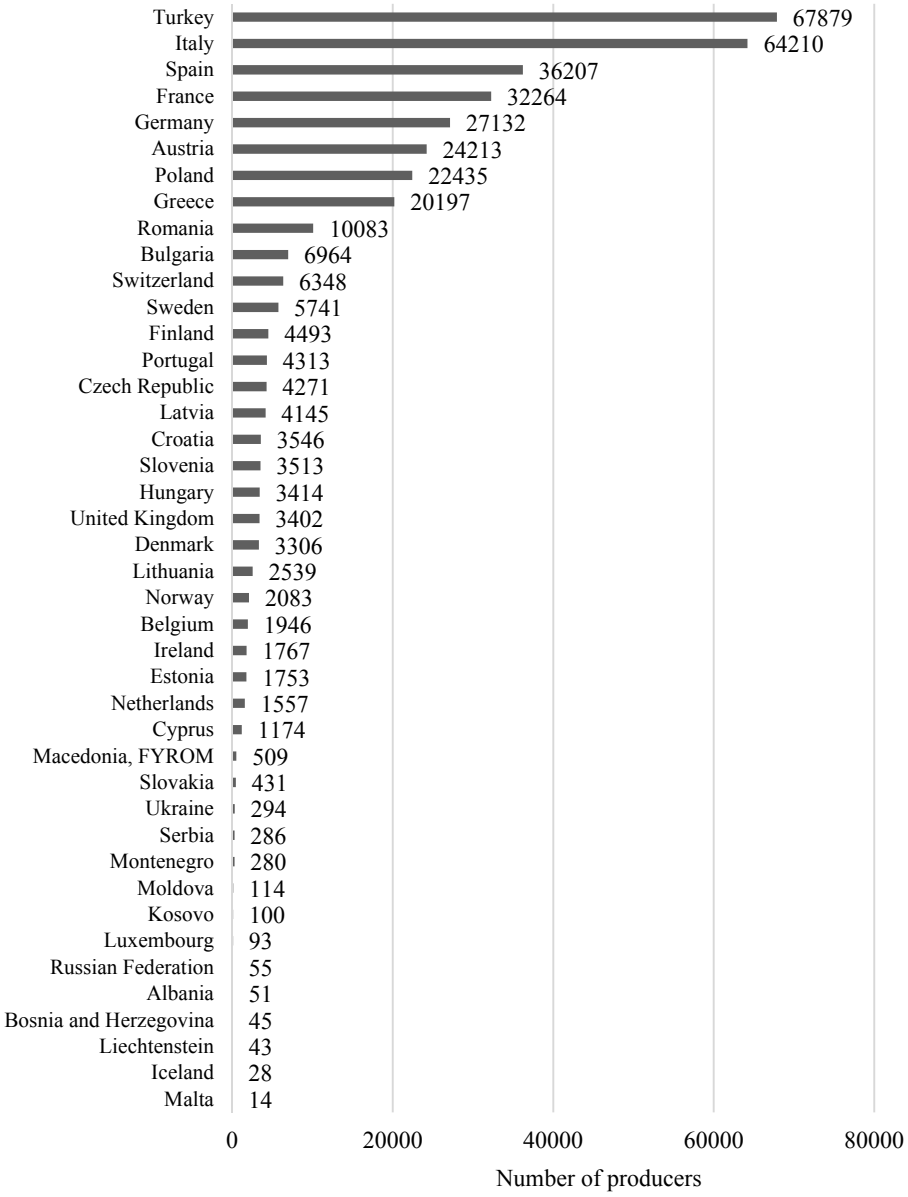
Source: Willer et al., *FiBL-AMI survey*, 2018.

It is also interesting to highlight the share of national organic food over the total expenses on food: the countries that buy more organic food are Denmark (9.7%), followed by Luxembourg and Switzerland with respectively 8.7% and 8.4%.

4.2. The organic sector in Europe

In 2016, there were 373,240 European producers (Willer et al., 2018), + 24% compared to 2015 and + 91% compared to 2008; the countries with the largest amount of organic producers were Turkey (67,879), Italy (64,210, even if Sinab national data reveals a higher value of 72,000) and Spain (36,207) (Figure 6).

Figure 6 – *Organic producers by country (2016)*



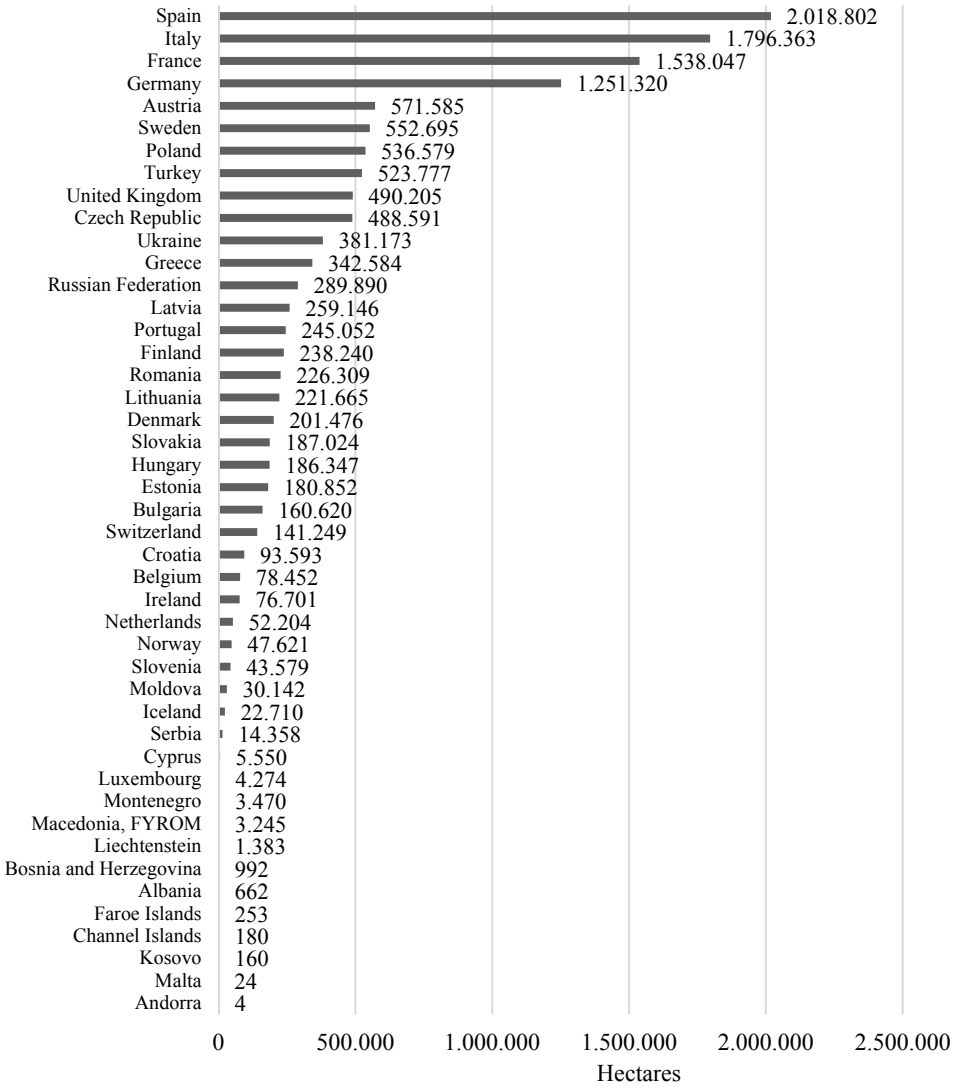
Source: Willer et al., *FiBL-AMI survey*, 2018.

The Ifoam and Fibl reports (2018) make a distinction between Europe and the European Union. In this chapter, we will make reference to Europe as a geographical area instead of a political area (Willer et al., 2018).

The total European organic processors amounted to 65,889; the importers amounted to 4,567 units.

In 2016, organic farmland recorded 13.5 million hectares, 2.7% more than the previous year. The top three countries with the largest area of organic farmland are Spain (2 million ha), Italy (1.8 million ha) and France (1.5 million ha), which also represent the three best exporters of European organic food (Figure 7).

Figure 7 – *European organic land by country (2016)*



Source: Willer et al., *FiBL-AMI survey*, 2018.

Germany also has an important amount of organic agricultural land (1,251,320 ha), while Austria, which is in fourth place, has less than half of Germany. Spain covered 15% of the total European organic farmland, Italy 13%, France 11% and, finally, Germany 9%.

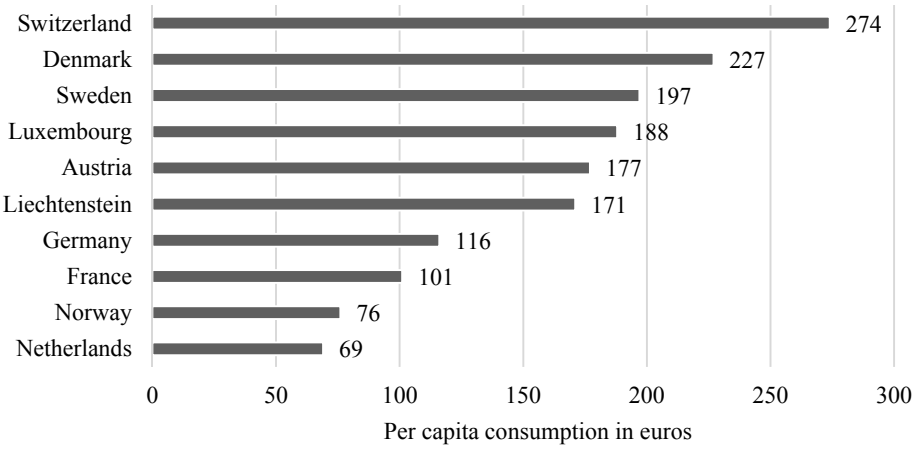
The share of the European organic agricultural land is 2.7% of the total agricultural land. Liechtenstein is the country with the highest share of organic space in Europe (and in the world) (38%), followed by Austria (21.9%) and Estonia (18.9%).

In 2016, the organic market in Europe recorded retail sales of up to 33.5 billion Euro, which is 11.4% more than 2015 and 117.4% more than 2008, recording double digits for the second time since the financial crisis (respectively in 2007 and 2016) (Willer et al., 2018).

The organic share of overall retail sales shows the importance that the organic market has had in a given country. Unfortunately, not all countries provide data on their domestic market on a regular basis; therefore, it is not possible to make a complete comparison between countries and calculate the overall European market shares. From the countries where data is available, the highest organic market shares are reached in Denmark (9.7%), Luxembourg (8.6%) and Switzerland (8.4%), and the highest organic market growth in 2015-16 is registered by Ireland and France, both with + 22% compared to 2015, followed by Norway and Denmark (around + 20%) (Willer et al., 2018). Germany continues to be the largest market in Europe (9.5 billion Euro). France holds second place with 6.7 billion Euro.

Figure 8 shows that the highest per capita consumption of organic food and beverage in 2016 was reached by Switzerland (274 Euro/year), followed by Denmark (227 Euro/year) and Sweden (197 Euro/year). Eight countries had a per capita consumption of more than 100 Euro in 2016 (Figure 8). This notable growth of per capita consumption confirms the constant growth in consumer interest.

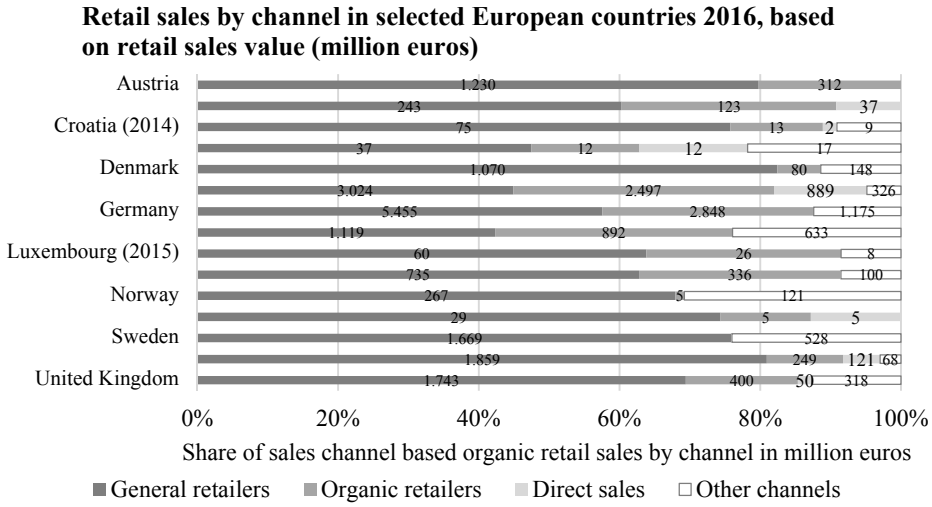
Figure 8 – *European countries with the highest per capita consumption of organic food (2016)*



Source: Willer et al., 2018.

In conclusion, it is necessary to underline that the various market channels of organic food differ from country to country, even if a common trait is represented by the strong involvement of general retailers (supermarkets) for the organic market growth (Figure 9). France and Italy are good examples of countries with strong growth, where small specialised retailers still play a very important role (Willer et al., 2018).

Figure 9 – *European Marketing channels for organic products by countries*



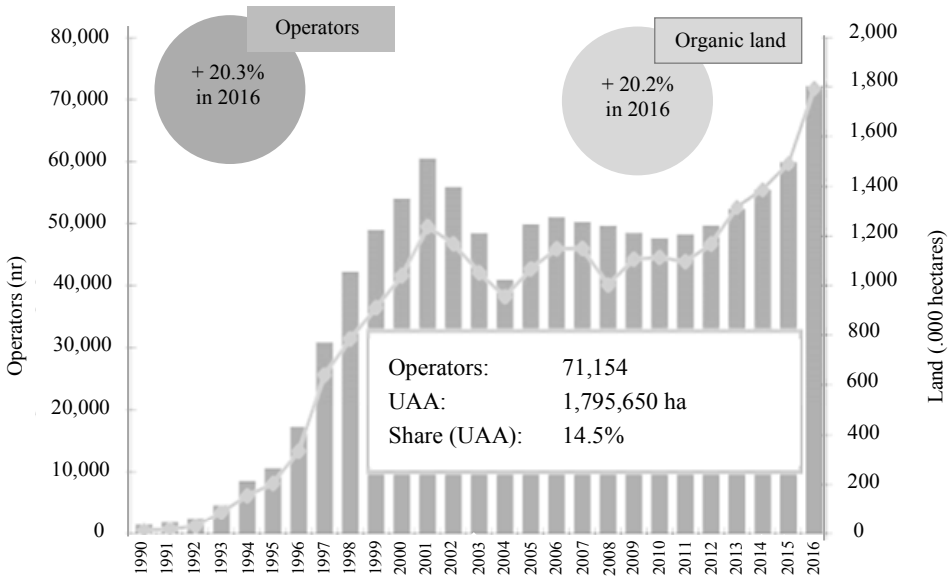
Source: Willer et al., *FiBL-AMI survey*, 2018.

4.3. The organic sector in Italy

The Italian organic food sector has been following world and European growth trends; the number of organic farms, organic farmland and also market sales have increased and continue to increase.

The 2018 report by Ifoam and Fibl, based on data from 2016, assessed 64,210 producers in Italy – a slightly lower than the data recorded by the Sinab report (2017) – and shows the existence of 72,000 Italian producers, equals to an increase of 20.3% on the previous year (Figure 10).

Figure 10 – *Development of organic agricultural land and operators (1990-2016)*



Source: Sinab, 2017.

Organic agricultural land increased along with the number of organic producers (Figure 10). At the end of 2016, there was an additional share of 20.2% of organic farmland over 2015, accounting for around 1,795,650 hectares of soil (Willer et al., 2018). The share of organic farmland related to utilised agricultural area (UAA) was 14.5% of the total agricultural land. In terms of regional distribution, Sicily comes first, with 363,639 hectares, followed by Apulia with 255,831 hectares, and Calabria with 204,428 hectares; these

three regions together account for half of the total organic agricultural soil of the Italy.

The average size of an Italian organic farm in 2017 is 28 hectares, against the average 8.4 hectares of a non-organic farm; the distinction between Northern Italian organic farms and Southern ones amounts to the average size of 21.2 ha for the first, and 39.4 ha for the second (Sinab, 2017).

In 2016, the number of processing companies in the Italian organic sector is 15,000 and represents 26% over the total European Value (66,000).

In 2016, the total domestic organic sales amounted to 3 billion Euro, while the export sector (covering 5% of total agri-food export) accounts for around 2 billion Euro (Sinab, 2017), with an organic food market share increase of 17.5% compared to the previous year.

In Italy, organic food is available through different sale channels:

– supermarkets;
– specialised shops;
– traditional shops;
– food services;
– other channels (direct sales, Alternative Food Networks [1], etc.).

In 2016, the retail sale of organic products in supermarkets accounted for 65% of the total amount of organic food sold in Italy. However, the trade of organic products in specialised organic stores in 2016 covered 14% of total sales, while direct selling accounted for 19% (Nomisma Consumer Survey, 2016). In 2016, Italian per capita consumption of organic food was around 44 Euro per year; the share of the national food organic market amounted to 3.0% (Willer et al., 2018).

[1] Alternative Food Network is defined as the systems or channels of food production, distribution and consumption which are built upon the re-connection or close communication between producer and consumer. This allows the development of new forms of relationship and governance of the actors' network and also enhances a re-distribution of value for primary producers (Sánchez Hernández, 2009). Examples of these Alternative Food Networks (AFNs) include Farmers' Markets, Community Supported Agriculture (CSA) (in Italy GAS – Gruppo di Acquisto Solidale) schemes and farm shops, where food products are embedded with social and spatial information that serves to differentiate them from conventional agri-food systems.

5.
The organic districts

5.1. Organic districts: an overview

Recently, researchers have turned their attention to the role of organic farming in the rural economy and particularly the potential for organic farming to contribute to rural development (Darnhofer, 2005; Marsden et al., 2000; Pugliese, 2001). From a local development perspective, organic farming is seen more and more as an effective tool to address collective issues, such as environmental, economic and social ones. These local dynamics reflect a new generation of projects that are spreading around Europe that combine rural development with organic farming practices and values. Local organic farming development projects address Organic 3.0 challenges by positioning organic farming as a modern and innovative alternative in local societies and communities (Arbenz et al., 2016). Those projects, contribute to turning some key features into reality: holistic empowerment from the farmers to the consumers, inclusion of wider sustainability objectives relevant both for agriculture and local development, promotion of education and values, etc.

In recent years in Europe, there is a growing diffusion of these local development projects, that are called, in some cases, by different names: organic district, bio-district, organic agri-food district, organic region or ecoregions. The characteristics of these local projects can differ from country to country, can arise from different European and national funding, have different legal forms, but they share the common characteristic of investing on organic agriculture as a lever of sustainable rural development. For a common definition of those areas devoted to organic, it is possible to refer to the International Network of Eco Regions Association that gives a definition of an organic region as '*a territory naturally devoted to organic, where farmers, citizens, public authorities, realise an agreement aimed at the sustainable management of local resources, based on the principles of organic farming and agroecology*' (IN.N.E.R. website, 2018). Hereafter, organic regions and organic districts are used interchangeably,

even if the use of "organic district" or "organic agri-food districts" in the Italian context is more appropriate due to the particular local system of production.

Organic regions are solutions coherent with the objectives of the latest UN Assembly (2015) and the consequent Sustainable Development Goals, that commits all governments to promoting innovation in every aspect of development, in a participatory, equitable and sustainable way, in response to territorial needs.

In this context, Assaël and Orefici (2016) affirm that the creation of an organic region "*is a strategic choice of quality development that captures important innovations: the growth of environmental and social awareness of consumers that enables such consumers to become co-protagonists in the production of value; the leading role of local communities that organise themselves to deal with disadvantages and to manage common goods; globalisation which encourages the construction of local networks in a global dimension*". These innovative elements contribute to creating more attractive territories, which can be replicated in different realities.

It should be highlighted that these territories usually already had an above-average percentage of organic farms or organically cultivated area before the political establishment of the organic region. According to some authors (Franco and Pancino, 2015), the challenge of the organic region is to design and implement a model of "territorial brand image" (Kalieva, 2015), in the sense of a territorial marketing strategy, able to combine rural development and protection of the agroecosystems with a sensitive consumer demand, which focuses on more sustainable models of nutrition and tourism.

The organic dimension of those regions involves the improvement of the quality and sustainability of production, land and agricultural products as part of the cultural heritage of a local community and a founding element of local identity.

The territorial dimension involves the economic, social and natural development of an area. For Schermer (2005), the territorial development is explained by the Theory of Endogenous Rural Development proposed by Ray (2001), where "neo" refers to external factors and "endogenous" means bottom-up development. The endogenous development approach considers that economic growth and structural change are not just a functional issue but a territorial phenomenon, that enable to employ the local development potential and can improve the citizen's standard of living. The development process is endogenous when the external influences are reworked and managed by local actors and the dynamics of development are governed from the inside, introducing elements of social regulation suitable to the area (autonomy policy) (RRN, 2017). According to the paradigm of endogenous development, the improvement of

living conditions and economic growth occur when local resources are used by the local community to create value (Nemes and Fazekas, 2006). Therefore, the organic and territorial dimension, together, focus on sustainability and endogenous quality of a territorial development. Those elements, together with a form of governance that involves all the territorial stakeholders, represent the key features of organic regions that make the system competitive, also thanks to the certified quality of products and the strong ties with the local territory.

Consequently, the organic regions propose an organisational model based on an expressed partnership of the local community (citizens, producers, local institutions, etc.), which is also involved in the formulation of the plan for the organic region (Toccaceli, 2015), and a network of relationships between public and private actors.

In this context, organic regions become a new way to address the eco-sustainable reconversion of entire territories based on methods and techniques of organic agriculture. For Assaël and Orefici (2016), they represent a local strategy of territorial sustainable development, able to respond concretely to social needs, degradation of environmental quality, depopulation of rural areas, financial crisis and climatic change (Assaël and Orefici, 2016).

Finally, it could be interesting to point out that organic regions have also been supported by national and European grants, especially by the LEADER programme (acronym of *Links between the rural economy and development actions*), which is the method that has been used for 20 years by European policy, after the CAP reform in 1992 (see chapter referring to European Regulation), to engage local actors in the design and delivery of strategies, decision-making and resource allocation for the development of their rural areas. The aim of the initiative is to revitalise rural areas, stimulating innovation and job creation. LEADER is implemented under the national and regional Rural Development Plan (RDPs) of each EU Member State, co-financed by the European Agricultural Fund for Rural Development (EAFRD) (imposed by the CAP).

Despite the increasing attention to organic regions, from the analysis of international scientific literature, it seems that until now, the link between organic farming and its relation to the territory has not been deepened. Specifically, the academic articles that aim to study organic regions are very limited, showing a literature gap on this subject. On the contrary, from the "grey literature" (organisation reports, study reports financed by national governments, conference proceedings, news articles or promotional material), it is possible to find more data and information about this topic. The European countries that offer more literature on organic regions are: Italy, France and Austria (IN.N.E.R., 2016). In the US, no examples of local organic farming projects, or regional clusters similar

to European organic regions, were found, even if they are starting to analyse the organic market by identifying spatial clusters (Eades, 2006; Marasteanu, 2018).

The next paragraphs provide some evidence about the organic districts both in the international context and in Italy.

5.2. The organic districts in Europe and in the rest of the world

Local initiatives of organic farming linked to issues of territorial development are becoming increasingly important in many countries. Indeed, it is possible to find several experiences in different parts of the world. However, these experiences differ for a multitude of reasons: their history, the rooting of organic agriculture, the degree of market orientation, the political motivations that led to the promotion of certain initiatives, and therefore, also the legal and organisational form they assume. A common trait, however, is the focus on organic farming and its principles as a trigger for territorial development. The success or failure of these initiatives also depends on a variety of factors, including the propensity to cooperation and entrepreneurship of the stakeholders involved. The association IN.N.E.R. was established with the aim of creating a network between different international experiences, promoting their dissemination and giving operational support.

According to an IN.N.E.R. report (2016) and website (ecoregion n.d.), organic regions are present in Austria, France, Switzerland, Slovakia, Spain, Germany, Poland, Portugal, Canada, Indonesia, Hungary, Albania, Greece, Tunisia, Senegal and Morocco. From an overview of these initiatives, it appears that territorial development is not always the main purpose. For example, some experiences like the Organic Valley in the US or Tatry in Slovakia, show that partnerships among large organic farmers are created and managed to increase the market share of the organic food sector rather than to contribute to the territorial development, which becomes a consequence but not the main purpose.

Many of these experiences, however, are in their infancy and limited material is available (mostly grey literature); as a consequence, it is difficult to make a comparison between the different cases.

At European level, no general guidelines have yet emerged to formally legitimise organic regions, even though the EC Regulation n. 834/07 on organic farming and the LEADER programs had an indirect but significant impact on the district in agriculture and rural areas (Albisinni, 2010). Some of the most important legislations refer to initiatives for Less Developed Regions, introduced in the mid-1980s and the CAP reforms in 1999, with the new system of financing and the new Regulation on rural development.

In Europe, some more in-depth studies of organic regions were conducted by the Core-Organic II project 'HealthyGrowth' for the 2013-2016 period. The project aimed to investigate eighteen medium-scale food chains (compared to mainstream large-scale value chains) and four regional organic value chains in order to learn how they are able to combine values and increase volumes of organic farming. The results were published in 2016 on the Orgprints database, an international open access archive for papers and projects related to research on organic food and farming. Currently, only two full case study reports are available with adequate information on organic regions: Bioregion Mühlviertel-Austria, and Biovallée-France. These case studies are briefly described in the following sections, together with other European experiences.

5.2.1. *The Austrian experience*

In the Austrian context, the organic regions are called "Bioregionen" and refer to a sustainable regional development approach based on the principles of organic farming, that are also transferred to other economic sectors (Schremer, 2005).

Scheremer (2005), identified 22 Bioregionen that are the result of a twenty-year process that has supported small-scale farm structure in agricultural policies to enhance rural development. They are constituted by one or more municipalities, crossing administrative boundaries of the Austrian regions and are characterised by a strong presence of organic farmland.

Generally speaking, different factors contribute to the establishment of an eco-region. Schermer (2005) points out the following:

– a positive image of the region. This builds mainly on the high percentage of organic farmland of the region (65,000 hectares out of about 250,000 hectares of agriculturally used land are cultivated organically);

– a certain importance of organic farming within the regional farming society. This importance is shown by the percentage of organic farmers, but also by their dynamic development and their activities;

– the cohesion among organic producer associations, especially concerning marketing strategies;

– the network between organic marketing initiatives to build up links to regional development institutions;

– the integration of organic farmers into the conventional agricultural institutions. This aspect safeguards the cooperation at the institutional level, which is crucial for long-term success.

Through the HealthGrowth project, an investigation was carried out on the Mühlviertel Bioregion. This organic region was formed in 2010 under the LEADER program with the initiative of a group of stakeholders, mainly from the agricultural sector. With the integration into the LEADER program, the stakeholder group broadened substantially, including the Chamber of Agriculture, the Chamber of Commerce, the provincial tourism board, the Mühlviertel branding company, the organic farmers association, and the agricultural school (which is Austria's first organic school). Besides the organisations (administrators), the organic region comprises approximately 130 members, including direct-selling farmers, gastronomes, commercial food processors and municipalities (Furtschegger and Schermer, 2015). Organic food processing companies (breweries, bakeries and butcheries) are the central actors in the management of the bioregionen. However, the involvement of different stakeholders has created some conflict between the most loyal and strict observers of organic values and those who prefer to work with both organic and conventional products.

5.2.2. *The French experience*

In France, the most important example of organic region refers to the Rhône-Alpes Region, corresponding to the Drôme river's watershed, in the Drôme Valley. The region has a long tradition of organic farmers (starting in the 1970s), but in the 90s, thanks to the European LEADER programme and national funds, in order to oppose the depopulation process, local authorities and communities decided to set up a whole territorial program of endogenous development based on organic farming (Bui, 2015). This project, called Biovallée, was created by the four districts of the valley in the 2000s. The Rhône-Alpes Region program aimed at fostering the sustainable development of small territories, evolved into a much more integrated program for rural development, with organic farming as a key element. Specifically, the aim was to make the valley a pilot region for sustainable development (Bui, 2015). The farmers' cooperatives created the initial impulse for the structuring of the main supply chains. Afterwards, local authorities became the main promotors of the Biovallée and fostered the creation of new organic supply chains by supporting agricultural actors and civil society associations. According to the HealthyGrowth project, despite its small dimension (2.200 km² with 54.000 inhabitants), in 2015 [1], organic farmland reached a share of 30% over the total agricultural land of the region, against an average data of 3% in the national territory; in

[1] There are no recent updates.

2008, the same data was recorded to be 17%, so there was a huge growth (+ 13%) over five years.

The current Biovallée project embraces a wide range of objectives concerning energy, waste management, preservation of agricultural areas and natural resources, education and the promotion of organic food and farming. However, the project is not exempt from criticalities and it risked being abandoned. The greatest criticism came from mainstream agricultural actors which criticised the project for prioritising the development of organic farming, claiming it to be a niche model rather than a desirable evolution of local agriculture (Bui, 2015). In this regard, Bui (2015) affirmed that "*alternative strategies and visions exist in the Biovallée Drôme, and come into conflict in a context where the organic identity has become a matter of controversy between an 'ecological modernisation paradigm', mostly embodied by mainstream agricultural actors, and a 'radical ecologisation paradigm' that was developed by civil society actors*" (Bui, 2015).

Stotten et al. (2017) made a comparison between Biovallée and Bioregion Mühlviertel and underlined that the endogenous development is present in both regions and can be explained through historical reasons. Indeed, the Bioregion Mühlviertel builds its image of an organic region on its long traditions of agriculture based on the organic method. Instead the strategy of Biovallée Drôme must build a new image of a sustainable region, based on the success of the more recent multiple supply chains and organic initiatives.

5.2.3. *The Swiss experience*

On 20 December 2017, 14 agricultural firms of the Valposchiavo Region alongside Valposchiavo Tourism founded the "100% (bio) Valposchiavo" Association, which is the name of the association and also the label assigned to the products coming from this region. This project refers to the EU Rural Development Program (RDP), and it was promoted in 2012 by a local administrative office "Operative Group for Agricultural Fund" and the Valposchiavo Region in order to contrast the offsetting of environmental damage caused by the installation of a hydroelectric station in the Valley.

The program aims to raise the perceived value of Valposchiavo agricultural products, by implementing three kinds of action:

1. infrastructural projects oriented to fill the supply chains' empty spot. For example, instead of exporting agricultural raw materials out of Valposchiavo for external processing, 100% (bio) Valposchiavo aims to maintain raw materials in the Valley and have them be processed by local firms;

2. support actions of the conventional agricultural firms, in order to facilitate their conversion process to organic;

3. marketing and commercialisation measures for local products, by using local brands, like "100% Valposchiavo" and "Fait sü in Valposchiavo".

Valposchiavo is the "greenest" Swiss valley, with a 96% share of organic farmland over the total agricultural land (Bio Suisse, 2017). The national share is far lower, only 12%.

Since autumn 2017, "100% (bio) Valposchiavo" has been operative.

5.2.4. *The German experience*

In Germany, the most similar experience to organic regions is represented by the Regionalwert AG (AktienGesellschaft – a for-profit shareholder company). The first Regionalwert AG (RWAG) was founded in 2006 by Christian Hiß, in south-west Germany (Freiburg), to build a regional organic food industry. RWAG has been defined as a social innovation, more than a company, which aims to create a sustainable regional economy through a participatory and sustainable approach, by making it possible for citizens to hold equity shares in local ecological agriculture and food sector enterprises (Hiß, 2014). The investors of RWAG that are local citizens, only support regional initiatives such as investments in organic farming, in sustainable businesses with fair social standards, in biodiversity and landscape, investments in small/medium enterprises, mainly young farmers who want to develop projects, but are considered to be risky (e.g. direct sales). In this way, each investor makes capital available to a farmer or to a retailer and allows those businesses to generate financial as well as social and ecological impacts. This socio-ecological added value can be considered an intangible investment.

Consequently, RWAG does not directly manage the businesses, but it funds, buys or rents them. It also buys agricultural land (Hiß, 2014). The agricultural business must be organic production or in the process of converting to organic farming.

According to its founding mission, the goals of RWAG are:

– assurance and development of environmentally and socially sustainable agriculture and food production at regional level, through the purchase of revenue and farms or retail investments;

– to build a network of companies along the value-added chain by promoting collaborations between different companies and developing a joint positive identity;

– added value: in addition to dividends, RWAG aims to increase the socio-ecological value of the region (job creation, wages, gender equity, soil fertility, biodiversity, etc.);

– to measure and communicate businesses through economic, social and environmental indicators.

Regionalwert AG evaluates the financial as well as the social and ecological returns of its investments each year and presents them to the investors at the annual stakeholder meeting and through the annual report. The aim is to reach the balance between financial and socio-ecological returns (Hiß, 2014).

The creation of Regionalwert AG has gathered great public support and interest from the media. Nine partner companies have been financed so far and new contracts are being finalised (Bahner, 2010).

The success of the project has led other German regions to create other Regionalwert AGs in Bavaria, Brandenburg, Baden-Württemberg and in the Hamburg region. Projects similar to Regionalwert AG are also present in other European countries, as in Spain where the EcoRegió Catalunya was created in 2015.

To conclude, each organic region is based on a different historical background and cultural heritage, but they all support the dynamics of territorial development based on the principles of organic agriculture. The principles of organic agriculture are disseminated from the local to the regional level, allowing to have a common language and to share a common vision of the objectives of the organic region (Stotten et al., 2017). However, the rooting of these values is not the same for every stakeholder (private or public) in the region, and this leads to a continuous negotiation of values (Stotten et al., 2017). Generally, organic regions try to exploit their territorial characteristics and, consequently, are characterised by a high concentration of organic farms (Groier et al., 2017). This approach can be distinguished from other economic territorial concepts, such as the sectoral cluster approach (cluster sector-specific field of expertise), since the main objective of the organic regions is much more about cooperation than about competition, with a shift towards sustainability rather than general economic innovation (Schäfer et al., 2008).

5.3. The organic districts in Italy

The rise of organic regions in Italy has its roots in the peculiarity of its production system, which is characterised by the presence of district areas, and has been the object of interest on behalf of national and international researchers (Becattini, 1989; Bellandi, 1989; Murdoch, 2000; Lowe et al., 1995; Nemes

and Fazekas, 2006; Sforzi, 2008). For this reason, Italian organic regions are called Organic Districts, organic agri-food districts or Bio-districts.

The Italian local system of production is characterised by the presence of a dense network of small-medium enterprises, typically family-run and deeply-rooted in the territory, which underline the local systems' competitiveness through the action of "atmospheric", Marshallian-like phenomena. Alfred Marshall in "Principles of Economics" (1919) discusses the existence of industrial districts, which are productive systems made up of groups of companies, mainly small and medium-sized, characterised by a tendency towards horizontal and vertical integration and production specialisation, generally concentrated in a specific territory and linked by a common historical, social, economic and cultural experience. The peculiarity of industrial districts pointed out by Marshall is their acquiring of a special atmosphere that gives several advantages to the firms gathered together in a particular area (Belussi, 2008).

The Marshallian District concept (Marshall, 1919) has been very important in defining a theoretical-analytical framework to understand the dynamics of development of an important part of the Italian economy, as well as the local production systems. The industrial districts present elements of competitive advantage from the moment coordinated relations are activated between social-economic actors of a territory to increase economies of scale and to decrease transaction costs. For Becattini (1989) an Italian district is an aggregation of industrial and professional homogenous activities, located within the same geographical area that is essential for the local community. The district is defined by history, unwritten rules and shared values that directly affect the productivity and the structure of the subject involved (Becattini, 1989). In this vision of the district, the interdependence of enterprises and the local community is an essential element.

Starting from the end of the 1980s, the concept of "districts" has been transposed and adapted to the agricultural sector, stimulating an intense academic debate about the definition and characteristics of the rural, agro-industrial and agri-food district (Basile and Checchi, 2001; Becattini, 2000; Iacoponi, 1990).

From the 1990s, a complex series of laws and regulations have intervened to regulate and support the district phenomenon in Italy. Specifically, the district is regulated by (Appendix B):

– the first law on the industrial district in 1991 which gives a definition of district but limited to the industrial sector. Only due to the formulation of the Local Production Systems (LPS) notion did the district begin to extend to different fields, such as rural, agro-food and fisheries, as discussed in the next bullet point;

– Legislative Decree 228/2001 "Orientation and modernisation of the agri-

cultural sector, Article 7 of law of March 2001, n. 57", which introduced two distinct definitions for rural and quality agro-food districts into agriculture, while maintaining a strong link with the concept of LPS (Law 140/99 art. 6), defined as "*the homogeneous productive contexts characterised by both a high concentration of industrial enterprises and the specialisation of business systems*" (Toccaceli, 2015). Therefore, the Rural Districts (Legislative Decree 228/2001 art.13) are "*characterised by homogeneous identity from a historical and territorial point of view, arising from the integration between agricultural activities and other local activities, as well as the production of goods or services of particular specificity, consistent with traditions and natural and territorial vocations*". The definition of Quality Agro-food Districts (DAQ) (Legislative Decree 228/2001 art.13), on the other hand, is given to those LPS "*even inter-regional, characterised by significant economic presence and production interrelationship, and by interdependence of farms and agri-food enterprises, and by one or more certified or protected products in compliance with applicable Community or national regulations, or by traditional or typical products*" (Toccaceli, 2015);

– the Financial Laws of 2006 and 2007, amended in 2008 and 2009, which renewed the definition of 'district' in terms of "free association of companies", and equalised all the different types of industrial and agricultural district;

– the different laws on agricultural district enacted by Italian Regions, following the 2006 Finance Law, provide different notions of districts, also mixing them according to their own aims and approaches or creating new types as the "supply chain districts" introduced by the Lombardy Region. The consequence is that there is currently a tangled stratification of multiple definitions (Toccaceli, 2015).

Specifically, the district realities recognised by Italian regions can be traced back to seven types (Toccaceli, 2012; 2015):

– quality agri-food district;
– rural district;
– rural productive district;
– quality agricultural or agricultural production district;
– supply chain district;
– agro-industrial production district;
– agro-industrial district.

Italian regions mostly refer to organic districts in the broader concept of rural districts and quality agri-food districts; three Regions (Valle d'Aosta,

Friuli Venezia-Giulia, Emilia-Romagna) and the Bolzano province have not yet legislated to regulate the rural and agri-food quality districts, despite the presence in their territories of consolidated district realities, while in Molise, a legislative proposal has been blocked for years. Only two regions (Liguria and Sardinia) make explicit reference to the organic districts in the regional legislation, regulating them with ad hoc rules.

Furthermore, regional interventions are uneven, and only in few cases follow the bottom-up approach (Minelli, 2010 in RRN 2017; Pike et al., 2006). The bottom-up approaches of local development refer to a multitude of independent actors at different levels (local institutions, farmers, consumers, processors, tour operators, etc.) that form a self-organising network, which implies a significant degree of decentralisation in governance (Franco and Pancino, 2008). Such networks are considered more suitable to tackle local and regional problems as they can facilitate the creation of policies by multiple stakeholders from the bottom to the top. In most cases, however, the "district system" is modelled according to public-administrative action, where the active subject is the Region or an administrative government organisation that does not make room for private self-organising experiences (RRN, 2017). For this reason, organic districts have often been judged inadequate for the needs of the contexts where they are placed (Albisinni, 2011). In other words, the tendency is to apply top-down approaches which often cause projects to fail.

Finally, in May 2017, the Law proposed by Fiorio and Cenni, called "*Provisions for the development and competitiveness of agricultural and agri-food production using organic methods*" was approved by the Chamber of Deputies (draft law C 302). The main themes proposed by this law are: empower organic agriculture and each step of its supply chain; foster healthy education and information; improve certification and control systems; improve research grants; equalise organic and biodynamic agriculture; free trade of organic seed and the formal recognition of Organic District defined as "*Local Production Systems, also inter-provincial or inter-regional, with a significant organic production methodology*". The approval process has been suspended at the Senate since 4th May 2017.

5.3.1. *The diffusion of organic districts in Italy*

Organic districts in Italy were introduced in the national debate in 2007, after the reform on the organic farming regulation introduced by ECC 812/2007 which contributed to considering organic farming as a tool for the improvement of the agricultural sector in every European country (RRN, 2017). In Italy, organic districts have also been defined as a tool to develop organic

agriculture on a territorial scale, proposing an organisational and administrative model, providing technical services to the farmers, promoting valorisation paths for local products and pursuing environmental goals (Pancino et al., 2009).

Since 2009, when the first organic district (named Biodistretto Cilento) was created, there has been a proliferation of organic districts across the whole peninsula. According to IN.N.E.R. (2018), 33 organic districts are currently present on the Italian territory, even if many of these are at an early stage or have never taken off. In March 2017, the research conducted by the Rete Rurale Nazionale (in collaboration with CREA – Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria and MiPAAF), accounted for 26 organic districts. The difficulty in finding a precise number of organic districts is due to the heterogeneity of the promoting bodies and also to the lack of in-depth research on this topic. What is sure, however, is that from 2009 (year of birth of the first organic district – Biodistretto Cilento) until now (July 2018), there has been a notable diffusion of these kind of local initiatives. Indeed, the spread of organic districts can be the result of different factors. Firstly, organic farming is a rapidly growing sector, spared from the global economic crisis. Secondly, organic farming is the only form of certification to which rural development policies guarantee financing forms for conversion and maintenance. Thirdly, looking at the number of Italian organic producers (72,000) and the size of their farms (28 hectares average per organic farm) (Sinab, 2017), it can be said that the territory is characterised by a vast amount of small-medium organic farms, which want to aggregate and build a network in order to achieve or improve their competitiveness, together with an economy of scale.

To define the areas that possess the requirements to become an organic district, an important contribution came from academics. In the 2009-2011 period, two particular projects were carried out, BIODISTRICT and BIOREG, financed by the Ministry of Agriculture, Food and Forestry (MiPAAF), and focused on the development of a methodology for the identification of organic districts and, subsequently, on the empirical verification of this methodology (Franco and Pancino, 2008). The proposed methodology identifies the natural and socio-economic indicator (such as the presence of small/medium farms, the rate of the employed in agriculture, the farmer's average age, the growth rate of innovative forms of farm management), which result in different levels of vocation of the studied territories. This methodology was first experimented in the Lazio region, and then also in Marche, Sicily and Piedmont.

Another Italian project, named DIMECOBIO (2016) and financed by MiPAAF, coordinated by the Institute of Services for the Agricultural Food Market (ISMEA) and Centre International de Hautes Etudes Agronomiques

Méditerranéennes (CHIEAM), with the aim to define the economic dimensions of the organic farming sector at the different levels of the supply chain, reported the first census of organic districts, classified according to the institution that promoted their creation:

1. AIAB: promoted by the local branch of the Italian Association for Organic Agriculture (AIAB), is regulated by a common disciplinary that establishes how to use the registered trademark. In order to establish an organic district, there must be a minimum extent of certified area, set at 2% above the national or regional average and the territory must have a clear production direction. In the approach proposed by AIAB, the promotion of organic products is inextricably linked with the promotion of the territory and its characteristics, in order to support the development of its economic, social and cultural potential. Currently, there are 13 organic districts that follow these logics in ten regions: Campania (Cilento organic district), Calabria (Grecanico organic district), Lazio (Via Amerina e delle Forre organic district), Tuscany (Chianti organic district and San Gimignano organic district), Trentino Alto Adige (Val di Gresta organic district and Valle dei Laghi organic district), Liguria (Val di Vara organic district), Marche (Il Piceno organic district), Lombardy (Val Camonica organic district), Sicily (Terre degli Elimi and Valle del Simeto) and Piedmont (Valli Valdesi); but this last one never took off.
2. Organic districts identified on the basis of the model elaborated in the "Biodistrict" and "Bioreg" projects (2009-2011): they are financed by MiPAAF and implemented by a public-private research group, coordinated by the University of Tuscia (Pancino et al., 2009). A specific methodology has been developed aimed at identifying and understanding the peculiarities of the different territories, and at the same time spreading the organic district model. The model was initially tested in the Lazio Region and then expanded to the Regions of Piedmont, Marche and Sicily.
3. Districts born from a local initiative: these are actually born from a promoter committee of alternative food networks (AFNs) and other associations. Essentially, they refer to the AIAB bio-district, but they modify the model for a greater correspondence to their local reality. Usually, such districts are characterised by an active involvement of the different local organisations and Governments, such as in the districts created by "Città del Bio" association. Such district is characterised by a group of municipalities and territorial bodies that together with the local community, give rise to an organic district. In this context, the aim of promoting organic farming should be intended not only as an agricultural model but also as a cultural project. Differently, AIAB is an association of producers, technicians and citizens that primarily represents the

interests of organic producers. Some districts belonging to this group are: Suol d'Aleramo (Piedmont) and Monti Dauni (Apulia), where the main promoter is the Città del Bio association. Other organic districts born from local initiatives are located in the regions of Trentino (Val di Gresta, Valle dei laghi, Valle Vanoi, Trento), in Veneto (Bio Venezia, Colli Euganei, Bio Altipiano Asiago) in Tuscany (Montalbano, Casentino, Valdichiana Aretina, Fiesole); in Lazio (Valle Comino), in Piedmont (Filo di luce in Canavese), in Lombardy (Agricoltura Sociale di Bergamo), in Sicily (Borghi Sicani), in Friuli Venezia Giulia (Gramogliano), in Molise (Laghi Frentani) and in Umbria (Norcia Dibium).

In order to allow a fruitful exchange of experiences between the existing district realities on the national territory and abroad, in 2014, after the meeting of different organic regions from different European countries, which took place in Rome, the International Network of Eco-regions (IN.N.E.R.) was established. The network represents a first important coordination effort that concretely responds to one criticism frequently moved to the district realities, which do not form a network, have no exchanges with other similar realities of the territory and cannot rely on forms of cooperation (Toccaceli, 2012). Therefore, the purpose of the IN.N.E.R. international network is to improve and qualify the organic district system, connecting it to networks and fostering the exchanges of information, allowing building skills for the innovation and competitiveness of the system, giving assistance to those who aspire to the creation of organic districts in their territories. Indeed, the network aims at "*enhancing system approach to organic production, strengthening multilevel governance policies, coordination and cooperation between bio-districts to reduce hunger and increase the sustainability of agricultural production and to promote projects for international development to address the challenges that global agriculture is facing*" (IN.N.E.R., 2016).

5.3.2. *The organic districts in Italy: some data*

As previously illustrated, organic districts are a fairly recent phenomenon and not yet legally formalised, so it is difficult to establish the exact number of operative organic districts on the Italian territory.

According to the Dimecobio report (2016), organic districts at the beginning of 2016 amounted to 20 operative units. During the last two years (2016-2018), at least 10 new organic districts have been formalised, from the north to the south of the country (Pugliese et al., 2016).

The IN.N.E.R. website (accessed in July 2018), claims the existence of 33

organic districts in Italy and another 2 in the process of being formed (Table 1). This number refers only to the district belonging to the IN.N.E.R. network and does not count other districts born from other supporters.

Table 1 – *Existing Italian organic districts*

Cilento (Campania)	Grecanico (Calabria)	Baticòs (Calabria)	Sila (Calabria)	Via Amerina e Forre (Lazio)	Valle di Comino (Lazio)
Chianti (Tuscany)	San Gimignano (Tuscany)	Montalbano (Tuscany)	Casentino (Tuscany)	Valdichiana Aretina (Tuscany)	Fiesole (Tuscany)
Val di Vara (Liguria)	Valli Valdesi (Piedmont)	Filo di luce in Canavese (Piedmont)	Val di Gresta (Trentino Alto Adige)	Valle dei Laghi (Trentino Alto Adige)	Valle del Vanoi (Trentino Alto Adige)
Trento (Trentino Alto Adige)	Il Piceno (Marche)	Valle Camonica (Lombardy)	Bergamo Agricoltura sociale (Lombardy)	Eolie (Sicily)	Valle del Simeto (Sicily)
Terre degli Elimi (Sicily)	Borghi Sicani (Sicily)	Bio Venezia (Veneto)	Colli Euganei (Veneto)	Bio Altopiano Asiago (Veneto)	Gramogliano (FVG)
Laghi Frentani (Molise)	Distretto biologico di Norcia (Umbria)	DIBIUM – Distretto Biologico Umbro	Delle Lame (Apulia)	Cormòns (Friuli Venezia Giulia)	***White boxes**: operative* ***Grey boxes:** under construction*

Source: elaborated from IN.N.E.R. data (2018).

Figure 11 provides a geographical map of the Italian organic districts. Most of these organic districts have just started their activities, focusing mainly on the diffusion of organic farming and its territorial heritage, organising public meetings with the aim of involving new organic producers and transformers.

Figure 11 – *The organic districts in Italy*

Source: RRN (March 2017).

The research conducted in 2017 by Rete Rurale Nazionale (RRN) instead affirms the existence of 26 organic districts, of which, 20 already existed before 2013, and the other 6 were established later. For example, Val Di Vara was legally formalised as an organic district only in 2014, even if the orientation to organic agriculture and the ecological management of the territory are processese that had been going on for years. However, many of the districts present on this list never took of, or are considered closed projects, as for example Valli Valdesi, which has not existed since 2015. Others, like "Simeto, Eolie, Nebrodi, Terra degli elimi, Alta Murgia, Monti Dauni, Bio Venezia, Bio Altipiano, Colli Euganei, Laghi Frentani, Dibium and Val di Gresta" are still in an early stage. Furthermore, the "Piceno" district's governance is under redefintion and the "Chianti" cluster recently incorporated the previous districts of "Greve in Chianti" and "Chianti storico".

Table 2, taken from the Rete Rurale Nazionale report (RRN, 2017), shows the 2013-2016 timeframe and displays the year of establishment of each organic district, the institution which promoted the creation and the percentage of organic area covered by the district compared with the total organic land of

the region where it is located, represented respectively by the last two columns (Organic utilised agricultural area – UAA –/total Organic UAA).

Among the operative districts, "Val di Vara" achieved the best results in terms of share of organic farmland cultivated (35.03% in the district area against 6.03% in the Region) followed by "Valcamonica (14.54% in the district area, instead of a low 2.08% in the Regional context).

For many of these districts, organic farming has a marginal role: in some cases, the percentage of organic certified UAA is much lower than the regional average. For example, the "Altoconsentino" district has only 3.01% of organic farmland, while in the Calabria region, the organic farmland average amounts to 17.36%, confirming to be the region with the highest amount of organic farmland.

The best result in terms of share of organic farmland over agricultural land is showed by the organic district of "Eolie", on the Eolie Islands, with 53.78% in the core area, against the regional average data of 16.26%. This result is in line with the outcome recorded by the "World of Organic Agriculture" (Willer et al., 2018), as many island countries show high shares of agricultural land under organic management, such as French Polynesia (21.9%) and Samoa (22.4%) (Willer et al., 2018).

Table 2 – *Italian Agri-food districts up to early 2017*

Region	*District*	*Year of establishment*	*Association*	*Organic UAA/ Total UAA*	
				District	*Region*
Calabria	Altocosentino	2016	AIAB	3.01%	17.36%
Calabria	Grecanico	2009	AIAB	10.77%	17.36%
Campania	Cilento	2009	AIAB	8.65%	2.79%
Lazio	AmerinaForre	2013	AIAB	8.85%	9.94%
Liguria	ValDVara	2014	AIAB	35.03%	6.03%
Lombardy	Bergamo	2016	AIAB	0.00%	2.08%
Lombardy	ValCamonica	2014	AIAB	14.54%	2.08%
Marche	Piceno	2014	AIAB	3.99%	11.04%
Molise	Molise	2014	AIAB	2.65%	2.19%
Piedmont	FilodiLuce	2015	Local Initiative	0.00%	1.85%

Piedmont	Giarolo	2015	Città del Bio	2.88%	1.85%
Piedmont	SuolDAleramo	2015	Città del Bio	0.00%	1.85%
Piedmont	ValliValdesi	2013	AIAB	1.87%	1.85%
Apulia	MontiDauni	2016	Città del Bio	1.92%	10.01%
Apulia	Murgia	2014	AIAB	27.32%	10.01%
Sicily	Eolie	2016	AIAB	53.78%	16.26%
Sicily	Nebrodi	2016	Città del Bio	20.59%	16.26%
Sicily	Simeto	2016	AIAB	14.40%	16.26%
Sicily	TerraDElmi	2016	Città del Bio	12.03%	16.26%
Tuscany	Montalbano	2016	Local Initiative	11.13%	14.25%
Tuscany	Casentino	2016	Local Initiative	0.00%	14.25%
Tuscany	Chianti	2016	AIAB	14.73%	14.25%
Tuscany	San Gimignano	2012	AIAB	17.65%	14.25%
Trentino Alto Adige	ValDiGresta	2014	AIAB	1.92%	2.64%
Trentino Alto Adige	Vallelaghi	2013	Local Initiative	7.73%	2.64%
Veneto	Venezia	2016	Local Initiative	0.00%	1.44%

Source: Rete Rurale Nazionale, 2017.

The data collected during the EuroEducates research (2017), led by the IN.N.E.R. association, shows some common elements shared among some Italian organic districts. Table 3, in the third column, shows the district surface. First of all, the surface dimension never exceeds 3,200 km^2, confirming Val di Gresta as the smallest district in terms of extension. Accordingly, the organic agricultural areas reach the highest value in the organic district of Via Amerina (4,266 hectares), but most of the others do not exceed 1,000 hectares. The populations living in those areas, except for Cilento and Val Camonica, also do not exceed one hundred thousand inhabitants.

In 2017, the highest number of organic companies involved in an organic district could be found in the Cilento Biodistrict, the oldest Italian organic district, with 400 companies. On the contrary, the Val Camonica district shows the lowest number of organic companies, compared to the extension of its area.

The number of Municipalities involved is quite uncertain as the data of these organic districts generally changes every month (EuroEducates, 2017).

Table 3 – *Italian organic district features*

Organic district	*Municipalities involved (n*)*	*Surface km²)*	*Population (n*)*	*Organic operators (n*)*	*Organic used agric. area (ha)*
Cilento	32	3,196.00	269,846	400	2,000.00
Grecanico	12	600.00	48,000	250	1,300.00
Via Amerina e Forre	10	428.00	70,000	197	4,266.00
Greve in Chianti	1	169.38	14,351	40	300.00
Chianti storico	1	129.00	2,698	40	390.00
San Gimignano	1	138.60	7,770	42	192.50
Val di Gresta	3	30.25	13,102	55	423.00
Val di Vara	7	345.00	6,368	94	2,386.00
Valli Valdesi	28	1,350.00	55,000	60	640.00
Il Piceno	18	400.27	54,427	60	600.00
Valle Camonica	10	1,335.00	118,000	20	455.00
TOTAL	*123*	*8,121.50*	*659,562*	*1,258*	*12,952.50*

Source: Report Euroeducates, 2017.

The only available data on the productivity and profitability of the districts was collected from AIAB in 2011, as part of the LOGINBIO project financed by MIPAAF and focused on the Cilento Bio-district (Pugliese et al., 2016). The number of respondents who participated to the survey was very small (41 companies) compared to the total organic companies (400) living in the Cilento Bio-district. Therefore, from the partial data collected, there is a very moderate income compared to the potential income. Other AIAB association research (2014) affirms that due to the enlargement of the sales channels, revenues have increased by 20% compared to the previous year (AIAB, 2014, in Pugliese et al., 2016).

As part of the LOGINBIO research, the advantages in prices paid for organic products coming from the district, compared to those not coming from the district were also analysed; the result showed no premium price per kg paid to the companies of the district (e.g. olive oil 3.5 €/kg from the district, and 3.35-3.45 €/kg from the quotations of the Chamber of Commerce of Bari in March 2011). Most likely the price difference depends on the type of product (Pugliese et al., 2016).

The data on the competitiveness of the district and its stage of development were analysed by the DIMECOMBIO (2016) project but only in qualitative terms. The results of the project show a growing trend in both organic production and related business activities. However, barriers still exist, both inside and outside the organic district, and usually coming from Institutions that manage and finance the district or from the input of providers and markets. But these obstacles were reduced by the big effort of mediation carried out by the producer organisations and municipalities. It also emerged from the same project that the awareness of the population regarding the innovative potential of the organic district model is still limited.

To conclude, it emerged from this brief overview of the Italian organic districts that the development of such districts is still an ongoing process, and more in-depth studies should be carried out, in order to have more recent and precise data to report.

6.
Methodology

The methodology used for the current research is twofold: first, a literature analysis was conducted in order to study the existing literature on sustainable business models of organic companies, also focusing on organic districts (or organic regions). Second, the features of sustainable business models were investigated, through a survey questionnaire conducted on a sample of Italian organic companies and organic districts. The evidence of the literature review supported the researchers during the empirical phase.

These two methodological stages are described below.

6.1. Literature review and research question

Literature review is a sum of available research studies, carried out by identifying the research focus, trends and issues from past research (Meredith, 1993). Literature review usually aims at achieving two goals: first, it summarises existing research by identifying patterns, themes and issues. Second, it helps to identify the conceptual content of the field (Meredith, 1993) and can contribute to theory development (Seuring and Muller, 2008). It is rigorous, replicable, and transparent. The Tranfield et al.'s (2003) three-stage procedure was followed: planning, execution, and reporting.

During the planning stage, the goals of the research, the research question and the key data source were defined.

The research aims at investigating whether the presence of the organic districts acting as an over company organisation, favours organic companies to implement sustainable business models, able to create sustainable value and foster territorial development. In this research, sustainability has been investigated under the environmental, social and economic point of view.

Specifically, the research question referred to the literature review analysis is: *based on the existing literature, what are the business model characteristics,*

with a specific focus on sustainability elements, of organic companies operating within organic districts?

In order to conduct the literature review, the decision was made to limit the sources to published articles and reports because, as observed by Podsakoff et al. (2003), these can be considered validated knowledge.

Before describing the methodological approach, it is necessary to remember that the organic district is a rather recent phenomenon as the first organic districts were Biodistretto Cilento in Italy, set up in 2009, Biovalee in France also set up in 2009, and the bioregion Mühlviertel in Austria which was developed in 2010. Over the years, other examples of organic districts in Europe and in the rest of the world emerged, as described in the previous chapters. Consequently, given how recent this phenomenon is, academic literature on this topic is expected to be very limited.

The second stage of the systematic review process, that is execution, consisted of five steps:

(1) to identify initial selection criteria which lead to the identification of keywords and creation of search strings based on the identified keywords; (2) to search for literature, that is represented by the selection of studies through relevant research databases; (3) to analyse the identified papers by the elimination of duplicates and loosely-focused papers (4) to apply quality assessment to data extraction into a reference management database (in this case, Excel); (5) to synthesise the literature data.

The first three steps pertain to collection and organisation of the data, and the last two steps involve data processing and analysis. Each of the five steps is described hereunder:

1. The search string was entered exactly in the same way with Boolean logic, into the following three scientific journal databases: EBSCO Business Source Complete, Scopus and Google Scholar. This mix of database types facilitated building a comprehensive list of relevant articles. Although the use of the three databases created an overlap in the search results, this process ensured the validity of the method since all the information from business and science perspectives was captured. As previously explained, the district phenomenon in organic farming is a topic of recent development, so the research was enriched by including a set of similar keywords, particularly used at an international level, such as *region, eco-region* or *cluster*. Therefore, initially, literature focusing on these three strands was investigated: i) organic

districts (or other synonyms e.g. regions); ii) organic companies (or other synonyms of companies such as enterprises and firms); iii) business models. This investigation led to very few results, so it was decided to maintain the words *district/region (eco-region)/cluster* in a first phase of research and to remove them in a second phase, only focusing on the investigation of business models of organic enterprises. Going further with the database inquiry, the word *organic* also did not lead to many results; therefore, it was decided to maintain it in a first phase and remove it after. Consequently, the spectrum of studies concerning business models has been expanded including, more in general, the agricultural and agri-food sector, and not limiting the focus to the organic field. This choice allowed to include all relevant articles focused on business models and sustainable business models in agriculture. In addition, it must be specified that the words "business model" and "sustainable business model" were entered in the 3 databases in quotation marks, since we aimed to find the exact phrase, and not generic articles dealing with the word business or with the word model that do not satisfy our criteria.

Table 4 shows the keywords used to select articles.

Table 4 – *Search strings and outcomes*

Costant Terms in Every Search String		Term used and removed		Term used and removed	Costant Terms in Every Search String	Nr. of papers
"business model" OR "sustainable business model"	AND	district OR region OR cluster	AND	organic	"farm" OR "enterprise" OR "companies" OR "agriculture" OR	0
"business model" OR "sustainable business model"	AND	district OR region OR cluster	AND		"farm" OR "enterprise" OR "companies" OR "agriculture" OR	11
"business model" OR "sustainable business model"	AND			organic	"farm" OR "enterprise" OR "companies" OR "agriculture" OR	2
"business model" OR "sustainable business model"	AND				"farm" OR "enterprise" OR "companies" OR "agriculture" OR	96
						109

Source: own elaboration.

The keywords used for the research activity are also shown according to the database used. The next Table shows the search outcomes obtained from each database used.

Table 5 – *Search outcomes divided by database*

Database	Search String		Term used in the First Search		Term used in the Second Search	Terms in Every Search String	Nr. of papers
Business Source Ultimate	"business model" OR "sustainable business mode" OR innovation	AND	district OR region OR cluster	AND	organic	"farm" OR "enterprise" OR "companies" OR "agriculture" OR "agribusiness" OR "agrifood"	32
Scopus	"business model" OR "sustainable business mode" OR innovation AND (LIMITTO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re"))						37
Google Scholar	"business model" OR "sustainable business mode" OR innovation						40
Total							109

Source: own elaboration.

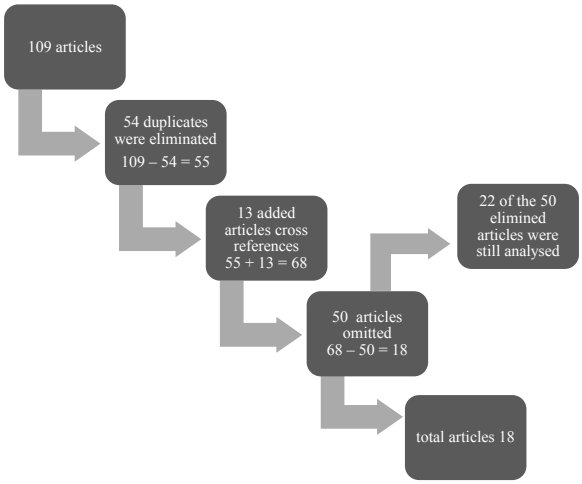
1. In order to narrow down the amount of literature available, three parameters guided the selection of papers. First, the languages established were English and Italian, due to the native language of the researcher. Second, the time horizon of the search was not chronologically restricted, in order to include all relevant papers until 2018. The research was performed in June 2018 and in September 2018. Third, to guarantee that all the selected papers met the basic requirements of theoretical and methodological rigor (Anessi-Pessina et al., 2016), only peer-review articles, scientific books and conference papers were selected. In this way working papers, technical reports, and practical handbooks were omitted from the search. When possible, the search strings were entered into the three databases using advanced search filters, such as searching strictly for peer-reviewed journal articles. Each selected article had to meet all three criteria.

2. After these initial stages, 109 papers were obtained using the specific search strings previously described (see Table 5). The saturation point was identified when the same articles began appearing repeatedly. This was followed to ensure that all the relevant papers had been included in the study and unintended omissions had been avoided. 54 duplicates were eliminated. However, a web-based search may produce irrelevant results as well as omit relevant results. Consequently, additional relevant publications were obtained through the references cited within the selected papers. This technique generated 13 additional papers, reaching 68 articles. The next step was to establish the pertinence of each article for the current research. In order to respond to the research question and carry out an exploratory investigation of the existing literature on business models and, in particular, on the sustainable business model in agriculture, as an essential requisite, it was decided to limit the research only to those articles containing within the text the keywords "business model" and "sustainable business model" (together with the other selected terms e.g. districts, organic, agriculture, farm, etc.). Therefore, in order to establish the pertinence of each article, an in-depth analysis on the content of the 68 articles was conducted to exclude papers that did not mention the selected keywords.

At this stage, 50 articles were deleted as they did not cover the areas of investigation previously described. However, 22 among the deleted articles were taken into consideration and analysed separately as they helped the researcher to describe the geographical-spatial location of organic companies, which seems to be a relevant theme to explain the district phenomena. Based on these conditions, a total of 18 articles was selected for the critical literature review.

Figure 12, which follows, summarises the research process and the resulting number of articles for each phase of the selection process.

Figure 12 – *Review Process*



Source: own elaboration.

Moreover, to ensure reliability, a database including the final list of the selected papers was prepared and cross-checked by a second researcher. Specifically, the second researcher replicated exactly the same process, without adding any relevant paper. The analysis and selection of the papers was always carried out by referring to accounting and management disciplines.

4 and 5. The authors and titles of these selected papers were imported onto an Excel sheet, and the full paper was downloaded and analysed. Thereafter, a basic meta-analysis (Table 6) was conducted for each paper, including

authors, journal or book of publication, publication year, title of publication, geographical location (country) of the case study or survey conducted, topics of the publication (Organic, Farm/agriculture/agrobusiness/agri-food/companies/ enterprises, Business model, Sustainable business model, Business Model Innovation) and methodology applied (theoretical, empirical, case study). It should be highlighted that, as regards the topics, a declination of business model emerged from the analysis of the articles: indeed, some articles deal with the general business model concept, while others focus on the sustainable business model and on the business model innovation.

The last stage of the process involves descriptive and conceptual analyses of the final data set. The outcomes of this last stage are described in the next section.

6.1.1. *Descriptive analysis of selected publications*

As previously mentioned, 18 articles were selected. The selected articles were analysed with a focus on the research questions. Referring to the Table previously presented (see Table 6), a deeper investigation was conducted, based on the different categories identified: year of publication, country, type of journal, topics and the research method adopted.

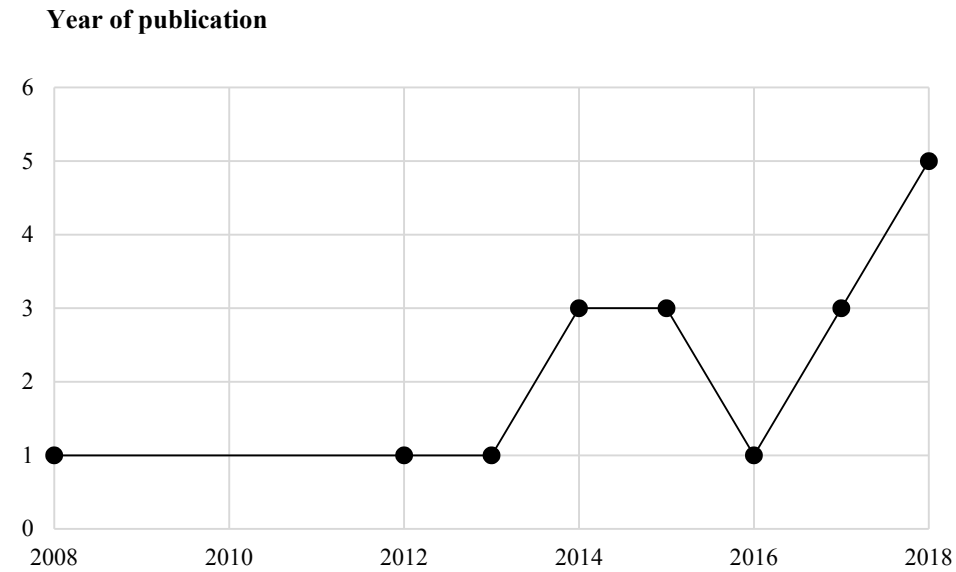
Table 6 – *Meta-analysis of selected publications*

Nr.	Authors	Journal/Publication	Year of publication	Title	Country	Topics					Methodology		
						Organic	Farm/agriculture/ agrobusiness/agri-food/companies/ enterprises	Business model	Sustainable business model	Business model innovation	Theoretical	Empirical	Case Study
1	Baregheh, A., Hemsworth, D., and Rowley, J.	The International Journal of Entrepreneurship and Innovation	2014	Towards an integrative view of innovation in food sector SMEs	UK		x			x		x	
2	Barth H., Ulvenblad PO. and Ulvenblad P.	Sustainability	2017	Towards a Conceptual Framework of Sustainable Business Model Innovation in the Agri-Food Sector: A Systematic Literature Review	/		x		x		x		
3	Beuchelt, T. and Zeller, M.	Renewable Agriculture and Food Systems	2013	The role of cooperative business models for the success of smallholder coffee certification in Nicaragua: A comparison of conventional, organic and Organic-Fairtrade certified cooperatives	Nicaragua		x		x			x	
4	Björklund, J. C.	Journal of Entrepreneurship, Management and Innovation	2018	Barriers to Sustainable Business Model Innovation in Swedish Agriculture	Sweden		x		x			x	
5	Díaz-Correa, J.E., López-Navarro, M.A.	Sustainability	2018	Managing sustainable hybrid organisations: A case study in the agricultural sector	Spain		x		x				x
6	Fujimoto, A.	Journal of the International Society for Southeast Asian Agricultural Sciences	2012	Revitalization of hill farming through organic agriculture in Japan: The Joetsu Tokyo Nodai as a business model	Japan	x	x	x					x
7	Hernandez-Aguilera, J. N., Gómez, M. I., Rodewald, A. D., Rueda, X., Anumu, C., Bennett, R., van Es, H. M.	Business Strategy and the Environment	2018	Quality as a Driver of Sustainable Agricultural Value Chains: The Case of the Relationship Coffee Model	Colombia		x		x			x	
8	Jolink, A. and Niesten, E.	Business Strategy and the Environment	2015	Sustainable Development and Business Models of Entrepreneurs in the Organic Food Industry	Netherlands	x	x		x			x	
9	Karlsson, N. P., Hoveskog, M., Halila, F., and Mattsson, M.	Journal of Cleaner Production	2018	Early phases of the business model innovation process for sustainability: Addressing the status quo of a Swedish biogas-producing farm cooperative	Sweden		x		x				x
10	Pölling, B., Prados Velasco, M.J., Torquati, B.M., Giacche, G., Recasens, X., Paffarini, C., and Lorleberg, W.	Moravian Geographical Reports	2017	Business models in urban farming: A comparative analysis of case studies from Spain, Italy and Germany	Europe		x	x					x
11	Sivertsson, O. and Tell, J.	Sustainability	2015	Barriers to business model innovation in Swedish agriculture	Sweden		x			x		x	
12	Tell, J., Hoveskog, M., Ulvenblad, P., Ulvenblad, P. O., Barth, H., and Ståhl, J.	British Food Journal	2016	Business model innovation in the agri-food sector: A literature review	/		x			x	x		
13	Ulvenblad, P., Hoveskog, M., Tell, J., Ulvenblad, P-O., Ståhl, J., and Barth, H.	Conference paper presented at DRUID Society on Entrepreneurship– Organization–Innovation, Copenhagen Business School (CBS), Copenhagen, Denmark, June 2014	2014	Agricultural business model innovation in Swedish food production: The influence of selfleadership and lean innovation	Sweden		x			x	x		
14	Kusraeva O.A	Problems of Economic Transition	2018	The Business Model Characteristics of Russian Agribusiness Companies	Russia		x	x				x	
15	Mohammad, I. and Malek M.A	Asian J. Innovation Policy	2017	Promotion of agriculture technology in marginal rural areas of Bangladesh: an innovative business model approach	Bangladesh		x	x				x	
16	Vorley, B.	Conference papers from the First Global Agro-Industries Forum (GAIF) by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Industrial Development Organization (UNIDO) and the International Fund for Agricultural Development (IFAD), New Delhi, India, April 2008	2008	Business models that are inclusive of small farmers	/		x	x			x		
17	Polakòva, J., Kolàčkovà, G., Tichá I.	Scientia Agriculturae Bohemica	2015	Business Model for Czech Agribusiness	Czech Republic		x	x					x
18	Zanni, L. and Pucci, T.	Conference paper presented at the Food Marketing: mercati, filiere, sostenibilità e strategie di marca, published in the book of proceedings "Food Marketing: mercati, filiere, sostenibilità e strategie di marca", Modena, Italy, September 2014	2014	Modelli di business e sostenibilità: un'analisi sulla creazione di valore nelle imprese vitivinicole italiane	Italy		x		x			x	

Source: own elaboration.

Figure 13 shows the number and the year of publication of the selected articles. The articles cover a very recent time span, from 2008 until 2018. 67% of the selected articles have been published in the most recent years, between 2015-2018. This evidence confirms the fact that the field of study is very new.

Figure 13 – *No. of papers published each year*

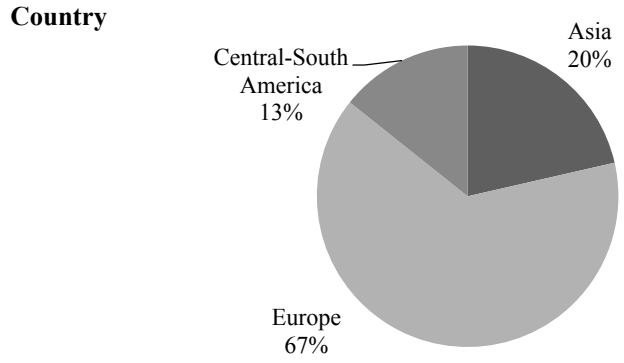


Source: own elaboration.

The next figure focuses on the countries referred to in the research presented in the articles.

From the analysis, it emerges that the selected articles mainly focus on European countries, followed by articles on Asia and on Central and South America (respectively Nicaragua and Colombia). For three of the selected articles, it was not possible to detect a geographical location, as a theoretical approach was used.

Figure 14 – *Percentage of papers per country*



Source: own elaboration.

The 18 articles were published in different scientific journals, with the exception of three conference proceedings. The different journals deal with different disciplines. The journals were categorised into three fields of study (Figure 15) and more specifically [1]:

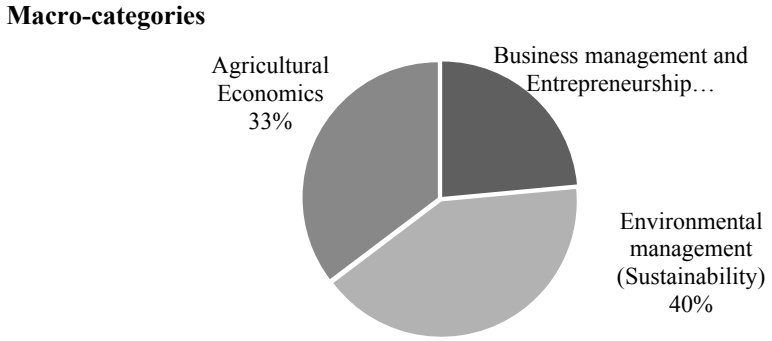
– Environmental management (six articles): Sustainability, Business Strategy and the Environment and Journal of Cleaner Production.

– Business administration, management and Entrepreneurship (four articles): The International Journal of Entrepreneurship and Innovation, Journal of Entrepreneurship, Management and Innovation, Asian J. Innovation Policy.

– Agricultural and food economics (five articles): Renewable Agriculture and Food Systems, Journal of the International Society for Southeast Asian Agricultural Sciences, British Food Journal, Problems of Economic Transition, Scientia Agriculturae Bohemica.

[1] The different categories were identified according to the topics (aims and scope) covered by the journals. However, most of them have a cross-sectoral approach. Therefore, some journals could belong to more than one category (e.g. British Food Journal deals both with agricultural economics as with environmental management).

Figure 15 – *Journal macro-categories (percentages)*

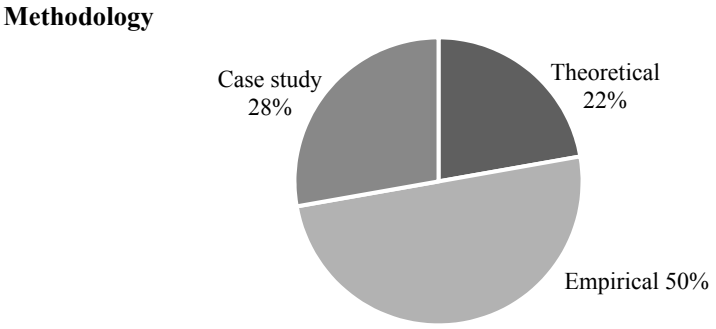


Source: own elaboration.

From this first analysis, several relevant aspects emerged. Considering the years of publication, it is clear that the issue of business models in the agricultural sector has achieved increased relevance in recent years. Furthermore, all the Journals have published only one article on the subject, with the exception of the Journal Sustainability (three articles) and Business Strategy and the Environment (two articles). These two pieces of evidence confirm a gap in the debate on business models in agriculture; however, due to the fact that the number of publications has grown in recent years, it is possible to suggest that the topic is gaining more interest from the research community.

As regards the methodologies of the selected papers, the most used is the empirical method (that assumes the administering of questionnaires), followed by case studies and theoretical methods, as shown in Figure 16.

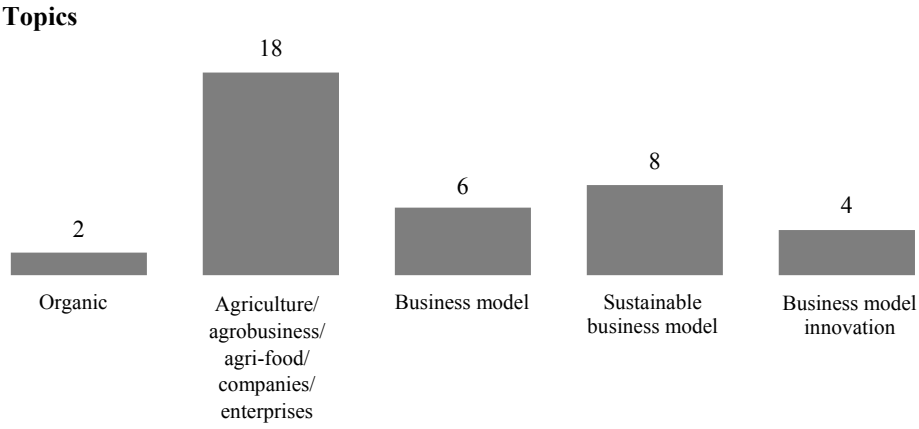
Figure 16 – *Methodology of selected articles*



Source: own elaboration.

Figure 17 shows the most cited topics within the selected articles. Specifically, in order to identify the main topics, as also shown in the meta-analysis presented in Table 6, the analysis focused on the keywords that were most mentioned. The topics related to agricultural enterprises (such as farms, agribusiness, etc.) are present in all articles, while organic agriculture is not particularly widespread (2 out of 18). In the agriculture context, the business model topic (discussed in general terms) is investigated in 33% of the papers (6 out of 18), the innovation and the related business model [2] is investigated in 22% of the articles (4 out of 18) and the sustainability business model topic is discussed in 44% of the articles (8 out of 18).

Figure 17 – *Most cited topics (no. of papers)*



Source: own elaboration.

From the previous figure, three main streams of discussion emerged.

The first stream focuses on the business model to study the agricultural business. The word business model appears in most of the articles, but six articles deeply investigate it without taking into consideration other issues such as innovation and sustainability (Fujimoto, 2012; Kusraeva, 2018; Mohammad and Malek, 2017; Poláková et al., 2015; Pölling et al., 2017; Vorley, 2008). Specifically, three of these articles use the Business Model Canvas theorized by

[2] As previously described, from the analysis of the selected article, a BM topic emerged. Specifically, it was possible to split such topic in three strands: the BM in general, the business model innovation and the sustainable business model.

Osterwalder and Pigneur, 2010 as a framework to support the business model (Mohammad and Malek, 2017; Poláková et al., 2015; Pölling et al., 2017). As confirmation of the lack of studies concerning the organic enterprise business model, only two papers mention the word organic (Fujimoto, 2012; Jolink and Niesten, 2015).

The second stream refers to the articles that deal with innovation of the agricultural sector and, more precisely, the business model innovation. As regards innovation of the business model in agriculture, four articles emphasise this topic in different ways (Baregheh et al., 2014; Sivertsson and Tell, 2015; Tell et al., 2016; Ulvenblad et al., 2014). Furthermore, most of those articles consider innovation a strong driver of the sustainability-oriented business model. Some articles investigate the barriers of farmers to the adoption of innovative business models (which can lead to sustainable business models) and denounce a lack of researches in this field (Sivertsson and Tell, 2015; Ulvenblad et al., 2014). Moreover, it should be highlighted that, in literature, organic farming has been considered a form of innovation (Simin and Janković, 2014).

The third stream deals with the sustainability of the business model and eight articles were included in this category. The articles use different conceptualisations of the sustainable business model in agriculture. Barth et al. (2017) propose the integration of sustainability aspects in the building blocks identified by Osterwalder and Pigneur (2010). Also, different typologies of business model are presented as a key component of corporate sustainability: the quality-oriented business model (Beuchelt and Zeller, 2013; Hernández-Aguilera et al., 2018), the Flourishing Business Canvas (Karlsson et al., 2018), the sustainability-driven hybrid organisation business model (Diaz-Correa and Lopez-Navarro, 2018), the ecopreneurial business models (Jolink and Niesten, 2015), and the business model proposed by Pucci et al. (2013) as a framework to understand the commitment to sustainability in the winery sector (Zanni and Pucci, 2014). Moreover, the barriers to the sustainable business model were explored (Björklund, 2018). The agricultural sustainability business model highlights the important role of relationships between stakeholders along the whole value chain and points out the rise of a new entrepreneurial approach that fits into market niches that are becoming more and more popular and important, as those of organic products.

These emerging strands will be further discussed within the following chapters of the Findings section.

To conclude, the research goal was to depict the features of sustainable business models of organic companies belonging to organic districts. However, from the research, it emerged that studies on the business model of organic

companies and organic districts are lacking. Moreover, the only studies available on organic districts can be traced to the category of non-peer reviewed scholarly articles and grey literature; consequently, they have not been considered for the current literature review. As a result, a literature gap on this topic has emerged. With the second stage referring to the empirical analysis of a sample of organic companies and districts, the research tries to bridge the existing gap, highlighting the features of the business models of organic companies belonging to organic districts.

6.2. Empirical analysis and research questions

The second methodological stage focuses on an empirical analysis of a sample of Italian companies operating in the organic sector. The goal is to depict the sustainable business model features of organic companies operating within organic districts. The latter have been investigated in order to evaluate their contribution in the sustainable value creation of companies and of the local territory.

Specifically, the research questions referring to the empirical analysis and, therefore, to the survey conducted, are:

– What are the business model features of organic companies operating within organic districts, with a specific focus on sustainability dimensions?

– Does belonging to an organic district generate benefits for the companies and for the territory?

The research has been characterised by 6 phases, summarise in Table 7 below.

Table 7 – *Research phases*

Phase	*Activities carried out*	*Month (2018)*
Phase 1	Census of the existing organic districts in Italy and companies of each organic district.	April-May
Phase 2	Review of some surveys/questionnaires assessing (organic) agricultural enterprises and organic districts.	May
Phase 3	Elaboration of 2 questionnaires (SMEs and management bodies). – Goals of the questionnaires. – Content, structure and type of questions.	May-June
Phase 4	Preliminary requests to organic district's management bodies.	June

Phase 5	Sending the questionnaire to organic district management bodies and to organic companies previously censed. – Sending methods (through management bodies, phone call, google form) and reminders – Number of questionnaires sent – Number of collected questionnaires – Compliance rate	July-August
Phase 6	Data collection and data processing.	September-December

Source: own elaboration.

Phase 1: *Census of the existing organic districts in Italy and companies of each district.*

The first step consisted in a preliminary mapping of the existing organic districts in Italy, initially focusing on the North-Western Regions of the country; subsequently, the analysis was broadened to all Italian regions, in order to achieve a full-scale mapping of the organic districts all over the country. The investigation was conducted starting from two pieces of evidence found in the existing (grey) literature which respectively identified the amount of the Italian organic districts as 26 (RRN, 2017) and 32 (IN.N.E.R. website, 2018). Starting from this evidence and in order to identify an update and provide univocal information about the Italian organic districts, a web search was conducted on the topic scanning organic association websites. A direct contact approach was also carried out (phone and/or e-mail) in order to exclude in advance those districts whose existence was uncertain. A list of 36 Italian organic districts was identified, inclusive of both the operating districts and districts under construction.

A deeper investigation focused on the collection of specific material about each district through publicly available data from websites, phone calls or e-mail exchanges with the management bodies. This activity allowed us to narrow down the sample of organic districts: 29 districts were selected for the research purposes. The remaining 7 were removed from the sample because they had just started to operate, and it was not possible to find contacts or publicly available information. The selected districts presented different stages of development: 19 were already operating, 8 were still under construction, 1 never took off, and another one was temporarily under a revision process. As a result, there are 27 organic districts involved in the research.

The last step of Phase 1 consisted in collecting data (e.g. contact information, activities, etc.) about companies operating within organic districts. To collect

such data and material the management of the organic district was contacted; when this was not possible, publicly available information was used (IN.N.E.R. reports, newspaper articles, websites of organic districts and enterprises).

Phase 2: *Review of some surveys/questionnaires assessing (organic) agricultural enterprises and organic districts.*

Before the elaboration of the questionnaires to send to organic companies and districts, an investigation on surveys conducted on organic districts and companies was carried out. Among the results, several surveys were selected as they are particularly relevant for the purposes of the research. Specifically, the following works were taken as reference:

– ISTAT (2016). Indagine sulla struttura e produzioni delle aziende agricole. Available at https://www.istat.it.

– RRN (2017). Distretti biologici e sviluppo locale. Il contributo dell'agricoltura biologica per lo sviluppo sostenibile delle aree rurali. In collaborazione con CREA, MIPAAF; Roma, Programma Rete Rurale Nazionale 2014-2020.

– Pugliese and Antonelli (2016). Agricoltura biologica in chiave territoriale. L'esperienza dei bio-distretti in Italia, CIHEAM Bari.

– Broccardo, Culasso and Truant (2017). Unlocking value creation using an agritourism business model. *Sustainability*, *9*(9), 1-18.

– Peano, Tecco, Dansero, Girgenti and Sottile (2015). Evaluating the sustainability in complex agri-food systems: The SAEMETH framework. *Sustainability*, *7*(6), 6721-6741.

Phase 3: *Elaboration of two questionnaires for organic companies and organic districts*.

In this phase, we focused on the elaboration of two kinds of questionnaires, addressed to two distinct categories of respondents: one questionnaire was addressed to organic companies belonging to an organic district, another one was addressed to organic districts. The questionnaire was anonymous. The aim of the first one was to depict the features of the company's sustainability business model and to understand if belonging to an organic district can enhance the sustainable development of the company and of the local territory.

The questionnaire addressed to organic companies is composed by 74 questions, structured in 4 parts:

– 1 to 10: general information about company activities;

– 11 to 32: economic features and performances and perceived economic advantages;

– 33 to 54: social features and performances and perceived social advantages;

– 55 to 74: environmental features and performances and perceived environmental advantages.

The questions formulated within the questionnaires are:

– closed questions, multiple choices (Yes/No; various options);
– open questions;
– assessment of agreement on some propositions (positive or negative) measured with a 5-point Likert scale.

The second questionnaire was created by following a specular structure to the previous one, in order to allow a comparison among the answers. There is a total of 45 questions, described as follows:

– 1 to 7: general information about the organic district;
– 8 to 24: economic features and perceived economic benefits for the member companies;
– 25 to 36: social features and perceived social benefits for the member companies;
– 37 to 45: environmental features and perceived environmental benefits for the member companies.

Phase 4: *Preliminary requests to organic district management bodies*.
Before sending the questionnaires, the management bodies of the 27 organic districts were contacted (by phone call and by e-mail), to inform them about the research aims, guidelines of the project and to request support in the dissemination of the questionnaires among the member companies.

Phase 5: *Sending the questionnaire to organic district management bodies and to organic companies previously censed*.
The sending phase took about 2 months (July-August) and it was conducted at two different levels, direct and indirect. The questionnaire was sent by e-mail, through a direct approach, as a google form link to the 29 management bodies of organic districts. The sample was restricted to 28 because one of the districts never took off (Valli Valdesi). After the first delivery, several reminders by telephone/e-mail were made in order to solicit the answers. At the end of the process only 8 districts answered, recording a response rate of 29%. This compares favourably with rates reported in previous online surveys (Lucianetti, 2006; Tavitiyaman et al., 2012).
On the contrary, the questionnaire sent to organic enterprises was through an indirect approach: initially, the questionnaire was sent to the 29 organic district management bodies, which were asked to share it with member

companies, using their internal communication channels. This approach encountered obstacles because a relevant number of districts are managed on a voluntary basis without any structured organisational scheme. Consequently, only 6 districts forwarded the questionnaire among the enterprises.

In order to reach the greatest number of organic companies, a direct approach was conducted: firstly, a direct phone call was made to each enterprise belonging to an organic district. Secondly, an email was sent with a brief description of the project and containing the anonymous questionnaire as a google form link to be filled.

718 [3] questionnaires were sent to organic companies.

After the first delivery, several reminders (every two weeks) were made by telephone or e-mail in order to solicit the answer. At the end of this process, 107 answers were collected, with a response rate of 15%, in line with the literature (Lucianetti, 2006; Tavitiyaman et al., 2012).

Phase 6: *Data collection and data processing*.

The answers collected via the two different types of questionnaires were exported in an excel file in order to underline and analyse emerging trends and relations between the different sections of the questionnaire.

It must be underlined that the questionnaire method was chosen because it allows researchers to obtain a significant amount of data that can be used for statistical investigation. Based on the methodology followed by different studies on related topics (Arroyo et al., 2013), the data was analysed by using SPSS software and evidence was studied by using descriptive and inferential statistics.

6.2.1. *Statistics analysis*

The descriptive statistics for categorical variables are expressed as frequency (percentage) and median (range) or mean ± standard deviation for continuous variables, depending on the normality of distribution.

In correspondence with the qualitative questions ("Item") – based on a Likert scale (from 1 to 5) – a distribution analysis was carried out in order to establish for which items a normal distribution could be hypothesized; for the items for

[3] In case of an indirect approach (internal diffusion of the questionnaires by the districts, the number of questionnaires sent was estimated taking into consideration the number of companies belonging to the organic districts identified by census, due to the fact that it was not possible to obtain assurance about the number of the questionnaires administered (RRN, 2017; Pugliese and Antonelli, 2016).

which the symmetry and kurtosis indices are not included in the interval – 1 and + 1, a non-normal distribution is assumed.

In order to verify the average trend ("Tendency") of the answers given to the questions based on a Likert scale, the one sample *t Student* test was used, taking into consideration value 3, on the ordinal scales, as value of neutrality ("Neutrality"), as it represents the central value of the Likert scales for each item.

The analysis of the items ("Item Analysis") includes a correlation analysis, based on the correlation coefficient r of Pearson, among the items belonging to the same section ("Section") and that do not violate the assumption of distributive normality.

In case of correlations higher than |0.71|, a condition of redundancy was identified that generated the elimination of certain items, as considered not particularly relevant for information purposes.

Subsequently, a reliability analysis was applied on the maintained items, by calculating the Cronbach's α index and inter-item average correlation, aimed at verifying whether individual constructs based on a certain number of items exist within each section.

In order to verify the number of constructs suggested by the reliability analysis, a "Factor Analysis" was applied ("Factor Analysis").

For the company profiling, a cluster analysis was adopted by using the Two Step method, an algorithm based on the concept of two-stage clustering methods similar to BIRCH. This technique is particularly useful when the input variables are both categorical and numerical.

For the profiling analysis applied to the ordinal scales ("Items"), the Student t test for independent groups was calculated, while a Pearson Chi-Square test was used for the analysis for the categorical variables. The level of significance considered is 0.05.

7.
Findings

7.1. Literature review analysis

In order to answer the research question: *based on the existing literature, what are the business model characteristics, with a specific focus on sustainability elements, of organic companies operating within organic districts?*, the decision was made to broaden out the research to the business models in agriculture and agri-food sectors because, as specified in the methodology section, there is scant literature on business model features of companies operating in the organic sector. However, a particular focus on organic enterprise has been maintained, as organic farming is the characterising element of the researched companies.

Findings are organised as follows: the first part is dedicated to articles that generally deal with the topic of the business model in the agricultural context. The second part focuses on innovations, introducing innovative business models and presenting organic farming as innovative for the agriculture sector. The third part provides an overview of the studies on sustainable business models in agriculture.

Finally, the decision was made to dedicate the last part to a brief discussion on the topic of spatial distribution of organic enterprises that refers to the geographical area where these companies are located and that can influence the companies' behaviour as well as socio-economic performances. Such topic can be considered the forerunner of the organic districts and will introduce the next part of the findings dedicated to the empirical analysis of organic enterprises belonging to organic districts.

7.1.1. *Business Model in agriculture*

For the purposes of the current research, it is valuable to start the analysis from the general characteristics of the business model, as it is a useful tool to

understanding the structure and the consequent value chain of the studied companies, with a specific focus on the agricultural sector.

The business model (BM) concept, which is multifaceted, focuses on a holistic approach in describing how companies do business. Since the mid-1990s research has revealed an increasing interest on behalf of academics and practitioners in the use of BMs as descriptive and analytical constructs. The term 'business model' is frequently used in both academia and business, but it is generally acknowledged that there are multiple definitions for this term (Amit and Zott, 2001; Morris et al., 2005; Osterwalder and Pigneur, 2010). Traditionally, a BM is defined as a conceptual tool that consists of a set of elements and cause and effect linkages that express the company path towards long-term goals (Osterwalder and Pigneur, 2010; Teece, 2010).

Over the years, the BM topic has achieved increasing relevance in management research (Clauβ et al., 2014), and it has been analysed under the lens of strategy, competitive advantage and performances (Zott et al., 2011). For some scholars, the BM becomes a unit of analysis that lies between the company and its network of stakeholders (Amit and Zott, 2001). In this context, the value generation takes place primarily in a network of values that involves suppliers, partners, distribution channels and the local community. The attention on stakeholders' relations is a key element, as value is no longer created by companies that act independently, but by companies that interact with other subjects through formal agreements and informal alliances (Bocken et al., 2014). Shafer et al. (2005) define the BM as a description of the underlying logic of a company and of its strategic choices for creating and capturing value along the value chain. This implies that companies pursue a strategy to create additional value also by differentiating themselves from competitors. In this regard, upgrading strategies contribute to improve the position of producers or cooperatives in the value chain through shifting to more (economically) rewarding functional positions, for example through the uptake of new activities previously performed by other chain actors, or through the increase of the added value of production, or through a change of activities that lead to reduced exposure to risk.

Osterwalder and Pigneur (2010) offered a concept of Business Model Canvas (BMC) as a useful tool that enables the user to describe and think through the business model of an organisation and its competitors. The strategic management template is suitable in providing an overview of value creation and capture relationships, key success factors and comparisons among companies. The BMC is useful for understanding and communicating the key building blocks that, together, represent a BM. There are nine blocks and they cover the four main areas of business: customers, offer, infrastructure, and financial

viability. Specifically, the nine blocks are: 1. Customer Segments that the organisation wants to serve. 2. Value Proposition that solves customer problems and satisfies customer needs. 3. Channels that are used to communicate and deliver the value propositions to customers through communication, distribution, and sales channels. 4. Customer Relationships that are established and maintained with each customer segment. 5. Revenue Streams which result from each value proposition offered to each customer segment. 6. Key Resources required to offer and deliver the value propositions to each customer segment. 7. Key Activities needed to perform and support the creation and delivery of the value proposition. 8. Key Partnerships that are required to perform and support the creation and delivery of the value proposition. 9. Cost Structure stemming from all activities and resources performed for creating and delivering the value propositions.

Despite the relevance of the BM topic, empirical research has been carried out predominantly on information technology, biotechnology, manufacturing sectors and start-ups (Demil et al., 2015; Lambert and Davidson, 2012), while the BM in the organic sector and, more generally, in the agricultural sector, has not been particularly investigated. Indeed, limited research attention has been paid to BMs in agriculture and in the agri-food sector (Ulvenblad et al., 2014), with some exceptions (Fujimoto, 2012; Kusraeva, 2018; Mohammad and Malek, 2017; Poláková et al., 2015; Pölling et al., 2017; Vorley, 2008).

Vorley (2008) focused on developing countries and proposed three generic business models (Producer-driven, Buyer-driven, Intermediary-driven) based on alliances and linkages between the producers and other stakeholders in the value chain to mitigate challenges facing smallholders in developing economies. He concludes that successful models tend to evolve towards a common set of principles that include: 1. greater information and knowledge flows; 2. focus on differentiated products; 3. orientation towards market demands; and, 4. chain-wide organisational structures that recognise the interdependence of actors and facilitate collaborative problem solving. The sum of these principles is called "systemic competitiveness", which is based not only on the efficiencies of individual actors but also on collective efficiencies.

Another author that investigated the business model in an agricultural context is Fujimoto (2012), who focused on the serious problems affecting hilly and mountainous Japanese farming. The author presented the business model of Joetsu Tokyo Nodai, Inc. The challenge of this company was to establish a business model of sustainable farming in an unfavourable area, being aware that ecologically best does not necessarily mean also technologically and economically best.

Kusraeva (2018), starting from the work of Tret'iak (2013), used the frame-

work based on five "blocks" of marketing relationships to examine the BM characteristics of Russian agribusiness companies (block I – the relationship with the consumer; block II – interactions within the circulation of goods; block III – the relationship among the intermediary, the trading organisation, and the manufacturer; block IV – the organisation of operations within a single manufacturing structure based on identified market signals; and block V – the conversion of identified market signals into tasks for suppliers and the development of management strategies). Kusraeva (2018) found that agribusiness companies are inextricably linked with the value chain, that is, characterised by the multitude of relationships between all the stakeholders (from producers to consumers). Therefore, in order to analyse the business model, much attention has to be focused on the relationship between all the stakeholders. The author concluded that producers, in order to create additional value, must diversify the operations (enriching the current offer e.g. through agritourism), enhance online/offline market channels, and perceive consumers as active participants who can help companies to create products with additional value.

Instead, other authors, such as Poláková et al. (2015), Pölling et al. (2017) and Mohammad and Malek (2017) investigated the model theorised by Osterwalder and Pigneur (2010), by applying it to the agriculture enterprises.

Poláková et al. (2015) analysed the BM of a small Czech agricultural company using the business model frameworks proposed by several authors, such as Shafer et al. (2005) and Osterwalder and Pigneur (2010), adapted to the category of small and individual farming businesses of the Czech Republic. It turned out that none of the selected frameworks took into account the peculiarities of the sector of small and individual farms. The author also affirms that in these businesses the customer is no more the main interest of the owner and the creation of an offer is influenced by the owner's set of priorities and the farm environment. Therefore, a new business model was proposed, considering that the value proposition is influenced by three important items: the owner, the farm environment, and the customer. Specifically, this model highlights the main roles of the owner, his/her will and the farm environment in influencing the creation of the customer's offer. Furthermore, other items which support the final model were identified, such as the customer relationship (personal and individual), the key partners (who support the production and running of the farm), and the channels (the way that products are offered to the customers).

Pölling et al. (2017) use the BMC to analyse the organisation and performances, both economically and socially, of 50 urban farms located in Spain, Italy, and Germany. The authors classify the most common urban farming business models in three categories: 'low cost specialisation', 'differentiation'

and ‘diversification’. The case studies show that economies of scope related to diversification and differentiation and the adoption of organic farming practices are particularly important in metropolitan areas, while economies of scale based on low-cost specialisation are more common in rural areas (Pölling et al., 2017). Many of the analysed farms were traced to a specific business model, even if the exploitation of additional strategies coming from different business models was observed in some cases.

Finally, The Business Model Canvas was also used by Mohammad and Malek (2017) to make an ex-ante investigation for the introduction of innovative technologies in two rural communities in Bangladesh. The BMC helped to have an overview of the situation and to take a bottom-up approach by matching available agricultural technologies with the circumstances in which the poor live. The research concludes that collaborations amongst different stakeholders is the most critical issue (Mohammad and Malek, 2017).

In conclusion, the articles presented on the agricultural sector focused on a business model analysis, based on selected frameworks in order to explore key success factors as well as influencing factors related to performance and the business model configurations. Among the frameworks, the most used is the Business Model Canvas.

The most mentioned key success factors highlighted by the authors are the differentiation of production (that enables to reduce the business risk) and the relationship with all the stakeholders in the value chain, stressing the importance of co-creation of consumer demand that has to be open to new (innovative) markets.

In this regard, it must be noted that to achieve the multiple objectives of quality, safety and consumer assurance, reliability of supply, lower prices and sustainability, the business models of modern agricultural enterprises are built on collaboration, co-investment and knowledge sharing between producers, suppliers, processors and retailers (Vorley, 2008).

7.1.2. *Business Model Innovation in agriculture*

The previous section focused on the main studies carried out on agricultural enterprises. It emerged that, for these companies, the BM analysis is mainly based on few selected frameworks which allow to explore the key success factors influencing companies’ performances. It also emerged that the BM is a conceptual tool that helps companies in defining competitive strategy, through the design of the product or service, and implementing the strategy by focusing on the key elements able to increase the value generation. The design of the BM

can be defined as a dynamic construct that changes over time (Demil and Lecocq, 2010). Indeed, business models are designed by adapting their elements to the context, even if they can also influence the context in which they are part.

In the agricultural sector, different structural changes such as the introduction of new EU laws and regulations, the more aggressive international competition and the growth of powerful players in the value chain have increased the pressure on small businesses and medium-sized agri-food companies that have to be more innovative. In addition, the pressure to find less polluting and environmentally degrading production methods has contributed to the search for innovative solutions. Hence, many of these companies need a new adapted BM if they want to become more productive and competitive.

Moreover, the agricultural sector has peculiar characteristics compared to other sectors. In fact, agricultural enterprises are strongly influenced by climatic events and agricultural products face high price volatility. Price volatility, for example, is caused by the inflexibility of demand and supply towards agricultural products; specifically, the demand is rather fixed, while supply is unable to quickly adapt to the market requests because food takes time to be produced (European Parliament, 2016). Financial investments and policy decisions can also have a destabilising effect on agricultural markets (European Parliament, 2016).

The presence of these issues necessarily implies the search for new solutions to overcome them, implementing new strategies and changing the BM. A first solution, that implies a change in the offer of agricultural enterprises, is to develop traditional business by diversifying the products, introducing new varieties of goods and experimenting different cultivation techniques for the same plant. This will allow, for example in case of climatic events, to spread the risk on different types of crops. Another solution, which implies a more structural change in the BM, is to make the farm multifunctional, diversifying farms' economic activities (Salvioni et al., 2009; Van der Ploeg and Roep, 2003). Multi-functional farming enriches the main farm activity with other activities (like Agritourism, care activities, educational farms/petting zoos, etc.), which do not belong to the core agricultural production, and also employ farm resources and allow farmers to explore new sources of income, by spreading price and production risk upon different activities, to avoid a complete dependence on agricultural production (Renting et al., 2009). The multi-functionality solution is also in line with the new CAP reform, which aims at achieving the sustainable development of rural areas through diversified and multifunctional agriculture.

Van der Ploeg and Roep (2003) described a basic framework to categorise multi-functionality in agriculture based on three aspects: Broadening, Deepening,

and Re-grounding. *Broadening* refers to the diversification to include the production of new goods and services, encouraging the linkages among farm production, visitors to rural areas and facilities of local communities. Agritourism and typical local products are examples of broadening activities. *Deepening* involves refocusing agricultural production to better meet the consumer demand and sometimes to require advancements in the agricultural supply chain. Direct local sales are examples of deepening activities. Finally, *Re-grounding* activities involve the total refocusing of farm household resources. More specifically, re-grounding refers to the multi-activity of the farmers, who try to mobilise existing resources to reduce costs and generate (off-farm/additional) income, e.g. offering additional services to increase the utilisation rate of existing infrastructure, equipment or machinery, wood processing, aquaculture, production of renewable energy, etc.

In this way, the concept of a business model should not be seen as a static, but rather as a dynamic approach that must be adapted to address change and innovation. Consequently, the concept of *Business Model Innovation* (BMI) became relevant, which refers to the activity of designing (creating, implementing and validating) a new BM or reconfiguring an existing BM, by adapting organisational resources (and achieving new ones) (Massa and Tucci, 2013). A distinguishing character of BMI is that it cannot be reduced to a technological innovation, but it must be referred to the entire 'architecture' of a company (Teece, 2010).

By generally focusing on the agriculture and agri-food domain, research has just started to explore the notion of BMI. Most of the studies on innovation in the agri-food sector tackle the issue of how to improve product innovation or focus on the innovation's drivers in the food sector (Baregheh et al., 2014), thus neglecting business model innovation (Ulvenblad et al., 2014). A recent literature review also highlighted that there is a lack of well-developed theory in this domain (Tell et al., 2016). Indeed, given that the literature on business model innovation in the agri-food sector is not yet well-developed, an integrative perspective and consistent investigation with a focus on the business model on a wide sample of companies is much needed (Tell et al., 2016).

Among the main studies on innovation and BM in agriculture, Baregheh et al. (2014) suggest that in the small and medium agri-food enterprises, the different types of innovation are interdependent, as the adoption of one type of innovation can lead automatically to the adoption of other types of innovation (Baregheh et al., 2014). For example, the development of a new product innovation can require the introduction of a new manufacturing process; therefore, product innovation can be associated with process innovation. Furthermore, the authors emphasise the need to integrate different types of innovation,

encouraging companies to create value through the development and adoption of innovations *in tandem*, which lead to changes in business models and market positioning (Baregheh et al., 2014).

Ulvenblad et al. (2014) studied the business model in the agricultural sector by integrating the lean concept and innovation. Specifically, he affirmed that self-leadership (referring to the characteristics of the agricultural entrepreneur, as the ability to lead themselves and the mind attitude) and lean innovation (referring to organisational and productive flexibility) are two key elements to improve business model innovation. More specifically, the author affirms that, for the agricultural entrepreneur, there is a need of self-leadership skills as well as innovative thinking enhanced by the lean approach, in order to become more competitive in the market.

Sivertsson and Tell (2015) identified barriers to business model innovation in the agricultural context for each of the nine building blocks of the Business Model Canvas identified by Osterwalder and Pigneur (2010). They found that the main barriers for small Swedish agricultural firms include the high cost of fixed assets, numerous government regulations, the weather, traditions, farming mentality, and culture. The same authors conclude the research affirming that the analysed firms can increase their competitive advantage and long-term performance if they are able to adopt an innovative approach that permeates the BM. Tell et al. (2016) also focused on Sweden and affirmed that business model innovation can help small enterprises to answer to the increased competitiveness of the agricultural sector, as it allows to be more effective and productive. In this context, networking achieves a great relevance. The authors provide an example from Sweden where networks of agriculture entrepreneurs have replaced the large primary producers. In this case, the establishment of a network allows companies to overcome their weaknesses, even if advantages related to small producer independency are maintained.

It is interesting also to highlight that in the context of agricultural innovation and BMI, organic farming has often been defined as innovative (Padel, 2001; Pugliese, 2001). Although many of the practices involved in organic farming (manure application, crop rotation and cultural control of insects) are not new to agriculture, organic farming is considered an innovation because it represents a complex system of change to most conventional agricultural producers (Padel, 2001; Simin and Janković, 2014). Indeed, the restrictions in the standards, in order to conform with organic agriculture principles, have forced farmers to think outside the usual practices to find new solutions to common problems.

The organic agriculture knowledge system is the result of a dynamic process in which ecological knowledge, farmer experience, and conventional agricultural knowledge interact in guiding farmer innovation (Padel, 2013). Organic agricul-

ture can be defined as a creative innovation as organic farmers share an iterative learning process in which feedback and interactive discussions provide ideas and guidance for further refinement of ecological innovations.

In this regard, the "know-how" is crucial to the farmer's ability to respond effectively to new challenges, such as the saving and protection of natural resources, and to improve the multi-functionality and sustainability of agriculture. Examples of such 'know-how' innovation include finding ways to secure an essential supply of vitamins and minerals in organic dairy production through natural sources, the use of compost in crop protection or to encourage predators by supporting their habitats (e.g. flowering field margins) (Padel, 2013). This knowledge that in other sectors consists in a passive "technology transfer" (Koutsouris, 2012), takes the form in organic agriculture of increased scope for local, tacit forms of agricultural knowledge. Therefore, transition to this sustainable and innovative agriculture model depends on establishing a new efficient knowledge and learning system, made possible by the ability of farmers to organise themselves in networks. Various authors confirm the key role of farmer networks for the growth of organic agriculture (Blanc, 2009; Kroma, 2006; Šūmane, 2010).

The formed networks create a particular informational atmosphere that favours the capacity of farm companies to regenerate, dynamically modifying their organisation in response to new needs expressed by the market, facilitating the diffusion of innovation within the territory. In this way, the experiences of 'pioneering' farms that experiment alternative activities or forms of marketing can spread to other farms and further transformation, giving rise to new organisational models.

In conclusion, BMI is something different from product or process innovation as it challenges company's managers and enables to achieve higher performances and greater competitive advantages (Tell et al., 2016). From the analysis carried out so far, it can be deduced that diversification in production and multifunctionality undertaken by farmers in order to survive and gain competitive advantage in the market can be considered innovation, as they bring structural and innovative changes to the "blocks" constituting the business model of the agricultural enterprises. Furthermore, the adoption of alternative farming methods (such as organic farming) can also lead to innovate the company strategy, stimulating the creation of new networks, finding new solutions, creating relationships based on the exchange of knowledge and trust, fostering the search for distribution channels different from the conventional ones.

Finally, it must be underlined that despite the conspicuous literature on BMI, what actually constitutes an innovative business model is still somewhat

ambiguous (Zott et al., 2011), as it lacks causal analyses of antecedences and effects of business models, large-scale investigations, greater generalisability of results, greater methodological sophistication. Furthermore, the difference between innovation in product, service, and business model (Geissdoerfer et al., 2018; Schneider and Spieth, 2013; Zott et al., 2011), especially in the agricultural sector, is still not well discussed.

7.1.3. *Sustainable Business Model in agriculture*

This paragraph intends to give a definition of the Sustainable Business Model (SBM), deepening the strong link with the company strategy and innovation. The studies that investigate sustainable business models in the agricultural sector present, as good practices, the quality-oriented BM, the Flourishing Business Canvas and the sustainability-driven hybrid organisation, that will be later discussed. The rise of a new entrepreneurial approach that fits into market niches that are becoming more and more popular and important, as those of organic products, also emerged from the literature on SBMs.

In the previous paragraphs, it has been argued that in the globalised world, where great emphasis is placed on greater productivity and profitability, the agricultural sector must adopt a more innovative, strategic and consequently competitive approach. However, it is necessary for agricultural companies to also recognise the potentially harmful environmental effects of some farming practices. In this regard, Barth et al. (2017) affirmed that many BMs in the agricultural sector have primarily focused on profit; however, in the current competitive arena this may no longer be sufficient and business models oriented to sustainability are needed.

On the subject, scholars have recently become attracted to BMs that represent new organisational architectures oriented not only to profitability purposes, but also to solve social problems and sustainability issues (Massa and Tucci, 2013). Therefore, one of the key challenges is the design of a BM, shaped around the economic value together with social and environmental benefits (Schaltegger et al., 2012).

Schaltegger et al. (2016) affirm that a business model oriented to sustainability helps companies to describe, analyse, manage and communicate the sustainable value proposition of a company to its customers and all stakeholders, how they create and deliver this value and how they capture economic value while maintaining or regenerating natural, social, and economic capital beyond its organisational boundaries (Schaltegger et al., 2016).

In contrast to the traditional BM, a sustainable BM provides substantial positive and/or significantly reduced negative environmental and social impacts

through changes in the way the company and its value network create, deliver, and capture value, or in the way they change the value propositions (Bocken et al., 2014). Furthermore, Ludeke-Freund et al. (2016) point out that, compared to the traditional BM, the sustainable BM advances competitive advantage through producing greater customer value whilst contributing to the long-term development of the company and providing various benefits to the different stakeholders and the local community.

In order to enhance the value creation, it is necessary to focus on companies' strategic choices which influence the actions and, consequently, performances. For these purposes, sustainability, which must not be intended as philanthropic actions detached from the core business of companies and not able to generate considerable value, must be considered at strategic level and properly implemented. Between sustainability and strategic planning, there must be a continuous crossover and reciprocal adaptations where the business model is defined, following an evolutionary logic that implies a critical review of the status quo, with the ultimate goal to rationalise and, at the same time, constantly deepen sustainable issues (Chang, 2017).

In agriculture, product differentiation based on high-quality or traditional-local products represents a possible sustainable agricultural strategy as it enables to respond to a growing consumer demand based on food attributes, such as quality (complying with certifications such as organic or fair-trade, or respecting food standards), integrity, safety, sustainability, diversity and associated information services (van der Vorst et al., 2009). At the same time, sustainability has become a guarantee of higher quality products that justify a premium price. Indeed, the premium price charged to consumers represents the producer's extra profit invested in product reputation and in assuring the quality levels promised to the consumers, with certification and quality controls (Defrancesco et al., 2005). Specifically, certification of quality production and alternative farming practices seeks to codify the practice of sustainable agriculture in standards, defining criteria which producers must meet to be certified as environmentally and socially responsible (Milder et al., 2015).

Different authors also discussed the agriculture sustainability issues within BM, the so-called *Sustainable Business Model*. In this regard, Hernández-Aguilera et al. (2018) recently assessed the environmental, socio-economic and technological outcomes for smallholders, cooperatives certified fair-trade and engaged in a Relationship Coffee Model (RCM) [1] in Colombia. The RCM

[1] This business model is a peculiar coffee value chain arrangement where smallholders work closely with roasters, buyers and importers to establish a direct, long-term trading

aims to be a sustainable-quality oriented business model, where the product quality is at the centre of the value proposition, together with human capital. Specifically, the RCM is a business model where coffee quality is at the centre of the relationship between growers and global buyers (Hernández-Aguilera et al., 2018). In the study of 264 smallholders, the authors show that companies compliant with RCM principles employed more sustainable resource management practices, had better access to credit and were more informed and optimistic about the coffee business, even if no improvement in the farm-gate price [2] was achieved by smallholders. More specifically, the compliance to RCM is related to sustainable landscape management decisions (such as retaining high tree diversity in coffee farms which leads to improving coffee quality and nitrogen fixation, to preserve soil health, to diminish nutrient leaching and forest fragmentation, to reduce dependence on chemical inputs, expand the set of foods for smallholders, consume and source income and improve biodiversity for insectivorous birds that offer pest control services) and to sustainable resource management practices (RCM growers used more water saving techniques and biological control methods, organic fertilizers and organic fumigation alternatives against coffee rust) (Hernández-Aguilera et al., 2018). Finally, the authors affirm that the RCM can enable to reach economic benefits, received indirectly in the form of enhanced access to credit and other financial and social services from the cooperatives (Hernández-Aguilera et al., 2018). The study of Hernández-Aguilera et al. (2018) shed light on the perspectives for agricultural business models that target product quality while promoting sustainable environmental outcomes and a profitable integration of smallholders into high-value chains, stimulating sustainable business strategies. Following the investigation on quality-oriented business models, Beuchelt and Zeller (2013), in their analysis of BM cooperatives, compared different Organic-fair-trade certified and traditional coffee cooperatives in Nicaragua. The authors concluded that successful SBMs depend on the ability of cooperatives and farms to introduce upgrading strategies into the BM, such as: i) improvement of the product, volumes or production process; ii) change or addition of functions in the chain (e.g. focusing on new aspects such as processing, exporting, roasting); and iii) improvement of value chain coordination through horizontal and vertical contracts (Beuchelt and Zeller, 2013). It appears from this study that coffee cooperatives must improve their processes rather than achieve organic certifications

partnership for coffees that have high-quality profiles. In addition to price premium based on quality, the RCM promotes transparency, traceability and active engagement of smallholders throughout the value chain (Raynolds, 2009; Hernández-Aguilera et al., 2018).

[2] In agriculture, it is the market value of a product minus the selling costs.

and sell their coffee as certified (Beuchelt and Zeller, 2013). In this regard, production processes can be improved through increasing efficiency or reducing negative externalities, such as environmental pollution.

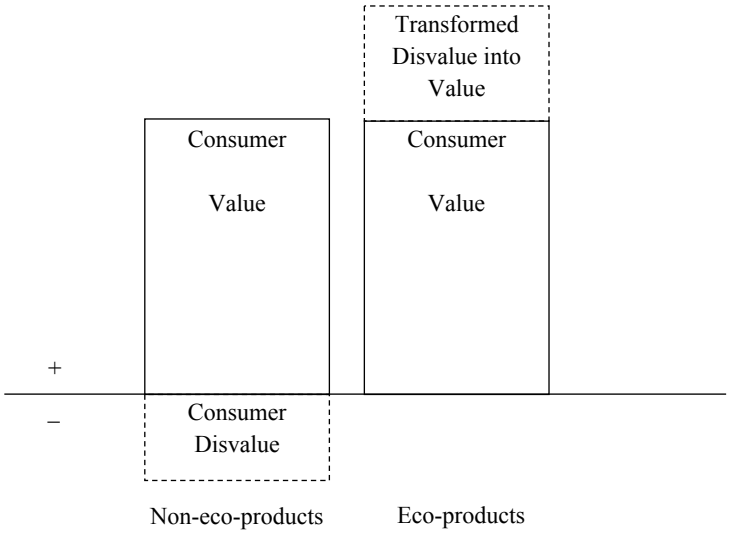
Consequently, based on different studies, it is possible to affirm that sustainability should be considered a key element of business models, intervening on single or multiple blocks of the BMC theorised by Osterwalder and Pigneur (2010). In this regard, Barth et al. (2017) affirm that to enhance sustainable business models, it is necessary to introduce the different sustainability issues in the building blocks proposed by Osterwalder and Pigneur (2010). More specifically, the authors state that, for the "value proposition", it is not enough to focus on a company's product/service, customer segments and relationships that improve sustainability; it is also important to evaluate product traceability and safety-quality standards. For the "value creation and delivery" the awareness of food ethics, ethical consumption, ecological sustainability, social justice and animal welfare are also important and not only if key activities, resources, channels, partners and technologies focus on aspects of sustainability. For the "value capture" it is important not only to consider costs and revenue streams, but also if sustainable food systems are based on environmental, social and economic aspects. Furthermore, the authors emphasise the importance of the culture of the owner-manager, including attitudes, perceptions and intentions to determine the level of involvement on social, environmental and economic aspects (Barth et al., 2017).

Consequently, setting up new business models or reviewing those that exist in a sustainable way, means focusing not only on costs and economic sustainability, but also on environmental and social revenues, allowing to generate new opportunities and ways of entrepreneurship (Schaltegger and Wagner, 2011). The final goal should be the overall sustainability, moving from the creation of economic value to a globally positive result (that can derive from situations in which value is destroyed but, in aggregate terms, economic, environmental and social surplus value is created). This change in logic will create new entrepreneurial roles, which will carry entrepreneurial activity towards solving a sustainability-related problem. This attitude will turn business activity from a part of the problem to a part of the solution. In this context, Jolink and Niesten (2015) described the ecopreneurship business model by interviewing 23 environmental entrepreneurs of organic food enterprises in the Netherlands. The authors refer to the ecopreneurs as entrepreneurs who experience a constant tension between making profit and remaining fully sustainable companies (Jolink and Niesten, 2015). The study identified environmental and investment dimensions, creating four categories of "ecopreneurial" business models: income model (ecopreneurs aim at generating an ongoing and stable income), subsistence

model (ecopreneurs aim to survive and meet basic financial obligations), growth model (ecopreneurs believe that it is possible to be profitable and completely sustainable at the same time) and speculative model (ecopreneurs believe in making the world better by selling ecoproducts). These categories of the sustainable BM underline the relationship between business models and the motivations and objectives of ecopreneurs.

The majority of the sample was classified in the "growth model" that identified companies with a long-term horizon focused on achieving a large environmental impact, while none was characterised in the speculative model. From the study, it also emerged that ecopreneurs are sustainability pioneers that work in niche markets, integrate sustainability principles as a key aspect of their business model, and consider sustainability across the entire supply chain. The adoption of sustainable business models by the ecopreneurs in niche markets for organic food can allow to avoid the "disvalue" of the externalities associated with conventional agriculture and to offer added value to customers who are interested in environmental and social issues; for example, consumers may value non-organic food, but disvalue some of the characteristics of non-organic food (e.g. the use of pesticides in non-organic food or the creation of waste) (Jolink and Niesten, 2015), as shown in Figure 18.

Figure 18 – *Representation of the replacement of consumer disvalue with consumer value*



Source: Jolink and Niesten (2015, p. 390).

The focus on entrepreneur is also present in the article by Jolink and Niesten (2015) which highlights the importance of the presence of enlightened entrepreneurs in the establishment of sustainable business models. One of the main skills that these entrepreneurs must develop is the ability to create strong networks of relationships with all the stakeholders that are part of the value chain. The relationships with consumers and all the stakeholders involved in the value chain stress the relevance of collaborations between actors. The design and implementation of a sustainable BM also require increased cooperation and changes in the way firms and their stakeholders create, deliver, and capture value (Bocken et al., 2014). In a collaborative context, the creative process of experimenting with BM elements can lead to new insights and can support the collaborating actors' sustainability policies and practices while simultaneously highlighting strong and weak areas in their BMs. Karlsson et al. (2018), for instance, describe BMs for biogas-producing farm cooperatives, using as a framework the Flourishing Business Canvas (FBC) developed by Upward and Jones (2016), which is a tool designed to support business modelling for sustainability, to provide a common language for stakeholders, and to support effective collaboration. Indeed, the FBC requires the introduction of additional building blocks in the BM structure, such as ecosystem services (accounting for externalities) and value co-creators (working with various partners in order to seize innovative opportunities), forcing businesses to integrate sustainability aspects. Then, Karlsson et al. (2018) observe that Swedish farm-based biogas, through the simultaneous creation of environmental and social value, requires systematic collaborations in an extended network of farmers and their stakeholders. The authors emphasise that, during the planning phase of a sustainable business model, it is very important to be prepared for the entry of new actors (such as new investors and stakeholders from the private and public sectors, local industries, municipalities, additional farmers in the area, environmental institutions, biogas networks, etc.), which are much more numerous than those of traditional businesses. Moreover, strong commitment, participation, and management of stakeholder relationships are essential (Karlsson et al., 2018; Stubbs and Cocklin, 2008). Therefore, it is important to establish networks with stakeholders and business partners to create BMs that contribute to the sustainable development of the economy, the environment, and society (Karlsson et al., 2018).

The relational system appears to be an important feature also for hybrid organisations. Hybrid organisations, that combine business enterprises with a social/environmental mission (Cooney, 2006), have appeared in the agri-food sector in recent years, and are characterised for having a BM that aim to be sustainability-driven from the beginning. Hybrid organisations foster double

goals: on the one hand, those typical of non-profit entities while on the other hand, the profit generation that is a characteristic of for-profit entities (Boyd et al., 2009). In the agricultural sector, they aim to combine aspects such as the preservation of ecosystems and biodiversity, food production, and human welfare with economic benefits. In this regard, Diaz-Correa and Lopez-Navarro (2018) examined how a Spanish winery has implemented a BM to create positive social and environmental changes, focusing on the sustainability-driven hybrid business model. It emerged that the BM of the Spanish winery company reinforces the characteristics of the sustainability-driven hybrid organisation. Specifically, it positively affects the local community and the place where it is located by embracing social and environmental strategic goals, developing mutually beneficial relationships with stakeholders and progressive interaction with markets, competitors and industry institutions (Diaz-Correa and Lopez-Navarro, 2018). In particular, the authors have identified the intensity of the relationships with the company's stakeholders. The stakeholders have been divided into three groups: smallholders (the company establishes a collaborative management model based on technical support and a fair payment system); distributors (the company prioritises those that are able to transfer the company's values and philosophy through the distribution channel) and the local community (the company contributes to the diffusion of education and culture, thanks to the agreement with local universities, vineyards for school, the organisation of poetry, music, painting, conferences, as well as training and other events) (Diaz-Correa and Lopez-Navarro, 2018). Moreover, the authors also emphasised the importance of the values of the entrepreneur, which has a leading and transformative role; these values are transmitted to the firm's stakeholders by developing trusting and collaborative relationships with them. Therefore, through the analysis of the business model, the case study of this hybrid winery company as a successful example of a sustainability driven business model has been proposed.

So far, different frameworks have been used as a unit of analysis to explain the sustainable business models of agricultural companies. These include the quality-oriented business model of South American coffee cooperatives (Beuchelt and Zeller, 2013; Hernández-Aguilera et al., 2018), the Flourishing Business Canvas used by the Swedish biogas cooperative (Karlsson et al., 2018) and the sustainability-driven hybrid business model framework applied to the Spanish winery company (Diaz-Correa and Lopez-Navarro, 2018).

In this regard, Zanni and Pucci (2014) propose a different methodology in order to analyse the sustainability of the BM in the wine sector. In their study, they integrated the concept of economic, social and environmental sustainability to the definition of a business model proposed by Pucci et al. (2013) which

affirm that a BM is a systemic representation of the combination of strategic, organisational, technology activities of a company, how their interactions shape the relationships of the company with its context and its financial structure, with the aim of explaining how the company is able to create or capture value (Pucci et al., 2013). Therefore, the BM is composed by three main system components, which are its fundamental elements: new products development system, market management system and organisational process system (Pucci et al., 2013). These elements result from the intersection of three different blocks of activities, which are the strategy, the organisation and management of technology (Pucci et al., 2013).

Furthermore, Pucci et al. (2013) analysed the sustainability of the BM of 828 Italian wine companies and where able to group them in three different clusters, divided according to their integration of the sustainability strategy. From their analysis it appears that the wine sector has well integrated sustainability in the BM as a source of competitive advantage.

As regards the barriers to sustainable business model adoption, Björklund (2018) states that the Swedish farmers are affected by three kinds of interrelated barriers: internal (cognitive barriers), external (referred to pressure from large cooperatives, the complexity of ever-changing legislation and regulations, and the lack of relevant governmental and advisory support) and contextual barriers (the dilemma created by the need to balance between environmental/social sustainability and individual economic stability). The most influencing barriers for the adoption of sustainable BM are the internal ones, which refer to more cognitive and personal aspects, such as having a restrictive mind-set, lack of competences on strategic management and organisation, self-leadership that hinder the development and commercialisation of innovation and also insufficient resources (Björklund, 2018).

From the analysis of the literature, it emerged that studies on the business model related to the agricultural sector and in particular to organic enterprises are still poor. In addition, although sustainability at the agricultural level is a debated topic, there is still a lack of studies that analyse sustainable business model features of these kinds of enterprises.

As was previously observed in the literature analysis, the importance of relationships between stakeholders along the whole value chain also emerges in the case of SBMs. However, there are still several barriers that obstruct the implementation of SBMs (Björklund, 2018; Tell et al., 2016), but given the strategic characteristics of the agricultural sector, it is promising to invest efforts to guarantee the sustainable development of companies and local territory.

7.1.4. *Emerging outcomes on different Business Models in agriculture*

From the overview of the existing literature on business models in the agricultural sector, it appears that the BM topic has been analysed from different points of view, making it difficult to extrapolate a framework that can be generalised. Indeed, it is tough to depict the common characteristics of the profit formula, customer satisfaction, process management and intangible resources in these kinds of enterprises.

This evidence can be partially justified by the heterogeneity of the sector and the different peculiarities of agricultural companies (in terms of size, kind of production/activity, entrepreneurial attitude, etc.) that obviously affect the BM features.

However, in Table 8 below, a summary of the key outcomes emerging from the literature analysis was attempted. Specifically, Table 8 focuses on the key characteristics emerging from the different business models. The selected articles have been divided into three groups (highlighted also with a different grey scale): i) articles that deal with the BM topic in general; ii) articles focused on business model innovation and iii) articles on sustainable business model.

From the previous Table, some common elements emerged, but not a "one size fits all" model that can be found in every agricultural business.

The discussion firstly starts from the characteristics emerging from the three groups identified and then focuses on the different frameworks used to describe the business models.

Main characteristics of Business Models

From the articles of the first group, several similar characteristics at the basis of a successful BM emerged. Specifically, the common features focus on:

– collaboration and network creation between different stakeholders;
– diversification and differentiation of production and
– engagement in alternative markets.

These elements, of course, must also reflect on the strategy and organisational structure.

Also, the BM is presented as a good way to face problems of unfavourable areas.

Table 8 – *Emerging characteristics of BM*

Author	Title	BM main characteristics and frameworks highlights	Business model
Pölling, B., Prados Velasco, M.J., Torquati, B.M., Giaccho, G., Recasens, X., Paffarini, C., Lorleberg, W.	Business models in urban farming: A comparative analysis of case studies from Spain, Italy and Germany	Agricultural companies use three different BMs, sometimes using additional strategies from more than one business model. The three different BM are based on: - low cost specialisation; - differentiation and - diversification that is the most frequent BM.	BM
Kusraeva O.A	The Business Model characteristics of Russian Agribusiness Companies	BM must pay attention to: - relationships between all the stakeholders; - product/service diversification; - alternatives online/offline market channels and - to perceive consumers as active participants who can help companies to create products with additional value.	
Mohammad I. and Malek M.A.	Promotion of agriculture technology in marginal rural areas of Bangladesh: an innovative business model approach	The most important feature of BM in the agricultural context is represented by collaboration among different stakeholders -->farmers, technology providers and producers, credit providers, knowledge providers, input providers (agro-dealers), collective action facilitators (mediators), processors and wholesalers, institutions, etc.	
Vorley, B.	Business models that are inclusive of small farmers	To be successful, BM must include: - greater information and knowledge flows; - focus on differentiated products; - orientation towards market demands; and - chain-wide organisational structures that recognise the interdependence of actors and facilitate collaborative problem solving.	
Fujimoto, A.	Revitalization of hill farming through organic agriculture in Japan: The Joetsu Tokyo Nodai as a business model	The BM of sustainable farming can be implemented in unfavourable areas, acting as local condition specific strategy. The challenge is to find a balance in finding solution (e.g.technologies, processes, etc.) ecologically and economically viable.	
Polaková, J., Kolářková, G. and Tichá, I.	Business Model for Czech Agribusiness	The BM value proposition is influenced by three items: - the owner; - the farm environment and - the customer. The creation of costumer's offer is influenced by the main roles of the owner, (his/her will) and the farm environment.	
Baregheh, A., Hemsworth, D., and Rowley, J.	Towards an integrative view of innovation in food sector SMEs	Companies must create value by adopting within BM different types of innovation, simultaneusly.The development of innovations through partnership can lead to changes in business models and market positioning	BMI
Tell, J., Hoveskog, M., Ulvenblad, P., Ulvenblad, P. O., Barth, H., and Ståhl, J.	Business model innovation in the agri-food sector: A literature review	BMI can enhance competitiveness, especially if networks of agricultural entrepreneurs are established. A lack of theoretical and empirical research on BM in the agricultural sector is highlited.	
Ulvenblad, P., Hoveskog, M., Tell, J., Ulvenblad, P. O., Ståhl, J., and Barth, H.	Agricultural business model innovation in Swedish food production: The influence of selfleadership and lean innovation	The BMI is integrated with concepts of self-leadership (ability to lead yourself and your mind attitude) and lean innovation (that presupposes flexibility in production).	
Barth H., Ulvenblad PO. and Ulvenblad P.	Towards a Conceptual Framework of Sustainable Business Model Innovation in the Agri-Food Sector: A Systematic Literature Review	SBM requires to integrate sustainability aspects in the three BM building blocks: - value proposition (traceability and safety-quality standards); - value creation and delivery (food ethics, ethical consumption, ecological sustainability, social justice, animal welfare) and - value capture (sustainable food systems do not relate only on costs and revenues but also on environmental and social aspects).	SBM
Beuchelt, T. and Zeller, M.	The role of cooperative business models for the success of smallholder coffee certification in Nicaragua: A comparison of conventional, organic and Organic-Fairtrade certified cooperatives	Successful SBM depends on upgrading strategies, such as: - improvement of the product, volumes or production process; - change or addition of functions in the chain, and - improvement of value chain coordination through horizontal and vertical contracts The authors focused on quality-oriented BM.	
Díaz-Correa, J.E., López-Navarro, M.A.	Managing sustainable hybrid organisations: a case study in the agricultural sector	The autors particularly focus on sustainability- driven hybrid BM. SBMs embrace social and environmental changes, develop mutually beneficial relationships with stakeholders and interact progressively with markets and institutions. SBM is affected by collaborative relationship with stakeholders-->3 groups of stakeholders were identified (smallholders, distributors and local community).	
Hernandez-Aguilera, J. N., Gómez, M. I., Rodewald, A. D., Rueda, X., Ammu, C., Bennett, R., van Es, H. M.	Quality as a driver of Sustainable Agricultural Value Chains: The Case of the Relationship Coffee Model	The sustainable quality-oriented BM targets product quality while promoting sustainable environmental outcomes and a profitable integration of smallholders into high-value chains, stimulating sustainable business strategies.	
Jolink, A., Niesten, E.	Sustainable Development and Business Models of Entrepreneurs in the Organic Food Industry	Four categories of "ecopreneurial" business models are identified: - income model; - subsistence model; - growth model and - speculative model. The ecopreneurial BM integrate sustainability principles as a key aspect of their BM and consider sustainability across the entire supply chain.	
Karlsson, N. P., Hoveskog, M., Halila, F., and Mattsson, M.	Early phases of the business model innovation process for sustainability: Addressing the status quo of a Swedish biogas-producing farm cooperative	The use of BM design tools, such as the Flourishing Business Canvas, encourage innovation, facilitate ideation, and visualize ideas as sustainable BM prototypes. The main task for SBM is to establish networks with stakeholders and business partners.	
Zanni, L. and Pucci, T.	Modelli di business e sostenibilità: un'analisi sulla creazione di valore nelle imprese vitivinicole italiane	SBM focuses on the integration of economic, social and environmental sustainability into the three main BM components: new products development system, market management system, organizational process system that result from the intersection of three different blocks of activities which are the strategy, the organization and management of technology.	

Source: own elaboration.

As regards the second group of articles, it emerged that in order to respond to external as well as internal pressures, companies of the agricultural sector necessarily have to find innovative solutions which, in some cases, can change the entire structure of the BM. In the agricultural context, the "innovation" notion is often associated with other related concepts, such as the value chain, processes, products, marketing, alternative markets, transparency, networks/clusters, organisation, information asymmetry, entrepreneurship and strategy (Tell et al., 2016). However, it has been highlighted that there is a lack of studies that focus on innovation of the business model in the agricultural sector (Tell et al., 2016), with consequent difficulties to depict the BMI structural features.

In any case, it can be understood from the literature that the role of the farmer as an entrepreneur, the leadership skills, the mental predisposition, the "positive attitudes", also defined as self-leadership, enhance the adoption of innovations and, therefore, the engagement in BMI.

Differentiation in terms of product quality and diversification can also promote changes in the BM, fostering sustainable outcomes. Indeed, the quality of the product can be linked to more sustainable farming methods (such as organic agriculture) with a strong connection to the territory, thus promoting territorial development.

In this regard, the concept of self-leadership (as a characteristic of the agricultural entrepreneur) together with the concept of lean innovation (as organisational and productive flexibility), can be intended as good drivers of innovation of the BM (Ulvenblad et al., 2014).

Moreover, it has been suggested that, in the agricultural sector, the adoption of one type of innovation can automatically lead to the adoption of other types of innovation (Baregheh et al., 2014).

As regards the third group, the emerging common elements are referred to the exchange of information and the creation of networks and partnerships with companies' stakeholders also for SBMs. Therefore, collaboration is again recognised to be an important element for developing mutually beneficial relationships with stakeholders and business partners.

However, the decision to adopt SBM is not casual, but needs to be pursued by an enlightened leader, such as an ecopreneur, who integrates sustainability principles as a key aspect of the BM and considers sustainability across the entire supply chain (Jolink, 2015).

Literature on business models, and particularly on SBM, also focused on different frameworks that can be used to integrate sustainability issues within the different BM perspectives. This evidence is discussed below.

Business Model frameworks

As regards the BM framework, it emerged that one of the most used is certainly the model of Osterwalder and Pignerur (2010). Specifically, different authors tried to apply the Business Model Canvas to the peculiarities of the agricultural sector, and it emerged that the consumer's offer is strongly influenced by the company's owner (e.g. in terms of interests, priorities), rather than by an effective response to the market demand (Poláková et al., 2015). Furthermore, elements of differentiation and diversification represent the dominant model in farms closed to metropolitan areas, while economies of scale based on low-cost specialisation are more common in rural areas (Pölling et al., 2017).

Collaborations among different stakeholders are then confirmed to be the key element for a successful BM in the agricultural context (Mohammad and Malek, 2017).

The BM has also been considered a conceptual framework that integrates social, environmental and economic issues. Different authors focused on the SBM framework in different ways:

– The framework of Osterwalder and Pigneur (2010) has been adapted in order to integrate sustainability issues into the different building blocks (Barth et al., 2017). Therefore, the building blocks focus on additional features:

• value proposition that must consider traceability and safety-quality standards;

• value creation and delivery that must consider food ethics, ethical consumption, ecological sustainability, social justice, animal welfare);

• value capture that must consider that sustainable food systems do not relate only on costs and revenues but also on environmental and social aspects.

– The quality-oriented BM implies the introduction of upgrading strategies (Beuchelt and Zeller, 2013), such as:

• improvement of the quality of products and the production processes;

• change or addition of functions in the chain (focusing on new functions such as processing, exporting, roasting or providing services);

• improvement of the value chain coordination through horizontal and vertical contracts.

This type of BM can facilitate collaborations among stakeholders and facilitate sustainable resource and landscape management.

– Sustainability-driven hybrid BM describes the salient characters of hybrid organisations, that are halfway between profit and non-profit (Diaz-Correa and Lopez-Navarro, 2018). This model is described through its three main characteristics:

• social and environmental change as strategic and organisational goal;

• mutually beneficial relationships with stakeholders (smallholders, distributors/customers, local community);

• progressive interaction with markets, competitors and industry institutions.

– Flourishing Business Canvas (FBC) is a tool designed specifically to support business modelling for sustainability (Upward and Jones, 2016) and visually shows the integration of social and environmental aspects in the different building blocks of the BM. The FBC requires the introduction of additional building blocks in the BM structure, such as ecosystem services (accounting for externalities), value co-creators (working with various

partners in order to seize innovative opportunities) and performance metrics (for the accounting and measurement not only of financial performances but also environmental and social performances). The FBC shows the interdependencies among a broad group of stakeholders which establish collaborative relationships. In the sustainability literature, collaboration is often conceptualised as a process that leads to superior outcomes in terms of decision quality and acceptance (Celino et al., 2010). In this way, decisions taken with the involvement of a large number of stakeholders imply compromises/shared opportunities that can be reflected on wider benefits for the community, including also social and environmental consequences. On the contrary, traditional BMs generally address limited stakeholder interests (Karlsson et al., 2018).

– SBM has been intended as a framework composed by three main systems: new products development, market management and organisational process (Pucci et al., 2013). These elements result from the intersection of three different blocks of activities: the strategy, organisation and management of technology.

Barriers to Business Model

From this literature review, other evidence related to the barriers encountered for the adoption of BMI and SMBI emerged.

Table 9 below highlights the articles that focus on the main barriers to the adoption of the business models.

Table 9 – *Barriers to BM*

Author	Title	BM barriers	Business model
Sivertsson, O. and Tell, J.	Barriers to business model innovation in Swedish agriculture	The main barriers to BMI are: - high cost of fixed assets; - numerous government regulations; - the weather; - traditions; - farming mentality and - culture.	**BMI**
Björklund, J. C.	Barriers to Sustainable Business Model Innovation in Swedish Agriculture	The barriers to SBM are: - internal (cognive barriers, mind attitudes); - external (insufficent advisory service and institutional insecurity); - contextual (the balance between environmental/social sustainability and individual economic stability)	**SBM**

Source: own elaboration.

The main barriers to BMI are represented by human factors (such as individuals' attitudes and culture), high fixed cost (such as machinery cost), weather, regulations and government policy (Sivertsson and Tell, 2015).

Just as for BMI, internal, external and contextual barriers have been highlighted also for the adoption of SBM (Björklund, 2018). These barriers can hinder the development of new ideas that can potentially lead to innovative and sustainable solutions, in economic, social and environmental terms.

In conclusion, it emerged that, in order to face the pressure of the sector,

agricultural companies need to innovate and therefore also rethink the structure of their business models. The innovation of the business model can also lead to consider sustainability aspects as a strategy for change.

The skills of the entrepreneur, the predisposition to innovation, the creation of relationships with the partners/stakeholders and, consequently, the building of networks are the fundamental characteristics for a successful BM.

7.1.5. *Spatial distribution of organic enterprises: a brief overview*

A noteworthy factor which has to be taken into account when studying agricultural companies, especially those using organic methods, is the local and geographic dimension in which they operate. In particular, the companies analysed in the second part of the findings belong to the eco-region or bio-district, which means that the local dimension influences their relationship and activities as they are part of an "over-structure", which inevitably may affect the business and performances.

The fact that the organic companies studied are concentrated in a given territory, justifies the adoption of the "organic district" (or organic region) denomination, as these areas present the characteristics typical of industrial and rural districts (Becattini, 1989; Marshall, 1919).

The clustering of enterprises has effects both on the economic, social and environmental characteristics of a territory. As a consequence, the decision taken by local institutions and related stakeholders to create organic districts aims at facilitating the sustainable development of the territory, in terms of economic, social and environmental benefits. It stands for a better quality of life for everyone now, and for future generations within the limits of permissible environmental impacts (Pike et al., 2006).

As regards the benefits, different research that focused on clustering of firms in various sectors and also in agriculture generally found that clustering can be advantageous to *economic development*, in terms of positive agglomeration externalities (Fujita et al., 1999; Krugman, 1996). For example, agglomeration implies a higher availability and specialisation of inputs (e.g., skilled labour and suppliers) and the opportunity for information sharing and knowledge spillovers, which can lead to cost reductions and advantages in competition. Porter (2000) also focused on knowledge spillovers that accelerate the spread of innovations in industry clusters, creating spatial dependence in technology adoption. Therefore, the advantages of agglomeration economies are associated with cost reductions that result from greater availability of knowledge and high-quality extension (Lewis et al., 2011; Schmidtner et al., 2012).

Marasteanu et al. (2018) studied the economic impact of clustering on the

organic sector and confirmed organic agriculture to be a strong local economic development tool.

In addition to economic benefits, the clustering of organic agriculture may produce *social benefits* as it has a role in the development of local communities, enabling to increase not only the local income per capita, but also improve the quality of life for the whole areas and create local markets for sustainable agricultural products (Marasteanu et al., 2018). Donald and Blay-Palmer (2006) suggest that a rise in consumption of organic products may help local economies by boosting the demand for local products. Markusen et al. (2008) discuss the organic industry in the context of the "creative economy" and they suggest that cultural amenities (including organic products), may attract individuals to an area due to their high-quality status, fostering local growth.

As regards the clustering and the related benefits, it is also necessary to focus on the *neighbourhood effect* that can affect organic farming and the related agricultural sector. The neighbourhood effect is a socio-economic concept that assumes that the proximity between individuals has a direct or indirect effect on their behaviour (Tsusaka, 2012). Through neighbourhood interactions, individuals or companies reciprocally influence their decisions, their preferences, the availability of information sets and their behavioural outcomes, directly rather than indirectly through the markets. For example, farmers can observe what their neighbours do and learn from them. Neighbouring farmers can also share market information, new technologies or favourable farming practices. Another example is represented by organic farmers who share information with the neighbouring farmers and encourage those who initially know very little about organic farming to adopt this practice (Tsusaka, 2012).

In their study on organic dairy farms, Lewis et al. (2011), also postulate that farmers may gather information and know-how about organic farming from their neighbours, which could reduce the uncertainty of organic farming adoption and lower the cost of learning.

Frederiksen and Langer (2004) found that spatial concentration of organic farming in regions with a high density of organic farms might lead to a lower cost for the dairy enterprise collecting the milk, thus creating a higher premium price for the farmers.

To conclude, the neighbourhood effect influences farmers' decisions in different ways. It has effects on their economic logic; also, knowledge spillovers might reduce transaction costs and increase productivity. Finally, institutions such as farmers' associations or regional initiatives to protect the environment could strengthen the social pressure on farmers to conform with the region's sustainable development strategy.

In terms of *environmental benefit*, the question of the geographic location

of organic farms is becoming increasingly relevant, especially since concentration in a particular area is proving to cause ecological advantages (biodiversity, soil fertility, preservation of water quality, etc.) (Ilbery and Maye, 2005; Stolze et al., 2016). Organic farming is increasingly seen as an effective tool to respond to issues of local development such as environmental protection (Vincent and Fleury, 2015). Schmidtner et al. (2012) and Gabriel et al. (2009), from the results of their analysis, show that organic agriculture can be a valid method of revitalisation of the most hostile and less fertile territories. Nevertheless, organic agriculture seems to be more suitable to address local environmental problems (soil degradation, biodiversity, etc.) than global problems (e.g., land-use change, climate change) (Mondelaers et al., 2009).

In conclusion, the clustering of enterprises (organic or not) in a specific territory can foster through network building, local human capital-knowledge, skills, creativity, motivation and commitment to community and a shared vision of the present and the future, to build mutually beneficial relationships between suppliers, producers and consumers (Marsden and Smith, 2005).

Therefore, the spatial distribution is strictly linked to the concept of organic districts, as it refers to the concentration of organic enterprises and farms in a specific geographical area, in order to strengthen the relations and achieve specific benefits.

This evidence will be explored in the next section of findings, where organic companies belonging to specific districts are analysed.

7.2. The empirical analysis

This section of findings focuses on the main evidence coming from the empirical analysis conducted on a sample of Italian organic companies belonging to organic districts. Specifically, this section aims to answer the following research questions:

– What are the business model features of organic companies operating within organic districts, with a specific focus on sustainability dimensions?

– Does belonging to an organic district generate benefits for the companies and for the territory?

Firstly, the characteristics of the sample will be highlighted and then the main evidence coming from the companies' BM features will be provided. In order to explain BM features, the Osterwalder and Pigneur (2010) framework has been considered as, from the previously presented literature review, it emerged that it is one of the most analytical and most used tools that can

be adapted to different contexts and enriched with sustainability dimensions. Finally, it will also be analysed if organic companies perceive benefits in social, environmental and economic terms, thanks to them belonging to the organic district.

7.2.1. *The sample features*

As described in the methodology section, the sample is composed by 107 Italian enterprises that belong to specific organic districts. In particular, the organic districts involved in the research are presented in the Table below. The first column specifies the different organic districts, while the second and the third columns show respectively, the number of enterprises belonging to such districts and the related percentages.

Table 10 – *Italian organic districts*

Organic districts and enterprises		
Biodistrict name	*Count*	*Column N %*
Biodistretto BioVenezia	2	1.9%
Biodistretto dei Borghi Sicani	3	2.8%
Biodistretto dei Colli Euganei	2	1.9%
Biodistretto del Casentino	5	4.7%
Biodistretto del Chianti	5	4.7%
Biodistretto del Cilento	15	14.0%
Biodistretto del Gramogliano	1	.9%
Biodistretto del Montalbano	3	2.8%
Biodistretto dell'agricoltura sociale di Bergamo	8	7.5%
Biodistretto dell'Alto Tirreno Cosentino-Baticos	2	1.9%
Biodistretto della Val Camonica	3	2.8%
Biodistretto della Valle dei Laghi	1	.9%
Biodistretto della via Amerina e delle Forre	6	5.6%
Biodistretto di Norcia	3	2.8%
Biodistretto di San Gimignano	5	4.7%

Biodistretto Filo di Luce in Canavese	11	10.3%
Biodistretto Grecanico	5	4.7%
Biodistretto Suol d'Aleramo	15	14.0%
Biodistretto Val di Gresta	1	.9%
Biodistretto Val di Vara	8	7.5%
Biodistretto Valle dei Laghi	3	2.8%
TOTAL	*107*	*100.0%*

Source: own elaboration.

As regards the legal status of companies belonging to organic districts, it emerges that the vast majority are individual enterprises (64.5%), while only 6.6% are limited companies, as shown below in Table 11.

Table 11 – *Legal status of organic enterprises*

Legal status		
Types	*Count*	*Column N %*
Individual enterprises	69	64.5%
Associations/partnerships	4	20.5%
Limited companies	5	6.6%
Cooperatives	9	8.4%
TOTAL	107	100.0%

Source: own elaboration.

The companies belonging to the organic districts are predominantly family firms (75.7%), mostly the first and second generation (57%), with more than ten years of business activity, as shown in tables 12 and 13.

Table 12 – *Generations involved*

Family business and generations involved		
Number of generations	*Count*	*Column N %*
Not family run	26	24.3%
Family run. 1st generation	32	29.9%
Family run. 2nd generations	29	27.1%
Family run. 3rd generations	12	11.2%
Family run. more than 3 generations	8	7.5%
TOTAL	*107*	*100.0%*

Source: own elaboration.

From the next Table related to the years of activity, it emerged that generally, organic companies are well consolidated within the local territory. Only 6.5% are young companies, with less than 3 years of business activity.

Table 13 – *Years of activity*

Years of activity		
	Count	*Column N %*
More than 10	71	66.4%
Between 5 and 10	17	15.9%
Between 3 and 5	12	11.2%
Less than 3	7	6.5%
TOTAL	*107*	*100.0%*

Source: own elaboration.

7.2.2. *Business Model features of enterprises belonging to organic districts*

In order to depict the key success factors of Italian enterprises belonging to organic districts, the questionnaire responses were analysed by using the 9 blocks identified by Osterwalder and Pigneur (2010), with specific focus on the sustainability dimension.

Key activities

Table 14 below shows the main activities conducted by the investigated companies. Specifically, it emerged that the most relevant activity is that of horticulture and vegetable production, followed by (companies) direct processing and selling of agricultural products. It is interesting to note the efforts to diversify the core activity with animal breeding, hospitality, agritourism, training and education activities, with potential benefits on the side of the economic dimension of sustainability. From a *sustainability* perspective, the strong link with the land and the natural environment is evident, even if this is partially intrinsic to the type of activity carried out by such companies.

Table 14 – *Main activities*

Main activities		
Activities	*Count*	*Row N %*
Horticulture, vegetable production	82	76.6%
Animal breeding	35	32.7%
Agritourism	27	25.2%
Processing cooperative	11	10.3%
Processing company	57	53.3%
Restaurant	19	17.8%
Training and education	23	21.5%
Hospitality	29	27.1%
Others	26	24.3%

Source: own elaboration.

It also emerged from the questionnaire that the activity is addressed to the production of local varieties, with the use of traditional techniques. Indeed, on a Likert scale from 1 to 5, the answers are shifted towards the value 4. The tendency (One Sample Student t Test) confirms the distributions of answers towards the highest values of the Likert scale (Table 15).

From a *sustainability* dimension, the strong link with local traditions is evident and the will to preserve the local products and techniques, even if by trying to reduce business risks with a diversification of production.

Table 15 – *Product typologies and processing techniques*

Production/processing	*N.*	*Mean*	*Standard Deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Production/breed local varieties	107	3.78	1.233	.000	high
Production of a good number of different products	107	3.28	1.235	.000	high
Use of traditional processing techniques	107	3.52	1.200	.021	high

Source: own elaboration.

Furthermore, the type of agricultural soil was investigated in order to understand the percentage devoted to organic farming. From the results shown in the next Table (Table 16) it emerged that, on average, the percentage of agricultural land devoted to organic agriculture is greater than 79.5%. However, more than 50% of companies declared to be 100% organic, as confirmed by the median. On average, the percentage of soil devoted to conventional agriculture (not organic certified) is around 18%.

Table 16 – *Percentage of soil devoted to organic (and other) productions*

Type of agricultural land				
% of agricultural land devoted to	*N.*	*Mean*	*Standard Deviation*	*Median*
Organic	107	79.5	33.703	100.0
Organic conversion	107	12.7	24.054	0.0
Conventional/not certified	107	17.9	31.028	0.0
Biodynamic	107	2.0	7.801	0.0
Other certifications	107	5.4	20.623	0.0

Source: own elaboration.

The decision was also made to investigate the main reasons that led companies to move towards organic products (see Table 17). The main motivations that emerge are the protection of the natural environment and human health. Here, the value proposition oriented to *sustainability* is particularly evident, especially regarding the environmental and social dimension.

The "improvement of the company's image" was ranked in third place while the economic advantages do not seem to be particularly relevant for such kind of enterprises (even if they are indirectly affected by the growth of the company's image).

Table 17 – *Motivations behind the choice of organic production*

Motivations behind organic production				
Motivations	*YES*		*NO*	
	Count	*Row N %*	*Count*	*Row N %*
Corporate image	72	67.3%	35	32.7%
Economic advantages	39	36.4%	68	63.6%
Safeguarding the environment	96	89.8%	11	10.2%
Safeguarding human health	97	90.7%	10	9.3%
Inherited family business	23	21.5%	84	78.5%
Good business card	59	55.1%	48	44.8%
Other	14	13.1%	93	86.9%

Source: own elaboration.

Partner Network

As regards the key partners, it emerges from the research that 96% of the sample declared that there are no external key partners (Table 18).

In addition, enterprises purchase and share a considerable amount of inputs with other companies of the organic district only in 1.9% of cases. Most companies do not buy and share resources (80.4%) within the organic district, as shown in the next Table.

Table 18 – *Purchase and share of resources among companies of the organic districts.*

Purchase and share of resources		
	Count	*Column N %*
No	86	80.4%
Yes, less than 25% of operating costs	17	15.9%
Yes, 25-50% of operating costs	2	1.8%
Yes, more than 50% of operating costs	2	1.9%
TOTAL	*107*	*100.0%*

Source: own elaboration.

This evidence is also confirmed by the presence of limited collaborations among companies belonging to the same organic district. Indeed, as shown in Table 19, on a Likert scale from 1 to 5 (where 1 is very low and 5 is very high), the mean stands at a value of 2.2. The tendency (One Sample Student t Test) confirms the distributions of answers towards the lowest values of the Likert scale.

The sharing of information and knowledge does not show a significant tendency, as the answers are evenly distributed between the values of the Likert scale.

Table 19 – *Collaborations with companies of the same organic district*

Collaborations with organic companies	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Collaborations with organic companies belonging to the same district	107	2.2	1.154	.000	low
Sharing information and technical knowledge with other companies of the district	107	2.9	1.341	.219	uniform

Source: own elaboration.

Consequently, it is possible to affirm that, in most cases, the companies belonging to the same organic district are not considered key partners.

Indeed, also for the achievement of agricultural raw materials (e.g. seeds), organic companies generally self-produce them (48.6%). Purchasing from small-medium enterprises outside the district is also quite diffused (24.3%), while it is rare from large enterprises, as shown in Table 20.

Table 20 – *Source of agricultural raw materials*

Purchase of agricultural raw materials		
Source	*Count*	*Column N %*
No purchase, self-production	52	48.6%
Small-medium enterprises within the district	18	16.8%
Large enterprises within the district	3	2.8%
Small-medium enterprises outside the district	26	24.3%
Large enterprises outside the district	8	7.5%
TOTAL	*107*	*100.0%*

Source: own elaboration.

From a *sustainability* perspective, these results indicate a very short supply chain, while, adopting a particular point of view, key partners can be considered the employees working in organic enterprises, as will be analysed in the following section.

Key Resources

The resources considered strategic by the respondents in order to run the business are represented by the personnel involved (family and not family employees), and the required financial resources to support investments. Table 21 shows the employee composition. On average, family members that work within such enterprises are greater than 60%. Furthermore, it emerges from the analysis of the median that more than 50% of the selected companies is characterised by family managers/employees, being greater than 75%.

From a *sustainability* perspective, this result highlights the will to increase the wellbeing and the safeguarding of the cultural heritage of rural families, by carrying on the traditions and laying the foundation for job creation for future generations of the family.

Table 21 – *Employee composition*

Employees composition (%)				
Family/Non-family	*N.*	*Mean*	*Standard Deviation*	*Median*
Family members	107	64.3	33.317	75.0
Non-family members	107	35.7	36.207	25.0

Source: own elaboration.

As regards employees, the presence of disadvantaged people within the work-force was investigated. Only 23% of the sample declared to have employed disadvantaged people; however, among such companies, 54.8% declared that such employees bring significant added value to the company.

As regards the specific features of human key resources, the gender of the entrepreneurs that run the business was also investigated. It emerged that the majority of companies are managed by male entrepreneurs (66.4%).

Furthermore, 67.3% of companies is characterised by entrepreneurs aged between 40 and 65 years old, while only 27.1% is characterised by young entrepreneurs under the age of forty, as shown in Table 22.

Table 22 – *Age of entrepreneurs*

Age of entrepreneurs		
Age	*Count*	*Column N %*
18-40	29	27.1%
40-65	72	67.3%
over 65	6	5.6%
TOTAL	*107*	*100.0%*

Source: own elaboration.

Finally, the level of education of entrepreneurs-managers was investigated (Table 23) and it emerged that the majority (57%) has the upper secondary school degree, while higher levels of education such as the bachelor's, master's degree and post-lauream degree are widespread in 33.7% of the sample.

Table 23 – *Level of education*

Level of education		
Level of education	*Count*	*Column N %*
Elementary school	3	2.8%
Lower secondary school	7	6.5%
Upper secondary school	61	57.0%
Bachelor's/master's degree	32	30.0%
Post Lauream Degree	4	3.7%
TOTAL	*107*	*100.0%*

Source: own elaboration.

After investigating the human key resources, the financing sources used by the businesses of the sample were analysed, and the results are shown in Table 24. Specifically, the considerable involvement of the owners emerges, and consequently of the family from a financial point of view, as the key financial resources are mainly represented by Equity. Bank loans as well as different funds, are not particularly widespread.

Table 24 – *Financing sources*

Financing sources				
Kind of financing source	*N.*	*Mean*	*Standard Deviation*	*Median*
Equity	107	58.8	26.096	62.5
Bank loans	107	16.9	20.776	12.5
Funds Regional Development Plan	107	15.4	15.279	12.5
Regional/governmental/European contributions	107	6.7	10.357	0.0
Rural development associations	107	2.5	6.802	0.0
Other funds	107	.71	3.391	0.0

Source: own elaboration.

From a *sustainability* perspective, a strong self-financing in covering the new investments emerges, and this aspect can create a virtuous circle due to the reinvestment of the gained earnings internally. However, organic companies seem not to be aware of the different financing opportunities coming from external funds (e.g. regional funds), with the consequence to request excessive efforts to families.

Cost structure

In connection with the previous block of the BM, financing resources were allocated to specific investments, mainly referring to the "core" activity of organic production. However, it emerged that in the last 5 years, resources allocated to investments were lower than 100,000 Euro in 75.8% of the sample. Only 3.7% has invested more than 500,000 Euro, as shown below in Table 25.

The limited investments could be partially explained by the financing source composition: the lack of use (and knowledge) of external funds can slow the investments down, in order to avoid excessive pressure on the family/owners.

Table 25 – *Investments in the last 5 years*

Average investments in the last 5 years (Euro)		
Amount	*Count*	*Column N %*
Less than 100,000	81	75.8%
Between 100,000 and 200,000	15	14.0%
Between 200,000 and 500,000	7	6.5%
More than 500.000	4	3.7%
TOTAL	*107*	*100.0%*

Source: own elaboration.

Table 26 below shows the average annual operating costs of organic enterprises. Specifically, it emerges that annual operating costs in most cases (58.9%) amount to less than 50,000 Euro, highlighting the very limited size of organic companies belonging to districts. However, operating costs are greater than 200,000 Euro in 15% of selected companies.

Table 26 – *Average annual operating costs*

Average annual operating costs (Euro)		
Amount	*Count*	*Column N %*
Less than 50.000	63	58.9%
Between 50.000 and 100.000	21	19.6%
Between 100.000 and 200.000	7	6.5%
More than 200.000	16	15.0%
TOTAL	*107*	*100.0%*

Source: own elaboration.

Subsequently, the cost composition was explored. From the questionnaire, it emerged how the cost structure is represented mainly by the cost of personnel, raw materials, and the depreciation of fixed assets. Table 27 shows this cost structure composition. On average, companies show personnel expenses and raw materials equal to 31%, with a median of 25%.

Table 27 – *Weight of different cost items on total operating costs*

Weight of each cost item on total operating cost (%)				
Items	*N.*	*Mean*	*Standard Deviation*	*Median*
Personnel	107	31.0	23.117	25.0
Raw materials	107	31.1	18.341	25.0
Machinery/equipment resources (depreciation)	107	25.3	15.141	25.0
Rent/leasing	107	7.3	11.899	0.0
Other	107	6.7	10.481	0.0

Source: own elaboration.

From a *sustainability* perspective, the focus on the personnel (family), raw materials and means of production is evident, confirming the link with the territory, the care of the natural environment and the wellbeing of the local community.

Revenue Flows

Table 28 below shows the average annual turnover of the last five years. It emerged from the results that a significant prevalence of small businesses, such as 50.4% of the companies declared to have an average annual turnover lower than 50,000 Euro, while only 17.8% has a turnover greater than 300,000 Euro. This result confirms the limited development of organic companies in terms of revenue flows.

Table 28 – *Average annual turnover of the last 5 years*

Average annual turnover of the last 5 years		
Amount	*Count*	*Column N %*
Less than 50,000	54	50.4%
Between 50,000 and 100,000	19	17.8%
Between 100,000 and 300,000	15	14.0%
More than 300,000	19	17.8%
TOTAL	*107*	*100.0%*

Source: own elaboration.

It was then decided to investigate if these companies export a part of their products. From Table 29, it emerges that the majority of selected companies (53.3%) does not sell their products abroad or has a limited foreign turnover, lower than 10% (19.6%). Only 11% declared to having a percentage of foreign turnover greater than 50%.

Table 29 – *Foreign turnover*

% of foreign turnover on total turnover		
%	*Count*	*Column N %*
0%	57	53.3%
10%	21	19.6%
20%	7	6.5%
30%	2	1.9%
30-50%	8	7.5%
More than 50%	12	11.2%
TOTAL	*107*	*100.0%*

Source: own elaboration.

From a *sustainability* perspective, the small and local dimension could represent an advantage, as it enables preservation of cultural and product heritage. Indeed, the exploitation of local resources to achieve turnover is not as avid as in a large industrial-scale production. In addition, the scarce presence of organic enterprises with a turnover greater than 300,000 Euro and with foreign sales underlines a limited ambition to increase the dimension, confirming the will to focus more on quality than quantity, as well as preserving the territory.

Distribution Channels

Table 30 shows the distribution channels, highlighting that sales are predominantly direct (on average, more than 50% of distribution takes place through direct sales), as such enterprises offer products without intermediation. Other listed distribution channels do not record any peculiar trend, even if the local retailer is the most used channel after direct sale.

Table 30 – *Distribution channels %*

Distribution channels (%)				
Channels	*N.*	*Mean*	*Standard Deviation*	*Median*
Direct sale	107	52.8	31.067	50.0
Local retailer	107	16.1	20.085	12.5
Alternative food networks	107	6.4	12.747	0.0
Large distribution (supermarkets)	107	3.7	12.546	0.0
Online (web) sale	107	2.8	8.953	0.0
Wholesalers outside large distribution	107	13.1	24.606	0.0
Cooperatives	107	8.7	20.737	0.0

Source: own elaboration.

From a *sustainability* perspective, this aspect, again, shows a short supply chain, offering "farm to Table" products.

Value Proposition

Within the questionnaire, we also investigated, through a Likert scale from 1 to 5, the perceived needs and the features behind the customer behaviour choice. Specifically, it emerges that the elements perceived as the most important to address customer's behaviour are the valorisation of the link with the territory, the high quality of products and the offer of genuine products (Table 31). Of course, also compliance with certifications is relevant as it enables to communicate that the company's products are organic. This evidence is in line with the results about the motivations behind organic production (see Table 17).

51.6% of the sample also declared to have adapted to the organisational structure, especially regarding organisational roles and activities, in order to better answer to customers' needs (in particular, to better communicate qualitative features and product certifications).

Table 31 – *Value proposition elements*

Main value proposition elements				
Value proposition elements	*N.*	*Mean*	*Standard deviation*	*Median*
Compliance with quality standards and certification	107	3.6	1.213	4.0
Genuine products	107	4.0	1.107	4.0
Strong link with the territory	107	4.5	1.299	5.0
High and consistent product quality	107	4.0	1.113	4.0
Strong ties with clientele	107	2.4	1.014	2.0
Emotional benefits (e.g. feel-good)	107	2.9	1.213	3.0
Keeping abreast of market trends	107	1.8	.940	1.0

Source: own elaboration.

From a *sustainability* perspective, the will to preserve cultural and product heritage, protect the environment and the health of consumers, is again observed.

Customer Segments

Table 32 below shows the customer composition by typology (segment). Six different segments are identified: i) resident population of the organic district; ii) temporary resident in organic district area (e.g. seasonal residents, second houses); iii) Italian tourists; iv) foreign tourists; v) traders and retailers outside the organic district. The results do not show a significant predominance; however, traders/retailers are considered the first group of customers, followed by the resident population of the organic district. Italian and foreign tourists are not particularly representative (even if there is a slight predominance of foreign tourists).

Table 32 – *Customer composition by segments*

Customer composition by segments (%)				
Segments	*N.*	*Mean*	*Standard Deviation*	*Median*
Resident population of the organic district	107	24.0	26.103	12.5
Temporary resident in the organic district	107	11.9	14.094	12.5
Italian tourists	107	14.3	14.021	12.5
Foreign tourists	107	16.4	17.761	12.5
Traders and retailers outside the district	107	30.3	29.509	25
Other	107	6.7	15.956	0.0

Source: own elaboration.

As regards tourists and residents, the customer composition by age was investigated (Table 33). Specifically, three clusters were identified: i) young (18-35 years) customers; ii) families (with parents and children); iii) over 65. From the sample, it emerges that customers on average, are mainly represented by families, followed by customers aged between 18 and 35.

Table 33 – *Customer composition by age*

Customer composition by age (%)				
Age	*N.*	*Mean*	*Standard Deviation*	*Median*
18-35 years	107	31.0	18.757	25.0
Families	107	48.4	21.703	50.0
Over 65	107	25.5	14.082	25.0

Source: own elaboration.

From the *sustainability* perspective, no particular patterns emerge.

Customer Relationships

Finally, the main actions applied to increase customer loyalty were investigated. From the results of Table 34, it emerges that communications to customers related to the product quality, certifications, environmental safeguarding and social values are the most applied. On the contrary, compliments, discounts and promotional activities are not particularly widespread.

Table 34 – *Actions to maintain/increase customer loyalty*

Actions for customer loyalty (%)				
Customer loyalty elements	*YES*		*NO*	
	Count	*Row N %*	*Count*	*Row N %*
Clear communication of quality/certification	61	57.0%	46	43%
Promotional activities	29	27.1%	78	72.9%
Discounts	17	15.9%	90	84.1%
Compliments	7	6.5%	100	93.5%
Communication of environmental protection/fair trade actions	54	50.5%	53	49.5%
Additional services (e.g. events, presence of skilled staff)	44	41.1%	63	58.9%
Other	10	9.3%	97	90.7%

Source: own elaboration.

As regards the communication about environmental protection, from the questionnaire it emerged that organic companies adopt sustainable behaviour such as the use of recyclable or compostable packaging, separate waste collection and the use of renewable energy and waste water management. Therefore, it emerges from Table 35 that companies are strongly involved in sustainable practices that contribute to the protection of the environment.

Table 35 – *Sustainable actions*

Sustainable actions	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Use of recyclable or compostable packaging	107	3.6	1.215	.000	high
Separate waste collection	107	4.5	.782	.000	high
Renewable energy and waste water management	107	3.3	1.503	.006	high

Source: own elaboration.

From the questionnaire, the strong efforts of organic companies to try to educate customers towards a sustainable behaviour also emerged. Table 36 highlights the tendency towards the highest values of the Likert scale.

Table 36 – *Education of customers towards sustainable behaviour*

Customer involvement	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Education of customers towards sustainable behaviour	107	4.1	1.072	.000	high

Source: own elaboration.

From a *sustainability* perspective, the will to improve customer loyalty emerges above all through the communication of values and awareness for the protection of the environment and social conditions. Furthermore, it should also be highlighted that a loyal customer can increase the wellbeing not only of the organic company, but also of the local community.

The next paragraph focuses on social, environmental and economic benefits perceived by the selected companies and deriving from belonging to organic districts.

7.2.3. *The sustainability benefits perceived by the companies*

In this section, the aim is to answer the research question: *Does belonging to an organic district generate benefits for the companies and for the territory?*

Specifically, the benefits are analysed from the economic, social and environmental point of view.

Initially, it was examined if customers recognise an added value to company's products, thanks to the belonging to organic districts (Table 37). Nevertheless, the next Table shows that the tendency of answers is towards the lowest value of the Likert scale. Consequently, companies think that, currently, customers do not reward the belonging to an organic district.

Table 37 – *Customer appreciation*

Customer appreciation	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Customers recognise an added value to company's products thanks to the belonging to the district	107	2.2	1.142	.000	low

Source: own elaboration.

As regards the benefits, it must be noted that the items which are not normally distributed were erased, based on the acceptable Skewness and Kurtosis range.

The Economic Benefits are shown in the next Table 38. Specifically, it emerges that the organic companies of the sample do not recognise economic advantages deriving from belonging to organic districts.

Table 38 – *Economic benefits*

Section: Economic benefits	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Customer loyalty	107	1.8	.969	.000	Low
Cost savings thanks to the sharing of some resources	107	2.1	1.219	.000	Low
Turnover increase	107	2.3	1.227	.000	Low
Promotion of companies'products	107	2.2	1.154	.000	Low
Facilitated access to financing	107	2.4	1.333	.000	Low
Assistance to access to financing	107	2.3	1.133	.000	Low
Technical assistance	107	2.4	1.260	.000	Low

Source: own elaboration.

As regards the social benefits section, this has been divided into three groups: social benefits related to heritage, social benefits related to people and social benefits related to traditions. This distinction derives from the different connotation of the three sets of items: one item is related to the valorisation of the tourism and landscape heritage, 4 items are related to social effects on people and 2 items mainly refer to the preservation of traditions.

From Table 39, it emerges that the tendencies of these three sub-sections are opposite: the "Social benefits related to people" sub-section presents all items with a "low" trend, while the "Social benefits related to traditions" sub-section presents all items with a "high" trend. "Social benefits related to heritage" instead shows a neutral trend.

Consequently, it emerges that social benefits related to people are not particularly perceived. The organic district seems to not be particularly attentive to strengthening the relationship with the local population or to favour the inclusion of disadvantaged people or of people with different genders.

On the contrary, the organic district plays a key role in safeguarding local traditions and products, contributing to improving the wellbeing of a territory.

Table 39 – *Social benefits and the related sub-systems*

Section: Social benefits related to heritage	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Valorisation of tourism and landscape heritage	107	3.3	1.323	.000	Neutral
Section: Social benefits related to people	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Strengthening of links with the population and local territory	107	2.4	1.161	.000	Low
Encouraging the inclusion of disadvantaged people	107	2.1	1.249	.000	Low
Encouraging gender diversity	107	2.2	1.112	.000	Low
Belonging to a “large family”	107	2.4	1.229	.000	Low
Section: Social benefits related to traditions	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Promotion of cultivation/breeding of local varieties	107	3.8	1.233	.000	High
Promotion of traditional techniques	107	3.5	1.200	.000	High

Source: own elaboration.

Finally, as regards the environmental benefits, it emerges that the organic district encourages the environmental protection of the territory (Table 40). Specifically, the main benefits recognised by the selected companies are related to the policies adopted by the district to reduce pollution and waste, to enhance human and animal welfare.

Table 40 – *Environmental benefits*

Section: Environmental benefits	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Safeguard of health and the territory	107	3.8	1.313	.000	High
Reduction of pollution (water, air, soil)	107	3.3	1.280	.000	High
Safeguard of animal welfare	107	3.4	1.338	.000	High
Reduction of waste	107	3.7	1.268	.000	High

Source: own elaboration.

In conclusion, it firstly emerged from the research that organic companies think that belonging to organic districts does not provide added value to products, as customers do not yet recognise advantages deriving from belonging to a district.

Furthermore, as regards the sustainability benefits, companies perceive the key role of the organic district in preserving local traditions and safeguarding the environment. On the contrary, the organic district seems to still be far from providing economic benefits to companies. Also, selected companies, even if belonging to a district, do not feel part of "a big family" and do not perceive specific efforts to enhance relationships with the local population or specific groups of workers (e.g. disadvantaged people).

7.2.3.1. *Item analysis and factor analysis: some considerations*

The *Item analysis* has been made as it represents a first dimensional reduction step.

As regards the "Economic benefits" section, 7 items are maintained and they are those described in the previous Table 38. Furthermore, as shown in Table 38, these items have the same tendency towards "low" and are not redundant with each other. For these items, there are the conditions for creating a single construct. Cronbach's α is 0.85 and this value indicates the presence of a one-dimensional scale that measures a single construct [3]. At the same time, the

[3] Cronbach's α tells us how much the responses of the subjects to that group of items are homogeneous, and in theory a scale that is actually one-dimensional and measures a

inter-item average correlation is equal to 0.45 (0.24-0.67), which indicates a good degree of specificity of the construct[4]. Basically, the α of 0.85 and the inter-item average correlation of 0.45 indicate that this scale has adequate internal consistency and an average correlation between the items. The adjusted average item-total correlation is 0.61, with a minimum of 0.41 and a maximum of 0.72, showing adequate values. The average value of the multiple square correlation index, equal to 0.44 (0.21-0.59), is also adequate. With an analysis of *Alpha if Item Delete*[5], it emerges that there is only one item with an *Alpha if Item Deleted* greater than the general α value of 0.85 (Alpha if Item Deleted = 0.86); however, this difference is considered negligible, so the item is maintained for the calculation of the total scale.

Factor analysis[6] also confirms the presence of the unidimensional information returned by the 7 items of the "Economic benefits" Section, and, therefore, the requisites for a single construct. At this point, a new scale "Economic benefits", deriving from the total sum of the 7 Section items, was created. The new variable has a mean of 15.4 with minimum and maximum values of 7 and 31, respectively (see Table 41).

Social benefits were divided into three sub-sections (see the previous paragraph). The "Social benefits related to heritage Section is characterised by only one item, with a mean value of 3.3, minimum and maximum values of 1 and 5 respectively.

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single construct should have an α greater than at least 0.65 (though, based on the type and purpose of the test, this acceptability threshold can shift to 0.50 or 0.80).

[4] A good scale should have a proper α because the different contents of the items are adequate but distinct operationalisation of the same construct. This does not mean that they must be independent of each other, but only that the correlations between them are moderate. Therefore it is necessary to consider the inter-item average correlation, as it gives an idea of how much the items, on average, are related to each other. The optimal values of this index depend on how large the construct is. If the construct is large, optimal inter-item average correlation values are included between 0.15 and 0.40, while if the construct is specific, values can be expected between 0.40 and 0.60.

[5] These values show what the value of α would be if the item was eliminated from the scale. Since all items are expected to contribute to the internal coherence of the scale, the elimination of an item should result in a decrease in internal coherence, i.e. a worsening of the value of α. This result, however, is also the most likely because the value of Cronbach α tends to decrease if the number of items in the scale is reduced.

However, if there are items that are not consistent with the others, then it is possible to observe that their elimination would improve the value of α, which would automatically make them candidates for exclusion.

[6] Factor analysis performed with the "Principal axis factoring" extraction method.

Table 41 – *Item analysis and factor analysis*

Item Analysis and Factor Analysis						
Section	*N. item*	*Mean*	*Min*	*Max*	*Std. Dev.*	*Tendency*
Economic benefits	7	15.4	7	31	6.030	low
Social benefits related to heritage	1	3.3	1	5	1.323	neutral
Social benefits related to people	4	9.1	4	19	3.936	low
Social benefits related to traditions	2	7.4	2	10	2.113	high
Environmental benefits	1	3.8	1	5	1.313	high

Source: own elaboration.

For "Social benefits related to people", Cronbach's α is equal to 0.78, showing the presence of a one-dimensional scale that measures a single construct. At the same time, the inter-item average correlation is equal to 0.55 (0.46-0.65), showing a good degree of specificity of the construct. Basically, an α of 0.78 and an inter-item average correlation of 0.55 show that this scale has adequate internal consistency and average correlation among the items.

The adjusted average inter-item correlation is 0.62 (0.55-0.68), showing more than adequate values. The average value of the multiple square correlation index, which is equal to 0.41 (0.30-0.48), also confirms the previous result, showing adequate values.

The analysis of the *Alpha if Item Deleted* confirms that al 4 items must be considered for the total scale. Factor analysis also confirms the presence of the unidimensional information returned by the items of the "Social benefits related to people" Section, and therefore of a single construct.

At this point, the new scale variable "Social benefits related to people" has been calculated as the total sum of the 4 Section items. The new variable shows a mean value of 9.1 with minimum and maximum values of 4 and 19, respectively (see Table 41).

As regards the "Social benefits related to traditions", the Cronbach α calculated for this sub-section is equal to 0.68, and this value indicates the presence of a one-dimensional scale that measures a single construct. At the same time, the inter-item average correlation is equal to 0.52, showing a good degree of construct specificity. Consequently, the α of 0.68 and the average inter-item correlation of 0.52 show that this scale has adequate internal consistency and average correlation between the items. At this point the new scale variable

"Social benefits related to traditions" has been calculated as the total sum of the 2 Section items. The new variable shows a mean value of 7.4 with minimum and maximum values of 2 and 10 respectively (see Table 41).

For the "Environmental benefits" Section, only the "Safeguard of health and the territory" item has been maintained as the correlation between items, varying between 0.73 and 0.95 [7], showing redundancy between all the items of the Section. At this point, the mean value is equal to 3.8, with minimum and maximum values of 1 and 5 respectively.

7.2.4. *Company profiling and peculiarities of the related Business Models*

Finally, it was decided to identify the most characterising profiles of investigated companies operating within organic districts. For the company profiling, the three most relevant dimensions ("Features") have been selected (see Table 42). These dimensions are:

– education of the entrepreneur (Low-High): the lower level includes elementary school, lower and upper secondary school, while the higher level includes the bachelor's/master's degree and the post-lauream degree;

– exporting company (Yes-No): companies that are not exporters are those that do not show foreign turnover;

– investments (limited or absent – over 100,000 Euro): this dimension photographs the past and current investment propensity of the company. Companies that belong to the "limited or absent" group are those that declared to have invested, on average, less than 100,000 Euro in the past five years.

Table 42 – *Selected features*

Descriptive Statistics (N = 107)			
Features		*n*	*%*
Education	Low	71	66.4%
	High	36	33.6%
Exporting company	No	57	53.3%
	Yes	50	46.7%
Investments	limited or absent	81	75.7%
	over 100,000 Euro	26	24.3%

Source: own elaboration.

[7] Pearson Correlation (r) coefficient.

The *Twostep* clustering algorithm applied to these three dimensions returns two groups ("Clusters") identified in Table 43. The measure of *silhouette* is equal to 0.4. This indicator, that represents the goodness of the identified clustering solution, can be considered particularly positive.

Cluster 1 has a number n = 57 and is characterised by entrepreneurs with lower education (in 100% of the cases), which made limited or no investments (100%) and do not sell abroad (in 60% of cases). Consequently, Cluster 1 identifies companies with a passive behaviour that prefer to maintain the *status-quo* instead of investing and exploiting new markets. This Cluster is labelled "Passive companies".

Cluster 2 has a numerousness n = 50 and is characterised to have entrepreneurs with higher education (in 72% of cases), which make investments (52% of the companies declare to have invested more than 100,000 Euro) and sell products abroad (in 54% of cases). This cluster is labelled "Proactive companies" as it characterises companies with a proactive attitude that seek to lay the foundations for a long-term value creation.

Table 43 – *Model summary*

Clusters: Model Summary		
Cluster	*1*	*2*
Label	*Passive companies*	*Proactive companies*
Features	Education	Education
	Low (100.0%)	High (72.0%)
	Investments	Investments
	Limited or absent (100.0%)	over 100,000 (52.0%)
	Exporting company	Exporting company
	No (59.6%)	Yes (54.0%)

Source: own elaboration.

Table 44 shows that there are no significant differences, referring to the economic, social and environmental benefits perceived by the two clusters of companies. Indeed, the tendency of the two clusters is aligned and confirms the results previously discussed.

Table 44 – *Cluster comparison – benefits*

Cluster Comparison (Items)							
	Cluster 1 (n = 57)			*Cluster 2 (n = 50)*			*T test (p level)**
Section	*Passive companies*			*Proactive companies*			
	Mean	*Std. Deviation*	*Tendency*	*Mean*	*Std. Deviation*	*Tendency*	
Economic benefits	15.98	6.537	low	14.76	5.385	low	n.s.
Social benefits related to heritage	3.39	1.360	neutral	3.16	1.283	neutral	n.s.
Socials benefits related to people	9.04	3.998	low	9.33	3.783	low	n.s.
Social benefits related to tradition	7.48	2.053	high	7.20	2.195	high	n.s.
Environmental benefits	3.75	1.405	high	3.80	1.212	high	n.s.

(*) *"n.s." stands for not statistically significant*.

Source: own elaboration.

Instead, Table 45 provides relevant information. Firstly, as regards the years of activity and more specifically the class "between three and five", companies belonging to Cluster 2 are statistically younger than companies of Cluster 1 ($p < 0.001$).

Moreover, the most important result is referred to the companies' turnover: companies belonging to Cluster 2 with a turnover of the last 5 years greater than 300,000 Euro are 28% against 8.8% of Cluster 1 ($p < 0.001$). At the same time, companies in Cluster 1 declared significantly lower operating costs than companies in Cluster 2: indeed, the proportion of companies in Cluster 1 that have operating costs lower than 50,000 (77.2%) is statistically higher ($p = 0.022$) than that of companies in Cluster 2 (38%). This evidence can be a consequence of a lower turnover achieved by companies in Cluster 1. Companies in Cluster 2 that show annual average costs greater than 200,000 are statistically higher (24% versus 7% of Cluster 1, $p < 0.001$).

Moving to the observation of the "main activities", it is evident that companies in Cluster 2 are more involved in agritourism (40.8% versus 12.3% of Cluster 1, $p < 0.001$) and in restaurant activities (26.5%, versus 10.5% of Cluster 1, $p = 0.032$) activities.

As regards the reasons that lead companies choose the organic method, it emerges that 70.0% of companies in Cluster 2 declared that such method enhances their corporate image, compared to 48.1% of Cluster 1 ($p = 0.022$).

The use of alternative food networks as a distribution channel is statistically higher among companies in Cluster 1 (mean 10.0; $p = 0.016$) than in companies in Cluster 2 (mean 3.0).

Strong ties with the clientele are a value proposition observed statistically more meaningfully in companies in Cluster 2 (mean of 4.0 compared to 1.0; $p = 0.027$). Promotional activities and compliments are statistically more significant in companies of Cluster 2.

Finally, companies in Cluster 2 show an average percentage of family members significantly lower ($p = 0.037$) than that of companies belonging to Cluster 1 and employ a number of disadvantaged people (32%) significantly higher ($p = 0.026$) than that of Cluster 1 (14%).

Table 45 – *Cluster comparison*

Cluster Comparison						
		Clusters				
		Cluster 1 (n = 57)		*Cluster 2 (n = 50)*		
		Passive companies		*Proactive companies*		*Test for proportions**
Variable		*N*	*%*	*N*	*%*	
Gender of entrepreneur	Male	36	63.2%	35	70.0%	n.s.
	Female	21	36.8%	15	30.0%	n.s.
Age of entrepreneur	18-40	13	22.8%	16	32.0%	n.s.
	40-65	41	71.9%	31	62.0%	n.s.
	more than 65	3	5.3%	3	6.0%	n.s.
Legal status	Individual enterprise	40	70.2%	29	58.0%	n.s.
	Associations/partnerships	2	3.5%	4	8.0%	n.s.
	Limited companies	3	5.3%	7	14.0%	n.s.
	Cooperatives	5	8.8%	4	8.0%	n.s.
	Other	7	12.3%	6	12.0%	n.s.

Family business	Yes	45	78.9%	36	72.0%	n.s.
	No	12	21.1%	14	28.0%	n.s.
Years of activity	more than 10	40	70.2%	26	52.0%	n.s.
	between 5 and 10	13	22.8%	9	18.0%	n.s.
	between 3 and 5	2	3.5%	10	20.0%	< 0.001
	less than 3	2	3.5%	5	10.0%	n.s
Average annual turnover of the last 5 years	less than 50,000	33	57.9%	21	42.0%	n.s.
	50,000-100,000	10	17.5%	9	18.0%	n.s.
	100,000-300,000	9	15.8%	6	12.0%	n.s.
	more than 300,000	5	8.8%	14	28.0%	< 0.001
Average annual operating costs	less than 50,000	44	77.2%	19	38.0%	0.022
	50,000-100,000	5	8.8%	16	32.0%	< 0.001
	100,000-200,000	4	7.0%	3	6.0%	n.s.
	more than 200,000	4	7.0%	12	24.0%	< 0.001
Purchase and share of resources	No	43	75.4%	43	86.0%	n.s.
	Yes. less than 25% of oper. costs	11	19.3%	6	12.0%	n.s.
	Yes. 25-50% of oper. costs	2	3.5%	0	.0%	n.s.
	Yes. more than 50% of operating costs	1	1.8%	1	2.0%	n.s.
Multiple Response Variables						
Variable		*N*	*%*	*N*	*%*	
Main activities	Horticulture, Vegetables	43	75.4%	39	79.6%	n.s.
	Animal breeding	16	28.1%	19	38.8%	n.s.
	Agritourism	7	12.3%	20	40.8%	< 0.001
	Processing cooperative	6	10.5%	5	10.2%	n.s.

Main activities	Processing company	26	45.6%	31	63.3%	n.s.
	Restaurant	6	10.5%	13	26.5%	0.032
	Training and education	15	26.3%	8	16.3%	n.s.
	Hospitality	12	21.1%	17	34.7%	n.s.
	Other	14	24.6%	12	24.5%	n.s.
Motivations behind the organic production	Corporate image	25	48.1%	35	70.0%	0.022
	Economic advantages	12	23.1%	18	36.0%	n.s.
	Safeguard of environment	47	90.4%	49	98.0%	n.s.
	Safeguard of human health	50	96.2%	47	94.0%	n.s.
	Inherited family business	14	26.9%	9	18.0%	n.s.
	Good business card	29	55.8%	30	60.0%	n.s.
	Other	7	13.5%	7	14.0%	n.s.
Customer loyalty	Communication quality/certification	31	32.0%	30	26.1%	n.s.
	Promotional activities	8	8.2%	21	18.3%	< 0.001
	Discounts	8	8.2%	9	7.8%	n.s.
	Compliments	0	0.0%	7	6.1%	0.005
	Communic. envir. protection/fair trade	26	26.8%	28	24.3%	n.s.
	Additional services	24	24.7%	20	17.4%	n.s.
Numeric Variables						
Variable		*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*T Test*
Employees composition	Family members	78.5	32.539	49.0	33.554	0.037
	Non-family members	27.8	35.739	42.6	36.639	0.028
Weight of each cost item on total operating costs	Personnel	30.8	23.179	31.3	23.042	n.s.
	Raw materials	30.9	19.498	31.5	17.196	n.s.
	Machinery/equipment (depreciation)	28.3	16.052	22.6	14.239	n.s.
	Rent/leasing	7.7	10.891	7.0	12.813	n.s.

Kind of financing source	Equity	59.9	26.816	58.0	25.306	n.s.
	Bank loans	16.4	19.359	17.4	21.601	n.s.
	Funds Regional development	15.5	15.630	15.0	15.367	n.s.
	Regional/governm./European contrib.	6.4	12.527	6.9	7.868	n.s.
	Rural develop. Associations	2.3	6.939	2.5	6.682	n.s.
	Other funds	0.8	3.257	0.7	3.549	n.s.
Production/ processing	Production/breed local varieties	3.9	1.169	3.6	1.298	n.s.
	Use of traditional techniques	3.5	1.283	3.5	1.111	n.s.
	Production of a good number of different products	3.4	1.192	3.2	1.283	n.s.
Collaborations	Collaborations with organic companies of the district	2.4	1.178	2.0	1.106	n.s.
Distribution channels	Direct sale	53.8	29.126	51.8	33.047	n.s.
	Local retailer	16.5	20.156	15.7	20.046	n.s.
	Alternative food networks	10.0	15.558	3.0	9.862	0.016
	Large distribution	3.7	12.356	3.8	12.855	n.s.
	On line (web) sales	2.4	7.609	3.1	10.318	n.s.
	Wholesalers outside large distribution	11.4	25.031	14.8	24.201	n.s.
	Cooperatives	9.8	20.473	7.6	21.008	n.s.
Customer composition by segments	Resident population of the organic district	27.3	26.195	20.8	26.039	n.s.
	Temporary resident in the organic district	12.5	14.089	11.9	14.113	n.s.
	Italian tourists	14.0	14.161	14.9	14.085	n.s.
	Foreign tourists	15.0	18.450	17.9	16.953	n.s.
	Traders/retailers outside the district	30.3	30.376	30.4	28.780	n.s.

Customer composition by age	18-40 years	31.7	18.950	31.8	18.486	n.s.
	Families	49.0	24.066	48.1	19.256	n.s.
	Over 65	25.5	12.087	25.5	16.054	n.s.
Value proposition elements	Compliance with quality std. and certification	3.6	1.310	3.7	1.112	n.s.
	Genuine products	4.0	0.956	4.0	1.260	n.s.
	Strong link with the territory	4.6	1.198	4.4	1.392	n.s.
	Consistent product quality	4.1	1.011	3.9	1.214	n.s.
	Strong ties with the clientele	1.0	1.021	4.0	1.007	0.027
	Emotional benefits	2.9	1.231	2.8	1.195	n.s.
	Keeping abreast of market trends	1.6	0.993	1.8	0.887	n.s.
Sustainable actions and customer involvement	Use of recyclable/compostable packaging	3.4	1.217	3.8	1.222	n.s.
	Separate waste collection	4.4	.570	4.7	.987	n.s.
	Renewable energy, waste water mgmt.	3.3	1.434	3.4	1.581	n.s.
	Education of customers towards sustainable behaviour	4.1	1.119	4.0	1.022	n.s.

(*) *"n.s." stands for not statistically significant*.

Source: own elaboration.

The results based on the two profiles identified, brought to light some interesting peculiarities referred to BMs. In this regard, the next Table summarises, for the different blocks of the BM (Osterwalder and Pigneur, 2010), the main features and differences of the two profiles identified.

Table 46 – *BM comparison*

BM blocks	*Passive companies*	*Proactive companies*
Key activities	– Traditional activities (horticulture, vegetable production and processing) – The organic production is carried on mainly because it enables the safeguard of the environment and human health – Use of traditional techniques and production of local varieties	– Traditional activities but also diversification through agritourism and restaurant activities – The organic production is carried on as it enables the safeguard of the environment and human health and it increases corporate images – Use of traditional techniques and production of local varieties
Partner network	– Collaborations within the district are scarce: the purchase and share of resources with other companies of the district is limited as well as the purchase of agricultural raw materials that are mainly self-produced	– Collaborations within the district are scarce: the purchase and share of resources with other companies of the district is limited as well as the purchase of agricultural raw materials that are mainly self-produced
Key resources	– Preponderance of employees/workers belonging to the family – Significant involvement of the owner(s) from a financial point of view	– Balance between family and non-family members – Employment of disadvantaged people – Significant involvement of the owner(s) from a financial point of view
Cost structure	– Limited operating costs mainly represented by raw material and personnel	– Greater investments in operating costs mainly represented by raw material and personnel
Revenue flows	– Limited turnover	– Turnover greater than 300,000
Distribution Channels	– Direct sale but also greater use of alternative food networks channels (e.g. ethical purchasing group)	– Direct sale
Value proposition	– Valorise the link with the territory, the product quality and the naturalness	– Create strong links with customers, while maintaining genuine products and strong links with the territory
Customer segments	– Traders/retailers and resident population of the organic district	– Traders/retailers and to a lesser extent resident population of the organic district
Customer relationships	– Customer loyalty is pursued mainly through the communication of product quality and the underlying environmental/fair-trade actions	– Greater use of commercial policies oriented to promotional activities and the offer of complimentary products

Source: own elaboration.

Finally, the main economic performance indicators were analysed for these two clusters (Table 47), and specifically the average values of ROI, ROS, ROA

and ROE, in order to identify if a more successful BM emerges. From this profiling, it appears that the BM of proactive companies is more profitable, showing higher economic performance.

Table 47 – *Economic performance*

Economic indicators	*Passive companies*	*Proactive companies*
ROI	1.95	5.51
ROS	1.36	3.89
ROA	0.68	2.25
ROE	1.82	3.10

Source: own elaboration.

Referring to the main financial performance of the two clusters (Table 48), the distinction among the two clusters is less evident. The high use of equity is confirmed.

Table 48 – *Financial performance*

Financial indicators	*Passive companies*	*Proactive companies*
Leverage	1.35	1.45
Debt to Equity Ratio	0.45	0.50
Short-term debt index	0.21	0.18
Long-term debt index	0.19	0.21

Source: own elaboration.

From the BM point of view, it is interesting to underline that *proactive companies*, characterised by a higher level of education of entrepreneurs, greater investments in the business and products sold also outside the domestic market, differ mainly because they:

– are relatively young, as they have operated for a limited number of years in the territory;

– are characterised by a higher involvement of non-family members and disadvantaged people;

– produce organic products also to increase the company's image;

– try to create lasting relationships with customers also by adopting policies that involve promotions and the offer of complimentary products;

– diversify the business, especially through agritourism and restaurant activities;

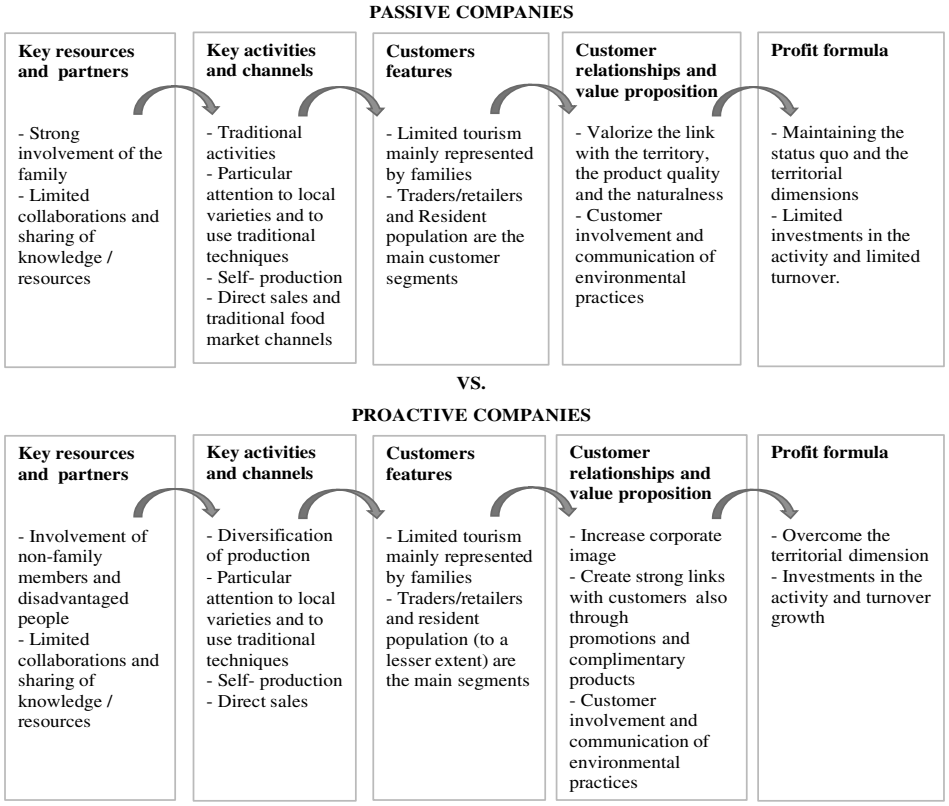
– are characterised by greater investments in operating activity and greater turnover, denoting greater dimensions compared to passive companies;

– are more profitable.

The sustainability orientation is confirmed also in such clusters of companies, both from the environmental and social point of view, even if the ambition to consolidate but also to expand the activity territorially is evident.

Figure 19 below illustrates the main BMs characteristics previously discussed for the two Clusters of organic companies, highlighting the linkages among the different blocks.

Figure 19 – *Key elements and linkages of different BMs*



Source: own elaboration.

After depicting the main BM features of organic companies, a brief overview on organic districts is provided, also in order to compare the different points of view related to sustainability-oriented benefits.

7.2.5. *Main features of organic districts: a brief overview*

This section shows the main features of Italian organic districts, although without generalisation claims, given the limited number of responses collected (only 8 districts answered the questionnaire, with a response rate of 29%).

Firstly, the main actors behind the birth of the organic district were investigated. In this regard, Table 49 shows that the birth of the organic district was mainly wanted by the companies operating within the territory, followed by associations and local municipalities.

Table 49 – *Main financing sources of the organic district*

Who promoted the creation of the district (%)			
	N.	*Mean*	*Standard Deviation*
Municipalities	8	23.4	35.630
Region	8	4.7	9.300
Government/Ministry of Agriculture	8	.0	.000
Individual companies of the territory	8	53.1	44.696
Producer associations	8	20.3	28.298
Associations of social promotion and/or rural development	8	25.0	40.089
Political organisations	8	4.7	9.300
Other	8	20.3	24.944

Source: own elaboration.

Furthermore, the reasons that led to creating the district were investigated. Specifically, the social and environmental dimensions of sustainability emerged, with the will to safeguard the environment and the promotion of a healthy lifestyle (Table 50).

Table 50 – *Reasons behind the creation of organic district*

Reasons behind the creation of the organic district (%)			
	N.	*Mean*	*Standard Deviation*
Increased attractiveness of financing	8	20.3	33.366
Economic and social recovery of the territory	8	31.3	31.339
Promotion of a healthy lifestyle	8	40.6	31.161
Safeguard of the environment	8	48.4	36.252
Protection of local traditions	8	29.7	34.678
Other	8	18.8	33.408

Source: own elaboration.

Then, the percentage of organic companies (on the total of agricultural companies) belonging to the district was explored. Table 51 shows a prevalence of organic companies compared to the other agricultural companies belonging to the district.

Table 51 – *Percentage of organic companies belonging to the organic district*

Percentage of organic companies belonging to the district		
Percentage	*Count*	*Column N %*
Lower than 10%	2	25.0%
10-20%	0	.0%
20-30%	0	.0%
30-50%	1	12.5%
Higher than 50%	5	62.5%
TOTAL	*8*	*100.0%*

Source: own elaboration.

Table 52 shows that the average number of personnel working within organic companies of the district is quite limited, with a mean of 101 workers.

This evidence confirms the small and local dimensions of the majority of organic businesses belonging to a district.

Table 52 – *Average number of personnel working within organic district*

Average number of personnel working within the organic district					
	N.	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Average number of workers	8	101.3	0	300	99.633

Source: own elaboration.

The presence of a brand of organic district has also been investigated. As shown in the next Table, the great majority of districts have not created a brand.

Table 53 – *Presence of a district brand*

Presence of a district brand		
	Count	*Column N %*
Yes	1	12.5%
No	6	75.0%
No, but we are completing it	1	12.5%
TOTAL	*8*	*100.0%*

Source: own elaboration.

Referring only to the district that developed a brand, from the questionnaire it emerges that the presence of a brand mainly impacts on organic companies in terms of higher sale volumes (mean 3.0; median 3.00 on a Likert scale from 1 to 5) and higher prices than similar productions outside the district (mean 4.0; median 4.00 on a Likert scale from 1 to 5).

As regards the customer composition, Table 54 shows that the results are almost aligned with those of organic companies, without a significant predominance of specific customer groups: indeed, also according to the district point of view, traders/retailers are the first group of customers, followed by

the resident population of the organic district. Italian and foreign tourists are not particularly representative, even if there is a slight predominance of Italian tourists, compared to the answers given by organic enterprises.

Table 54 – *Customer composition*

Customer composition by segments (%)			
	N.	*Mean*	*Standard Deviation*
Resident population of the organic district	8	28.1	23.858
Temporary residents in the organic district	8	14.1	15.580
Italian tourists	8	20.3	19.975
Foreign tourists	8	17.2	19.975
Traders/retailers outside the district	8	29.7	25.823
Other	8	14.1	21.586

Source: own elaboration.

Unfortunately, the organic districts affirm that, currently, the products of the district are not particularly recognised outside the regional area (Table 55).

Table 55 – *Recognition of organic district products*

	N.	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
The products of the district are also recognised outside the regional area	8	2.8	1.669	.000	Neutral

Source: own elaboration.

Finally, the main benefits were investigated, highlighting the point of view of the organic districts.

Firstly, customer appreciation referred to the product of the district was investigated (Table 56). There was a tendency of answers towards “neutral”, while

from the company point of view, the tendency was towards "low", as companies do not believe that customers currently reward belonging to an organic district.

Table 56 – *Customer appreciation*

Customer appreciation	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Customers recognise an added value to company's products thanks to belonging to the district	8	3.5	1.195	n.s. (*)	Neutral

(*) "*n.s." stands for not statistically significant*.

Source: own elaboration.

The next tables focus on the economic, social and environmental benefits, showing the same items of Tables 38, 39 and 40 in order to allow a comparison.

Specifically, as regards economic benefits, the general tendency towards the neutral value of the Likert scale emerges from Table 57, even if the cost saving and the turnover increase tendency is aligned with that of organic companies towards low values. Consequently, organic districts think they have a neutral impact on the generation of economic benefits for the associated organic companies.

Table 57 – *Economic benefits – organic district point of view*

Section: Economic benefits	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Customer loyalty	8	3.4	1.598	n.s. (*)	Neutral
Cost savings thanks to the sharing of some resources	8	1.6	1.188	.014	Low
Turnover increase	8	1.7	1.389	.380	Low
Promotion of companies'products	8	3.5	1.309	n.s. (*)	Neutral

Facilitated access to financing	8	2.6	1.061	.001	Neutral
Assistance to access to financing	8	3.4	.518	n.s. (*)	Neutral
Technical assistance	8	2.5	1.512	n.s. (*)	Neutral

(*) *"n.s." stands for not statistically significant*.

Source: own elaboration.

As regards the social benefits section, the division into three groups (social benefits related to heritage, social benefits related to people and social benefits related to traditions) has been maintained.

From Table 58, it emerges that the tendencies of these three sub-sections are not particularly aligned: indeed, in contrast to what emerged for the organic companies, the "Social benefits related to heritage" sub-section shows a "high" trend instead of a "neutral" trend. "Social benefits related to people" presents all items with a "neutral" trend while organic companies registered a "low" trend. The "Social benefits related to traditions" sub-section presents one item with a "high" trend, as in the case of organic companies, and the other item with a neutral trend, (in contrast with organic companies that showed all items of this section with a high trend).

Consequently, it emerges that organic districts seem to not be particularly involved in increasing social benefits related to people, while more efforts are directed to valorise the heritage and safeguard of local production.

Table 58 – *Social benefits – organic district point of view*

Section: Social benefits related to the heritage	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Valorisation of tourism and landscape heritage	8	4.3	.707	.002	High
Section: Social benefits related to people	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Strengthening of links with the population and the local territory	8	3.4	1.061	n.s. (*)	Neutral
Encouraging the inclusion of disadvantaged people	8	2.3	1.035	.002	Neutral

Encouraging gender diversity	8	2.8	1.642	n.s. (*)	Neutral
Belonging to a "large family"	8	3.6	.916	n.s. (*)	Neutral
Section: Social benefits related to traditions	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Promotion of cultivation/breeding of local varieties	8	4.5	.756	.001	High
Promotion of traditional techniques	8	3.0	1.309	n.s. (*)	Neutral

(*) *"n.s." stands for not statistically significant*.

Source: own elaboration.

Finally, as regards the environmental benefits, it emerges that the organic district encourages the environmental protection of the territory (Table 59), confirming the benefits perceived by organic farms.

Table 59 – *Environmental benefits – organic district point of view*

Section: Environmental benefits	*N.*	*Mean*	*Standard deviation*	*Test Value = 3 Neutrality*	
				Sig. (2-tailed)	*Tendency*
Safeguard of health and the territory	8	4.0	.756	.007	High
Reduction of pollution (water, air, soil)	8	3.6	.916	n.s. (*)	High
Safeguard of animal welfare	8	3.8	1.106	n.s. (*)	High
Reduction of waste	8	3.8	1.389	n.s. (*)	High

(*) *"n.s." stands for not statistically significant*.

Source: own elaboration.

The next Table summarises the tendency referred to the economic, social and environmental items, comparing the results of organic enterprises with those of organic districts.

Table 60 – *Comparison of benefits*

Benefits	*Items*	*Organic companies point of view*	*Organic districts point of view*
		Tendency	*Tendency*
Economic benefits	Customer loyalty	Low	Neutral
	Cost savings thanks to the sharing of some resources	Low	Low
	Turnover increase	Low	Low
	Promotion of companies' products	Low	Neutral
	Facilitated access to financing	Low	Neutral
	Assistance to access to financing	Low	Neutral
	Technical assistance	Low	Neutral
Social benefits	Valorisation of tourism and landscape heritage	Neutral	High
	Strengthening links with population and local territory	Low	Neutral
	Encouraging the inclusion of disadvantaged people	Low	Neutral
	Encouraging gender diversity	Low	Neutral
	Belonging to a "large family"	Low	Neutral
	Promotion of cultivation/breeding of local varieties	High	High
	Promotion of traditional techniques	High	Neutral
Environmental benefits	Safeguard of health and the territory	High	High
	Reduction of pollution (water, air, soil)	High	High
	Safeguard of animal welfare	High	High
	Reduction of waste	High	High

Source: own elaboration.

A discussion of the results achieved through the empirical analysis will be provided in the next chapter.

8.
Discussion and conclusions

The research investigates the main features of the organic sector both at a national and international level, with a particular focus on the origins, the regulatory framework, the performance and the main actors involved.

As discussed in the first chapters of the book, the organic phenomenon has experienced a rapid growth, with an increasing number of organic producers and an increasing demand for organic products. This rapid growth has been supported by different regulations which, on one side, were aimed at protecting consumers through a set of rules and certification standards and, on the other, were aimed at encouraging this organic practice to support the sustainable development of territories.

Consequently, great attention has been paid to organic companies as key actors able to support the social, environmental and economic development of a local territory. This dynamic has been translated into a new generation of projects that have recently developed throughout Europe and that combine rural development with organic farming practice and values. Such projects are called organic districts or organic regions. The organic district features can differ from country to country but have the common characteristic of investing in organic agriculture as a lever of territorial development. The organic districts are also characterised by a number of associated companies that relate to each other as well as to the citizens and the local authorities, as a holistic system.

Due to the relevance of organic companies for the local economy and sustainable development, the research took into consideration such kinds of agricultural companies, and specifically those belonging to organic districts, as districts can empower organic companies, enabling them to achieve competitive advantages and an integrated approach to sustainable development, towards shared objectives.

However, despite the relevance and the growth of organic companies, they were not particularly investigated in literature, especially from the economic and managerial point of view.

Consequently, based on the first research question, the business model features of organic companies were investigated in literature, so as to understand the key elements at the basis of the sustainable value creation. A gap emerged from this analysis: indeed, no results were found about the business model of organic enterprises. Therefore, the analysis was enlarged to the general agricultural sector, but also in this case, limited attention was paid to BM features (Ulvenblad, 2014). Based on existing studies, however, some common features were extracted, referring to the general concept of BM, to BM innovation and to sustainable BM. Specifically, key success factors should be based on:

– the collaborations and the networking with different actors in order to share resources, knowledge and overcome weaknesses, with consequent benefits in terms of economic, social and environmental performance as well as innovation (Blanc, 2009; Kusraeva, 2018; Tell et al., 2016; Vorley, 2008);

– the diversification of production in order to enrich the current offer, reduce the risks also deriving from climatic changes and innovate, bringing structural and innovative changes in BM (Kusraeva, 2018; Salvioni et al., 2009; Van der Ploeg and Roep, 2003);

– the product differentiation based on high quality and a valorisation of traditions that can enhance sustainability dimensions (van der Vorst et al., 2009; Vorley, 2008);

– the culture of the owner-manager that should be open to innovation and involved in social, environmental and economic aspects (Barth et al., 2017; Jolink and Nielsen, 2015; Ulvenblad et al., 2014).

Different BM frameworks have been applied to agricultural and agri-food companies, but one of the most used is certainly the model of Osterwalder and Pigneur (2010). Such framework has also been shaped in order to include the sustainability dimensions within the different blocks (Barth et al., 2017).

Based on such framework of Osterwalder and Pigneur (2010), the results deriving from the empirical analysis of a sample of organic companies have been explored.

Analysing the BM features, it emerged that Italian organic companies try to diversify the core activity, also by offering hospitality, agritourism, training and education services and restaurant facilities. Also, the production is oriented to local varieties with the use of traditional techniques so as to guarantee a better product differentiation. This evidence is in line with those of the literature (Kusraeva, 2018; Salvioni et al., 2009; Van der Ploeg and Roep, 2003) showing the will to spread rural and traditional culture and create a tourism demand (Rong-Da Liang, 2017).

Generally, the internal employees are recognised as key partners and key

resources; they support the core business and the key activities. The employees mainly belong to the family.

As regards entrepreneurs, there is a prevalence of males with an intermediate level of education.

Contrary to expectations, other organic companies belonging to the districts are not considered key partners: collaborations are limited and organic companies self-produce raw materials, without resorting to a supply chain. This evidence is not aligned with the literature which, instead, stresses the attention on collaborations and network creation for a successful BM (Blanc, 2009; Kusraeva, 2018; Tell et al., 2016; Vorley, 2008).

Another key factor is represented by the financing sources, mainly characterised by the family investments, showing the will to strengthen the economic development of the business.

In supporting organic companies, the main costs are strictly tied to raw materials and personnel, while investments in fixed assets are very limited. This conservative approach has also limited the turnover generated by a company's activity, with some exceptions that will be later discussed. Furthermore, sales are predominately direct without the use of intermediation channels. These features also highlight the small dimensions of the organic farms.

To improve value proposition, the most important elements are represented by the link with the territory and the high-quality products, as it has also been emphasised in the literature (van der Vorst et al., 2009; Vorley, 2008).

Finally, the organic companies are aware of their customer segmentation, showing a slight predominance of traders, retailers and resident population of the district; residents and tourists are mainly represented by families. In this case it emerged that, despite the desire to attract tourists, the results have only partially been achieved. However organic companies implement actions to strengthen customer loyalty, mainly through the communication of product quality and certifications and the communication of environmental and fair-trade actions.

Deepening the three pillars of sustainability, according to Schaltegger et al. (2016), it emerges from the sample that:

– from the *economic* point of view, there is an ability to optimise the direct and operating cost, especially by self-producing the raw material goods, preserving the natural environment and the wellbeing of the local community. However, the limited turnover clusters organic companies as small businesses (also confirmed by the limited number of employees working for the organic business). The small dimension should not be interpreted in negative terms, as it enables to consolidate the link with the territory, preserving cultural and product heritage. The will to strengthen customer relationship is also evident. Finally, a financial virtuous circle is created due to a relevant self-financing;

– from the *social* point of view, there is a strong link with the territory and local traditions. In this way, it is also possible to increase the wellbeing of rural families, contributing to the employment of family members and future generations;

– from the *environmental* point of view, it emerges that the organic production is driven by the will to strengthen the preservation of the rural landscape and improve human health. Furthermore, the companies' behaviour, represented by recycling habits and packaging, use of renewable energy, efforts to educate consumers towards sustainable practices and a short supply chain, brings to light the focus on safeguarding the environment.

In addition, the study highlights the presence of two different profiles of organic companies:

– the first one is characterised by companies with a low level of education of the entrepreneur, whose business is mainly oriented to the local territory, with limited investments. These companies have been called passive companies as they show a conservative approach;

– the second one is characterised by companies with a high level of education of the entrepreneur that tried to expand the business also abroad, making greater investments. These companies have been called proactive companies as they show the will to invest and improve the business.

This distinction has been made, according also to what emerged in literature. Indeed, the features of the owner-manager, such as the culture or the educational level (Barth et al., 2017; Jolink and Niesten, 2015; Ulvenblad et al., 2014), as well as the propensity to investments or the ability to introduce upgrading strategies that may require a change in the traditional way of conducting business, for example through exports, (Beuchlet and Zeller, 2013) can lead to successful BMs.

From the results referred to in these two profiles it emerged that, in the case of proactive companies, the economic dimension assumes a greater relevance: indeed, such companies have achieved a greater turnover and have invested greater resources in the operating activity, compared to passive companies, declaring to have approached organic production also to increase the company's image.

Furthermore, they are more inclined to diversify the business with agritourism and restaurant activities, in order to reduce the risk and enhance the income sources and create strong ties with customers also by adopting marketing policies such as promotional activities and compliments.

Finally, proactive companies are characterised by a greater involvement of

non-family members and disadvantaged people, while passive companies are mainly characterised by employees belonging to the family and are relatively young (as they have operated on the territory for a limited number of years).

The proactive company's BM shows a greater long-term vision of entrepreneurs, oriented to lay the foundation for a lasting profitability that has also been awarded so far with better economic performances.

However, such companies were able to maintain a strong sustainability orientation through links with the territory and traditions, greater attention to disadvantaged people and the use of environmental practices.

For the above-mentioned reasons, proactive companies show a BM that can be traced, using the model of Jolink and Niesten (2015), to the "growth model", as entrepreneurs aim at developing the business, balancing profitability goals and sustainability.

On the contrary, passive companies can be traced to the subsistence model, as entrepreneurs aim to survive or maintain the results just achieved, on a local dimension.

Finally, after focusing on organic enterprises, through the empirical analysis it was also investigated if belonging to an organic district may generate economic, social and environmental benefits.

Such benefits were investigated both from the organic company and from the organic district point of view in order to identify the different perceptions.

From the research it emerged that companies do not perceive particular economic benefits from belonging to the organic district and this is in contrast to what emerged from the literature (Fujita et al., 1999; Krugman, 1996). This evidence can also derive from the fact that customers currently do not recognise an added value for the products of the district.

However, the lack of economic benefits can also be a consequence of the organic company's behaviour: the limited networks and collaborations with the other companies of the districts do not allow to achieve the benefits arising from the sharing of knowledge and resources.

As regards social benefits, organic companies perceive those related to safeguarding traditions significantly, while they do not perceive efforts to promote the inclusion of specific categories of workers (e.g. disadvantaged people). Also, they do not feel part of a big family.

Environmental benefits are instead strongly perceived, consequently the involvement of organic districts in safeguarding the environment and encouraging companies' behaviour towards environmental practices is recognised (Vincent and Fleury, 2015).

Based on this evidence, it is possible to affirm that the challenge of organic

districts in contributing to a sustainable development of organic companies and a local territory is not yet complete. Indeed, the efforts towards the environmental dimension have been recognised, while further efforts are needed for the social and economic dimension. However, this result should not be surprising given that the organic districts represent a relatively young phenomenon and in Italy, as in most of the countries, there is still a lack of specific regulations to support such initiatives. A partial solution can be represented by the creation and diffusion of a district brand, as it may enhance the visibility of a territory and also companies' profitability (as experienced by the district that developed a brand).

The research shows some limitations mainly linked to the number of answers collected. However, some interesting practical and theoretical implications emerged.

Practical implications could be addressed to implement adequate policies for the development of organic companies and districts as instruments for the sustainable development of the local community. In this way, the communication of the key factors to attract more customers could be more effective. Furthermore, the results can be useful also for organic districts as, based on the peculiarities of organic company BMs and the benefits perceived and deriving from belonging to a district, it is possible to better target the services and address future efforts.

Finally, an ecologically and socially inclusive model of organic companies is put forward based on principles of sustainability; organic companies can be seen as drivers of agroecological tourism, strengthening the linkages between tourism and agriculture while fostering sustainability principles (Addinsal et al., 2017).

From the *theoretical* point of view, this study contributes to the national and international debate on the peculiarities of agricultural enterprises and, more specifically, on organic companies and districts, trying to bridge the existing gap on BM features, especially from the sustainability dimensions.

Future research could expand the current sample also by involving other European organic companies and organic districts in order to better understand the different key factors for sustainable value creation. It is also possible to expand the current data, by adopting a qualitative method based on interviews in order to deepen specific BM features and the logical cause and effect linkages among key factors and sustainability issues.

Appendix

Appendix A. European legal framework referring to organic agriculture

Law and regulations	*Law Status*	*Main topic*	*Law title*
Council Regulation (EEC) No 2092/91	Approved, 1991	First specific regulation on organic agriculture	Organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs to include livestock production
Council Regulation (EEC) No 2078/92	Approved, 1992	Regulation concerning also organic agriculture	Agricultural production methods compatible with the requirements of the protection of the environment and the maintenance of the countryside
Council Regulation (EC) No. 1804/1999	Approved, 1999	Supplementing Regulation (EEC) No. 2092/91	Organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs to include livestock production
Council Regulation (EC) No 834/2007	Approved, 2007	Second specific regulation of organic agriculture	Organic production and labelling of organic products and repealing Regulation (EEC)
Council Regulation (EU) 2018/848	Approved, 2018 (valid since 01/01/2021)	Third specific regulation of organic agriculture, repealing Regulation 834/2007	Organic production and labelling of organic products

Appendix B. Italian legal framework referring to organic districts

Law and regulations	*Law Status*	*Main topic*	*Legal notions*	*Definitions*
Law 317/91	Approved, 1991	First law on industrial districts	Industrial Districts (art.36 par. 1)	Local territorial areas with high concentration of small enterprises, with particular reference to the relationship between the presence of enterprises and resident population, as well as the production specialisation of enterprises as a whole
Law 140/99	Approved, 1999	Second law on industrial districts	Local productive systems (art.6 par. 8)	Homogeneous productive contexts with high concentration of industrial enterprises and specialisation of business systems
Legislative decree 228/2001	Approved, 2001	The Orientation Law	Rural districts (art.13 par.1)	Local production systems referred to in Article 36, paragraph 1, of Law of 5 October 1991 n. 317 [see first row above] and subsequent amendments with homogeneous identity from a historical and territorial point of view, arising from the integration between agricultural activities and other local activities, as well as the production of goods or services of particular specificity, consistent with traditions and natural and territorial vocations
Financial Laws 2006	Approved, 2006 and revised 2007-2008-2009)	Financial Laws	Districts	Fee association of companies, all different types of industrial and agricultural district equalised

Daft law C 302 proposed by Deputies Fiorio and Cenni (approved by Chamber of Deputies, now under Senato approval)	To be finally approved by Senato (till 2017)	First draft law on organic districts	Organic Districts	Local Production Systems, also, inter-provincial or inter-regional, with a significant organic production methodology

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