

NETWORKING AGRIFOOD SMEs AND CONSUMER GROUPS IN LOCAL AGRIBUSINESS

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How could a cluster of high quality agrifood SMEs face global competition? How could a local group of consumers purchase trusted quality goods at reduced prices? To address these issues, we present a model of local trade networks that specifies relationships and links between and within consumer groups and agrifood producer clusters, where exchange can take place only if formal relationships between them exist. An application of the model has been trialed in an EU funded project, SADECAL, aimed at creating a collaborative network in the agrifood sector.

1. INTRODUCTION

Over recent years, the European agribusiness sector has been facing new challenges due to deregulation and globalisation of the markets, increased customer quality requirements in agrifood products and the development of new technologies.

Growing competitive pressures drive agrifood producers to search for new ways of doing business able to guarantee competitive advantages, to improve farm revenue streams and to develop new consumer market niches. Different studies (Volpentesta & Ammirato, 2007; Bowler et al, 1996; Weaver & Fennell, 1997) show that ways to realise agribusinesses' expectations consist in operating on:

- agrifood products, setting them with high "typical and quality" features (i.e. strictly related with local territory);
- production/distribution processes, making the long and complex agrifood supply chains shorter;
- technological platforms, supporting adequate e-business solutions for SMEs (European Commission, 2007).

In this paper, we introduce results of an EU funded project, SADECAL, aimed at creating a collaborative network in the agrifood sector. In particular, we refer to a regional scenario where *agribusiness clusters* (coalitions of SMEs producing high "typical and quality" agrifood goods) and *consumer groups*; (individuals clustered into virtual communities of common interests for purchasing) are involved in a trade network (Mathewson & Winter, 1996; Schotanus & Telgen, 2007; Wang & Watts, 2003).

For such a network, we propose an organisational framework and an open-source e-business platform aimed to:

- support the 'Relocalisation' process, i.e. the identification and valorisation of local resources;

- foster the emergence of ‘alternative agrifood networks’;
- maximize returns and reduce costs within groups by-passing the large-scale retail trade;
- create sustainable relationships between agribusiness clusters and consumer groups;
- provide Internet-based ‘electronic trade platforms’ for agribusiness¹.

The paper is organized as follows. Section 2 introduces the theoretical background. Section 3 outlines the organizational model. Section 4 presents an application of the model in a regional economic context. Lastly, section 5 is devoted to the conclusion.

2. THEORETICAL BACKGROUND

In the last decade the agribusiness industry has been undergoing major restructuring. Factors like technological innovations, increased customer quality requirements, new labor practices, poor agriculture commodity prices, emergence of international retail giants and rise of massive superstores, have revolutionized the industry from top to bottom (Vias, 2004).

In the retail sector, concentration is taking place with fewer firms controlling ever-increasing portions of the retail market (Hollingsworth, 2004). This leads agrifood SMEs to face a pressing request for “new ways” of doing business in order to obtain competitive advantages. Some of these ways rely on joint initiatives and new approaches for cooperation (Schiefer, 2004).

Different studies (Bowler et al., 1996; Volpentesta & Ammirato, 2007; Weaver & Fennell, 1997) show how successful initiatives in supporting agribusiness industry challenges point to foster ‘relocalisation’ of agrifood systems, the emergence of ‘alternative agrifood networks’ and to introduce eBusiness practices and instruments through the industry. “Relocalisation” refers to the identification and valorization of local resources –including cultural identity – through the rediscovery of local traditions as a means to improve wellbeing, genuineness and, in a more general sense, quality of life. It has been suggested that one means of doing so is by protecting distinctive products that claim historical associations with a specific area and by securing Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) status for ‘typical’ regional foods (De Roest & Menghi, 2000; Ilbery & Kneafsey, 1998). The ability of typical agrifood producers to access “alternative agrifood networks” is strictly interconnected with relocalisation. These kinds of networks tend to minimize links in the chain and the involvement with conventional, multinational food supply chain and large retail chains (Volpentesta & Ammirato, 2007; Watts et al., 2005). They may be supported by collaborative commerce platforms in order to improve food quality and safety control, traceability, efficient consumer response, transaction efficiency, consumer trust, and supply chain cooperation (Schiefer, 2004).

A sustainable way to exploit the advantages of relocalisation, is, thus, the creation of alternative food networks where exchanges can take place among coalitions of consumers and clusters of agrifood producers in order to by-pass the tight tie-in with the large-scale retail chains. These kinds of arrangements are stable, non-equity based and collaborative and they have become increasingly important as

a means of reducing cost (Contractor & Lorange, 1988; Zajac & Oslen, 1993), increasing revenue (Contractor & Lorange, 1988), or mitigating risk in response to economic factors (Ebers, 1997).

An interesting case of alternative food networks is represented by trade networks characterized by a close relationship between buyers and sellers/producers of goods/services of differentiated quality (Wang and Watts, 2006). Such a network comprises *purchasing groups*, *agrifood producers clusters* and sometimes an intermediary between them.

The notion of a purchasing group refers to the idea of an agreement between two or more entities which ‘‘is often motivated by the expectations of improved efficiency and better effectiveness due to economies of scale and economies of scope’’ (Rozemeijer, 2000). Nollea and Beaulieu (2003) define a purchasing group ‘‘as a formal or virtual structure which makes the consolidation of purchases for many organisations possible. Consolidation is a procurement practice used by local entities to transfer activities such as: bidding, supplier evaluation, negotiation, and contract management to a central entity. For Schotanus and Telgen (2007) a purchasing group ‘‘consists of dependent or independent organisations that share and/or bundle together in order to achieve mutually compatible goals that they could not achieve easily alone’’.

A producers cluster is a firms’ aggregation that is based on a ‘‘long-term purposeful arrangement among distinct but related for profit organisations that allow the firms in them to gain or sustain competitive advantage vis-à-vis their competitors outside the network’’ (Jarillo, 1988).

Lockett and Brown (2006) state that intermediaries are necessary for online aggregations of SMEs to function. In particular, they have shown that an intermediary can have ‘‘a critical role in gaining the commitment of potential participants to enter the e-aggregation and can be considered as a trusted third party’’.

3. THE ORGANIZATIONAL MODEL

The economic context where the model could be applied is characterized by the presence in a limited geographical area of:

- many agrifood SMEs, possibly organized in clusters, manifesting a common strategic goal to cross over the large retail scale and directly control the distribution channel;
- a community of potential consumers, who need to purchase ‘‘secured’’ goods at lower prices;
- ICT infrastructures necessary for e-commerce solutions, timely, economy and high-efficient communication and means to agrifood producers and consumers.

But, even if the adoption of a group commerce ICT solution allows to purchase and/or sell agrifood products more cost-effectively and efficiently, the main enabling factor to consider is ‘‘trust’’. It is widely recognized that trust is a key facilitator of eCommerce (Bhattacharjee, 2002) and that lack of trust is one of the most frequently reasons for customers to not purchase from the Internet (Lee & Turban, 2001). From the perspective of buyers, trust in sellers is necessary but not sufficient for an online transaction to take place. Buyers must also trust the

intermediary; Myoung-Soo and Jae-Hyeon (2005) surveyed that buyers base their trust on the reputation of the intermediary as well as web usability and transaction security. In this sense, intermediary should not only guarantee completion of the transaction process but also qualify the sellers.

In the model we introduce, different roles need to be played. In what follows we describe main organizational roles for the management of collaborative trading processes in a trustworthy environment.

The trusted third party (TTP) refers to an organization unit which enjoys equal trust from both the agrifood producers and consumers. It is aimed to influence innovation decisions, facilitate transactions, organize the agrifood trade network and, above all, provide and manage the ‘trust platform’, where e-business engagement by agrifood producer clusters and consumer groups can be effectively supported (Swan & Newell, 1995; Newell et al., 2000).

In our model, the TTP plays a triple role in intermediation between producers and consumers groups:

- technology intermediary, whose role is to provide the ICT platform including hardware, security and communication;
- transaction intermediary, which provides services including applications software, hosting and consultancy. Among its roles, there are the coordination and management of information flows (from agribusiness to consumers and vice-versa) and the logistic chain (from agribusinesses to consumers groups). Operatively, it collects cumulative purchase orders from consumers groups and processes them in order to form single purchase orders for each agrifood producers cluster. Once goods arrive from clusters, it packs them with respect to each consumers group order and sends them to the consumers group pick-up point;
- guarantee authority, that defines an “ethical code” and behavioural rules in transaction processes.

In addition TTP has a critical role in gaining the commitment of potential participants, both as individuals and groups, to enter the aggregation. This means it provides a broad governance function, enables the promotion of cooperation among groups and controls transactions to ensure behavioural correctness of members interactions in the network.

The consumers group (CG): it is a particular kind of no-profit purchasing group that is self-organized. Its members are final consumers, typically households, who want to purchase agrifood goods at reduced prices. Moreover, following the increasing movement towards rediscovery of local traditions as means to trust the quality and origin of products, consumers want to first purchase secured typical regional foods, where traceability and producers reputation, usually based on EU certifications, can assure the required trust. In order to achieve enough purchasing power able to gain the desired trade discounts, consumers decide to share their “shopping lists” to create a unique order for an heterogeneous bundle of products. In creating and submitting the cumulative order to the TTP, the CG is required to follow the ethical code and behavioural rules previously established.

The agrifood producers cluster (AC): it is a for-profit organization whose members are SMEs or simple farms, all placed in the same territory, producing high quality agrifood goods. Members in a cluster are characterized by offering the same type of products, but their products differ from each other in terms of characteristics as designation of origin, quality, manufacturing methods, etc. For instance, one cluster can offer different kinds of olive oil, another cluster sells different kinds of milk packets and dairy products, etc. Once a cluster receives purchasing orders, it sends the requested goods to the TTP collection point. In its behaviour, an AC adopts the ethical code and follows the rules established by the TTP. A representation of the organizational model is presented graphically in Figure 1.

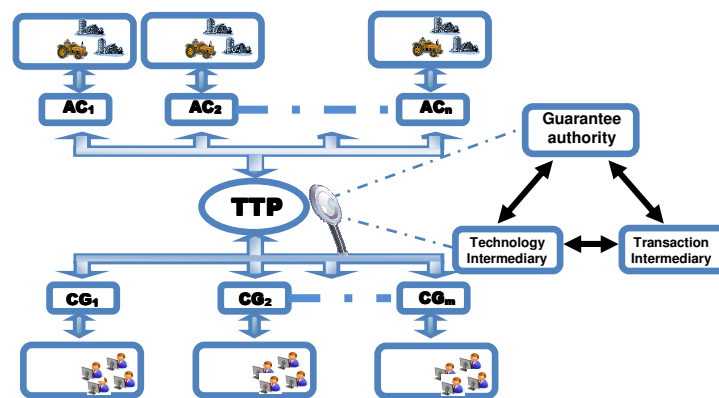


Figure 1. A representation of the organizational model

4. AN APPLICATION OF THE MODEL

The model was implemented during the execution of an EU founded project, SADECAL, aimed to create a collaborative trade network in the agrifood sector in Calabriaⁱⁱ. In particular, the economic context we have taken into account is the District of High Quality Productions placed in Sibari, namely, the *DAQ-Sibari*ⁱⁱⁱ (see. Figure 2).

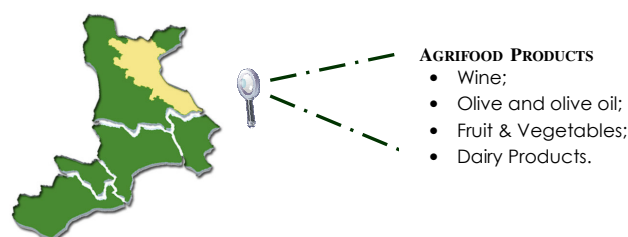


Figure 2: The DAQ-Sibari territory and its main agrifood production.

After a public call to join the project, nine ACs, operating in the four main agricultural sectors (wine, olive, fruit and vegetable and dairy productions), were

selected. Their products are all secured by PDO and PGI status for typical regional foods.

The task of TTP was assigned to the ‘District Centre’ of the “Società di Distretto” (a consortium of 92 organizations among the ones belonging to the DAQ-Sibari). In particular, a Project Management Board, constituted by designated members of DEIS (Department of Electronics, Computer Science and Systems at University of Calabria), District Centre, ACs and CG, was charged with the role of guarantee authority. A technical staff of the District Centre was supported to play the role of technology intermediary by some researchers of the DEIS that, as technological partners, provided ICT platform and training to users. Another staff of the District Center was charged with operational management of transactions so that goods were shipped on time and in compliance with behavioural rules established by the Project Management Board.

In relation to consumers, awareness/promotion actions were performed by DEIS personnel in order to encourage members (employees and students) of the community around the University of Calabria in creating a CG, named Unical-CG.^{iv} (see Figure 3).

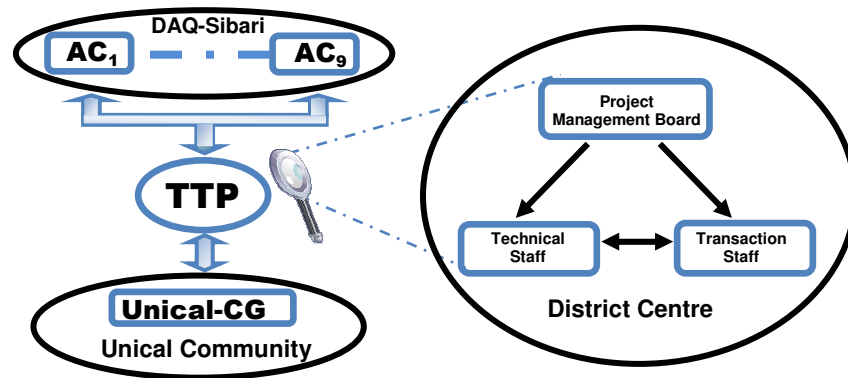


Figure 3. The organizational model in the project

A web-based collaborative commerce platform was developed by DEIS researchers and it was used by the District Centre to support management activities (Unical-CG data management, ACs data management, selling catalogue management, order processing and logistic chain management, e-payment). A PHP framework (namely P4A, an open source software containing libraries, modules and widgets), a web server Apache and a MySQL database were used to develop the platform.

To increase trust in the model, in the DAQ-Sibari and in the ACs, a series of presentation meetings, typical products exposition and free tasting were organized. The involvement in the project of an university department, namely DEIS, has been considered a key factor to persuade community members to agree to the Unical-CG.

5. CONCLUSION

Following directions by the European Commission (2007), we have proposed an organizational model of a trustable platform where potential consumers groups and agribusinesses clusters can meet to trade high quality agrifood goods in a regional scenario.

An application of the model in an economic regional context has allowed us to observe some typical advantages for both consumers (lower purchasing prices, higher goods quality, lower transaction costs, satisfaction, and learning from each other) and producers (reduced transaction costs, early payments, dealing directly with the customer, opportunity to bypass large regional and national distributors, and raising profitability).

The experience gained during the project execution has shown that the role of the intermediary, acting as TTP, appears to be critical in the formation of buyer-seller agrifood trade networks. In our project, the TTP had to face set-up costs, coordination costs and producers/seller resistance. Moreover, the main difficulty was not the technical part but the organization of appropriate market rules, the provision of appropriate trade information, the design of appropriate trade filters that determine the eligibility of participants and traded goods, and the organization of linkages between different interacting groups .

Further studies are underway in order to define an evaluation model to estimate economic advantages for both agrifood producers and consumers as well as intermediation costs.

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ⁱ Fritz et al. (2004) define an electronic trade platform as “a support system able to match agribusiness clusters and consumer groups, intermediate trading transactions up to contract conclusion and provide the institutional infrastructure that is in line with the legal and technical environment”

ⁱⁱ Calabria is a southern Italy lagging behind region included, by the EU, among the Objective 1 region. In Calabria, the agribusiness sector contributes 7.8% to the aggregate regional product and accounts for 18.9% of the total employment in the region; both of these rates are approximately twice the equivalent national averages.

ⁱⁱⁱ The DAQ-Sibari was established with a Calabrian Regional Law in 2004. Its territory is in the north-east of Calabria and it comprises almost 200,000 hectare divided in 32 municipal districts. More than a thousand organizations (farms, agrifood SMEs, manufacturers, clusters of them, etc.) belongs to the DAQ-Sibari.

^{iv} The University of Calabria is a university of southern Italy, consists of six faculties, 42 undergraduate degrees, 36 specialisations, 23 departments and 170 classrooms. We have the largest library system in Italy and over 40,000 students and about 2,000 employees including professors and researchers. The University is the first and the largest Italian university campus and includes 3,000 student residence.