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## Perception of Food Quality by Consumers: Literature Review

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**Abstract:**

*This study aims to analyse the elements which contribute most to defining the quality of a food product.*

*Geographical provenance, age, propensity to read the label on products, scientific knowledge and self-assessment of knowledge on food safety-related issues emerged as the main differences between the two groups.*

*The perception of quality appears to affect purchase decisions and dietary patterns. The description of the consumer groups who use the same elements to define quality provided a useful insight into consumer choices and potential risk-exposure behaviours.*

*The study of these aspects is therefore relevant for designing effective and targeted communication actions, not only for companies but also for public institutions in charge of safeguarding public health.*

**Keywords:** *Quality label, information needs, consumers' perception.*

**JEL Classification:** *M31, L83.*

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## **1. Introduction**

Several studies have highlighted the fact that definition of quality is not unified but depends, rather, on the different perspective from which it is assessed: a definition in technical and production terms may differ from the consumers' perception (Steenkamp, 1990). From the consumers' point of view, in fact, several aspects contribute to defining the quality of a food product: these are not only intrinsic qualities such as taste and other organoleptic properties, but also external factors such as origin and labelling (Bernués, Olaizola, & Corcoran, 2003; Grunert, 2002; Verdú Jover, Lloréns Montes, & Fuentes, 2004).

One theoretical model that seeks to combine these aspects with a view to understanding the motives and values that drive consumer satisfaction and hence consumer purchasing choices is the Total Food Quality Model developed by Grunert, Larsen, Madsen, and Baadsgaard (1996). The model consists of a horizontal dimension based on the element of time which distinguishes between quality perception before and after the purchase (expected quality and experienced quality) and a vertical dimension which describes intention to buy based on consumers' perception of quality. Intention to buy derives from a compromise between three factors: expected quality, based on the perception of the product's intrinsic and extrinsic indicators, the expectation of satisfaction at the time of purchase and the product's perceived cost.

There is therefore a strongly subjective component in the concept of quality that is linked to the consumer's perception and is influenced by the various characteristics of the product. Quality assessment plays a key role in the model, not as an end but to the extent that it satisfies purchase motives and the values associated with them. Perception of the product's attributes has important repercussions on consumer expectations and conversely the values sought and expected by consumers have an impact on the most desired dimensions of quality and the way in which the various attributes are perceived and assessed. The process which starting from the product's attributes and via expected quality eventually leads to purchase motives brings into play increasingly abstract cognitive categories.

The Total Food Quality Model considers quality as an abstract and multidimensional construction, characterised by four fundamental and closely interrelated dimensions: the hedonic characteristics of food, health, convenience and the production process. Differences in quality assessment have many consequences, both in terms of behaviours, beliefs and attitudes on the part of consumers, and about the use and search for information when choosing a product. Expectation of quality ultimately affects dietary patterns, the ways in which food is prepared, as well as current and future purchase decisions (Brunsø, Fjord, & Grunert, 2002; Grunert, 2005).

## **2. Literature Review**

Over the past few decades there has been a growing demand for safe and high-quality food. Rapid economic development and recent changes in the food supply chain have contributed to increased interest in the issue of quality in the food sector. In the mind of consumers, the concept of a food product's quality appears to be closely related to the perception of its being safe. A recent study, investigating the relationship between food quality and food safety, has highlighted that people seem more prone to regard a food product as safe if they consider it as being high quality rather than the opposite (Van Rijswijk & Frewer, 2008). Concern regarding the safety and quality of food products involves every stage of the production chain. The debate around these topics has focused on several aspects of the product: from organoleptic characteristics to health and hygiene safety, from healthiness and nutritional qualities to place of production and the ethical aspects associated therewith.

Faced with requests for reassurance and information by increasingly demanding consumers, European and domestic public entities have responded by passing legislation such as the standards pertaining to product traceability and labelling (Savov & Kouzmanov, 2009). In order to guarantee the quality and safety of products, a variety of international regulations have been introduced, including ISO 9001 (International Organization for Standardization) standards, defining the requirements which a quality system needs to have in place in order to ensure control throughout the production process and prevent or detect any non-conformities; as regards operational tools there is the HACCP (Hazard Analysis Critical Control Points) system, whose purpose is to achieve self-checking objectives (Pham, Jones, Sargeant, Marshall, & Dewey, 2010; Ramphal & Simelane, 2010).

Quality has become a key element on which the Italian food market has strongly invested to differentiate itself and face the challenges from new international markets. Certification and brand provide consumers with a set of indications regarding not only the product origin, but also the relevant production processes and other aspects, including safety, environmental and ethical aspects, all of which constitute the core of the quality concept (Marino & Nobile, 2007). A Eurobarometer survey conducted in 2012 has shown that Italian consumers are the most attentive to quality labels in Europe, with 35% of Italian respondents stating that at the time of purchase they always check whether the product has quality labels guaranteeing specific characteristics.

This percentage is substantially higher than the European average figure of 22% (EU, 2012). Through communication and advertising, food companies have encouraged the association between traditional certified and organic products on the one hand and greater quality and safety on the other. The certified brand seems to provide consumers with a user-friendly way to choose a reliable product, especially during a time of economic recession and food scares, where consumers apparently show less trust in production processes, imported products and the effectiveness of

controls (Ferretti & Magaudda, 2006). It should be noted, however, that consumers appear to be extremely diffident regarding food quality.

Discussions about new technologies applied in the food sector, especially with regards to genetic modification, have brought into focus the consumers' newly awakened interest in food productions and the general lack of knowledge about it (Grunert, 2002). The several food hazards encountered since the beginning of the 90s, have shaken consumers and drew their attention to the importance of food's traceability. Food safety issues often result from the asymmetric information between consumers and suppliers, with regards to product specific attributes (Ortega *et al.*, 2011). Consumers seek for high quality food products and they infer this quality based on a certain group of indicators, or attributes, that are classified according to the degree of visibility, namely: search, experience, and credence attributes. More particularly, credence attributes are those that consumers can't ever evaluate with confidence but basing on consumers' opinions with regards to the product itself or the producer, even after consumption (Verbeke *et al.*, 2006). Nowadays, to define food products' quality, consumers evaluate both intrinsic features of the product and external features, such as traceability, origin (COO), geographical indications and certification (Mascarello *et al.*, 2015; Jover *et al.*, 2004), and then choose foodstuffs according to elements that may characterize the product itself. The food label encloses a set of information that conveys to consumers the product's characteristics, this information can influence consumer purchase behaviour.

Several studies point to the existence of a strong relationship between the food label and consumer reactions (Hoogland *et al.*, 2007). The evolution of society, over the last forty years, has led to a radical change of needs and consumer behaviours. Through the purchase and the consumption, individuals express their own culture, they relate to the society, define their identity and show more and more attention to social and environmental aspects linked to agriculture. The consumption processes evolve, and food products are evaluated both for their material values and for their symbolic and communicative value; the food product becomes a mean of communication and socialization. Most consumers say they are willing to pay more for a product they perceive as respectful of health, environment, innovation, quality, or considered ethically superior (Bialkova and Van Trijp, 2010; Grunert, 2011).

Some details, therefore, may be enough to increase the perceived value of the product, such as new technologies for product traceability or product innovations. Under this scenario, the label is the most powerful tool for suppliers to convey information to the consumer (Banterle *et al.*, 2013). The will to protect and promote food production, in the European Union, has allowed the development of an efficient traceability system. With this system of rules, it is possible to improve food safety and enhance consumer confidence, in addition to giving a higher value to foods, through the label which provides search, experience and credence information (Louriero *et al.*, 2007).

However, the copious legislation in the Union, has not simplified the consumer ability to understand, easily, the quality credence attributes of foodstuffs. In addition, it is now ascertained that consumers perceive traceability as a further quality attribute to be considered at the time of purchase. It seems clear that traceability of food products falls among credence attributes. The Grunert's Total Food Quality Model (Grunert, 2002), considers food quality as a multidimensional construction characterized by four fundamental interrelated dimensions that are: hedonic characteristics of food, health, convenience and production process. Particularly, the dimension that relates to production processes uses food attributes that are typically credence attributes, because it is impossible for the consumer be aware of all the production process, through the agro-food production chain.

Nevertheless, so far, what consumers look behind the word traceability was little investigated. The asymmetry between the comprehension of traceability by consumers and producers may need the adoption of certifications that easily communicate to the consumer information on agricultural practices beneficial for the climate and the environment. Indeed, the consumer has increasingly used the criterion of personal trust to a specific certification. For example, in Italy, the quality features of a product are often connected to local productions or local foodstuffs (Aprile *et al.*, 2016). Local food is perceived as characterized by a large variety of benefits, that range from the satisfaction of enjoying a homemade authentic food product, to the local-food intrinsic ability to enhance the sustainability of the food system, reducing the carbon footprint and providing new market opportunities for local farms (Guerrero *et al.*, 2009).

The labelling of food products, therefore, becomes more and more a strategic element for product differentiation in the entire supply chain, since it affects the strategic behaviour of producers, of those who become part of the supply chain and the label's evolution itself. This, compared to the past, relates to agricultural firms and to agro-food industries: the label role is crucial to provide correct information about food products, and do not incur in conflicts of interest among different stakeholders (i.e. researchers, manufacturers, public authorities, and others). Since no studies, so far, in the Czech Republic, about consumer insight, regarding their preferences about information provided on foodstuffs labelling, and the meaning that they give to the concept of traceability, consumers' preferences were studied about a set of quality attributes of food products. To ascertain the existence of the asymmetric information between producers and consumers, with regards to traceability, the objective of this study is to gain insight in how the consumer recognizes the traceability and the links among food attributes shown in the label, when he/she evaluates the quality of foodstuffs.

### **3. EU and National quality labels**

Nevertheless, some generalizations are valid for other labels as well: The primary information source for all relevant topics with respect to food labelling seem to be

the Internet (but not for food in general). It is by far the most important source where consumers will look for information. Not all of them can be motivated to get more information about food in general and quality labels. But there is a core group of consumers which is especially eager to acquire information. The size of it might differ and depend on the overall publicity, actual developments in the food sector like food scares, and their severity as discussed by Böcker and Hanf (2000), technological developments in food processing, general trends in food consumption, or related factors. For other quality labels the size of the group might differ, but in general, some important characteristics of the group members could be identified: They are using multiple information platforms, discuss with family and friends, but new forms of communication (social media, mobile apps) are – up to now – of only minor importance for this core group. The group seems to be more interested in all food related topics.

Consumers usually are unable to evaluate the quality of food products before purchase, they use quality cues like brands, prices or labels (Steenkamp, 1990; Grunert and Aachmann, 2016). For helping consumers within their evaluation of quality, the EU introduced important quality (origin) labels, namely PDO (Protected Designation of Origin) or PGI (Protected Geographical Identification) and TSG (Traditional Specialty Guaranteed).

In addition, each country is using national quality labels. EU food labelling has different aspects, e.g., to fulfil traceability requirements, nutrition labelling, serving promotional goals, etc., (Cheftel, 2005). As Cheftel (2005) points out the “*diversity and complexity [of food labels and regulations] is due to the different objectives and requests from the various stakeholders*”. Some of the food labels try to inform consumers about certain aspects (e.g. GMO free), contain nutritional information, trade-related information, or quality grading, just to name a few (Cheftel, 2005). This led, intended or unintended, to a huge variety of different EU and national labels officially in use – not to name all other private based labels – more and more confusing consumers.

Consumption, individuals express their own culture, they relate to the society, define their identity and show more and more attention to social and environmental aspects linked to agriculture. The consumption processes evolve, and food products are evaluated both for their material values and for their symbolic and communicative value; the food product becomes a mean of communication and socialization. Most consumers say they are willing to pay more for a product they perceive as respectful of health, environment, innovation, quality, or considered ethically superior (Bialkova and Van Trijp, 2010; Grunert, 2011). Some details, therefore, may be enough to increase the perceived value of the product, such as new technologies for product traceability or product innovations. Under this scenario, the label is the most powerful tool for suppliers to convey information to the consumer (Banterle *et al.*, 2013). The will to protect and promote food production, in the European Union, has allowed the development of an efficient traceability system. With this system of

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#### **4. Discussion and Conclusion**

Based on earlier researches (Asmalovskji & Sadílek, 2016), Czech consumers consider the most important aspects to be the product's sensorial characteristics (taste, appearance and freshness of the product). It is interesting to note that other studies conducted internationally have identified those same sensorial characteristics as the main drivers of food choices (Honkanen & Frewer, 2009). These results appear to confirm the connection between expected quality cues and the intention to

buy proposed by the Total Food Quality Model. Moreover, they seem to be in line with the results of other research which identified a close relationship between the quality of a food product and the reason for its purchase (Keningham, Aksoy, Perkins-Munn, & Vavra, 2005). In recent years consumers have started to appreciate typical products and to see this aspect as a distinctive feature associated with an assurance of higher quality (Mattiacci & Vignali, 2004). Moreover, the interest shown by consumers in the origin and place of production of food has grown (Dimara & Skuras, 2003), especially about European Quality Food Certification (Aprile, Caputo, & Nayga, 2012) products.

Quality assessment is a complex process and the consumer often experiences a feeling of uncertainty because some aspects of the product are difficult to appraise because of the lack of information at the time of purchase (Grunert *et al.*, 1996). International studies have shown that quality brands and certifications of origin are important indicators which, by guaranteeing some of the product characteristics, make it easier for consumers to judge and strengthen their perception of its quality (Grunert, 2002; Ilbery, Morris, Buller, Maye, & Kneafsey, 2005; Verbeke, Vermeir, & Brunsø, 2007). Certification and brand provide the consumer with product information concerning not only provenance, but also – according to a more complex and general model – some social and ethical aspects.

Many surveys have shown that, especially when there are food emergencies caused by food scares, the brand emerges as a guarantee for product safety (Yeung & Yee, 2010). The perception of safety in food is in fact closely associated with the concept of quality (Van Rijswijk & Frewer, 2008). However, the recent scandals involving the food industry and diffidence towards the industrial production system of the globalised market may have exacerbated the distrust felt by consumers of food produced by large corporations.

Assessment of food products and being able to characterise the consumers influenced by them is a fundamental step, firstly for the companies dealing with market analysis and product positioning. In an age of strong market competition not only at the European level, a competitive policy emphasising product differentiation could provide a major opportunity for the Czech market. The hedonic aspect associated with food and the pleasure of eating well is still a crucial aspect for Czech consumers, for whom culinary traditions are still very important. Another central aspect shown by the study, however, is the importance of the production processes and place of production of food products. It is thus essential for the various stages of the food production chain to be efficiently coordinated to create, maintain and enhance the elements of differentiation on which the consumers' perception of quality is based.

Today the competition in the food business involves not only safety control and efficiency but also the ability to adding value. The concept of adding value is strictly customer oriented: the effort to enhance the value of a food product is aimed at



increasing consumers' perception of the product's quality. It is therefore important to ensure that, along with the food product itself, customers should be offered an appropriate flow of related services, and particularly information, to help them develop a clearer perception of the product's material and immaterial characteristics.

Communication makes a key contribution to building, sustaining and enhancing over time the reputation and appreciation of a food product and of the processes, services and other features that consumers look for and seek assurances on. To be effective, however, communication strategies must consider always the different target audiences to which their communication is aimed and consider their characteristics, behaviours and preferences. The sensitivity of older people on products' origin and production process could be an interesting point, such as the geographical differences emerged in this study. An understanding of the expected quality of a product is also important for the institutions in charge of public policy on food safety and consumer protection.

This paper has highlighted some important trends in Italian consumers' definition of food quality taken as a general and multi-dimensional concept. The subjective perception of quality is in fact related to a complex system of cultural codes and value systems which are nevertheless integrated in the consumers' daily choices (Holm & Kildevang, 1996). The goal of the institutions concerned with public health protection is to provide consumers with the appropriate tools to be able to assess the safety and quality of food products based on knowledge of scientific evidence and the real risks associated with food products alongside their subjective perceptions. Communication once again plays a crucial role in this respect, and the segmentation into groups of consumers showing different perceptions and habits is therefore fundamentally important when designing effective and targeted actions aimed at reducing uncertainty and promoting healthy behaviours (Verbeke *et al.*, 2007).

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