

Why trust your new supplier?

B2B trust across countries in the food sector

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Abstract

A tree-shaped typology of trust elements for B2B trade among European SMEs in the food sector is presented. It is a basis for EU project “e-Trust” (www.etrustproject.eu) that has the objective of facilitating the adoption of e-trade in the food sector. The typology is based on three sources: theory of national cultures, literature review about trust research in the agro food sector, and dedicated interviews of agro food buyers in five EU countries. The typology is generic, but with a view to adapting it to B2B e-business. It can be used as a checklist by any company that is interested in improving its relationships with suppliers or buyers. It enables a structured analysis of stronger and weaker points.

Keywords: trust, B2B, food networks, international trade

1. Introduction and motivation

The international agro-food sector is in a period of rapid transition and growth. Internationalization and the availability of new technologies are driving forces. Yet in much of Europe, food trade between primary producers, manufacturers and wholesalers is still embedded in the local community. Producers, processors and traders know one another by face, name and reputation. This situation entails limited access to new markets for smaller parties, e.g. to most producers. Business-to-business (B2B) electronic trade has the potential to broaden the scope of potential trade partners. This makes sense in the internationalized environment of Europe. The Internet can create a European, if not a global village market for food products. But B2B tools are not being adopted as eagerly as some would expect. Why is this? The study reported here was undertaken in the framework of the EU project “e-Trust: Building trust for quality assurance in emerging e-commerce markets for food chains” (www.etrustproject.eu). It was made under the assumption that trust, or the lack of it, on the part of buyers plays a role in reluctance to adopt B2B e-business technology such as electronic auctions or marketplaces.

This is not a strange supposition, because case studies (e.g., those in Hofstede et al. 2004) make it clear that trust issues are both important and intractable. How can it be that trust between organizations in agro-food chains is not at a much higher level if it is obviously so important economically? Anonymity between trade partners in today’s world of large organizations may be part of the problem. Fischer et al. (2007) report that trust is more pronounced in small and medium-sized enterprises (SMEs) than it is in large enterprises, because the former are more characterized by personal relationships between business partners. Also, if power is distributed unevenly, trust in the more powerful party may be limited. Schulze & Spiller (2006^a) found that in the German pork sector, farmers trust slaughterers if these take them seriously: ‘farmer orientation’ of the processor is more important than price satisfaction.

With this in mind, a first step in the project was to find out which elements play a role in building trust with potential new suppliers. The article reports on this step. It briefly presents the literature studies that were carried out, the interviews that were held with traders in various countries and sectors, and finally the resulting typology of trust elements.

As to the literature, the aim was to take full account of some of the context variables that impinge on the formation of trust. The first of these is *culture*. The organization of society varies a lot across Europe and trust issues in trade processes are bound to be affected. The second is *sector*. The degree of consolidation, the role of quality, the incidence of risk all vary across sectors and that can also obviously affect the need for and the level of trust in a sector.

The article first introduces key concepts pertaining to trust and culture, since these may be new to the reader. It then presents the desk research, giving a state of the art of research about trust in food supply networks. Thirdly, it reports on the in-depth interviews carried out to refine the trust typology. This typology is the object of the fourth section, and the paper ends with a few practical conclusions for users of the typology. Space constraints limit the article; background information and documentation can be obtained from the authors.

2. The dynamics of trust across cultures

Trust is an essential element of any society. It is essential for the moral cohesion of a society or community. Without trust in institutions, rules, leaders, and specialists, a society cannot survive. Trust is also an essential element of trade relations. From a utilitarian point of view, trust saves money. Trusting a trade partner constitutes an insurance against transaction risks and it saves the cost of control. But trust is not just calculative; it is also normative. At a psychological level, people are driven to search for and to maintain trusting relationships. This has an evolutionary cause: in the past, groups in which trust collapsed tended to be less successful than others and not to reproduce their values (Wilson, 2007). Our rapidly changing trade networks and societies have made old tested models of trust obsolete, and that is why trust-related issues come to the fore so much these days.

Just as societies differ from one another, trust is not built in quite the same way everywhere in the world. Non-awareness of the existence of cultural differences can create unnecessary breakdowns of trust in trade relations. For instance, many a North-West European buyer has travelled to Southern Europe with a ready-to-sign contract in his briefcase, only to find out that his prospective trade partners were offended at being presented with a contract before having had the time to become acquainted. Experienced Western traders know this and they adapt their behaviours accordingly.

2.1 Cultural variety in Europe

Culture is very stable across time and it provides the basis for the development of institutions that in their turn can support trade (Williamson, 2000). Hofstede and Hofstede (2005) show that Europe is culturally a very heterogeneous part of the world. They introduce five dimensions on which national cultures vary. These dimensions pertain to group versus individual as the unit of social life (individualism versus collectivism), to hierarchy and the acceptance of inequality by those of lower status (power distance), to gender and aggression (masculinity versus femininity), to truth and anxiety (uncertainty avoidance), and to virtue and the gratification of needs (short-term versus long-term orientation). The authors show that the European cultural landscape contains a great variety on all of these dimensions. The only orientations that are missing at country level are very collectivistic and very long-term oriented cultures.

2.2 Anonymity

Institutions in modern European societies operate on the assumption that one does not need to be acquainted to carry out transactions. Money is anonymous, laws are the same for everyone. Yet in B2B trade, and at most markets, people do not usually trade with unknown others. We like to have some guarantee about the trustworthiness of our transaction partners, and it helps if we know them. But this is not the same in all countries of the EU. There is an important cultural gradient across Europe that roughly divides the Northwest from the Southeast. In the Northwest, the cultural configuration is characterized by individualism, small power distance and uncertainty tolerance. This leads to flexible, market-based, trade relationships. Anonymous markets and acceptance of e-business are more frequent. It is taken for granted

that all actors in these markets are trustworthy and that in case they defect they can be held accountable. In other words, the *market environment* itself is an object of trust. The combination of non-personalistic relationships and contract enforceability means that *product characteristics* such as levels of various compounds become important for a buyer's choice of sellers. In the Southeast, the cultural configuration is more collectivistic, power distance is larger, and uncertainty avoidance is strong. This has consequences for the organization of trade. Anonymous institutions such as governments are trusted less, while personal business relationships are much more prominent: one trusts the *trade partner* as a friend. Actually that business partner stands a fair chance of being also a family member: the circle of implicit trust is drawn more by personal connections than by institutions. Outsiders have trouble getting accepted into such a system. Different product characteristics are important than in the Northeast, e.g. region of origin.

Actually, in rural areas all around Europe, personal connections are more important than in urban areas of the same country. Trust is placed in personal connections rather than in institutions. Anonymity is the norm in our institutions but not quite so much in our trade practices. In cultural terms, even our comparatively individualistic European societies still retain a measure of preference for collectivistic arrangements, i.e. for stable groups in which everyone knows one another.

2.3 Reputation

In a small band of people, everybody knows everybody else, and it is no secret how trustworthy other members of the society are. This situation still holds in village communities. In a small community, reputations are maintained largely by gossip. You know that some people can be trusted for competence but not character, others for benevolence but not timeliness, and so on, through both personal experience and direct/indirect reports from other members of the village. In larger communities this situation no longer holds. We people have overcome this by extending gossip to unknown people, creating an effective mechanism of transfer of trust. Whenever we meet friends we are ready to engage in trust-related information about third persons. We also actively ask for such information, as when we call up a friend to ask questions such as “do you know a good producer of so-and-so in your neighbourhood”. In all of these cases the information that is exchanged is called reputation. The reputation of a trade partner is the sum of what others say about this person or organization. In a situation where people would like to know their trade partners personally, the next best thing is to get to know their reputation from friends. In marketing, this mechanism is accounted for as word-of-mouth communication, and it is considered one of the most powerful and influencing source of information and determinant of customer's behaviour. There is no doubt that reputation information will be important to any buyer who is considering new suppliers.

In the age of the Web, the reputation mechanism is extended still. It now includes comments on Websites about the trustworthiness of traders by just any visitor of the site. The benefit is a very powerful up-scaling of the network of people that can provide reputation information, from personal acquaintances or possibly their personal acquaintances, to anybody in the world. The downside of this same phenomenon is that it is no longer possible to assess the reliability of this reputation information. It is no secret that some traders try to engineer the reputation information that is being circulated about them.

2.4 Market environment

Reputation information pertains not only to individuals or to organizations but also to entire societies. In Europe, societies entertain stable stereotypes about the national or regional character of citizens from other countries as well as about transaction safety, reliability of

deliveries, cleanliness, quality of the legal system and of the police, and other attributes of the society. Jokes testify to this, but also social psychological research, e.g. McCrae & Terracciano (2005). Incidentally, these authors also demonstrate that some of these stereotypes, e.g. the one about people from the South having warmer personalities, are blatantly at odds with empirical data. Anyway, it is to be expected that these stereotypes will play a role when buyers consider the selection of new suppliers from other parts of Europe.

2.5 Consequences for the typology

Based on the research and arguments in this section it is desirable to distinguish between product, seller, and market environment as three main potential objects of trust that are expected to be differentially endorsed across the EU. In each of the sub-branches of each of these main categories it is advised to juxtapose sources of trust that are likely to be differentially endorsed across cultures as well. For instance, similar information can often be obtained in different ways: from the seller, through personal observation, and through third parties. For instance, for a product one can distinguish specification (from the seller) inspection (through personal observation), and certification (by a third party). Culture is likely to affect the preference for a certain source.

3. State of the art of B2B trust research in the food sector

Trust is a vast field of study for researchers in many disciplines and contexts, therefore it is not possible to give here a comprehensive overview of past research (but see Mayer et al., 1995; Nooteboom, 2002; Pavlou, 2002; Grabner-Kräuter and Kaluscha, 2003; Saunders et al., 2004). Thus, we build upon previous reviews of the literature (e.g. Arnott, 2007) and we focus on the recent analyses and findings in the specific field of B2B food networks. Two main topics emerged: impact of trust and trust generation elements.

Current research on trust generation in food supply networks analyzes trust generating elements in food networks and builds on the basic argument that inter-organizational trust is important for vertical relationships and collaboration between companies (Sporleder, 1999; Palmer, 1996) and reduces transaction costs (Galizzi & Venturini, 1999). Trust between companies in food networks is considered a business asset that supports a firm's competitiveness (Adams & Goldsmith, 1999).

Work on trust generation in food supply networks analyzes antecedents to trust and discusses appropriate measurement methods. The issue of transparency in food networks along the production chain (see Theuvsen, 2004) is discussed together with its complex, reciprocal and interdependent relation to trust (Frentrup & Theuvsen, 2006; Hofstede et al., 2004). Bavorova et al. (2006) analyze the role of communication between companies for trust generation and chain management with the case of handicraft SMEs. Zylbersztajn (2004) discusses institutional rules in the business environment as alternatives to trust and personal ties in networks having the same effect. Batt (2003) examines antecedents for trust in the Australian fresh produce chain and identifies perceived honesty, credibility of information, reliability of promises, satisfaction with relation, goal compatibility, and investments in relation as trust generating factors. Fischer et al. (2007) and Fritz & Fischer (2007) explore trust generating factors and trust levels for eight different food chains in the UK, Germany, Spain, and Ireland. With regard to the level of trust along the chains, they find that at the farm level considerable mistrust towards downstream levels occurs. Schulze et al. (2006^a) study the level of trust together with trust generating factors in the German pork sector. Again, they find that farmers mistrust the downstream chain levels. Antecedents of trust for pork farmers are satisfaction with the slaughterhouse and the slaughterhouse's farmer orientation. Canavari et al. (2006) examine the impact of different third-party certification bodies on trust and reputation generation for companies in the Italian organic sector. The increasing trend to food quality

systems as communication device for trustworthiness of the product quality, which are requested by retailers (Krieger & Schiefer, 2007) underlines the necessity of related quality signs to generate trust in transactions along the food value chain.

A large body of literature puts emphasis on the impact of trust as facilitator for the coordination of material and information flows in food networks. It sheds light on both configuration issues and execution issues in food networks. Most of the work on configuration issues analyses food quality issues and transaction costs together with effects on the organization of vertical relationships in the food industry (Bogetoft & Olesen, 2002; Ménard & Valceschini, 2005; Raynaud et al., 2005; Velthuis et al., 2003). Banterle et al. (2006) take the transaction cost perspective and analyze the effects of voluntary traceability on coordination in the Italian meat sector. Hanf & Pienadz (2006) take a strategic management perspective and link the quality strategy of food firms to partnering for the Polish dairy chain. For the analysis of cooperatives in food networks, Garcia Perez & Garcia (2006) present a conceptual approach that integrates the network governance structure perspective with the supply chain process perspective.

There also exists a body of work on chain management and performance that includes the study of contracts as coordination means against the background of moral hazards and food quality issues. The relationship between socio-economic and cultural elements and chain management is studied by Osinga & Hofstede (2006) who analyze the value of transparency for chain performance and compare the societal and cultural influence on the pork chain organization in China and the Netherlands. Milagrosa & Slangen (2006) analyze social and relational factors influencing vegetable farmers' selection of transaction partners in the Philippines. The impact of social capital from trust and social networks on business performance in two tomato production networks in different Italian regions is compared by Sodano & Verneau (2006).

The management of relations and their value for chain performance is the principal theme of research by Kasturiratne & Poole (2006). Along with experiences from relationship marketing (Hingley & Lindgreen, 2002) and supplier relationship management (Ryder & Fearn, 2003) in food networks, long-term relationships based on trust are discussed as alternative to vertical integration and contracts for the German pork sector (Schulze et al., 2006a). The long-term creation of relations and trust of European retailers towards the quality assurance mechanisms of fresh produce exporters in developing Mediterranean countries is proposed to facilitate exchange (Garcia Martinez & Poole, 2004). With regard to the design of organic coffee supply chains from Brazil to the Netherlands, Claro & Claro (2004) put emphasis on informal safeguard mechanisms in the chain relationships. The use of labels to communicate retailers' strategies regarding animal welfare to consumers is discussed in Arfini et al. (2006) for Italy.

Current research on contracts as coordination and control means in food network transactions studies contract types and contract attributes and their relation to product quality and food safety. Most current work analyses contract preferences on the agricultural production chain level. Martino (2007) studies Italian poultry farmers' choice on contract attributes with regard to their food safety strategy. Goodhue et al. (2004) analyze the relation between product quality and contracting choices for the Californian wine grape growers. Roe et al. (2004) take a behavioural approach to study contract preferences of hog producers. Hudson & Lusk (2004) study the choice of contract attributes of agricultural producers and show that both risk and transaction costs play a role in contracting decisions. Determinants for contract choices by retailers in transition economies are analyzed by Bárdos & Fertő (2006) for the case of the Hungarian beef sector. On the enforceability of contracts in food networks of transition countries see Boger & Beckman (2004). Based on the assumption that risk perception affects the transaction behaviour and contractual relationships of food chain members, Hornibrook & Fearn (2006) study contract types and their incentives in beef chains in the UK.

The fact that such a rich patchwork of recent studies of trust-related issues in the various food sectors exists clearly shows the relevance of this topic.

Mistrust of downstream partners, especially bigger ones, appears in several sectors and countries. This prompts the need for relationship-related dimensions of trust in the typology, not only at the company level but also at the interpersonal level.

Transparency surfaces as a related issue, but its connection with trust is ambiguous. This implies that all possible kinds of product- and seller- related information that could be subsumed under 'transparency' should find its place in the typology. Under product specification, for instance, one can distinguish between on the one hand more legalistic items such as a specification as mutually agreed, a statement of compliance with legal requirements, or a product safety warranty, and on the other hand typical transparency-like issues such as product process specifications or specification of origin of raw materials. The details will vary with each product.

Contract types and enforcement are clearly also important. This justifies inclusion in the typology of a wide range of reliability attributes, including what will happen in case of potential or actual problems.

4. Methodology

In order to complement the picture provided by the previous literature, a field study was conducted that specifically focused on the role of trust factors in B2B transactions in the agro-food chain. This enabled explicit comparisons across societies and across sectors. Due to the exploratory nature of the study, a qualitative research approach is adopted. Qualitative methods allow a longer, more flexible interaction with the respondent than do closed questionnaires, and the resulting data have more depth and greater potential for new insights and perspectives (Aaker et al., 2006, p. 189). In this case, the aim of the field study is to support a provisional typology on trust resulting from the desk research, with opinions of people involved in the agro-food industry, in order to adjust and eventually complement it with specific and original elements. In-depth interviews with SME representatives and practitioners in various countries and sectors have been performed. The Countries considered are Germany, Greece, Italy, the Netherlands and Spain. Sectors included fruit and vegetables, grain, meat and olives.

A data collection instrument, consisting in a non-directive and semi-structured interview guideline, was jointly defined by the research team through an extensive and intense collaboration. The main elements contained in the first part of the guideline deal with information about the interviewee, the company, and the sectors he is involved in, in order to define the context, and the main trust variables affecting the selection and maintenance of the business partner. The second part of the instrument contains a provisional typology on trust resulting from the desk research, based on the extensive literature survey we described in the previous section, focused at identifying elements, antecedents, and dimensions of trust. The instrument was validated through extensive discussion in the research group and one test interview. After final adjustments, the one-on-one in-depth interviews were administered face-to-face by the members of the research teams, to a convenience sample of practitioners. The interviewees were selected paying attention to assure the variety across sectors, company size and type, and position in the food supply network. A summary of the interviews administered in the five countries across the four sectors considered is showed in Table 1.

Table 1 Composition of the sample broken down into countries and sectors.

Country	Sector	Fruit and vegetables	and Grain	Meat (pork and poultry)	Olives
Germany			3	1	
Italy		3		5	1
The Netherlands				3	
Greece					1
Spain					1

Source: project e-Trust survey data

Not all the sectors have been covered in each country. The focus rested on the sectors deemed as more interesting in the specific domestic market.

The coverage of the different tiers in the supply chain has regarded the feed (grain) and the breeding (pork) industry, the production phase for fruit and pork, the processing phase for fruit, pork, grain, and olives, the trading phase for fruit, meats, olives, and grain, the retail phase for pork and poultry meat, and a vertically integrated establishment for poultry meat.

The interviews had a duration between half and two hours each, and the interviewees all showed a satisfactory helpfulness and interest in the issue under investigation. At the end of the interviews, the practitioners were solicited to examine the provisional version of the typology "tree" resulting from the desk research phase, asking about their opinion on the structure and on the elements of the trust conceptualization.

The information collected through written notes and audio recording, taken during the conversation, has been transferred into an Interview report. This was structured to allow the interviewer to resume the resulting trust elements, comments on the relevant variables, and detailed remarks on the glossary of the typology elements. This material has been the basis for the subsequent analysis and discussion.

5. Results: A typology of B2B trust factors in seller selection

The field study allowed us to collect a wide range of opinions and ideas, and to obtain both confirmations and new insights on the issue of trust in business to business relationships, with examples and cases in which the trust concept was differently dealt with.

Of course, considering the qualitative nature of the data collection method, it must be pointed out that it does not allow obtaining a confirmation of the validity or reliability of the typology. In any case, it allowed us to be more confident on the salience and completeness of the final structure and composition of the typology.

The single most salient finding from the interviews was that reputation is of utmost importance when buyers search for new sellers. It plays a role at all levels: reputation of products, or of sellers, or of market environment. So reputation needs to be inserted into the typology wherever it is relevant, and various sources of reputation information need to be in it. For instance, depending on sector and region, one might look for an official recommendation, or rather for a personal one.

Apart from this, the interviews brought to the fore issues of problem solving. Things will inevitably go wrong every now and then and a seller should be cooperative and reliable in such a case. Both thinking ahead and repairing trouble should be in the typology.

The principles on which the typology is based are the following:

- Use the sources of information presented in the previous sections
- Take a wide view of 'trust', including 'control'
- Focus on food quality and safety attributes
- Focus on early stages of relationship

- Take the perspective of the buyer
- Be flexible across sectors
- Include elements that bring to light potential sources of cross-cultural differences in perception.

The typology is presented in figures 1 and 2 below. Figure 1 presents the four upper levels that should be generic across sectors. Figure 2 shows levels three and four again plus the leaves of the tree that can be re-instantiated for each sector based on sector specific variables.

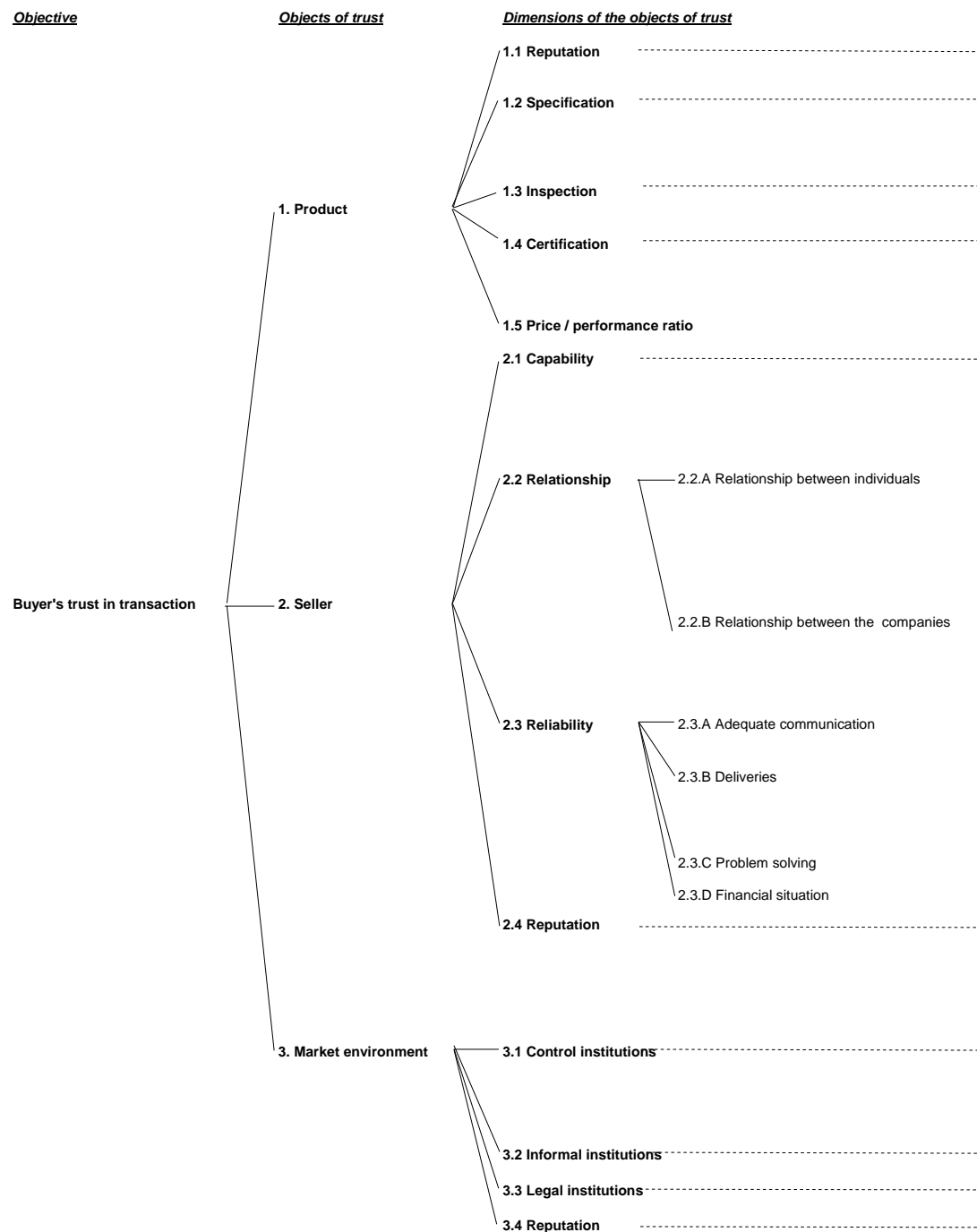


Figure 1: upper four levels of B2B trust typology for new suppliers seen from buyer side (continued in figure 2)

<u>Dimensions of the objects of trust</u>	<u>Sources of trust (intrinsic and enforced, new partners)</u>
1.1 Reputation	1.1.1 Intrinsic qualities (e.g. taste) 1.1.2 Trade brand of the product 1.1.3 Region of origin
1.2 Specification	1.2.1 Product specification as agreed 1.2.2 Statement that product complies with legal requirements 1.2.3 Product safety warranty 1.2.4 Production process specification 1.2.5 Specification of origin of raw material
1.3 Inspection	1.3.1 Physical examination of product 1.3.2 Laboratory analysis of product sample 1.3.3 Visit to production site
1.4 Certification	1.4.1 Sector specific quality or hygiene code 1.4.2 HACCP or ISO 9000 of original producer 1.4.3 Eurepgap, brc, ifs, gmp+ 1.4.4 Regional origin (AOC) label 1.4.5 Corporate Social Responsibility label
1.5 Price / performance ratio	
2.1 Capability	2.1.1 Company's information on tracking and tracing 2.1.2 Company's information on production capacity 2.1.3 Company's information on communication and services 2.1.4 A visit to the production site/ his company 2.1.5 An audit to see if the supplier meets all our standards 2.1.6 Company is ISO 9000 certified 2.1.7 Company complies with sector standard
2.2 Relationship	2.2.A between individuals 2.2.A.1 Partner and I share the same philosophy of life 2.2.A.2 Partner is kind 2.2.A.3 Impression that partner will be flexible 2.2.A.4 We share the same language 2.2.A.5 Know the partner already through my professional network 2.2.A.6 Know the partner already through mutual friends / family 2.2.A.7 The partner is family 2.2.A.8 The partner is a friend 2.2.B between companies 2.2.B.1 Partner and I share a common work philosophy 2.2.B.2 Partner and I share a common interest in a long term relationship 2.2.B.3 Partner and I develop common rules for coordination 2.2.B.4 Partner accepts that transaction rules are set out by me 2.2.B.5 Assessment of partner's growth potential 2.2.B.6 Partner is willing to invest in the relationship 2.2.B.7 Partner is prepared to bargain
2.3 Reliability	2.3.A Adequate communication 2.3.A.1 Partner responds on time 2.3.A.2 Important matters are actively communicated 2.3.A.3 Partner responds adequately 2.3.B Deliveries 2.3.B.1 Impression that the partner is honest 2.3.B.2 Oral agreement 2.3.B.3 Partner is willing to draw up a contract 2.3.B.4 Logistics warranty 2.3.B.5 Partner is willing to be closely monitored 2.3.C Problem solving 2.3.C.1 Partner thinks ahead with us to avoid problems 2.3.C.2 Partner is competent in solving problems 2.3.D Financial situation 2.3.D.1 The financial report of the seller 2.3.D.2 A financial audit on the seller
2.4 Reputation	2.4.1 Official recommendation by a public institution 2.4.2 Official recommendation by an industry association 2.4.3 Official recommendation by purchasing organisations 2.4.4 Informal recommendation by someone I know 2.4.5 Informal recommendation by a superior 2.4.6 Partner is member of branch- or professional association 2.4.7 Reputation of partner in my network
3.1 Control institutions	3.1.1 Knowledge of checking personell 3.1.2 Strictness of checking process 3.1.3 Test criteria 3.1.4 Acknowledgement by business partner 3.1.5 Dissemination of the quality sign 3.1.6 Accreditation
3.2 Informal institutions	3.2.1 Political stability 3.2.2 Social control among operators
3.3 Legal institutions	3.3.1 Contract enforcement options 3.3.2 Food quality and safety level
3.4 Reputation	3.4.1 Enforceability of contracts 3.4.2. Reliability of operators

Figure 2: levels 3 to 5 of B2B trust typology for new suppliers seen from buyer side

6. Management implications

The typology presented here has been derived based on extensive literature study and a limited set of expert interviews. More practice will put it to the test. In particular, at present there are no conclusive data yet to support or falsify the claim that the typology brings to light cross-cultural differences in trust factors. The following conclusions can be drawn from it at this stage.

For researchers:

During this study it became clear that practitioners put even more emphasis on reputation than do researchers. Reputation management may be the most important success or failure factor for traders, and for e-business tools by implication.

For sellers:

It pays to pay attention to the many facets that are involved in the trust that your buyers place in you. In the eye of a buyer, the typology may be more like a chain: if any of the links is weak, the chain snaps and trust is destroyed.

For buyers:

This typology can help you reflect on your own preferences for building trust. It can help you to re-examine them critically and check whether they are in line with the characteristics of the product. It could also suggest investigation of some of the aspects about which you lack knowledge.

For both parties:

It is worthwhile investigating whether the elements that you deem important are actually the elements that the other party deems important. The typology can help to discover and repair discrepancies.

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