

Rural development and digital technologies: a collaborative framework for policy-making

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Abstract

Purpose – The paper aims to define a model for rural development, able to stimulate collaborations between actors involved in the agrifood chain and based on digital technologies as enabling factors for such collaborations.

Design/methodology/approach – An exploratory research, based on a qualitative approach, is conducted, using both constructivist grounded theory and Gioia methodology. Data were collected through semi-structured interviews and roundtables administered to Italian key players.

Findings – The authors identify five actions (definition of territorial identity, involvement of internal and external supply chain actors, definition of quality standards, cooperation intra and infra supply chains, communication through technology) for collaboration in the development of rural areas that policymakers should encourage and actors in the supply chains must implement. The paper also entails both theoretical and practical implications. From the theoretical point of view, this study contributes to the literature on the relationship between agrifood, local development and the role of technologies. From the managerial point of view, this paper provides insights for policymakers to define strategies and actions aimed at developing collaborations between actors involved in the agrifood chain and leveraging digital technologies to support rural development.

Originality/value – The paper proposes a framework for the collaboration of the actors of the agrifood sector and related food tourism that could be the basis for the development of a digital platform able to connect all the subjects involved in rural development.

Keywords Rural development, Digital technologies, Agrifood, Tourism

Paper type Research paper

1. Introduction

Rural development initiatives are often based on strengthening and diversifying the agrifood sector as a mean to stimulate economic growth, generate employment opportunities and improve livelihoods in rural areas. In fact, the agrifood chain, encompassing agricultural production, processing, distribution and marketing, is an integral part of economy of a territory and plays a vital role in rural economies (Everett and Aitchison, 2008). In addition, rural development initiatives often leverage the potential of



tourism as a catalyst for economic growth and diversification by attracting visitors to rural areas, creating employment opportunities and stimulating local economies. In sum, synergies among agrifood sector and tourism are well known in literature (Cafiero *et al.*, 2020): by showcasing unique agrifood products, culinary traditions and rural landscapes, tourism can generate demand for local products, services and experiences, thus contributing to the overall development of the rural communities. The potential contribution of localized agrifood systems to rural development has been emphasized and has also increased its political relevance (Calenda Conference, 2016). In this context, the role of digital technologies in transforming the agrifood system has been emphasized (Parente, 2020; Passarelli *et al.*, 2023). Some recent studies have analyzed the relationship between agrifood, tourism and digitalization (Parente, 2020; Kumar and Shekhar, 2020) for the development of rural territories. More specifically, the role of digital technologies as new tools to promote local agrifood sector in the perspective of developing local tourism and rural territory, has been analyzed (Kumar and Shekhar, 2020). In this research area, digital technologies are considered as an ideal tool for putting into practice collaboration strategies and represent an enabler for the development of collaborations between all actors involved in rural development (Beckmann *et al.*, 2021).

Some studies have focused on the role of digital technologies in promoting collaboration between actors involved in both agrifood and food tourism businesses (Hornig and Tsai, 2010; Ashish and Shelley, 2015). However, to the best of the authors' knowledge, a collaboration model that puts at its center digital technologies has never been proposed and discussed.

Starting from this premise and with the goal to fill this gap, the paper aims to define a model for the development of rural territory, characterized by collaborative aspects between all actors involved in agrifood chain and related food tourism and based on digital technologies as enabling factor for such collaboration.

The paper is organized as follows. In the paragraph 2, the main literature on the connection between rural development, agrifood and tourism is analyzed. In the paragraph 3, the role of digital technologies for the rural development is discussed. The paragraph 4 discusses the main literature about the role of collaborative approaches. The paragraphs 5 and 6 present the empirical research and its results. Then, in paragraphs 7 and 8, we discuss the main results of our study and its theoretical and practical implications.

2. Rural development, agrifood and tourism

Rural development refers to the process of improving the economic, social and environmental conditions in rural areas (Elands and Wiersum, 2001). It encompasses various strategies and initiatives aimed at enhancing the quality of life for rural communities, promoting economic growth and reducing disparities between rural and urban areas.

Rural development requires collaboration between governments, local authorities, civil society organizations and the private sector (Neumeier, 2012). Integrated approaches that consider the unique characteristics and needs of each rural area are key to achieving sustainable and inclusive development outcomes.

In this sense, key approaches to rural development are linked to rural entrepreneurship and employment. It refers to encouraging entrepreneurship and creating employment opportunities in rural areas, vital for sustainable development. This can be achieved through supporting small- and medium-sized enterprises, promoting local industries and fostering entrepreneurship skills and training. In addition, rural development initiatives can focus on sectors beyond agriculture, such as tourism, to create a diverse range of

employment opportunities. Along this vein synergies between agrifood and tourism are related to the availability of restaurants, bars, hotels, B&B and so on that leverage local food and promote the new field of food tourism (Cafiero *et al.*, 2020; Meneguel *et al.*, 2022; Sidali *et al.*, 2011).

In recent years, researchers and policymakers have devoted great attention to agrifood sector as a key driver of rural development (Medina *et al.*, 2018; Rachão *et al.*, 2019). More specifically, many studies emphasize the relationship between the agrifood sector and tourism in developing a competitive advantage for rural destinations (Tsai and Wang, 2017; Andersson *et al.*, 2017; Vesci and Botti, 2019; Botti *et al.*, 2018).

When rural areas lack flagship attractions such as natural or artistic heritage, they have to focus on other assets to build a destination brand identity and attract travelers. Local food can represent an expression of place identity (Hernández-Mogollon *et al.*, 2015) becoming a cultural identity marker that provides tourists with an opportunity to get in touch with a part of the intangible heritage of the places they visit (Björk and Kauppinen-Raisänen, 2014).

The potential contribution of agrifood sector to rural development has been emphasized in the context of new rurality approach (Pita-Morales *et al.*, 2015). New rurality approach is expression of a recent transition in the field of rural development theory from an agricultural sector approach to one which adopts broader territorial vision (Pisani and Franceschetti, 2018; Ramírez-Miranda, 2014; Rytönen, 2014), and it has also increased its political relevance (Calenda Conference, 2016). The basic idea of new rurality is the interaction and integration among society, economy, institutions and environment in rural areas as key factors of rural development (Pisani and Franceschetti, 2018).

In this approach, the territory is seen as a socially constructed area where interactions and collaborations between different actors and stakeholders (such as firms, educational institutions, public authorities and consumers) are key elements for rural development (Pisani and Franceschetti, 2018). Thus, another fundamental aspect to consider in rural development is capacity building and participation (Koopmans *et al.*, 2018) that go also through the awareness of local value (Rocchi and Romano, 2006). Empowering rural communities through capacity building and participatory approaches is crucial for successful rural development. Engaging local communities in decision-making processes and project implementation fosters a sense of ownership and ensures that development initiatives address their specific needs and priorities. To do this, the adoption and integration of information and communication technology in rural areas that can bridge the digital divide and promote inclusive development is needed. Access to internet connectivity, digital literacy programs and e-governance initiatives can facilitate knowledge sharing, access to markets and the delivery of essential services in remote rural regions.

3. Digital technologies and rural development

In the past years, digital technologies have been playing a very important role in transforming territories (Visvizi and Lytras, 2018; Troisi *et al.*, 2022; Visvizi and Pérez-delHoyo, 2021; Visvizi *et al.*, 2019; Troisi *et al.*, 2019a, 2019b) and producing relevant impact in the rural domain (Rolandi *et al.*, 2021). Some studies (Zaballos *et al.*, 2019) suggested that the digitalization process can impact both agriculture (e.g. contributing to efficient use of resources) and rural sectors at all (e.g. defining new and enriched services).

The impact of the digital revolution concerns the production side of the agrifood sector, where new technologies allow customers to have complete traceability and visibility of the production process, producing significant changes in the business models of companies and the behavior of consumers of agricultural products (Parente, 2020; Passarelli *et al.*, 2023).

Digital technologies offer novel instruments to foster real time adaptation of strategies and actions (D'Aniello *et al.*, 2016) of local agrifood industries and rural territories (Kumar and Shekhar, 2020).

Moreover, they allow the development of collaboration between different actors involved in agrifood tourism and rural development (Beckmann *et al.*, 2021), acting as enabling factors for the creation of relationship in places where the social fabric is not conducive to the spontaneous creation of networks (Cafiero *et al.*, 2020). The role of digital technologies can be supportive of rural areas, where often there are numerous small-sized producers with limited coordination or rare cooperation among each other resulting in ineffective development of the rural tourism industry (Berjan *et al.*, 2020).

In this perspective, the challenge of rural development building on both the agrifood and food-tourism field is represented by the need to connect the actors that populate the value chain focusing on the skills and traditions that each of them use to create the identity dimension of the territory. Digital technologies could provide tools capable of responding to the growing need for interaction between all the stakeholders involved in rural development.

4. The role of collaboration for rural development

The European Union, starting from the 2020 Strategy and the 2014–2020 Cohesion Policy, invites local communities to think from a network perspective to generate territorial development processes. In line with EU dispositions, territorial development processes involve the generation, mobilization and enhancement of endogenous resources, as well as an intense activity aimed at establishing relationships and alliances with different subjects (Brunori, 2007). These processes are increasingly studied through network theory which has now established itself as one of the great models of reference for the social sciences (Castells and Blackwell, 1998).

Several studies apply the concept of the network in the context of agricultural and rural economic disciplines (Brunori, 2007; Murdoch, 2000). They show how a network approach is a valid tool in the analysis of socioeconomic processes linked to the implementation and development of typical agrifood production enhancement initiatives, capable of highlighting the interaction processes between the subjects involved in the territory. Rocchi and Romano (2006) identify an iterative succession of phases to represent the evolution of enhancement paths over time:

- awareness of territorial value by actors, referring to the recognition among local stakeholders of the inherent value of distinct qualitative attributes of the products and the potential benefits that can be gained through collaborative actions;
- collaboration development among actors, referring to the gradual engagement of additional actors who align with the shared understanding of quality and the overarching objectives of the collective initiative;
- consolidation of the network, referring to the reinforcement of the network's unity and cohesion around the shared notion of quality, leading to individual actors aligning their behaviors with the collective goals; and
- the effective external communication of the unique quality attributes achieved through the collaborative efforts, whereby the network functions as a unified entity to convey the message.

A specific declination of network theory [represented by service theories, that is, service dominant logic (Vargo and Lusch, 2006) and service science (Maglio and Spohrer, 2008)] deepens the role of knowledge and technology as essential factors in accomplishing value

co-creation among stakeholders belonging to the same system. Service theories argue that the most suitable organizational model to support the emergence of value is the service ecosystem. It is composed by elements whose combination facilitates value co-creation between the actors of the same ecosystem. These elements are (Polese *et al.*, 2018; Botti and Monda, 2020) actors, resource integration, technology and institutions. In particular, actors are all the stakeholders involved in the service exchange; resource integration occurs during actor interactions allowing for the co-learning of the actors which can turn into value co-creation; technology accelerates the passage of shared resources and the creation of new institutions (Koskela-Huotari *et al.*, 2016); institutions are social rules, norms, shared practices regulating exchanges and acting as prerequisites for resource integration.

Combining the phases of the process of construction and enhancement of a local network according to the actor-network approach (Rocchi and Romano, 2006) and the service ecosystem elements (Polese *et al.*, 2018; Botti and Monda, 2020), we can identify some theoretical macro-areas of investigation that represent the key elements of a local enhancement initiative. In particular, this study assumes five basic investigation areas: (1) awareness of local value, (2) collaboration development among actors, (3) the consolidation of the network, (4) the resource integration and (5) the technology tool.

5. Methodology

5.1 Research design

To develop a proposal for a collaborative model, an exploratory research, based on a qualitative approach, is conducted, using both constructivist grounded theory (Mills *et al.*, 2006; Glaser, 2007) and Gioia methodology (Gioia *et al.*, 2013; Gioia, 2021). The grounded theory involves constant data comparison to develop new classifications and conceptualizations, while the Gioia methodology involves a continuous cycle of interpreting data and connecting it to existing theories and knowledge (Magnani and Gioia, 2023). To achieve this, several stages of data analysis, interpretation and re-elaboration are required, which can lead to the establishment of new valid relationships between concepts and constructs. In particular, the goal is to understand how each theoretical macro-area – awareness of local value; collaboration development among actors; consolidation of the network, resource integration; technology tool – identified in Section 4, worked in the territorial context under investigation achieving the conceptualization of the collaborative model through different investigation steps (see Section 5.2 for the description of each step).

The territorial context chosen as the survey area is Irpinia, a historical-geographical district of southern Italy in the Campania Region. We chose Irpinia as it is a territory with an agricultural vocation, which lacks a cultural identity, with development lag for the tourist identity and industrial areas only in the most important urban centers.

Data were collected through semi-structured interviews and roundtables conducted over 12 months, from November 2021 to November 2022, with local entrepreneurs in the agrifood and hospitality sectors, local actors, policymakers, institutional actors and citizens in the Irpinia region. In line with the adopted methodology, the subjects of the sample are selected based on their direct experience and knowledge of the studied phenomenon. Therefore, we chose purposive sampling, preferred over random sampling (Yin, 2018). Each actor was considered a peculiar individual, influenced by the context in which he lives; for this reason, we tried to preserve the previous experiences, knowledge and attitudes of the interviewees in the transcription of the interviews (Turner, 2010; Addeo and Montesperelli, 2007).

5.2 Data collection and analysis

Following the methodological principles of semi-structured interviews (Corbetta, 2003), an interview outline was developed using a thematic approach instead of relying solely on structured questions. The use of thematic categories allowed for flexibility and a deeper exploration of relevant topics during the interview process and roundtables. The interview outline and topics covered in the roundtables are based on the five theoretical macro-areas of investigation identified through the literature (awareness of territorial value; collaboration development among actors; consolidation of the network, resource integration; technology tool). Both interviews and roundtables allow the extraction of raw data, recorded and transcribed.

First, we collected six direct interviews with local entrepreneurs and key players in Irpinia. Interviews were conducted both in person and by phone and lasted between 30 and 40 min. Afterward, three roundtables involving 15 key players were organized. Each of the three roundtables lasted about 2 h. Each researcher read the transcriptions autonomously and then shared the results with the others, to reach a common interpretation. To preserve the identity of the interviewees, their names are not revealed in the paper, but the subjects investigated are renamed to their roles in the agrifood chain.

We looked at information we gathered and tried to understand it using the technique of qualitative content analysis, in line with the precepts of the method proposed by Gioia (2021). The interpretative process required to fulfill this kind of content analysis is neither structured nor codified through specific parameters. Hence, the need to integrate this technique with the criteria laid down in the Gioia methodology. The collected data (raw data) have been analyzed in three steps. The first step of data analysis involved *coding* the raw data obtained from the interviews to systematize the recurring elements underlying the data corpus. Researchers coded independently to derive first-order concepts and connected them inductively to the dimensions and triggers of data-driven orientation and innovation. The theoretical dimensions were revised and enriched to include novel empirical data.

The second stage of *categorization* involved classifying the results of the coding into second-order themes, which are more specific topics obtained from the semantic aggregation of first-order concepts. Second-order themes were identified based on the weaknesses of agrifood chains that emerged from the interviews and were connected to the key dimensions of the macro-areas of the research.

The final stage of *conceptualization* involved aggregating the second-order themes into practical actions aimed at solving the weaknesses identified in the interviews. The final conceptual categories were derived through the re-aggregation of the second-order themes and the results of the roundtables. The three roundtables with the main stakeholders of the sector aim to collect information and suggestions about the role of technologies in the development of collaboration. The roundtables have involved altogether 15 key players: policymakers, entrepreneurs, other institutional actors and citizens. The labels of final conceptual categories were identified through deduction processes that detected the underlying conceptual cores and reconnected them to macro-categories.

6. Results

Starting from the five theoretical macro-areas of investigation emerging from the literature (awareness of territorial value; collaboration development among actors; consolidation of the network, resource integration; technology tool), raw data were collected and analyzed in three steps: coding, categorization and conceptualization. The following results arise from data collection and analysis process (see Figure 1).

| | | Theorization | Coding | Categorization | Conceptualization |
|--------------------------------------|--|--|--|--|---|
| Macro-areas obtained from literature | | Raw Data | First order concept | Second order concept | Aggregate Data |
| Actor network approach | Awareness of value | "We Need that markets and external subjects have awareness about our territory, but it is necessary that this awareness has it first of all the territory and local community" "We must activate the local community in order to increase their knowledge and awareness about their territory" | <ul style="list-style-type: none"> Lack of territorial branding Limited awareness about the identity of the territory by local community | <ul style="list-style-type: none"> Need of Territorial branding Local culture | Definition of territorial Identity |
| | Collaboration development among actors | "The Ipinia agri-food chain is characterized by many small agricultural entrepreneurs who have highly parceled out their properties, so the income is not very high. The goal must be to aggregate several producers to have a unified vision and move in a compact way on national markets" "We must know how to dig into our identity. From the great complexity that emerges from it, we must know how to draw boundaries [...] to do this, we need to get help from external agents." | <ul style="list-style-type: none"> Excessive business fragmentation Need to move in a compact way on national markets Need of external actors | <ul style="list-style-type: none"> Need to aggregate several producers Need for progressive involvement of external actors | Involvement of internal and external actors |
| | Network consolidation | "There is a great need for a plan with precise indications of actions and activities to be carried out (this can also guide individuals) which serves to give a vision to the territory. The first task falls to the institution which must have a clear plan" "We therefore need a forward-looking administration capable of investing and equipping itself in time and be ready when opportunities arise" (Architect) | <ul style="list-style-type: none"> Lack of Production/Processing/Sales Protocols | <ul style="list-style-type: none"> Definition of quality standard Development of quality culture Definition of long-term development plan | Definition of quality standard |
| Service ecosystem elements | Resource integration | "The collaborations currently developed between the supply chains are collaborations that are the result of a need for individuals but are not systemic and systematic. A model should be built to make connections stable and systematic that in other realities have been going on for years" (representative of local slow food association) "There is strong individualism that is part of an also atavistic cultural heritage. There is no consortium spirit also because there is a lack of economic impulses, there is little predilection to network" "If the weakness of the Ipinia agri-food chains is the "disconnection" among themselves, a possible solution is to integrate elements and resources from several actors coming from tourist offer, intangible heritage and cultural offer, agri-food and food and wine offer." | <ul style="list-style-type: none"> Limited propensity for cooperation Lack of synergies among individual producers | <ul style="list-style-type: none"> Development of a cooperative and collaborative culture Development of a community spirit | Cooperation intra and infra supply chains |
| | Technology | "There is a lack of marketing awareness to enhance the products of Ipinia and a territorial marketing strategy is missing" "Often, in Ipinia, we have small companies that make products of absolute excellence. They cannot increase production, but they need, precisely because of this quality, that the product on the shelf can cost more in order to be perceived as added value. A major positioning that applies to wine, oil, beer, cheese, all these agricultural products that can be transformed" | <ul style="list-style-type: none"> Lack of openness to a global market. Low supply chain competitiveness Limited use of technology | <ul style="list-style-type: none"> Need to develop a digital identity Need to develop a digital platform able to communicate the territory and the real quality of local products Need to develop a vision of technology as a vehicle for building a network between local actors | Communication through Technology |

Figure 1.
Methodology steps

Source: Authors' elaboration

6.1 Awareness of the value

Concerning the first investigation area, the most important aspect that emerges from the research is the lack of a territorial brand: many companies operate under their brand, and this represents an element of weakness especially from an international perspective because it does not allow to fully exploit the potential deriving from the quality of local productions offered by the territory.

The lack of a unitary brand is accompanied by limited awareness of the identity of the territory in the local community itself. This is well expressed by the following sentences:

We must activate the local community to increase their knowledge and awareness about their territory. (Local expert in planning, management and reporting of a project financed by European funds)

We need markets and external subjects to be aware of our territory, but this awareness must belong first to the local community. (Olive oil producer)

6.2 Collaboration development among actors

Regarding the second investigation area, the most important theme that emerges from the research is the presence of many small agricultural entrepreneurs and a large fragmentation of production. A fragmentation that does not only concern the production chain in the strict sense but also the broader one including all the other subjects involved internally and externally in the chain.

This aspect has been highlighted by most of the stakeholders interviewed and participating during the roundtables and can be well summarized by the following sentences:

The Ipinia agri-food chain is characterized by many small agricultural entrepreneurs who have highly parceled out their properties so the income is not very high. The goal must be to aggregate several producers to have a unified vision and move compactly on national markets. (Dean of Agricultural Educational Institute)

We must know how to dig into our identity. From the great complexity that emerges from it, we must know how to draw boundaries [...] to do this, we need to get help from external agents. (Anthropologist)

6.3 *Network consolidation*

The most important aspect that emerges with specific reference to network consolidation, relates to the role of policymaker and the necessity to define a long-term strategy and a vision for the development of the local territory. The role of policymakers also emerges in the need to define a set of common rules that could represent a guide for all actors of the territory. This element is well expressed by the following sentences:

There is a great need for a plan with precise indications of actions and activities to be carried out (this can also guide individuals) which serves to give a vision to the territory. The first task falls to the institution which must have a clear plan. (Local tourism councilor)

We need a forward-looking administration capable of investing and equipping itself in time and be ready when opportunities arise. (Architect)

6.4 *Resource integration*

Related to resource integration, emerges the low propensity to collaborate between the actors of the value chain.

This aspect has been emphasized by the actors directly involved in the chain and by most of the stakeholders indirectly participating the same.

The collaborations currently developed between the supply chains are collaborations that are the result of a need for individuals but are not systemic and systematic. A model should be built to make connections stable and systematic that in other realities have been going on for years. (Representative of local slow food association)

The level of interaction among firms is very limited and many companies do not collaborate due to cultural and mentality issues. (Dean of Agricultural Educational Institute)

Relations between operators in the supply chain are practically absent and limited to the presence of the Consortium, a body recognized by the Ministry with activities coordination functions. There is no real network between the companies and there is an absence of a cooperation policy between the wineries. (Wine producer)

There is strong individualism that is part of an atavistic cultural heritage. There is no consortium spirit also because there is a lack of economic impulses, there is a little predisposition to network. (Founder of a farmhouse)

If the weakness of the Irpinia agri-food chains is the “disconnection” between them, a possible solution is to integrate the elements and resources from several actors: tourist offer, intangible heritage and cultural offer, agri-food and food and wine offer. (Coordinator of first roundtable)

6.5 *Technology*

What emerges with specific reference to the technology investigation area, is the limited use of digital technology both as a tool to support production and commercial processes and as a tool to accelerate the knowledge exchange.

On the other side, from the interview with local producers and during roundtables, emerges a good awareness and a strong trust about the potential of digital technology that concerns three aspects:

- (1) support in making customers better aware of the original values and quality of products offered;
- (2) create synergies between one's activity, the events and cultural assets present in one's territory which are directly or indirectly connected with the products offered; and
- (3) act as a bridge with the development of collateral activities to the agricultural and primary processing ones, which are particularly important in the perspective of tourism development.

These three aspects are well summed up by the following testimonies.

Digital technologies could play a very important role as a place of aggregation and comparison between the players in the supply chain. (Wine producer)

The new digital technologies could represent an enabling factor for the development of the sector through the Application of agriculture 4.0 whose effectiveness moves along two main directions: improve productivity and respect the environment. (Dean of educational institute)

Often, in Irpinia, we have small companies that make products of absolute excellence. They cannot increase production, but they need, precisely because of this quality, that the product on the shelf can cost more to be perceived as added value. A major positioning that applies to wine, oil, beer, cheese, all those agricultural products that can be transformed. Digital technology could provide a tool to communicate products and territory contributing to increase their visibility and their value. (Coordinator of the third roundtable)

The [Figure 1](#) synthesizes the findings discussed above by highlighting the transition from first-order concepts to second-order themes and aggregate dimensions that represent actions that need to be implemented to activate collaborations between actors involved in rural development and that will be discussed in the following paragraphs.

7. Discussion: a proposal for a collaborative framework for policymaking

Starting from the analysis of the literature and from the results of the empirical research, we elaborated a proposal for a collaborative model able to stimulate collaboration and connect all actors that populate the agrifood sectors, through the proposition of a set of actions that policymakers should encourage and actors in the supply chains should implement.

The model, shown in [Figure 2](#), considers the five elements emerging from the investigation of the agrifood supply chain of Irpinia.

Each of the five elements identified emerges from the literature and from the themes derived from the empirical research. The identified elements represent five practical actions to solve the weaknesses of a local supply chain. The five actions are (1) definition of territorial identity, (2) involvement of internal and external actors, (3) definition of quality standards, (4) cooperation intra and infra supply chains and (5) communication through technology.

In addition, the five elements of the proposed collaborative framework describe the trajectories to run in implementing a digital platform that can represent a collective communication space to give voice to all the actors of the territory in a perspective of enhancement of the agrifood sectors and related tourism.

7.1 Definition of territorial identity

To define a unitary identity of the territory, the genius loci that refer to the specificities and values of the territory must be considered (Becattini, 2004; Vecco, 2020).

The concept of identity must refer first of all to the territory as a whole and secondly to typical products. In fact, it is necessary that all actors become aware of the value of the territory (Rocchi and Romano, 2006), of the typical productions and of the specific qualitative attributes of the products. It is essential to have a clear understanding of the richness of the territory, to know which are the food and wine levers, which are the actors involved and the local resources.

7.2 Involvement of internal and external actors

The development of a sense of identity and a common representation of local specificities is the fundamental premise for the development of collaborations and for the implementation of initiatives to enhance local products and services. The awareness of local value is also fundamental for the development of a participatory and collaborative process that starts from the bottom and that involves all the actors of the territory and the local community itself (Rocchi and Romano, 2006). Voice must be given to all the internal and external actors of the single supply chain (producers, consumers, associations, public administrations, school system, civil society and public subjects). The solution to the problem of excessive business fragmentation is the involvement of internal and external actors in supply chains. The collaboration development among actors needs to include actors close to the supply chains which, by experiencing the territory and knowing its history and values, can help create a unified image of the territory. The territory should not be understood as a geographical space but as a “choral subject”, that is, human groups that have their own “productive bump”, matured over time, which shapes, at the same time, the territory and the mindset of the population (Becattini, 2004).

7.3 Definition of quality standards

The definition and maintenance of high-quality levels is essential to promote the development of the tourism and agrifood related sectors. To guarantee high-quality levels, the network should establish rules to define common quality standards (van der Vorst *et al.*, 2011). Attention to the quality of the offer is however a broad concept that involves three different levels (Pencarelli and Forlani, 2002): the quality of the products, the quality of the hospitality structures and the quality of the context and territory.



Figure 2.
Conceptual
framework for
collaboration
development of rural
areas

Source: Authors' elaboration

Product quality means guaranteeing the quality and typicality of the productions. Cooperation with the agricultural sector is essential to achieve and maintain product quality standards.

Quality of hospitality means attention to the service component by the accommodation facilities, but it also means professionalism of the food tourism operators, which often involves operators who are not touristic and therefore must acquire the appropriate skills in the matter.

Quality assurance of the territorial context means definition of quality standards of the territories and of the structures it offers.

7.4 Cooperation intra and infra supply chains

Cooperation between the actors of the same supply chain (intra-supply chain) and between actors of different supply chains (infra-supply chains) (Allaoui *et al.*, 2019) belonging to the same territory is the solution to limited propensity for cooperation and lack of synergies among individual producers.

Intra-supply chain and infra-supply chain collaboration lead to resource integration among actors of a network, that is the prerequisite for value co-creation (Vargo and Lusch, 2016). Resource integration represents a joint value creation that benefits all actors of ecosystem.

7.5 Communication through technology

Communication is the necessary tool to promote externally the value of the territory. Digital technology is a leverage for knowledge exchange to reach all stakeholders and to systematically promote innovation (Polese *et al.*, 2022). Knowledge exchange through technology concerns both the production side of the agrifood sector, where new technologies allow customers to have complete traceability and visibility of the production process, both the identity side, where technologies allow customers to have complete knowledge about territory identity. Therefore, it can represent the plot that brings together the contents of the territory, and it can act as enabling factor for the collaboration development among actors in places where the social fabric is not conducive to the spontaneous creation of networks (Cafiero *et al.*, 2020).

8. Conclusions and implications

The paper proposes an innovative framework for the collaboration of the actors of the agrifood chain to stimulate rural development. The proposed collaborative model could represent the starting point for the construction of a digital platform that aims to represent a collective communication space to give voice to all the actors of the territory being a tool of support and enablement of enhancing and strengthening the local supply chain. The construction of a digital platform should be driven by the basic idea of the collaborative model according to which the entire agrifood sector will increase its visibility and transparency through increased interconnection and cooperation of resources and the actors who work there.

In other words, the digital platform does not aim to define from above, according to a top-down approach, the actions and activities to be carried out to promote collaboration relationships functional to the development of the supply chains and the territory on which they exist. Rather, it aims to support and empower a communication scheme between a plurality of actors that can stimulate the creation from below, according to a bottom-up approach, of intra-supply chain and between supply chain collaboration strategies.

Furthermore, the digital platform should be based on the assumption that the value creation process does not occur only thanks to the companies directly involved in the production processes but involves entire systems of value creation in a process of value co-creation (Polese *et al.*, 2018). This happens because the various actors, with their specific and respective roles, contribute to co-create value and not simply add activities along their own chain.

The proposed framework and its combination with the technology platform can facilitate the:

- promotion of local places and products;
- increase in the visibility of agricultural and agrifood companies in the territory; and
- value co-creation processes between broad sets of stakeholders that drive positive social change.

The research entails theoretical and practical implications.

First, the study contributes to the literature on the actor-network approach (Rocchi and Romano, 2006) and the service ecosystem elements (Polese *et al.*, 2018; Botti and Monda, 2020; Troisi *et al.*, 2019a, 2019b), demonstrating their integration and identifying basic and supporting components for the development process of the rural area.

Second, it contributes to the rural development literature, expanding the body of knowledge and giving new evidence to the idea that agrifood chain and tourism are clear components of place identity (Hernández-Mogollon *et al.*, 2015; Vesci and Botti, 2019) offering the opportunity to experience the intangible heritage of the visited place (Björk and Kauppinen-Räsänen, 2014).

Third, it gives traction to the conceptualization of “new rurality” (Pita-Morales *et al.*, 2015; Pisani and Franceschetti, 2018; Ramírez-Miranda, 2014; Rytönen, 2014) demonstrating how this approach works in real society describing the interactions and the collaborations that can transform a rural area in a socially constructed area.

Fourth, the study proposes an advancement in the local development literature (Andersson *et al.*, 2017; Botti *et al.*, 2018), proposing a theoretical framework able to support local development. The identification of some actions for fostering effective rural development can improve present understanding of rural development itself and could offer some useful insights on the different kind of real activities and collaborations performed by actors’ network.

Fifth, from a practical point of view, the analysis provides relevant insights for policymakers to define adequate policies able to support rural development. In fact, having identified strategic elements (theoretical macro-areas: awareness of local value, collaboration development among actors, consolidation of the network, resource integration and using digital technology) for rural development and practical actions (definition of territorial identity, involvement of internal and external actors, definition of quality standards, cooperation intra- and infra-supply chains and communication through technology) necessary to solve the weaknesses of a local supply chain, the paper suggests the need for a differentiated use of policy instruments more targeted in relation to the specific objectives to be achieved.

Furthermore, our research suggests the necessity for policymakers to adopt a new approach aimed to create the conditions to develop collaborations between actors involved in rural development. In other terms, the role of institutions and policymakers should also include the capability to enable and to empower local actors and communities to make collaborative choices and actions. This kind of approach is important for two reasons: to

create an enabling policy environment for initiatives promoted by local actors; and to allow new institutions and groups to emerge in less active places.

In more general terms, the role of policymakers in the development of a collaborative approach requires a sort of bottom-up approach in which local actors are active subjects and policymakers have to provide the supportive environment for community initiatives.

Finally, by pinpointing the main role of technology, the study highlights the constantly evolving of technology, and how it has a growing importance in rural development. This phenomenon concerns not only the actors involved in the agrifood chain process but also the territories where the agrifood companies operate.

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