Global Trends in Food Quality: An Exploratory Study in Fresh Produce Supply Chains

P.J. Batt and J. Noonan
Curtin University of Technology
Perth, Western Australia

Key words: markets, food safety, environment, sustainable production, fair trade

Abstract

The provision of safe food which protects customers' integrity and provides consumers with the desired taste is expected to remain the major priority in world food markets in the foreseeable future. While reducing microbial contamination, chemical contaminants and pesticide residues will gain in importance, ethical products and functional foods are the emerging priorities. Food businesses will need to give much greater attention towards minimising water use and pollution, more sustainable production systems, worker welfare and waste management. Recyclable packaging, conservation and biodiversity, food miles and reducing salinity and land degradation are the emerging environmental issues. Country-of-origin is perceived to be the most important indicator of food quality both now and in the foreseeable future. Identifying which food preservatives, food colourings and flavour enhancing compounds have been used in the food will continue to grow in importance as consumers move towards more natural, unadulterated food products. Identifying the presence of potential allergens is critically important for the growing number of susceptible consumers. The food energy content and the use of sugar and artificial sweeteners are the emerging issues, with the presence of genetically modified organisms and eco-labelling poised to become more prominent in the long-term.

INTRODUCTION

Food safety concerns and the growing desire for sustainable production practices are prompting consumers to take a greater interest in the holistic characteristics of the food that they purchase. Environmental values are becoming increasingly aligned with a greater suspicion of industrial food processes and the desire to support sustainable farming practices. Consumers are becoming more interested in the non-price attributes of food and increasingly aware of such issues as water pollution, salinity and soil degradation (Batt et al. 2006). Functional foods and the rising levels of organic food sales are thought to reflect the increasing awareness of the long-term impact of food on the consumers' wellbeing and health.

In order to differentiate their product offer in the market, triple bottom line reporting, which provides an assessment of the economic, environmental and social impacts of production, is now becoming mandatory. Furthermore, in order to protect their reputation and image, most European and North American retailers and food manufacturers have now instigated stringent quality assurance programs which emphasise the need for better management and greater transparency of food quality and safety through the value chain.

For food producers, processors and manufacturers, these shifts in consumer demand invariably require a major investment in order to secure and retain their customer

base. With change occurring in a multiple number of areas simultaneously, it is important to identify those trends which are likely to be the most important. To enable the fresh produce industry to respond to these market requirements, this study was commissioned by the Australian Government to identify and analyse global trends and emerging issues which are likely to impact on the development of food safety and quality assurance systems in the medium term (next 3-5 years) and the longer term (next 6-10 years).

LITERATURE REVIEW

Quality is the key concept in building customer value and satisfaction. Described initially as a customer determination based upon the customers actual experience with the product as measured against the customers requirements (Feigenbaum 1991), Peri (2006) defines quality as fitness for consumption. To some, quality means best, but to others, quality is something that cannot be analysed, but only recognised through experience (Oude Ophuis and van Tripp 1995).

As quality means different things to different people, quality is best evaluated at an individual level. Aaker (1991) defines quality as the customer's perception of the overall quality or superiority of the product with respect to its intended purpose, relative to the alternatives. Quality is often therefore, an intangible, overall feeling about the product, which is usually based on some underlying dimensions including such variables as product reliability and performance. Even so, quality is a multifaceted construct based on several dimensions which cannot be evaluated by the consumer prior to purchase. Consumers therefore must use surrogate or indirect indicators of quality to make a judgement of the perceived product quality from an array of product-related attributes. These quality cues may be categorized as either intrinsic or extrinsic. Intrinsic cues are part of the physical product. Extrinsic cues, although related to the product, are not physically part of it. A further distinction can be made between the experience quality attributes and credence quality attributes.

From the consumer perspective, Peri (2006) describes quality as being comprised of five integrated requirements: the product requirements, the psychological requirements, guarantees and assurances, packaging requirements and marketing requirements. Codron et al. (2005) describe quality in terms of four attributes: sensory, health, process and convenience. King and Venturini (2005) adopt a similar classification, but choose to identify food safety and product origin as separate variables.

Consumers are expected to purchase fresh produce primarily on the basis of quality and price (Batt 2004; Henson and Reardon 2005; Eurobarometer 2006). Food safety is explicitly managed in most developed markets and implicitly managed in those that have no formalised approach. Irrespective, food safety is seldom an issue until such time as the consumers trust in the food system has been undermined by yet another food safety incident. Food safety issues are more acute in fresh products (Codron et al. 2005; Garcia and Poole 2004; Henson and Reardon 2005), for the product is often consumed without washing and or preparation. Furthermore, the product is often transported over considerable distances and with multiple handling it is more susceptible to contamination from biological and physical agents. This is accentuated by; (i) the increasing international trade in fresh and semi-processed food products; (ii) the increasing consumption of processed food and food away from the home; (iii) more intensive production systems and the increasing reliance on agricultural chemicals; and (iv) the increasing desire by more health conscious consumers to consume more raw food and to select processed food that does not contain preservatives (Kaferstein 2003).

The sensory attributes might be best described as experience attributes for many of these can only be evaluated after purchasing the product. Not unexpectedly, taste is the most important experience attribute for food (Oude Ophuis and van Tripp 1995). In most instances, the consumer preference for fruit is derived from the interaction between taste, texture and flavour (Harker 2001). Texture relates to the mechanical properties of the flesh, mouth-feel and juiciness. However, Codron et al. (2005) consider that appearance should also be considered as a sensory attribute, for there is anecdotal evidence to suggest that most "consumers eat with their eyes" (Hughes 1999). Peri (2006) further expands on the sensory attributes to include memory, culture, values and emotions, for these bring together the consumer's knowledge or memory of food and the consumer's sensory reactions to it. Fieldhouse (1995) maintains that food preference constitutes one of the strongest single predictors of food choice and preference. Food ideology is a combination of attitudes, beliefs, customs and taboos affecting the diet of a given group. Food habits evolve from learned experience, which in turn leads to the development of attitudes.

Nutritional requirements are important because the main purpose of eating is to satisfy nutritional needs (Peri 2006). Most consumers and dieticians recognise the long term health benefits that arise from the regular consumption of fresh fruit and vegetables. However, few consumers expect the consumption of a particular product on a particular occasion to have a health benefit that they can experience (Codron et al. 2005). The recent interest in the health-giving properties of some foods is based on the assumption that their regular consumption will have some beneficial effect on health (Peri 2006). Foods which possess these properties are described as functional foods. These products include yogurts with probiotic ingredients, margarine enriched by cholesterol-reducing ingredients, milk and juices enriched with calcium and other healthy ingredients (Codron et al. 2005).

Just as consumers expect that the on-going consumption of functional foods will have a positive impact on health, the regular consumption of food that contains high levels of chemical residues can have negative implications. For fresh fruit and vegetables, there is evidence to suggest that the major concern for consumers is pesticide residues (Smith Dewaal 2003; Wilcock et al. 2004; Eurobarometer 2006). Not unexpectedly, many regulators, retailers and food manufacturers are now taking steps to reduce the level of pesticide residues and some are even going as far as to prescribe what chemicals may be applied (Farm Foundation 2004; Garcia and Poole 2004; Jaffee and Masakure 2005).

While the type and frequency with which chemicals are applied has implications for product quality, chemicals also have a direct impact both on the environment and the health and welfare of the farmers who use them. Shepherd and Tam (forthcoming) and Ketelaar (2007) describe the alarming incidence of sickness and death resulting from the inappropriate use and application of pesticides in Asia. The Allen Consulting Group (2004) discuss sustainability in terms of biodiversity, water use and pollution, waste and recycling, energy and climate change, salinity, land and water degradation, and chemicals and pollution. Jaffee and Masakure (2005) describe how many of the retail chains in Europe and the UK are implementing programs to protect biodiversity, to support the use of integrated pest management and more efficient use of energy and water. Others have responded to consumer concerns for social value in the food chain by implementing programs combining environmental, labour and animal welfare standards. Collectively, these initiatives have resulted in the widespread adoption of a plethora of Good Agricultural Practice (GAP) programs which seek to address issues related to the use of soil; water; crop production; crop protection; harvesting, processing and storage; energy and waste management; human health, welfare and safety; wildlife and landscape.

While retailers have been largely at the forefront of this drive towards triple bottom line reporting, consumers are left with the dilemma of "who do you trust". Like the nutritional value of the food, these credence attributes cannot be experienced directly (Oude Ophuis and van Tripp 1995). Consumers therefore must rely on the judgement or information of others that the product contains the desired attribute. Proof of claim is becoming a key requirement, especially with regard to the health benefits and the various credence attributes such as how the product was produced, the means by which it was produced, the environmental quality and or social equity.

Labelling is also required to provide nutritional information and to identify what components have been added to the food. Peri (2006) discusses how the product packaging system must facilitate product recognition, marketing and use. The quality associated with packaging includes aesthetic requirements relating to product presentation and the information conveyed by the label. Various legal and regulatory standards must be met with regard to the description of the contents and the ingredients that have been used in manufacturing the product. In the past, consumers have made their decision to purchase largely on such attributes as the fat content and the quantity of salt, sugar and the use of preservatives and flavour enhancing compounds (FSA 2005). Presently, the emphasis is shifting towards the food energy content, the presence or absence of genetically modified organisms (GMO), antibiotics and vaccines, and for the growing proportion of the community with acute reactions, to the presence of potential allergens.

In what is rapidly becoming a global food market, the most widely used means of labelling fresh produce is country-of-origin. Consumers differentiate between products from different countries on the basis of product-country images. These images, which may be based on actual product experience or information gathered through advertising and other sources of market information, provide consumers with a basis for evaluating perceived product quality (Verlegh et al. 2005). Country-of-origin is believed to influence consumer product evaluations most when the consumer's level of involvement in the purchase decision is low. As the purchase of food is most often considered to be a routine, low involvement decision (Batt 2004), consumers are expected to place considerable importance on the country-of-origin.

METHODOLOGY

For this global study of food quality trends, the data collection process began with a desk top study utilising published and readily available information on existing trade policies, food import regulations and the prevailing food safety and quality regulations for dairy products, fresh produce, red meat and seafood. The target markets were broadly defined as: Asia (China, India, Indonesia, Japan, Malaysia, Singapore, Thailand and Vietnam); Europe (France, Germany, the Netherlands, Spain and the UK) and North America (Canada and the USA).

Based on a comprehensive review of the literature, a detailed questionnaire was developed. Before distribution, a draft was pilot tested with selected actors from the food manufacturing industry, importers and traders, retailers, government officials and industry associations to verify that all the major drivers impacting upon food safety and quality systems had been identified. Issues that had been omitted were included and where necessary, the questionnaire modified to facilitate its use and thereby improve the response rate.

Project partners despatched the questionnaire via email to selected key informants. These informants were expected to occupy key management positions in the food

industry as food manufacturers, processors and packers, importers and traders, retailers and food industry associations. After answering a few descriptive questions about themselves and the nature of their business activities, respondents were asked to rate how important they thought each of the selected items would become in their home market in the next 1-2 years, 3-5 years and 6-10 years on a scale of 1 to 4, where 1 was "not at all important" and 4 was "very important".

The minimum number of responses sought from each country was 20, except for the USA and the UK where the minimum number sought was 40. The number of responses sought from each country was governed primarily by budgetary limitations. In both the USA and the UK, a larger sample size was sought in recognition of the greater influence that food safety trends in the USA and the UK exert on world trade.

In China, the data required was collected by Food Quality Solutions Intl Ltd., with supplementary interviews undertaken by Austrade Beijing. In China, the questionnaire was translated by Food Quality Solutions Intl Ltd. Food Quality Solutions Intl. Ltd. were also responsible for data collection in Malaysia, Singapore, Thailand and Vietnam. In Indonesia, the data was collected by Dr Made Utama, Udayana University and in India, the information was provided by Mr Ratnesh Gupta, Green Channel Enterprises Pty Ltd in Mumbai. In Japan, the data was collected by Professor Kazuo Morita, Kagoshima University. In the UK, data was collected by the Royal Agricultural College, Cirencester. In Europe, assistance was sought from the Austrade offices in Amsterdam, Frankfurt, Madrid and Paris. In North America, the data was provided by Mr Martin Gooch from the George Morris Centre in Guelph.

The completed questionnaires were returned to Curtin University of Technology either electronically or via the mail (printed) for subsequent data entry and analysis using SPSS Version 13.01.

RESULTS

Collectively, a total of 359 usable surveys were returned by the project partners. However, this paper will present the results for only one of the four target industries (fresh produce) from which 95 responses were obtained.

Perceived importance of product integrity trends

Meeting consumers desired taste and protecting the customers integrity are currently perceived to be the two most important issues in the fresh produce industry (Table 1). Nevertheless, food businesses must take appropriate steps to ensure that they deliver food products that are safe and in particular, free from microbial and chemical contamination. Reducing pesticide residues is of moderate importance, followed by the need to substantiate ethical trading practices. Reducing contamination from heavy metals is similarly considered to be of only moderate importance. Those variables that are considered to be of least importance in the current market are the emerging technologies; functional foods, the use of GMO and the use of irradiation, largely because there is much consumer resistance to the use and application of these technologies.

In the next 3-5 years, there is a marked increase in the need to provide safe food and to substantiate claims which support ethical trading practices. Nevertheless, meeting consumers' desired tastes continues to provide the major challenge. The use of irradiation and GMO remain problematic, largely because consumers are not yet convinced of the potential benefits these technologies can offer.

In the next 6-10 years, the need to substantiate claims of ethical trading practices continues to surge in importance. Consumer attitudes towards GMO are expected to change dramatically as the benefits of the technology become more apparent, both to consumers and for the environment. Similarly, functional foods and the use of irradiation to control pests and disease and to enhance the shelf life of soft fruit are more widely accepted. As competition in the market intensifies, the provision of safe food and the protection of customers' integrity surpass the need to provide food products which meet consumers' desired taste.

Perceived importance of food production trends

In the current market, minimising water use and pollution and promoting more sustainable production practices are perceived to be the two most important variables impacting on food production systems (Table 2). Some way behind is a second and large group of variables that captures such variables as worker welfare, waste management, conservation and biodiversity, the more equitable sharing of value in the supply chain, life cycle management, salinity and land degradation, and recyclable packaging. A third group which is considered to be of some importance contains such variables as minimising food miles, protecting indigenous property rights and organics. Carbon credits are considered to be of least importance in the current market.

In the next 3-5 years there is a marked increase in the importance of all variables. While there is little change in the rank order, the importance of the food production variables is predicted to increase by an average of 31 points. The most dramatic increase is observed for the importance of carbon credits, salinity and land degradation, and recyclable packaging.

In the next 6-10 years, it is predicted that the initial enthusiasm to embrace more sustainable and ethical food production systems will diminish. In part, this may arise from the increasing costs of implementing these systems, which ultimately must be passed onto consumers. Minimising water use and pollution and implementing more sustainable production systems are predicted to become the most important considerations. While recyclable packaging continues to grow in importance, life cycle management falls from being moderately important to being of only some importance. Despite much of the enthusiasm for organic products, the importance of organics in the longer term is perceived to diminish, not because of a decline in popularity, but more so because many of the production practices promoted by organics become more mainstream, without being encumbered by the inability to use chemical fertilisers and pesticides.

Perceived importance of providing information to consumers

Identifying the country-of-origin is currently perceived to be the most important piece of information consumers look for on the label of the fresh food products they intend to purchase (Table 3). The second most important piece of information is perceived to be the presence of food preservatives. What follows then is a large group of variables that contains information relating to the use of food colourings, flavour enhancing compounds, sugar and artificial sweeteners, vitamins and minerals. The need to identify the presence of allergens is critically important for those who suffer from acute reactions, but for the majority of consumers, this is not perceived to be a major issue. The need to identify whether GMO have been incorporated in the food is currently observed to be of only some importance. However, the importance of GMO is very market specific;

while it is of little importance in North America and Asia, GMO are a major issue in Europe and the UK.

Nevertheless, in the next 3-5 years, the need to identify whether the food contains GMO is seen to dramatically increase. The reasons for this however are unclear. The two other variables that are observed to show a marked increase in importance include the need to identify the food energy content and the presence of any eco-labels.

In the next 6-10 years, the food energy content and eco-labelling continue to increase in importance at rapid rates. The need to identify the food energy content is observed to become much more important than the need to identify the fat content of the food. Nevertheless, identifying the country-of-origin and the preservatives present in the food remain the most important variables.

DISCUSSION AND CONCLUSION

With their trust in the ability of the many actors involved in the food chain to deliver safe, wholesome food, consumers, not unexpectedly, are taking are much greater interest in the quality of the food that they purchase. In turn, these signals are being reflected in the product specifications that actors in the food chain impose on their downstream suppliers. With the need to give much greater consideration to food safety, fair trade and equity, and the environment, the concept of quality is rapidly expanding. In what must now be considered a global food market, what the customer wants the customer gets and if current suppliers are unable or unwilling to fulfil these demands alternative suppliers will be sought. Not unexpectedly, the need to fulfil these demands will impose additional costs on food producers, food processors and manufacturers. The reality is however, that if they don't assent, they risk loosing market share and potential market exclusion. There is further evidence to suggest that in saturated markets, many customers are seeking to differentiate their market offer by imposing private standards that often exceed those set by the public sector (Gehlhar and Regmi 2005). Hence, with respect to the inclusion of environmental and social welfare issues, producers must expect the "bar to be continually raised". However, how quickly the bar is raised will vary from market to market.

There is some evidence to suggest that the need for triple bottom line reporting is very much dependent on the maturity of the market. As disposable income and living standards increase and consumers are able to exercise greater choice, concern for the environment and social equity will increase. However, with the world's major retailers now actively pursuing growth in the developing countries and the advent of global sourcing, the same standards are likely to be imposed in all markets (Henson and Reardon 2005). Hence it will become increasingly difficult to differentiate product in the market as being "clean" and "green".

While DPI Victoria (2004) suggest that the concepts of "clean" and "green" are not consistent across markets, Codron et al (2005) suggests that what consumers say and what consumers do are often inconsistent. Consumers may be interested in all four types of quality attributes, but their actions are often incompatible. For example, high fat may be regarded as an indicator of superior taste but it is also an indicator of inferior health. Convenience products with a high degree of processing may be regarded as undesirable because of the production methods that are employed in their production and the food additives that they contain, and yet consumers are purchasing greater quantities of processed and semi-processed food.

Literature Cited

Aaker, D. 1991. Managing brand equity. Maxwell Macmillan Canada Inc.

Allen Consulting Group. 2004. Environmental Sustainability in the Food Industry: An Issues Paper.

Batt, P.J. 2004. Consumer sovereignty: exploring consumer needs. In Johnson, G.I and Hofman, P.J. (eds). Agriproduct supply-chain management in developing countries. Proceedings of a workshop held in Bali, Indonesia 19–22 August 2003. ACIAR Proceedings No. 119. Canberra: 77-87.

Batt, P.J., Noonan, J. and Kenyon, P. 2006. Global trends analysis of food safety and quality systems for the Australian food industry, DAFF. Canberra.

Codron, J-M., Grunert, K., Giraud-Heraud, E., Soler, L-G. and Regmi, A. 2005. Retail sector responses to changing consumer preferences: the European experience. In Regmi, A. and Gehlbar, M. (eds). Global markets for high-value food products. Washington, D.C., Agricultural Information Bureau, USDA-ERS: 32-46.

DPI Victoria. 2004. Beyond price and quality: understanding credence attributes of food products in Victoria's priority markets.

Eurobarometer. 2006. Risk Issues. Eurobarometer 238. European Commission.

Farm Foundation. 2004. Food Traceability and Assurance in the Global Food System. Food Foundation Traceability and Assurance Panels Final Report, July. Food Foundation. Oak Brook, Illinois. http://farmfoundation.org

Feigenbaum, A.V. 1991. Total Quality Control. Third Ed. McGraw Hill.

Fieldhouse, P. 1995. Food and nutrition. Customs and culture. London. Chapman and Hall.

Food Standards Agency. 2005. Consumer Attitudes to Food Standards 2004: UK Report

Garcia, M. and Poole, N. 2004. The development of private fresh produce safety standards: implications for developing Mediterranean exporting countries. Food Policy. 29: 229-255.

Gehlhar, M. and Regmi, A. 2004. Factors Shaping Global Food Markets. In Regmi, A. and Gehlbar, M. (eds). Global markets for high-value food products. Washington, D.C., Agricultural Information Bureau, USDA-ERS: 5-17.

Harker, F.R. 2001. Consumer response to apples. Proceedings Washington tree fruit postharvest conference.

Henson, S. and Reardon, T. 2005. Private agri-food standards: Implications for food policy and the agri-food system. Food Policy. 29: 241-253.

Hughes, D. 1999. Future retail directions. A paper presented at The 1999 supply chain management executive development program, Hotel Inter-Continental, Singapore. Global Linkages Pty Ltd.

Jaffee, S. and Masakure, O. 2005. Strategic use of private standards to enhance international competitiveness: Vegetable exports from Kenya and elsewhere. Food Policy 30: 316–333

Kaferstein, F.K. 2003. Actions to reverse the upward curve of foodborne illness. Food Control. 14: 101-109

Ketelaar, J. 2007. GAP, market access, farmers and field realities: making the connection through better farmer education in integrated production and pest management. In Batt, P.J. and Cadilhon, J-J. Proceedings of the International Symposium on Fresh Produce Supply Chain Management. RAP publication 2007/21. FAO: 344-348

King, R.P and Venturini, L. 2005. Demand for Quality Drives Changes in Food Supply Chains. In Regmi, A. and Gehlbar, M. (eds). Global markets for high-value food products. Washington, D.C., Agricultural Information Bureau, USDA-ERS: 18-31.
Oude Ophuis, P.A.M. and van Tripp, H.C.M. 1995. Perceived quality: a market driven and consumer oriented approach. Food Quality and Preference. 6: 177-183.
Peri, C. 2006. The universe of food quality. Food Quality and Preference. 17: 3-8.
Shepherd, A.W. and Tam, P.T.G. (forthcoming). Improving the Safety of Marketed Horticultural Produce in Asia with Particular Reference to Vietnam. In Batt, P.J. (ed). Proceedings of the Second International Symposium on Improving the Performance of Supply Chains in the Transitional Economies. Acta Hort.
Smith de Waal, C. 2003. Safe food from a consumer perspective. Food Control 14: 75-79
Verlegh, P.W.J., Steenkamp, J.B.E.M. and Meulenberg, M.T.G. 2005. Country-of-origin effects in consumer processing of advertising claims. International Journal of Research in Marketing, 22: 127-139.
Wilcock, A. Pun, M., Khanonax, J. and Aung, M. 2004. Consumer attitudes, knowledge and behaviour: a review of food safety issues. Trends in Food Science & Technology. 15: 56–66

Table 1. Perceived importance of product integrity trends for fresh produce

	Now	3-5	6-10
Provision of safe food	3.42	3.74	3.83
Protecting customers integrity	3.49	3.67	3.81
Meeting consumers desired taste	3.56	3.78	3.80
Reducing chemical contaminants	3.34	3.51	3.63
Restricting microbial contamination	3.41	3.52	3.61
High ethical claims	3.10	3.34	3.60
Reducing pesticide residues	3.23	3.40	3.53
Reducing heavy metals	2.99	3.16	3.29
Delivering functional foods	2.63	2.85	3.03
Reducing food additives	2.70	2.88	3.00
Minimising use of gmo	2.59	2.73	2.96
Minimising use of irradiation	2.48	2.60	2.78

where 1 is “not at all important” and 4 is “very important”

Table 2: Perceived importance of food production trends for fresh produce

	Now	3-5	6-10
Water use and pollution	3.16	3.45	3.57
Sustainable production systems	3.14	3.43	3.57
Worker welfare	3.01	3.29	3.42
Waste management	2.96	3.23	3.38
Conservation and biodiversity	2.88	3.20	3.38
Recyclable packaging	2.67	3.06	3.31
More equitable sharing of value	2.81	3.08	3.20
Salinity and land degradation	2.75	3.14	3.20
Life cycle management	2.77	3.03	3.09
Minimising food miles	2.54	2.86	2.99
Organics	2.52	2.81	2.95
Protecting indigenous culture and property rights	2.52	2.78	2.85
Carbon credits	2.04	2.49	2.61

where 1 is “not at all important” and 4 is “very important”

Table 3: Perceived importance of providing information on food constituents to customers

	Now	**3-5**	**6-10**
Country of origin	3.27	3.31	3.46
Food preservatives	3.08	3.26	3.38
Food colourings	2.91	3.11	3.22
Allergens	2.83	3.05	3.20
Sugar and artificial sweeteners	2.85	3.03	3.19
Flavour enhancing compounds	2.86	3.04	3.15
Food energy content	2.67	2.93	3.15
Genetically modified organisms	2.64	2.96	3.12
Vitamins and minerals	2.79	3.00	3.09
Eco-labelling	2.59	2.86	3.08
Saturated fats and cholesterol	2.66	2.83	3.00
Irradiation	2.61	2.80	2.96
Salt	2.58	2.73	2.86

where 1 is “not at all important” and 4 is “very important”