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Trust within the organic food supply chain: the role of the Certification Bodies

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Trust within the Organic Food Supply Chain: The Role of the Certification Bodies

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Abstract

In the Organic Agriculture Supply Chain (OASC), the creation of trust finds its formal application into a process and product certification guaranteed by independent inspectors of the Organic Agriculture Certification Bodies (OACB). This study is aimed at analysing the role of OACB in creating trust between the actors involved into the OASC in Italy. Information about sixteen Italian OACB structures, field activities and factors constituting trust within the OASC were collected, through web-site exploration and direct surveys. Results show that the Ministry and final customers are valued as the more important subjects to OACB reputation building. Moreover, creating trust for OACB relies more on internal performance.

Key words: *Trust, organic food, Certification Bodies.*

1. Research background

The gap between consumers and producers should have an impact on public policy: personal confidence is replaced by institutionalized trust. This is attained by government control of standards, production and processing methods, and consumer concerns can be seen as signs of loss of trust. Maintaining consumer trust calls for governmental action (Brom, 2000). Although increase of consumers concern has probably been influenced by factors such as decline of consumer trust in the regulation of food supply (Warren et al., 1990).

According to Brom, assuring consumer trust through safety regulation and product labelling is not enough.

Growing environmental awareness in combination with concerns about safer foods have been reflected in a demand for organic produce (Saba and Messina, 2003). The consumption of organic foods is related to decreasing confidence in the quality of conventional foods and to an increasing consumer concern for health (Von Alvensleben and Altmann, 1987).

Government control for Organic products answers, in part, to consumer concerns affecting both special groups of consumers (for instance, citizens able to live according to their own life plan) and people concerned about the impact that some production processes have on the environment. These kinds of concerns underline and highlight the importance of the involvement of a third party (in this case, the government) in lending additional credibility to a producer claim. Government guarantees of the veracity of the information and institutional label seem to be a good solution (Grunert *et al.*, 2000). Labelling can solve problems inherent to consumer choice.

But why should consumers trust governmentally controlled organic-food? Who really controls these products? Although there is consensus on the importance of trust, there are open questions on which level of supply chain trust is created.

Since the premiums paid for organic food are mainly based on credence attributes, trust is a fundamental asset for the industry and the raise of concerns (Doward *et al.*, 2005) on the integrity of the organic food system may heavily damage all the operators, which are, in principle, self-interested in ensuring organic quality (Jahn *et al.*, 2004). Trust creating operators play a central role, reassuring both the supply chain actors and the consumers against possible disturbing levels of fraud or malpractice within the industry.

In the Organic Agriculture Supply Chain (OASC), the creation of trust finds its formal application into a process and product certification guaranteed by independent inspectors of the Organic Agriculture Certification Bodies (OACB). In Italy 21 OACB are authorized by the Italian Department of Agriculture, 5 of which are allowed to operate exclusively in the Autonomous Province of Bolzano.

In 2004, in Italy, about 41,000 operators were involved in the organic food supply chain, 85% of which are fully organic producers; 2,100 retailing, trading, and catering service enterprises add up to the previous figure. The total agricultural surface area (organic and in conversion) is about 950 thousand hectares, mainly covered by extensive crops (Sinab, 2005).

A steady positive trend was registered till 2002, while a certain decrease of both notified producers and surface area is registered after this date (Ismea, 2005). The overall turnover created by the organic agriculture industry was assessed at about 1.4 G€ while the overall quota of organic food is about 1.5% of the total household food expenditure (Sinab, 2005). Then, the sector is very relevant and trust in the integrity of the control system is a very crucial issue.

2. Objective

This exploratory study is aimed at analysing the role of OACB in creating trust between the actors involved in the OASC in Italy.

This objective is pursued by following the steps listed here:

1. description and analysis of the Italian public rules for the Organic certification process;
2. description of the OACB structure, also considering strategic objectives and degree of integration with the other actors;
3. evaluation of the factors determining trust in the OACB;
4. analysis of the relative weight of the main stakeholders on the formation of a reputation (according to the OACB opinion).

3. Materials and methods

In order to gain knowledge about public rules, which regulate the certification process and specify the roles of the different operators, an analysis of official documents was carried out.

Information about sixteen Italian OACB structures, their field activities and factors constituting trust within the OASC were collected, based on two sources: OACB web-site exploration and a face-to-face and telephone survey administered using structured interviews.

The questionnaire was validated during two qualitative interviews with experts. The survey was directly carried out with managers and technical executives of OACB. The strategy to address individuals playing different roles within the same company was chosen in order to ensure a wider overview on several aspects of trust within OACB.

The questionnaire was structured in three sections:

A. General questions on organization, available human resources, kind of certification offered and evolution about number and type of certified clients.

B. Stack of questions aimed at evaluating several statements involving trust elements within OACB using a 9-point semantic scale and a 5-point importance scale, in relationship with the main OASC stakeholders and actors. Selection elements have been hypothesised using researchers' *a priori* knowledge, a list was built and it was validated..

C. A section aimed at defining a hierarchy of importance of the typical stakeholders (Ministry of Agriculture, Regional Department of Agriculture, other OACB, accreditation body, consumer association, clients) of an OACB in order to build and maintain reputation within the OASC. This task is performed by using a weighing technique derived from a simplified application of the Analytic Hierarchy Process (AHP) (Saaty, 1980). It is based on a series of pair-wise evaluation of the relative importance of every pair of stakeholders. The evaluation is based on the attribution of a score ranging from 1 (same importance of both subjects), to 9 (subject A is extremely more important than B) or 1/9 (subject B is extremely more important than A). In order to check if the given scores are consistent within the matrix and index called Consistency Ratio (CR) is calculated, considering 10% as a threshold value. In case this value is overcome, a new evaluation of the whole matrix is needed (Roscelli, 1990).

4. Results

Since the organic food industry is regulated through the EC Regulation 2092/1991, the legal framework is rigidly set by the European Union, which defines the principles and rules (art. 8 and 9) for the certification process. However, these mandatory rules are applied at a national level and every member State is asked to apply the regulation to build the certification process according to its corpus of norms, and must appoint the competent authority (the Ministry of Agriculture) as well as the bodies responsible for performing the certification process. In Italy, the main reference norm for organic food certification is the legislative decree 220/1995, which specifies the roles of the different operators.

In Figure 1 the main operators roles are described. In this scheme the more important operators explicitly considered in the norm are highlighted, excluding importers, because for them specific rules are set, and they are out of the scope of this analysis.

As is evident in Figure 1, the key for the organic food and produce certification system is the OACB. It works as a conjunction element in the chain, linking producers, processors, traders, etc. and the control authorities, which are responsible for the correct functioning of the system. Sixteen OABCs were involved in the survey; only one refused to participate, but at present time only nine OABC (plus FederBIO, the Federation of organic companies operating in Italy) were available to actually participate into the survey. However, these eight OABC control

about 90% of the overall amount of registered organic operators in Italy in 2003-04. Interviews were directly carried out with seven managers and eight technical executives at the OABC headquarters.

Ministry of Agriculture (MoA)	Regional Departments of Agriculture (RDoA)	Certification Bodies (OACB)	Operators
Coordination at a national level and responsibility for the relationships with the EU and the other member States	Supervision and issuing of regional rules and operational specifications	Transmission of the list of certified operators and of the annual report on the certification activity both to the MoA and RDoA	Notification of their activity to OACB and RDoA
Issuing of national rules and norms to apply EU regulations	Surveillance on the activities of the OACB operating in the Region	Implementation of the inspection activities	Acceptance of the inspection and control regime
Authorisation and surveillance on the inspection bodies (e.g. effectiveness of controls)	Publicity and maintenance of the list of organic operators in the Region	Archiviation and maintenance of documents related to the certification process	Drafting of an annual Production Plan and transmission to the OACB
Keeping a national list of organic operators and authorized OACB	Maintenance of the list of OACB and annual report on their activity	Infliction of sanctions and cancellation of authorized operators	
		Maintenance and notification to the MoA and RDoA of any break of the rules and of the infliction of sanctions	
		Inspection Personnel Training	
		Preparation and maintenance of a list of certified products and operators authorized to use the European organic quality mark	
		Give evidence that they operate according to the EN 45011 norm	

Figure 1. Certification process: roles and responsibilities

Source: authors' elaboration on the basis of the analysis of the norms

In section B, respondents were asked to assign ratings to a list of trust elements aimed at representing the main factors determining trust within the organic supply chain. Among the actors, besides the subjects specified in the laws, also the accreditation institution -in Italy it's the SINCERT- and consumers associations have been taken into consideration. As far as the associations of consumers are concerned, this choice is justified by the role they play in protecting consumers and by their presence in the commissions of several certification institutions; while as far as the accreditation body is concerned, the choice is justified by the role played by the accreditation body in the qualification of the voluntary certification in general.

In Italy 8 institutions out of 21 are accredited. This affects the entire system and the choice, made by some institutions, to act according to common rules partially changes the rules that give order to the entire system, and therefore also the creation of trust and reputation. Moreover, the importance of this accreditation at international level must be remembered.

Data processing has been conducted dividing the respondents in two groups, the managers and the technical executives (Table 1).

Table 1. Trust building

Trust factors		Ministry		Regional Departments of Agriculture		other OACB		Accreditation Body		Consumer Associations		Final Customers		Importance of trust factors	
		Managers	Tech. Exec.	Managers	Tech. Exec.	Managers	Tech. Exec.	Managers	Tech. Exec.	Managers	Tech. Exec.	Managers	Tech. Exec.	Managers	Tech. Exec.
External visibility															
Years on business	Mean	5,00	4,25	5,43	4,25	7,14	5,75	6,43	5,63	7,86	6,13	7,43	5,88	4,29	3,13
	Std.														
	Dev.	3,606	2,752	2,370	2,752	1,215	1,902	2,820	2,498	1,464	2,268	1,512	2,44	0,756	1,718
Suspension of the authorization	Mean	9,00	7,75	8,71	7,75	7,71	7,88	8,86	8,13	8,71	8,25	8,29	8,00	4,00	4,50
	Std.														
	Dev.	0,000	2,149	0,756	2,149	1,604	1,380	0,378	1,414	0,756	1,215	1,496	2,193	1,155	0,787
OACB size	Mean	4,57	3,75	5,71	3,25	5,43	5,50	5,71	5,25	5,71	5,75	7,14	5,38	3,14	2,75
	Std.														
	Dev.	2,070	2,116	2,360	2,370	2,149	1,464	3,352	1,799	2,498	1,718	1,574	2,000	1,215	1,215
OACB offered certifications	Mean	2,00	3,00	2,86	3,50	6,14	5,38	6,00	6,25	6,43	5,63	6,86	6,00	3,14	4,25
	Std.														
	Dev.	1,291	2,498	1,773	2,854	1,676	2,582	3,000	2,699	2,149	1,604	2,268	2,430	1,773	0,900
SINCERT Accreditation	Mean	6,00	4,50	8,00	5,50	8,14	7,88	9,14	9,00	6,71	6,38	7,29	7,00	4,57	3,88
	Std.														
	Dev.	2,769	2,944	1,000	2,545	0,690	0,816	0,378	0,000	1,254	1,676	1,380	1,496	0,535	1,155
Non EU organic certifications	Mean	3,71	3,00	4,71	3,38	7,57	7,25	5,86	6,38	6,43	6,50	7,71	7,75	4,29	4,38
	Std.														
	Dev.	2,563	2,430	1,704	1,604	0,976	1,272	2,410	2,440	2,225	1,113	1,604	1,069	0,756	0,976
External activities	Mean	3,29	4,63	4,43	4,38	5,43	6,00	6,00	4,75	6,29	6,00	7,43	7,00	3,00	3,88
	Std.														
	Dev.	2,984	2,000	2,299	2,138	1,813	1,496	2,708	2,289	1,976	2,059	1,718	1,380	1,155	0,488
Internal operative modes															
Certification Commission competence	Mean	7,14	6,50	7,14	6,50	5,71	5,25	8,71	7,13	7,86	5,50	6,29	5,50	4,14	3,88
	Std.														
	Dev.	1,345	1,952	1,345	1,952	1,704	2,035	1,254	1,155	0,900	2,911	1,254	2,734	0,378	1,496
Management competence	Mean	7,71	7,00	7,71	6,75	6,86	6,00	8,71	8,00	6,86	5,63	7,43	7,50	4,29	4,13
	Std.														
	Dev.	1,254	2,215	1,254	2,149	2,410	2,360	0,488	1,069	1,952	1,890	1,718	2,360	0,756	1,155
Technical Operators competence	Mean	7,43	7,00	8,00	7,13	7,43	5,88	8,71	8,13	7,71	6,88	8,43	8,38	4,86	4,50
	Std.														
	Dev.	2,149	1,799	1,633	1,574	2,507	1,902	0,488	1,000	1,496	1,380	0,976	0,951	0,378	0,787
Clarity of documents	Mean	6,57	5,75	7,43	6,50	6,86	5,50	8,71	8,38	6,57	6,88	8,57	8,63	4,43	4,38
	Std.														
	Dev.	1,902	2,812	1,512	2,734	2,340	2,268	0,756	1,113	2,370	1,496	1,272	0,787	0,787	0,756
Procedures Management	Mean	7,14	6,75	7,43	7,38	7,57	6,50	8,86	8,63	6,86	5,88	8,86	7,00	4,43	4,63
	Std.														
	Dev.	1,952	2,225	1,512	2,035	1,718	1,380	0,690	0,787	2,410	2,149	0,690	2,215	0,535	0,535

Source: authors' elaboration on survey data. The data have been collected from OACB managers and technical executives (Tech. Exec.)

Looking at the descriptive statistics of the ratings assigned to the two groups of respondents, it can be pointed out that the average score seems quite similar. It must be emphasized that the answers given by the technical executives are generally more restrained and uniform. While the overall performance rating is homogeneous, the high level of standard deviation testifies the presence of a high heterogeneity in the evaluation of the single factor.

In the creation of trust, the lesser importance also emerges of the elements concerning the external visibility by the institutions, apart from the suspension of the authorization; the factors applying to the internal operative modes generally show higher values, especially for the subjects entrusted with the voluntary control (accreditation body) and for the users (clients).

The distribution of the data appears logical, since the representatives of the certification institutions attribute more importance to the opinions on trust expressed by the subjects that lie at the ends of the certification chain: at one end those who set the regulations, on the other those who must choose them in the market.

The last part of the questionnaire deals with the issue of the relative importance of the elements that create trust (0-5 scale). All these elements are perceived as extremely important, and it is clear that trust applies to a cluster of heterogeneous elements.

As far as the judgement on the institution reputation is concerned, the analysis of the answers given by the two groups interviewed have been split. (Table 2).

Table 2. Reputation building**Managers**

	Ministry	Regional Depts.	Other OACB	Accreditation Body	Consumers Association	Final customers	Mean	Weights	K
Ministry	1,00	1,83	2,97	0,93	2,06	0,26	1,1833	0,1720	1,2438
Regional Depts.	0,55	1,00	3,65	0,68	0,42	0,25	0,7235	0,1052	1,1489
Other OACB	0,34	0,27	1,00	0,41	0,53	0,26	0,4166	0,0606	0,9562
Accreditation Body	1,08	1,48	2,44	1,00	3,04	0,66	1,4080	0,2047	0,9945
Consumers	0,49	2,37	1,88	0,33	1,00	0,64	0,8774	0,1276	1,0983
Final customers	3,78	3,97	3,85	1,52	1,56	1,00	2,2693	0,3299	1,0153

Technical executives

	Ministry	Regional Depts.	Other OACB	Accreditation Body	Consumers Association	Final customers	Mean	Weights	K
Ministry	1,00	2,25	3,58	3,81	4,17	3,18	2,7225	0,3714	0,9435
Regional Depts.	0,44	1,00	3,17	2,21	3,80	2,94	1,8056	0,2463	1,1386
Other OACB	0,28	0,32	1,00	0,76	2,31	0,40	0,6275	0,0856	1,0299
Accreditation Body	0,26	0,45	1,32	1,00	2,75	1,46	0,9254	0,1262	1,1144
Consumers	0,24	0,26	0,43	0,36	1,00	0,59	0,4251	0,0580	0,9110
Final customers	0,31	0,34	2,53	0,69	1,69	1,00	0,8240	0,1124	1,0752

Source: authors' elaboration on survey data

It is very interesting to point out that, as far as the management is concerned, the importance of the opinion on their reputation showed an ordering given first by clients, then by accreditation body and the Ministry. This ordering overturns if we consider the answers given by technical executives. The judgement of the public institutions becomes more important than the opinion of the accreditation body and of the customers. The consistency rate below 10% for both samples confirms that the judgement given by the interviewees are coherent in the definition of the weights.

These data can be justified by a consideration of the tasks carried out by these individuals in the enterprises. The management does not directly handle the relationships with the public institutions that set the regulations for the activities' development. They are instead focused on managing and organising the company at large. It seems that their mission is to improve the position of the certification authority in the market. The technical approach of the other group interviewed makes the judgement of the public institutions, both national and local, more important. Even in this case we can say that their mission is to make the very certification activity more efficient.

5. Conclusion

Some comments and final remarks may be formulated on the basis of this survey.

The certification activity is actually carried out by a limited number of institutions (8 of them control about 90% of the certified enterprises); these enterprises differ in size and backgrounds. Only 8 OACB out of 21 are accredited by SINCERT, but they are the most important in Organic Certification System.

Considering the experts' evaluations, the organic certification process is made difficult and inefficient because of an excessive and continuous proliferation of Ministry dispositions and because of an excess of bureaucracy.

A higher uniformity of the regional control systems is also needed, as well as a simplification of the control system, and the adoption of controls on the product, together with the existing documents control.

Finally, the need also emerged for a higher competence and better knowledge on the OASC specific issues on the part of the civil servants assigned by the Ministry of Agriculture (MoA) and by the Regional Departments of Agriculture (RDoA) to the units managing the Organic Agriculture.

These evaluations are aligned with the judgement expressed by UE inspectors at the end of their audit of the Italian organic agriculture control system in 2000 (DG-SANCO, 2000). In their report, they highlighted the presence of different and confusing regional rules, controls mainly based on the administration of documents, overlapping and duplicating control activities, an excessive complexity of the system, and different operation behaviour of the OACB regarding several aspects of their activity (sanctions, laboratory analyses on the product, audits, etc.).

As far as trust is concerned, the process of creating trust for OACB relies more on internal performance than on external visibility, even if the reported values revealed no strategic elements; according to the institution, the different subjects have different importance and yet none of them clearly stands out.

In trying to define the subject in the chain being valued as more important as far as reputation building is concerned, it seems that the Ministry, as an authorizing and regulations-making institution, is the most important for the technical executive. According to the management, on the other hand, the final customers are the most valuable factor, probably because it is the source of economic resources for the OACB.

In conclusion, some general considerations on the system can be drawn.

The reduction in number of organic operators recorded in Italy in the last few years did not cause a decrease in the number of certification bodies; on the contrary, some of them recently appeared on the market. This can be interpreted as a good performance of the sector, given that the organic enterprises that left the stage were the less efficient ones and those supported by grant aids for the activity in the organic sector. The repercussions lie in a keener competition among the certification bodies, in a reduction of the economic resources not followed by a reduction in the commitment in the activity of certification.

The key factor that supports the entire system is customer trust in the control system, even if the real knowledge of the operational procedures in the certification process is still scarce. This element is supposed to represent a risk, since the control system is not homogeneous neither geographically nor among the certification bodies. Consumers do not perceive this difference, even if this inefficiency affects the prices.

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