

Contributing to the Analysis of the Sustainability Management in the Organization of the Green Procurement: Theoretical Elements and Empirical Evidence from a Case Study

Rosella Pampanini and Gaetano Martino

*Dept. of Agricultural Economics and Food Science, University of Perugia, Italy
martinog@unipg.it*

1 Introduction

The introduction of the environmental dimensions within the Public Administration procurements and contracts is increasingly held as contribution to the sustainability of the chains governance. The so called *Green Procurement* (COM (2001) 274, L.n.488/1999) thus represents an important institutional innovation in Agri-Food Chains and it may potentially act as driver of changing toward a better rooted managerial approach to sustainability.

Fritz and Schiefer (2008) underline the variety in the definition of food chain and networks and the role of both the concept of cooperation (Omta et al., 2001) and of the evolution of business relationships. In this context the search for sustainability models requires that the long-term development paths have to balance the improvements in monetary benefit–cost balance and the society’s consideration of the benefit–cost balance to assure acceptance and sustainability. While interdisciplinary efforts are required in order to draw and to assess the patterns of change of the enterprises and of the chains (Fritz, Schiefer, 2008), the role of the governance structures and strategies has also to be investigated. The real meaning and scope of the sustainability management have to be carefully investigated and accounted for (Ilbery, Maye, 2005). Fischer et al. (2009) emphasize the role of firm level factors in designing the approaches to the management of sustainability. Despite the need for involving all the chains agents (Fritz, Schiefer, 2008), Hamprecht et al (2005) underline the difficulties in structuring efficient actions and patterns of behaviours at company level. The study defines the sustainable product as a product that has or aims at an improved environmental and social quality, which can be related back to the implementation of environmental and social standard (Seuring, Müller, 2008, p. 1705). An effective sustainability management is built upon strategies intended to promote and support of such kind of products. A robust *Green Procurement* strategy should rely on the long-term correlation among the three dimensions of the sustainability: economic, environmental and social sustainability (Dillyick, Hockerts, 2002, p. 132). The *Green Procurement* strategies determine pressures on the food chain emphasizing the demand for sustainable products. As sustainable management practise and systems require an intensive coordination to be established along the chain agents, the *Green Procurement* is expected to strengthen the vertical coordination which characterizes the chain (Omta et. al., 2001). To contribute to the comprehension of this process it is worth to refer to the focus company, i.e. a company which due to multiple reasons is able to direct the activity of the most of chain agents. In this context the study addressed two research questions: a) what are the strategies elaborated and implemented by the focal company in a Food Chain engaged in green product supply; b) does the strategy and the “green” supply rely on specific capability. The latter is just a part of a more general question concerning the competences and capabilities potentially supporting the green supply. The study contends that: a) according to theoretical prediction (Seuring, Müller, 2008) specific pressures emerging on the demand side promote the adoption of sustainability management approaches; b) a specific capability is required in order to develop the basic strategies and that this contributes to the long term

sustainability; c) these strategies and the managerial models related may exploit the opportunities provided by *Green Procurement* strategies.

The method of the study is based on three steps. First the analytical framework is defined drawing from literature and introducing the proposition mentioned. Secondly, an empirical analysis is carried out at two levels: the pressures on the demand side are investigated by through interviews with actors engaged in Public Administration procurement in the area of Livorno (Tuscany, Italy); the analysis of the capability was carried out by a case study developed at the level of the supplier related (a large cooperative). The findings are then compared with the principles and the organization implication of the *Green Procurement*. The research contributes to the existing literatures by: a) highlighting the relationships between the competences/capability of the firm and the sustainability management and strategies, also contrasting the analytical outcomes with the sociological perspective (Sonnino, 2009); b) identifying connections between the complementarity of the sustainability strategies (Seuring, Müller, 2008) and the *Green Procurement* strategies.

2 Conceptual framework

Dillick and Hockerts (2002) point out that the long term sustainability can be achieved by structuring a close association among economic, environmental and social sustainability. This necessity delineate an organizational and managerial path to be followed by the chain agents interested to cope with the *Green Procurement* emerging demand. The latter crucially focuses on the sustainable characteristics of the products to be supplied, therefore it determines an influence upon the chain agents intended to enhance or to structure their ability in producing and delivering sustainable products. Actually an outcome expected of the *Green Procurement* strategies diffusion is the enhancement of the sustainability degree of the chains engaged. The pressure toward sustainability can be conceptualized in terms of elaboration of supply chain management. Seuring and Müller (2008) point out that Government, stakeholders and customers give raise to pressures toward sustainability upon the focal company in a supply chain, i.e. the company which is able to direct the activities of the most of the supply chain agents. The main types of pressures are: Legal demands/regulation; Customers demand; Response to stakeholders; Competitive advantage; Environmental and social pressure groups; Reputation loss.

As a consequence the focal the focal company has to take into account a long part of chain and needs information on the environmental and social performance of the chain agents (Seuring, Müller, 2008). To some extent the increased necessity of co-ordination and the demand for detailed information is similarly determined by safety and quality strategy (Martino, Perugini, 2006). Two main strategy are developed by the companies to cope with issues mentioned which are respectively labelled “Supplier management for risk ad performance” (figure 1) and “Supply chain management for sustainable products” (figure 2).

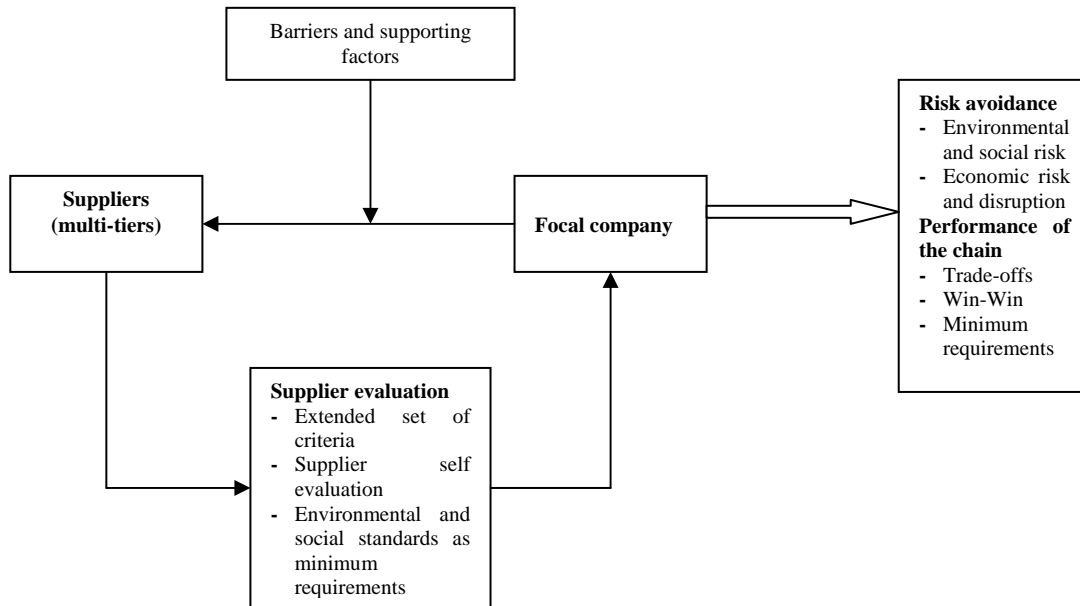


Figure 1. Supplier management for risk and performance (Seuring, Müller, 2008)

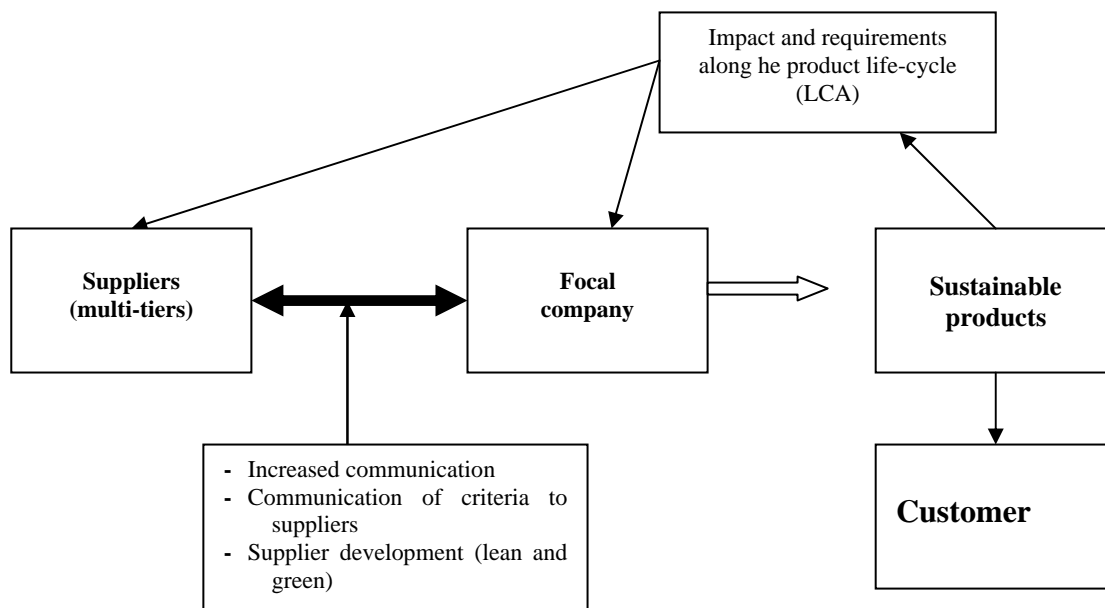


Figure 2. Supply chain management for sustainable product (Seuring, Müller, 2008)

These strategies are not necessarily alternative, but can be followed by various intensity by a given company. The *Green Procurement* focus on the product characteristics suggests that the *Supply Chain Management for sustainable product* should provide the main logical structure.

The strategic approach of the companies also deal with the competence/capabilities of the firms (Grant, 1991; Amit, Schomacher, 1993). Thus having identified the management strategies the study aims at investigating whether or not the company examined developed a specific competence/capability in the supplying Green products. We namely focus on the capability in the A capability is “a firms’ capacity to deploy Resources, usually in combination, using organizational processes, to effect a desired end” (Amit, Schoemacher, 1993, 35). As noted by De Bakker and

Nijhof (2002) co-ordination and deployment of the resources to intentionally perform tasks thus are key attributes of capabilities. We refer to the model of De Bakker and Nijhof (2002) which draws the capability building process in the case of responsible management.

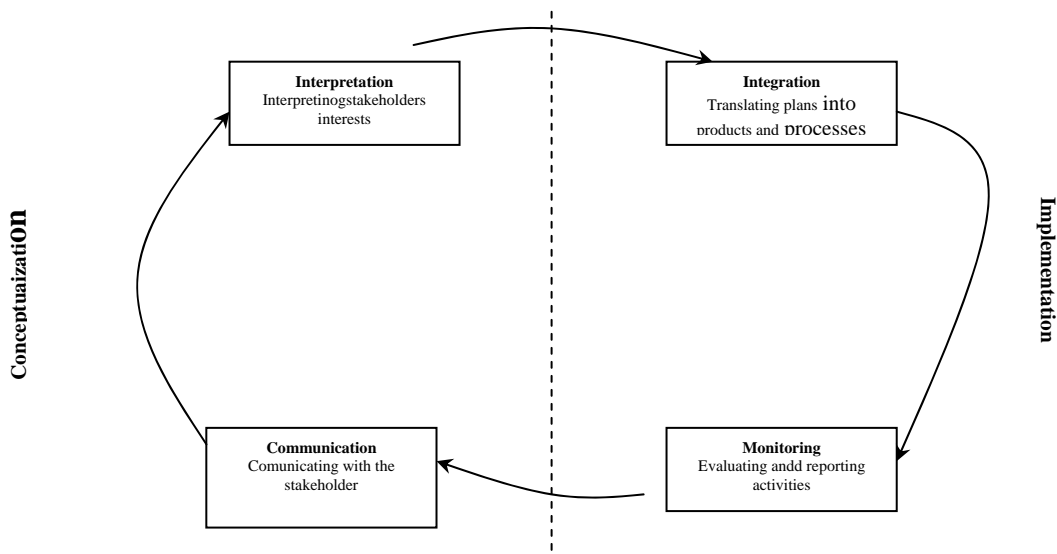


Figure 3. The capability cycle (De Bakker, Nijhof, 2002)

3 The Green procurement and the sustainability of Agri-Food Chains

In recent years, the importance of “green products” has grown increasingly in public contracts. The label “Green Product” applies to several kind of products, obtained from several sectors and sharing common characteristics of sustainability. The search for sustainability is also characterizing the procurement strategies of Public Administrations and this implies organizational and institutional issues concerning the opportunities and the pressures the Food Chains are facing and bearing.

The phenomenon at hand, called “Green Public Procurement”, entails a number of activities and strategies which aim at implementing the degree of sustainability of the services supplied by the Public Administration in a context of increasing attention to the issue of Sustainability Management and Supply Chain Management (Andriola, 2003). The Green products vehicles, food, energy, raw materials and can be easily be budget for planning by the public administration, which can face to environmental needs during all the life-cycle of goods. A growing attention is paid in this field to both the economic and the social environment fields, namely the direct and indirect consequences on environment coming from choosing environment respecting products than going on using conventional products. Public Administration purchase “*environmentally preferable products*” in many field, starting from bid for competitive public tenders to works entrusted to local administrations, able to move economical resources which exceed 1000 milliard Euros every year, which contribute to sustainable development (Andriola et al., 2003). This procurement strategy entails specific organizational adaptations which in turn support the achievement of the objectives. Namely, it is being recognized that sustainable food systems “not foster health and well-being of children and families, they also contribute to building community and supporting economic development” (Gillespie and Smith, 2008, p. 336). A central role in this field is played by the strategies of local government in this field (Sonnino, 2009; Preuss, 2009, p. 217). The theme of responsibility of the Public Administration as an actor of the food supply system (Gail Smith, 2008) connects the theme of the Green Public Procurement to the strategy of developing sustainable food chains. A “Green” supply in bids for competitive public tenders becomes, consequently, an inescapable step in order to give importance and actuate sustainability. This requires forces to re-

order supply processes, whose advantages show immediately in terms of money-saving at a local level and, in a wider view, in terms of consumption's rationalization during the steps of use, disposal and recycle of products, without considering the reduction of damaging discharges and waste, with incalculable advantages for the society (Andriola, 2003). The European Commission moved to enforce the introduction of green procurement in the rules applicable to bids for competitive public tenders. This was made in past years when, in 2001, UE Members were asked to promote solutions for the diffusion of sustainable products and services in the field of public contracts. In spite of the lack of explicit cross-references to the environment protection in the rules of public contracts, UE jurisprudence is the only way to give new possibilities to public agencies to offer environmental requirements in stipulating contracts. The possible solutions applicable by the public administration in the field of contracts with third parts consist of the introduction of specific environmental and managerial specifications, such as the possession of environmental certifications (ISO 14001:2005, Ecolabel, EMAS) or requests aimed at demonstrating the capability to offer a sustainable policy in the field of primary resources (water, waste, energy). The search for green procurement in public contracts underlines the importance of large-scale supplying of sustainable products, linked to the markets and transaction-costs system efficiency (Andriola et al., 2003). The supply of quality products in public contracts is strictly linked to this need, because of the increasingly request for specific requirements in public contracts, which bring firms to adopt organizational and economic solution which stand aside from conventional and industrialized food system, moving at the same time to local and particular food products and practices (Andriola, 2003; Sonnino, 2009). In this field, quality seems to be intended in opposition to industrial production. In spite of this, quality is not an inherent characteristic of food, but a way to offer a product which is not easily definable because it is made of many correlated processes which give, together, a different perception to consumers. Additionally, quality seems to give competitive advantages to firms, which translate, in public contracts, in the possibility of acquiring higher scores in the allotment. In the last years, Public administration school meals system has been subject to a process of reform that has brought to a continuous search for quality which, at the same time, transformed the public sector in one of the main actors in the food chain (Sonnino, 2009). The aim of this search for quality and sustainability lies on the capacity to set up an 'economy of quality' that has the potential to develop an environmental, economic, and social background of sustainable development in and beyond the food system.

4 Case studies

4.1 Method

The paper concentrates on two case studies: a Cooperative firm and a private company active in the field of the catering supply in Central Italy (respectively based in Tuscany and Umbria). The research method is based on the approach proposed by Yin (1994), according to the following scheme.

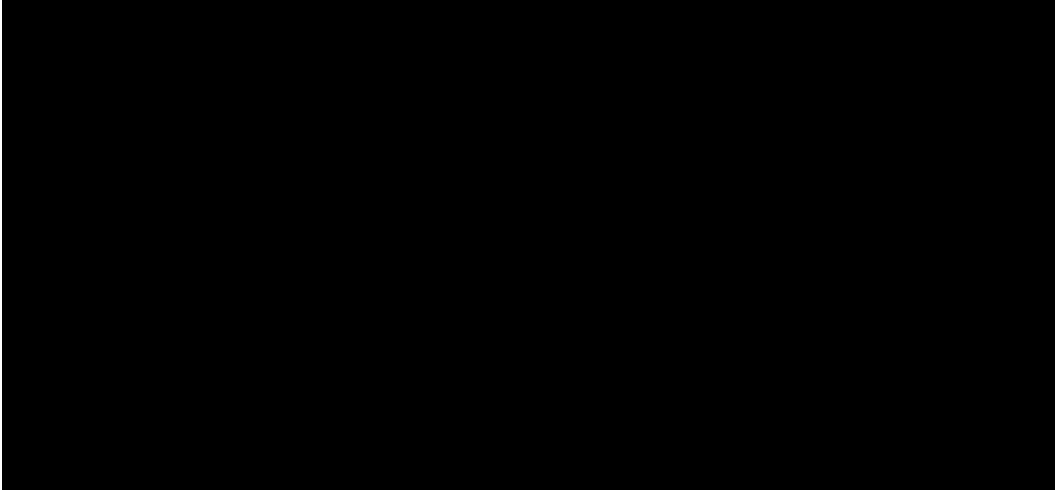


Figure 4. The case study method (Yin, 1994)

Starting from the existing theoretical propositions, the process consists in searching for answering research questions which bring to the realization of a case study. Data searching was realized through interviews and questionnaires, used to process new theoretical propositions. The comparison among starting and final propositions has brought to a results' analytical generalization. The elaboration of theoretical propositions, which represents the first step, uses existing theories which are the basis of the empirical research (Yin, 1994). Drawing from the conceptual framework, we expect that specific strategies is implemented by the company at stake in order to develop the Green supply and that this also implies a specific capability. In the empirical analysis it was necessary to widen the focus to the main difficulties faced by firms in the field of Green Procurement. The complexity of the market and environment context in which firms work, together with the lack of knowledge in strategic management, underline the matters in decisional and acting instruments.

Specific questions addressed in the study were:

Pressures

- What type of pressure factors are acting as drivers of the Green Procurement management approach (*pressures*)?

Supplier management for risk and performance

- What are the barriers met by the company?
- What are the characteristics of the management system?

Supply chain management for sustainable products

- What is the pattern of cooperation with the suppliers?
- What is the pattern of communication?
- Did the company develop a specific capability in managing the "Green" demand?

4.2 Organizational structure and main activities of the Coop8Marzo

Coop8Marzo is a Cooperative which mainly works in Livorno, Tuscany, in the field of catering industry. Coop 8Marzo offers a variety of services linked to production and supply of food both in industrial kitchens and by the customers.

Specifically, Coop8Marzo activities are:

- Catering Services: production, transportation and potential supply of meals by the customers;
- Banqueting: buffet and ceremonies organization in Coop 8Marzo's structures or by the customers;
- Refectories: production and supply of meals by refectories which are not property of Coop 8Marzo;
- Bar: subsidiary activity which is present in all productive centers of Coop 8Marzo;
- School catering: Coop 8Marzo works in form of Temporary Firms Association in producing and supplying meals for school refectories in Livorno (Tuscany), through a specific contract established by the public administration.

Coop 8Marzo leads more than 20 refectories of its own property, whose activity differentiates according to dimensions and typology of customers. Coop 8Marzo is one of leaders in the local market of food industry, whose mission is that of working ethically and at profit, assuring the environmental sustainability of its activities, offering quality services. It also continually monitors its own processes and activities and, periodically, defines its improving targets and its developing lines. In 2010, Coop 8Marzo has defined the following targets:

- To increase the decisional and productive independency of its productive centers;
- To differentiate and to increase the variety of its services.

The organizational structure of Coop 8Marzo follows a functional model, which is based on different actors. The main figures are: Quality, Human Resources, Directorate-General. Coop8Marzo, conscious of its role in supplying food services in a view of social and environmental responsibility and in respecting legal and voluntary prescription, has developed a system which guarantees, through a specific management system, the conformity to:

- UNI EN ISO 9001:2008 – Quality management system
- UNI EN ISO 10854:1999 – HACCP management system
- UNI EN ISO 14001:2004 – environment management system
- SA 8000:2008 – Social responsibility

To ensure the development of its project, Coop 8Marzo believes too in increasing its social activity, by involving all its workers, which are an integral part of the whole system. The methodological system adopted is based on the realization of a case study referred to a firm operating in the field of industrial restaurant production. The focus of the case study are the implications of the strategies processed to conciliate the need of environmental sustainability and the bonds established by the market. The target of the case is that of individuating and analyzing the different relationship which established in the agro-food supply of sustainable products, considered in a comprehensive dimension (Social Aspects, Low Impact Process Characteristics, Economic Performance). Case study was addressed to the analysis of Coop 8 Marzo's supply strategies, underlining its organizational choices.

The used data are:

- Existing documents;
- Management database;
- Specific interviews and questionnaires.

All data found were validated through a crossing comparison.

The case study aims at demonstrating that:

- a) According to theoretical prediction (Seuring, Müller, - 2008), specific pressures emerging on the demand side promote the adoption of sustainability management approaches;
- b) Sustainability requires specific competences/capability to be developed and to propose successful strategies;
- c) These strategies and the managerial models related may exploit the opportunities provided by Green Procurement strategies.

The empirical analysis was carried out by first identifying the pressures and the incentives coming externally and representing the link between Coop 8Marzo, the Focal company, and the other actors of the supply chain: government, customers and stakeholders. The focal company is defined (Seuring, Muller - 2008) as the company which rules the supply chain and which is responsible for the environmental and social performance of their suppliers.

The pressures and the incentives on the demand side were investigated by through interviews with actors engaged in Public Administration procurement. Pressures come essentially from government, represented by public agencies, which are increasing their demand for sustainable products in the food production services for school and public structures. This is documented by the decisions made by the Regional and Local Governments in the study area. The Coop8marzo tends to act as a focus company as it became progressively responsible for defining product standards, choosing customers and governing processes within the food chain, consequently it has a leader role in integrating environmental and social issues as requirements for the supply and purchase chain. In this sense the activities coordination carried out by the Coop8marzo reflect the large extent over the most of the chain agents as defined by Seuring and Müller (2008). On the other the Cooperative strategies progressively rely on the necessity of communication reflecting the possibilities theorized by Gillespie and Smith (2008).

Furthermore, Coop 8Marzo has decided to improve its system of incentives, including green and social requirements in its suppliers' qualification and demand, where related standards (ISO 14001, Sa 8000), and the implemented related management systems, represent a decisive requisite for the instauration of an economic and constructive long-term relationship. According to this strategy, environmental and social criteria represent a basis for the supplier evaluation, which is made by the Focal company by placing barriers and supporting factors and carrying out a more intense cooperation with the suppliers firms. Basic requirements are submitted to suppliers to take their qualification and to maintain it during the process of monitoring, evaluating and reporting, followed by a sanction-system which discourages opportunistic and incorrect behaviors. On the other side, Supporting factor consist of creating long-term relationships, which reduce economic risks and which establish a trust-based economic transaction, whose marked position is predominantly oriented toward hybrid forms. This promotes the reduction of the economic transaction cost, linked to the process of monitoring and evaluation, which are carried on easily and which favor the introduction of additional quality and environmental requirements, with a higher competitive advantage in the supply and demand food chain.

The focus on the relationships between the competences and the sustainability management and strategies of Coop 8Marzo and its stakeholders aims, moreover, at inquiring the possibility to develop a strategy of "supply chain management for sustainable products" in the activity of Coop 8Marzo. This would bring to a different approach to the theme, in which communication and a higher cooperation among partnering companies would cover the possibility to let green procurement become a central requirement along the whole sustainable supply chain management. This change of perception could be translated in a different approach to a sustainable production, which from a supplier development carried out for a risk minimization

could bring to an integrate approach, where the social and environmental supplier development becomes a necessity for a higher and more sustainable economic and social performance.

Table 1. The complementarity among the strategies adopted

Supply chain management for risk and performance	Barriers	Higher costs	
		Coordinating efforts and complexity	x
		Insufficient or missing communication	
	Management system	Socially/environmentally related approach	x
		Monitoring and sanctioning	x
		Suppliers evaluation	x
		Standard implementation	x
Supply Chain management for sustainable management	Life Cycle Assessment		
	Cooperation with suppliers	x	
	Training of the suppliers	x	
	Fostering information flows		
	Developing internal and external capabilities	x	

Source: our elaboration

As for the capability issues the data provide evidence we follow the De Bakker and Nijhof (2003) approach, emphasizing the role responsibility in shaping the managerial systems and practices. We summarize, assess and classify the activities and the choices of the Cooperative management with respect to the supply of green product to the local public administration (table 2).

Table 2. The capability building

		INTERNAL - Performance measurement - Incentives, collective brainstorming - Organizational re-engineering	EXTERNAL - External communication and socialization - Incentives - Networks of collaboration
Conceptualization	Interpretation	++	+
Implementation	Integration	++	+/-
	Monitoring	++	+
Conceptualization	Communication	+	++

Source: our elaboration

The main focus of the Cooperative is on the internal capabilities. Namely the focus of the performance influence determined significant feedbacks and pushed the company to elaborate incentives to engage the suppliers in the search for achieving the outcomes expected. Furthermore, the company actively manages the exchange of information and engage employers and suppliers in integrating the tacit knowledge emerging in the patterns of practice within a more general context. Under this view the company is progressively becoming able to identify more effective models. The evidence suggests that the Coop8marzo has progressively committed in a capability building process aimed at achieving a potential base for competing in the field of *Green Procurement*. The analysis also confirms the necessity for enhancing the vertical coordination among the chain actors.

4.3 Case study Cancelloni Food Spa (Umbria)

The second case study concerns with the Cancelloni Food SpA a small enterprise located in Cental Italy (Umbria). The core business of the Cancelloni Food Spa is the supply of prepared food to various buyers who in turn are involved in the selling or delivering the product to the final customers.

The used data are:

- Existing documents;
- Specific interviews and questionnaires.

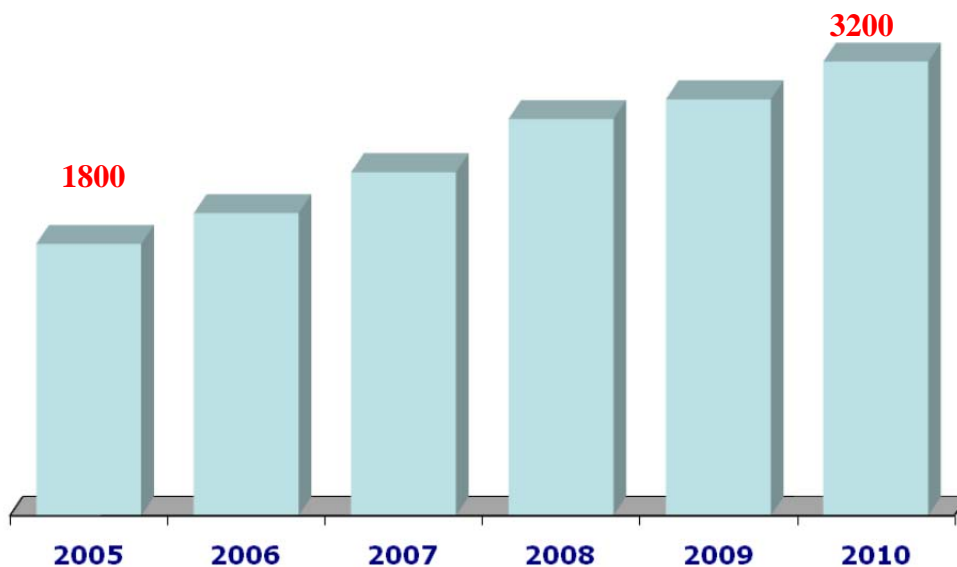
All data found were validated through a crossing comparison.

Also this case study aims at demonstrating that:

- According to theoretical prediction (Seuring, Müller, - 2008), specific pressures emerging on the demand side promote the adoption of sustainability management approaches;
- Sustainability requires specific competences/capability to be developed and to propose successful strategies;
- These strategies and the managerial models related may exploit the opportunities provided by Green Procurement strategies.

The Cancelloni Food SpA started its activity by supplying meat products and organized a structured mix of product since 2005. The management adopted two main strategic focuses: a) to enlarge the production mix in order to meet the composite demand of the final private and public customers; b) to promote company's brands.

This strategic approach provided an impressive rate of growth of the firms through the recent years (Graphics 1 and 2) substantiated by the increase of the geographical area of activity (Figure 5a/b).



Graph. 1. Recent dynamics of the customers

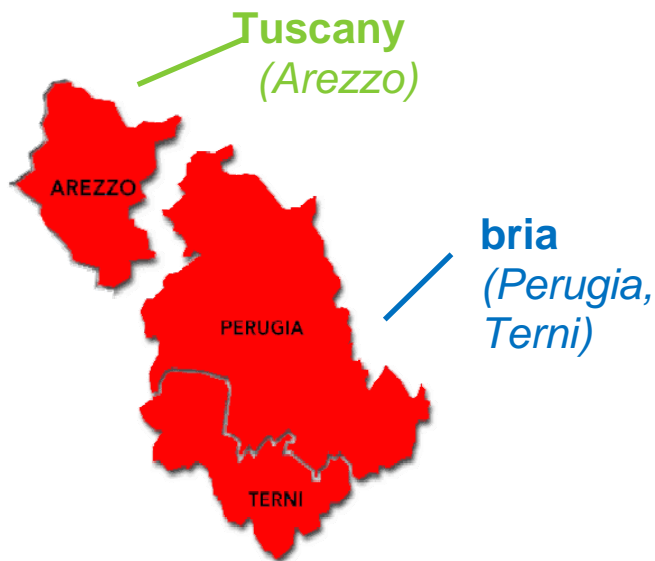


Figure 5a. Evolution of the geographical diffusion of the customers

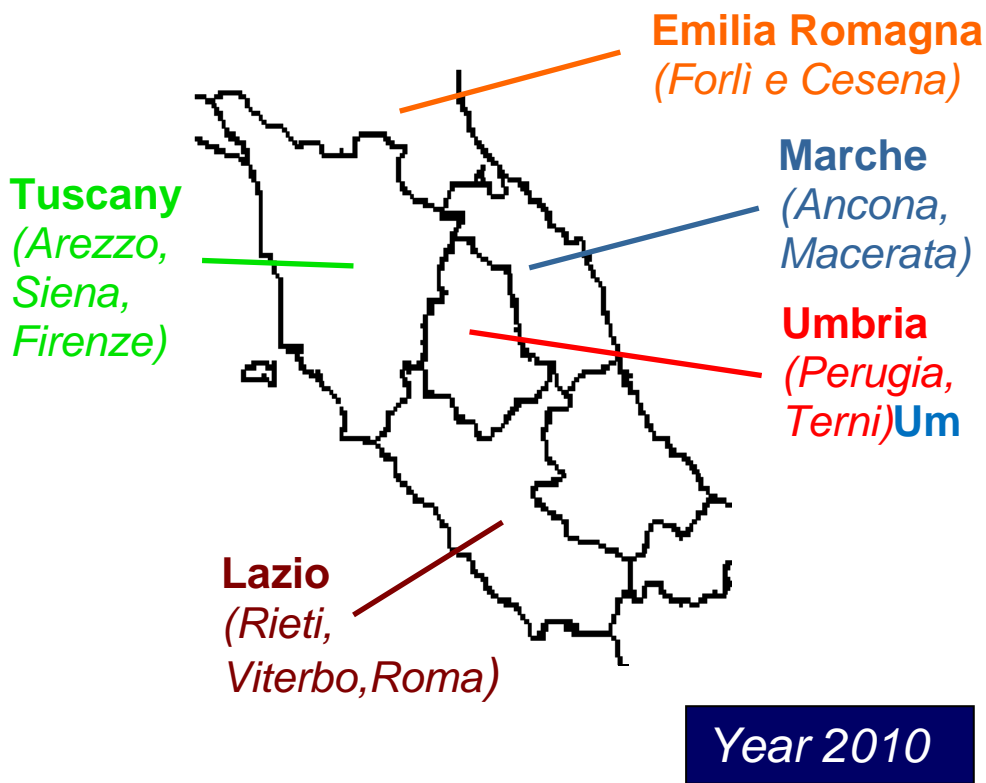
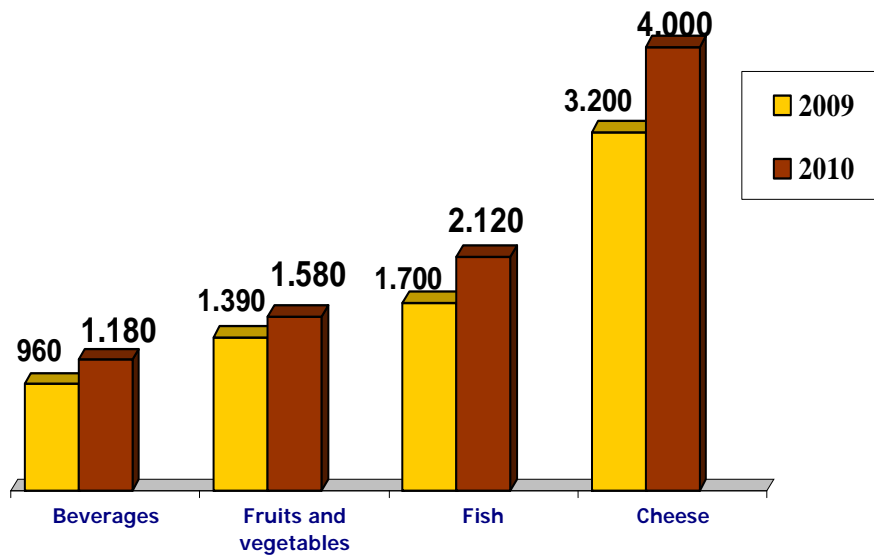


Figure 5b. Dynamics of the geographical distribution of the customers



Graph. 2. Recent Dynamics of the Company's annual Gross Product (000 Euro)

The Cancelloni Food's strength points are basically the sales strategic plans, the logistic and the organizational framework. The logistic is a specific area mobilizing investments in transportation allowing the company to improve the value added of its services and products. The sales plan support actively the diffusion of the company supply in new areas.

The organizational framework proposes some elements of analytical interest. The Cancelloni Food organize its supply by integrating several flows of products channelling value to the final customers. The basic supply is supported by three level of procurement: global, national and local. The global level is organized by contract with large global enterprises and, as for bovine meat products, by vertical integration (small scale farm owned and managed in Argentina). The national level is organized directly by contracting with producers. The local suppliers play a different role and are being progressively involved in a sort of partnership in order to achieve stable qualitative characteristics and foster the brand policy of the company.

In this context, the role of Green Procurement strategy supported by local public Administration (mainly Hospitals) play a marginal role. The company aims at exploiting specific market segments, mainly characterized by standard quality demand and thus the whole organization and strategy is oriented to quality assurance and supply, but not to the exploitation of new potential demand.

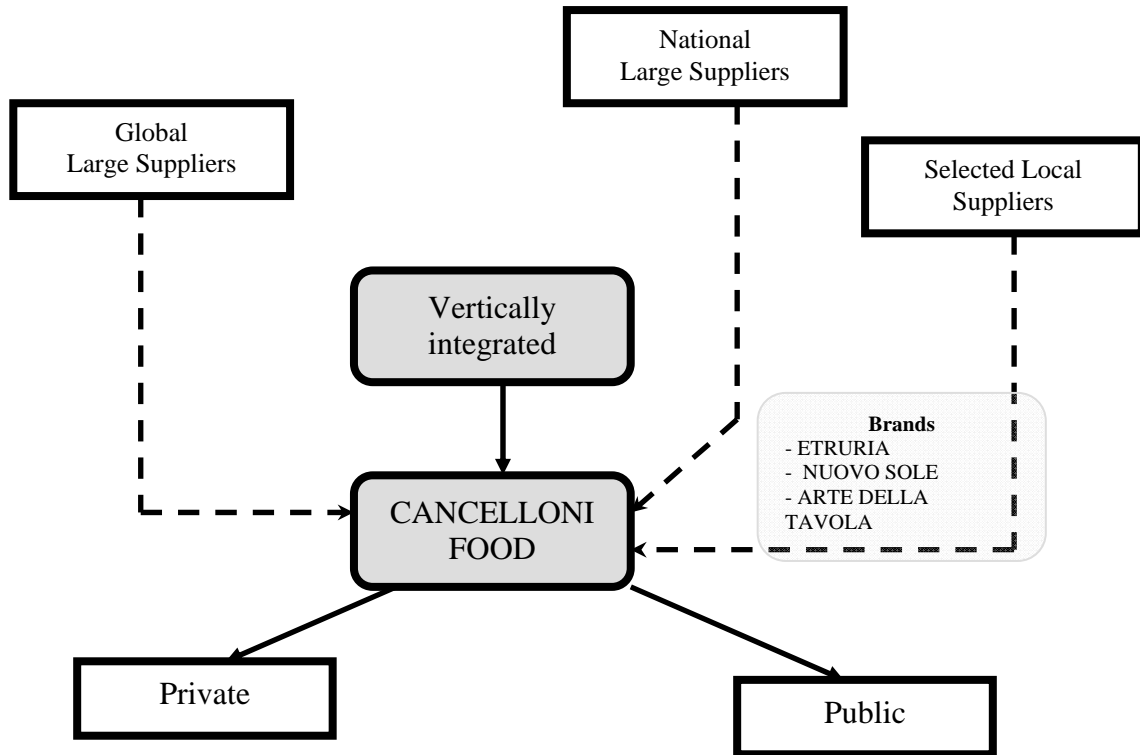


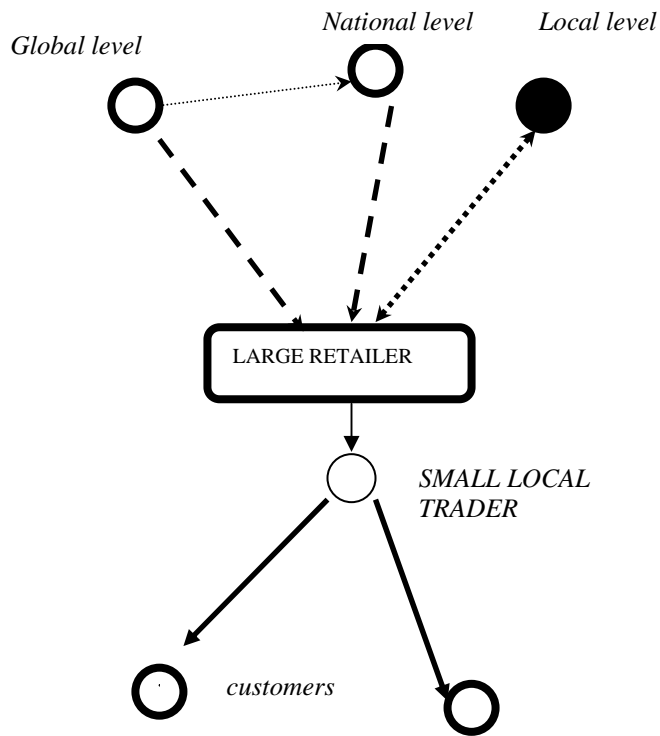
Figure 6. Cancelloni Food SpA – Organizational framework

In this case it was not possible to identify a clear process of capability building, even though the company show increasing competence in several fields (logistic, flexible organization of supply change).

4.4 A brief discussion

The two case study provide to some extent polar examples of organization of the supply of food product and services designed to meet the Public administration demand and requirements. They also exploit different segment (Schools, Hospitals) and are based on a different organizational framework. In the first case a more pronounced profile of interest for sustainability appears to be evident. The case study seems to tell the story of a company oriented to the changing demand of the customers. According to its role in the chain it may foster the evolution toward sustainable production and consumption patterns. On the other hand the emerging role of an actor as the Cancelloni Food would suggest the possibility of channelling sustainable supply patterns exploiting both the upward relationships and the final demand segments. It seems that these differences may be supported by the alternative networking of the two company (Figure 7).

Case Coop8Marzo



Case Cancelloni Food

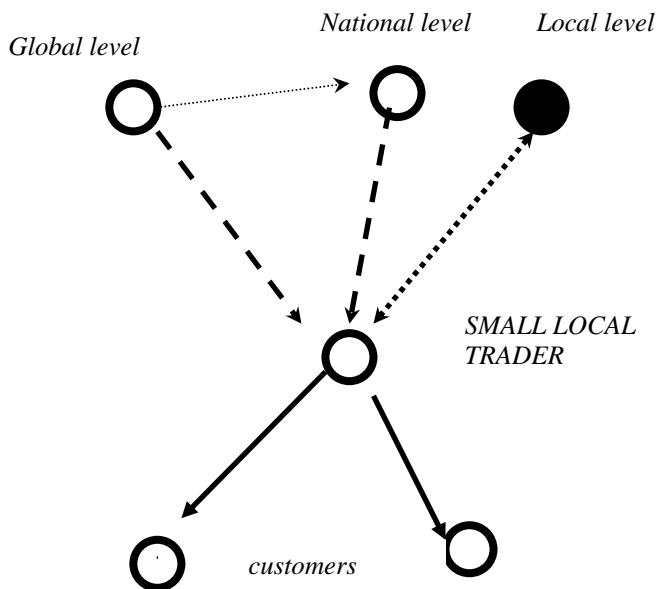


Figure 7. Alternative modes of networking

5 Conclusion

The paper is dedicated to *Green Procurement* as a driver of the building of sustainable Food Chain. *Green Procurement* strategies provide opportunities for Food firms and chains. Although they mainly focus on the characteristics of the products, these strategies engage the form in a close cooperation process. The study suggests that the sustainability strategies implemented to develop

Green supply tend to connect the focus on risk and performance with the focus on product management. The study also shows that the focal company tend to build a specific capability which would allow the company to achieve the degrees expected of agents coordination and of performance. The comparison between the case studies suggest a role in shaping sustainable strategies for alternative company networking. Future research should be carried out along two lines. First the more cases study should be collected in order to achieve more robust basis for the conclusion proposed. Secondly, the pattern of coordination of the chain agents have to be investigated and characterized.

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