



Marketing aspects of quality assurance systems

Quality assurance systems

The organic food sector case

Kontogeorgos Achilleas and Semos Anastasios

Department of Agricultural Economics and Policy, Faculty of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, Greece

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Abstract

Purpose – The purpose of this paper is to describe the effect of quality assurance systems on business performance and subsequently, how a quality assurance system can be utilized as a determinant factor of a firm's marketing strategy, especially for the organic food sector.

Design/methodology/approach – Based on literature and the quality theory, the following subjects are examined: the types of goods according to their quality attributes, the benefits of participating in a quality award procedure, how a quality assurance system affect on firms' performance, and finally, the factors that determine consumers' willingness to pay a price premium for organic products.

Findings – The findings showed that, better quality conformance is associated with sales growth and better sales margins. Moreover, the most important benefit of a quality certification is its ability to increase market share and provide access to new market. In addition, the key to define quality is consumers and a company's internal definition of quality must reflect consumers' requirements. Finally, factors such as socio-demographic characteristics, the perceived quality and risks have been found to be important determinants of consumers' willingness to pay a price premium to buy organic food products.

Originality/value – This study presents an outline of how a quality assurance system can be used to provide not only consistent product quality but also different elements that can be used to determine a firm's marketing strategy. The findings can help all the involved bodies to avoid the impediments and develop an appropriate marketing strategy for the effective promotion of certified organic food products.

Keywords Quality assurance, Marketing strategy, Business performance, Pricing, Consumer behaviour, Organic foods

Paper type General review

Introduction

Companies of all types and sectors use quality as a strategic touchstone and organizing principle (Feigenbaum and Feigenbaum, 2005). Today's highly competitive worldwide marketplace and advances in information technology have created the greatest customer demand for quality than ever before. Even more, consumers now consider quality as a fundamental measure of their total perception of the product or service as well as of the company's delivery and maintenance network that provides and supports it – a kind of unified “quality-value” metric.

In the food industry, quality assurance (QA) systems, such as good manufacturing practice (GMP), HACCP, IFS, BRC and ISO are applied voluntarily to ensure food quality

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and food safety, to prevent liability claims, and to build and maintain trust of consumers. In addition to health, product safety, and production system characteristics, other quality attributes influence expectations of consumers, such as sensory properties, shelf life, reliability, and convenience (Luning *et al.*, 2002). Furthermore, consumers require products throughout the year with an acceptable quality/price ratio. Thus, consumers put high demands on all quality aspects (Van Der Spiegel *et al.*, 2004). Each of the above QA system covers different quality aspects, e.g. some focus on management aspects, like ISO, whereas others focus on technology aspects like GMP and HACCP (Hoogland *et al.*, 1998). In this study, quality is defined in a broad perspective that includes management.

This study examines, based on literature, under which conditions a QA system can be used, to provide not only consistent product quality but also different elements that can be used to determine firms' marketing strategy. First, an examination is carried out regarding how different types of goods can be identified according to their quality attributes. Second, the benefits of participating in a quality award procedure are demonstrated. Subsequently, an assessment is made as to how QA systems and their certification affect a firms' performance. Finally, an illustration will be provided on how consumers respond to quality as a differentiating product characteristic, especially for organic farming products. Even more their willingness to pay a price premium for it is presented.

Information asymmetry and product quality

Depending on the degree of information asymmetry between supplier and customer, different types of goods can be identified according to the dominant quality attributes. The distinction between search or shopping and experience attributes, first introduced by Nelson (1970), and the introduction of credence attributes in the economic literature by Darby and Karni (1973) changed the perception of food products. It became apparent that these attributes altered the perception of food products from rather uncomplicated raw commodities with easily detectable qualities to somewhat more sophisticated goods. For search goods the buyer is able to find evidence of the attributes even prior to the purchase, whereas for experience goods the verification of the attributes' correctness can only be exercised right after the purchase. Credence attributes are product and service characteristics that cannot be detected by the buyer under ordinary circumstances, neither before nor after the buying process (Andersen, 1994).

In Figure 1, another quality dimension is added to the classical information economics typology of search, experience, and credence attributes, "Potemkin" attributes are characterized by the fact that neither the buyer nor external institutions are able to carry out controls through laboratory analyses at the end-product level. This holds true for nearly all process-oriented attributes (e.g. animal welfare, dolphin-safe tuna, fair trade, etc.). On the other hand, in the case of credence attributes, fraud and mislabelling can be revealed by inspections carried out by external organizations, public authorities, or competitors (Emons, 1997; Caswell *et al.*, 1998; Vetter and Karantininis, 2002). Test results are spread among the customers via the mass media. The likelihood of detecting a firm's falsely claiming, about specific credence qualities, depends on:

- the amount of monitoring in the respective product category; and
- whether the company is famous enough for newspaper reports.

Search attribute	Experience attribute	Credence attribute	Potemkin attribute
Qualities, which are known before purchase	Qualities, which are known only after consumption	Qualities, which can be observed by a single customer only to prohibitive costs, but buyers can rely on third-party judgements	Process - oriented qualities, which are hidden for third parties as well as for customers at the end product level
Freshness, appearance	Taste, shelf life	Nutrition, contamination	Animal welfare, fair trade

Increasing Information Asymmetry

Source: Jahn *et al.* (2005)

Figure 1. Typology of goods based on information economics

Assuming a strict third-party monitoring and a high disclosure rate, credence goods could theoretically be treated as experience goods. Third parties supplying customers with information about credence goods result in reliable quality signals (McCluskey, 2000). As a consequence, specific marketing investments (advertising, branding) bind manufacturers even though high information asymmetries create strong incentives for cheating (Ippolito, 1990; Kirchoff, 2000)

The Quality Awards

In 1951, Japan began honouring quality practices through the establishment of the Deming Prize. Inspired by the successful development in Japan, several other countries established, at the end of the 1980s, programs to recognise quality practices taking place in organisations (Vokurka *et al.*, 2000).

Participation in a quality award process is usually based on the methodology of self-assessment. According to EFQM (1996), self-assessment is “a comprehensive, systematic and regular review of an organisation’s activities and results referenced against a model of business excellence”. During both a quality award process and self-assessment, the organisations pass through the four phases of the improvement cycle (plan, do, study and act) One main difference between a quality award process and self-assessment is the ownership. The owner of a quality award process is not the evaluated organisation, while in the case of self-assessment the evaluated organisation is the process owner.

Studies in self-assessment have shown that the major benefits of participating in a quality award process are a greater focus on improved work (Finn and Porter, 1994; van der Wiele *et al.*, 1996) processes (Gadd, 1995) and customers (Brown and van der Wiele, 1996). In addition, participation in a quality award process is also perceived to have an impact on “committed leadership”, “participation by everyone” and “management by facts”.

The quality award applicants experienced a great benefit from participating in the award process. The main conclusion of the study held by Eriksson (2004) was that most of the organisations considered the process orientation, customer orientation and improved work to have been meliorated proved as a result of the participation in the quality award process. One of the incentives of applying for a quality award is that improvement areas, which can support actual improvements, are identified. The

executed improvements can result in, for example, a greater customer orientation, more effective and efficient processes, better employee relations and probably an increased profitability of the award applicants. The quality award applicants can therefore, benefit in the long run from their application for the quality award as a result of the performed improvements.

Quality and business performance

The contribution of quality to business performance has consistently been claimed by the quality gurus (Crosby, 1979; Juran, 1982; Deming, 1986). Empirical research supports the proposition that better quality has a positive relationship with business performance.

Caruana and Pitt's (1997) study of 131 UK service firms suggests that better quality does have a positive effect on the overall performance of the firm, comparing to its competitors. Jacobson and Aaker (1987) discovered that product quality had a positive influence on return on investment, market share and price. An investigation of 65 firms in the furniture industry (Foraker *et al.*, 1996) discovered that quality defined as "conformance to specification" was significantly related to sales growth and the return achieved on the sales growth. These findings indicate the powerful impact that better "conformance to specification" can have on reducing costs and attracting, and retaining, customers.

Flynn *et al.*'s (1995) study of the transportation, electronics and machinery industries found that good internal quality – defined as "made right first time" – was associated with greater employee involvement and better process control. Greater employee involvement could be associated with the firms' total quality culture, while better process control should originate from the quality control that underpins good QA systems. This indicates that better process control should lead to lower rework and diminishing costs of quality. Findings from the World-class Manufacturing Project (Flynn *et al.*, 1997) indicate that achieving "conformance to specification" with low levels of rework has a direct effect on competitive advantage, while management perception of the plant's product quality and customer service, in comparison to its competitors (quality differential), had an even greater impact.

The factors that are related to business performance can be summarised into two categories. The first category includes those factors that improve the product or service quality differential and the second category is comprised of those factors that reduce the cost of quality. An effective QA system will have product and service quality conformance as its primary goal.

The research reviewed found that better conformance quality was associated with sales growth and better sales margins. It was also found that good quality control was related to competitive advantage. An effective QA system will have process control as an essential activity. Better process control will be consistently associated with less rework and hence lower costs. These lower costs will lead to better comparative business performance. This is in line with Deming (1986) who reasons that, as quality improves, waste is eliminated, costs are reduced, and financial performance improves.

Quality certification and business performance

A growing body in the management and marketing literature points out that one of the main reasons underlying a firm's decision to adopt a quality assurance scheme is due

to expected marketing benefits. Juran (1995) posited that the major reason for a firm seeking quality certification is maintenance or expansion of markets. Anticipated marketing advantage and specifically increasing market share and providing access to new markets have been critical factors that encourage the pursuit of an ISO 9000 certificate (Capmany *et al.*, 2000), while the ability to sustain or increase a market share are, correspondingly, ranked fourth and sixth among the top 10 anticipated benefits of ISO certification (Skrabec *et al.*, 1997). Holleran *et al.* (1999), argue in favour of the voluntary adoption of food safety and quality assurance schemes that have the potential to reduce transaction costs serving as the seller's guarantee of safety and quality.

However, the large-scale descriptive study of Lloyd's Register (1993), supported that the greatest gain from quality certification is the opportunity of a widened market rather than improvements in quality itself. In contrast to the studies reporting business benefits, Batchelor's (1992) study of over 600 registered UK firms, found that only 15 per cent of firms achieved gains from quality certification. These benefits were largely internal, such as reduction in error rates and procedural efficiency, rather than external such as market share. This is supported by a rigorous empirical study (Terziovski *et al.*, 1997) of 1,000 firms in Australia and New Zealand that found that quality certification had no significant, positive relationship with business performance. Moreover, they noted that the principal motivation for pursuing quality certification was the ability of the certificate to open customers' doors that were previously closed, or would close, if quality certification were not achieved.

Even though, the research on the link between quality certification and business performance reveals contradictory results, it is widely accepted that the most important benefit of a quality certification is its ability to increase market share and provide access to new market.

Quality assurance systems and consumers

The concept of food quality can be outlined as follows: the quality of food products, in conformity with consumer requirements and acceptance, is determined by their sensory attributes, chemical composition, physical properties, level of microbiological and toxicological contaminants, shelf-life, packaging and labeling. Within this model, food safety has primary significance for food quality.

Thus, the consumer is the key to defining quality, and a company's internal definition of quality is meaningless if it fails to reflect consumer requirements. However, Quality, for consumers, has become something of a cliché. Advertisers would let us believe that every company produces a high-quality product. This has resulted in confusion among consumers, as well as within companies. What is quality? Many people have difficulty answering this. A common response is, "I can't define quality, but I know it when I see it." Inability to define quality does not, however, preclude interest and strong opinions regarding the concept.

Moreover, consumers have started not only to demand higher levels of safety in their food (Viaene and Gellynck, 1997; Smith and Riethmuller, 1999; Verdurme and Viaene, 2003; Hobbs *et al.*, 2002; Baltzer, 2004) but also to express concerns about the environmental sustainability, the logical use of natural resources and the protection of farmers' and animals' health (Buzby, 2001; Maravegias *et al.*, 2002). These changes in attitudes and values have also been stimulated by a number of food scares and crises

(e.g. Bovine Spongiform Encephalopathy, Foot and Mouth Disease, dioxins, pesticide residues, veterinary drugs, etc.) that have affected consumers' confidence in food quality and food safety (Knowles *et al.*, 2007).

Companies of all sectors make the quality claim, because they see it as a potential source of competitive advantage. The claim itself, however, is insufficient to ensure any advantage. Achieving competitive advantage through quality requires an understanding of the quality requirements of the consumer, a method of measuring efforts to provide for these quality requirements, and a commitment to do both (Hansen and Bush, 1999).

It is this aspect of quality (i.e. the need to match internal definitions of quality to consumer requirements) that is perhaps the greatest impediment to gaining a competitive advantage through quality. To sum up, in order for value-added markets (i.e. organic food) to be successful, effective communication must be promoted. In this way, consumers must be aware of the existence and meaning of products encapsulating differentiated quality characteristics and even more, they should have a favourable attitude towards them. In addition, consumers must be willing to pay an extra amount of money for such products.

Consumers willingness to pay for organic food products

Factors such as socio-demographic characteristics, perceived quality and risks have been found to be important determinants of consumer's attitudes towards certified foods and of their willingness to pay (WTP) a premium to buy these products.

Likoropolou and Lazaridis (2004), in a survey on Greeks' WTP for organic meat, found that WTP is positively influenced by gender (man) and by positive attitudes towards organic products in general. On the other hand, it is negatively related with low family income. Fotopoulos and Krystallis (2003) showed that the positive attitude towards organic products increases the WTP. More specifically, consumers of organic products were willing to pay higher price premiums indicating that organic buyers believe that the organic nature of the foods makes them really attractive despite their higher prices. Ara (2003) identified socio-demographic characteristics and risk perceptions as the main determinants of WTP for multiple attributes of organic rice in the Philippines. The high-income group was found to have a higher WTP than the middle-income group, while the WTP for risk reduction for the high-income group was lower than the one for the middle-income group.

McEachern and Willock (2004) examined motivations and reasons behind the English consumers' decision to buy or not to buy organic meat. The main motivations for buying organic beef, pork and chicken were due to perceived higher standards of animal welfare and health. Barriers to buying organic meat were identified as price, lack of perceived difference in taste and the fact that it is mainly imported.

A study carried out by Loureiro *et al.* (2002) considered the factors that induce consumers to pay a premium for eco-labelled apples. They found that being female, the presence of children under the age of 18 in the household, and the interaction of food safety concerns and attitudes about the environment positively affect the likelihood that a consumer will pay a premium for eco-labelled apples. The perceived quality of eco-labelled apples is also a variable that positively affects the probability of paying a premium for eco-labelled apples. However, it may be the case that consumers who would be favourably disposed towards purchasing eco-labelled apples consider

organic apples to be an even safer and more environmentally friendly alternative, and thus, they would be more willing to pay a higher premium for organic than for eco-labelled apples.

Boccaletti and Nardella (2000) discovered in their study that Italian consumers are generally concerned about health risks from pesticides, with most of the respondents willing to pay higher prices for pesticide-free fresh fruit and vegetables. From the explanatory variables the most relevant increase in the probability of a positive WTP was given by income and individual perception of risk concern about pesticides, while higher education was found to increase the probability of a zero WTP. Income and education were also found to influence WTP for organic and GMO-free products in a survey conducted by Loureiro and Hine (2001).

Botonaki *et al.* (2006) examined consumers' attitudes towards fruit and vegetables certified as organic products and as products that bear the label "system of integrated management". Their results suggest that consumers' WTP a premium is affected by attitudes towards product origin, product convenience and health. They also found that WTP a premium is influenced by consumers' confidence in organic production, information sources, and the frequency of organic products (fruits and vegetable) consumption. Nevertheless, consumers in this study seem to question the reliability of the certifications. Respondents, in that survey seem not to believe that products bearing the label "system of integrated management" are guaranteed because of their certification.

Discussion – conclusions

One important point, which must be clarified, is the fact that a quality certification is something different than the implementation of a QA system. The greatest gain from quality certification is widened market opportunities. Although, some firms perceive the certification process as a game they can win by cheating, the principal motive for pursuing a quality certification is the certificate's ability to open doors to customers that were previously closed, or will be closed if the quality certification is not achieved.

The level of audit systems for quality certifications can affect consumers' trust in the products' label. In this way, a higher level of audit quality is likely to reduce the costs from food borne diseases (food safety) and in the long run, high quality segments based on Potemkin attributes (origin, organic, etc.) will be protected, if consumers can trust in quality labels. This will prevent market failure and corresponding costs. On the other hand, there are negative welfare effects of enhancing the level of audit quality, which are related to the higher auditing costs. They lead to a price surplus and, therefore, to a decreasing demand for products with high information asymmetry. One of the main barriers to the sales of organic products, for example, is still their high price.

Quality labels have become a central component of modern consumer policy in recent years (Rubik and Scholl, 2002). However, a certification label is an example of a "Potemkin" good in itself. In contrast to this, most researchers (implicitly or explicitly) assume perfect certification. Not fully credible standards jeopardize public confidence and lead to market failure on a higher level. Giannakas (2002) has analysed the resulting welfare loss of such mislabelling. For example, more than 15 years after the EC regulation No. 2092/91 on organic farming, a lack of trust is still one of the most important diffusion barriers (Jahn *et al.*, 2005). This may be ascribed to insufficient

marketing for the label but it also indicates a line of detected frauds. Certification systems mainly depend on trust. Therefore, it is necessary to improve certification and audit procedures.

Moreover, it is accepted that the requirements of a quality certification represent the lowest common denominator in any successful quality system. In this way participating in a quality award process can not only provide essential benefits such as greater focus on improvement, work processes and customers, but also can differentiate quality-oriented companies from companies which just possess a quality certification.

An effective QA system must have product and service quality conformance as its primary goal. Nevertheless, the consumer is the key to defining quality, and a company's internal definition of quality is meaningless if it fails to reflect consumers' requirements. Therefore, top management of organic foods companies must develop, having in mind their customers and consumers, a stated policy of quality and even more they should establish an ongoing, company-wide, commitment to improving quality. It is therefore, of major importance to communicate better with their consumers and gain a better understanding of their attitudes, needs and perceptions.

For the organic food sector, consumers demand higher levels of safety and quality in their food and even more they express concerns about the environmental sustainability, the logical use of natural resources and the protection of farmers' and animals' welfare. At the same time, factors such as socio-demographic characteristics (i.e. gender, children under the age of 18 in the household, income, education, etc), the perceived quality and risks have been found to be important determinants of consumer's attitudes towards certified foods and of their willingness to pay a premium to buy these products

In conclusion, two points must be emphasized. First, QA systems can be useful to improve the production process and hence to reduce production cost. Second, a QA system can be accepted as an important ingredient of marketing that offers producers a great opportunity to differentiate themselves in the market. Thus, a QA system can be used as a marketing tool that protects companies in an environment of distrust and as a differentiating strategy that will add value to their products and justify higher prices for their products in the market.

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Corresponding author

Semos Anastasios can be contacted at: semos@agro.auth.gr

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