Quality in Chains: Consumers and Risk

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ABSTRACT

Consumer perceptions of food quality are dependent on many factors other than the organoleptic properties of products. Quality parameters include perceptions of risk associated with different potential food hazards, as well as ethical concerns associated with food production are likely to have an impact on consumer acceptance of quality. In addition, lack of consumer confidence in activities within the food chain reflects distrust in the activities of different stakeholders within food-production systems. It is these perceptions, beliefs and attitudes that may ultimately influence consumer behaviours.

The focus of this paper is to briefly review individual difference in risk perceptions and attitudes associated with food production, and to discuss how this influences consumer acceptance of food quality. It is concluded that many public concerns about food production issues, are the result of perceived lack of transparency in regulatory and production systems, and public perceptions that the “truth” about risks is being concealed in order to protect the vested interests of regulators, scientists, producers or the food industry. It is concluded that new integrated risk analysis systems should be developed which do not a priori assume that risk assessment, risk management and risk communication should be functionally separated.

INTRODUCTION

Recent food scares have increased consumer concerns about quality of food and how this is related to food production practices. In particular, consumer confidence in the motives of food producers and retailers, and institutions which have responsibility for consumer protection, have decreased. Examples of recent food hazards that have exacerbated this effect include BSE (which has apparently increased consumer concerns about other animal diseases such as foot and mouth, and animal welfare issues associated with animal feeds), public concerns about the use of transgenic organisms in agriculture and food production, the presence of dioxins and endocrine disrupters in the food chain, and the acrylamide scare in Sweden.

Consumer concern is not exclusively related to risk. Ethical concerns (such as those associated with animal husbandry practices, animal welfare in general, environmental impact of agricultural technologies and concerns about technology negatively impacting the integrity of nature) are also likely to determine the acceptability or otherwise of different food products. Thus consumer perception and interpretation of quality may include diverse factors such as organoleptic properties, risk perceptions, and ethical issues related to the method of production and the impact of agricultural practices on the environment or well-being of animals.
It is now recognized that technical risk estimates alone do not form the basis for the development of a coherent and utilitarian food policy that is also acceptable to consumers. Research conducted by Paul Slovic and his co-workers (for example, see Slovic, 1993) has consistently demonstrated that factors such as whether a risk is perceived to be involuntary, potentially catastrophic, or uncontrolled are more important determinants of public response than technical risk estimates. Risk perceptions represent extremely important determinants of food choice behaviours and perceptions of food quality. Risk perceptions and related attitudes not only influence health behaviours associated with dietary and nutritional issues (such as high levels of fat consumption, or patterns of dietary intake that exclude particular nutrients), but also influence attitudes towards microbiological risks and food handling practices. Risk perception is important in the understanding of public attitudes towards the different processes and technologies used in agriculture and food manufacturing, and has been problematic in terms of introducing some innovations from within the biosciences into the food chain. The importance of such perceptions has been studied in the context of food safety (Fife-Schaw and Rowe, 2000; Verbeke and Viane, 1999; Verbeke, 2001; Frewer and Salter, 2002), transgenic organisms in the food chain (Frewer et al., 1997), and unintended negative environmental and health impacts of agricultural technologies (Levidow and Marris, 2001).

There has also been emphasis on institutional and cultural differences in risk analysis (Turner and Wynne, 1992). Individual differences in perceptions are also important, particularly under circumstances where risk exposure is perceived to be involuntary (Barnett and Breakwell, 2001). Affective factors, such as “worry”, may also influence perceived risk (Baron et al, 2000), as may personality correlates such as “anxiety” (Bouyer et al, 2001). Differences in perceptions of risk and benefit associated with various hazards exist between different countries and cultures, between different individuals within countries, and within different individuals at different times and within different contexts (Burger et al, 2001; Frewer et al, in press). For example, gender or ethnicity is one of the best predictors of higher risk perception for a range of health and safety issues. (Dosman et al 2001; Flynn et al, 1994; Fincucane et al, 2000; Johnson, 2002). One conclusion from this research is that ethnic minorities, less affluent individuals and women perceive that they are excluded from risk management decision-making processes.

Otway (1987) has observed that effective risk management involves structuring decision-making processes in such a way that they can accommodate social concerns and provide institutional forms in which these social concerns can be discussed. In particular, societal priorities for risk mitigation activities may not align with those identified by expert groups. However, dismissing the former as irrelevant may result in public outrage, and increased distrust in the motives of regulators and industry.

HOW DO CONSUMER PERCEPTIONS AND ATTITUDES INFLUENCE BEHAVIOURS?

Consumer attitudes and perceptions can influence behaviours in various ways. Some examples of how risk perceptions may be associated with particular products or foods are summarised below:

- **Product choices and product substitution.** Consumers may avoid the product category and turn to substitute products (of particular importance when a category of food product is affected by a risk - for example, consumer tendency to choose beef products was impacted by both the BSE (Pennings, Warsink and Meulenberg, 2002) and dioxin scares (Verbeke 2001)
- **Brand choices.** Consumers may turn to brands that they trust more strongly (Smith Young and Gibson, 1998) and that provide reassurance in terms of risk perception (Aaker, 1991).
- **Retail choice.** Consumers may switch to retailers with a stronger image of trust-
worthiness. This is of particular importance when reduced consumer confidence relates to the activities of a particular retailer (Mitchell, 1998)

- **Preferences for alternative production methods.** Consumer may switch to products for which less processing and production technology is involved (likely to be an important indicator when reductions in consumer confidence relate to technological production methods, for example pesticide use or BSE in cattle (Bruhn, 2002)

- **Reduced consumption.** Consumer may stop consuming the product or product category for a particular length of time (again of particular importance when a category of food product is affected by a risk - for example, beef following the BSE scare or fried or processed foods following the acrylamide scare) (Bennet and Jones, 1999)

**TRUST IN FOOD CHAIN ACTORS**

Trust is likely to be particularly important under circumstances where people feel that they have very little personal control over potential hazards. This is likely to occur when consumers perceive that potentially hazardous or unethical production methods are being applied to food production, or that consumers or the environment are being put at risk to protect the vested interests of different actors in the food chain. Trust has a direct impact on perceptions of risk and benefit associated with a particular production method. For example, Siegrist (1999) reports that consumer trust or distrust in institutions with responsibility for regulating gene technology and its product decreases perceived risk and increases perceived benefit associated with the technology itself.

Other examples of potential hazards where trust in regulatory institutions is likely to be particularly important include environmental and human health risks from pesticides and other agro-chemicals. Examples include potential endocrine disrupters, where the public perceive there is potential for promotion of vested interests at odds with those interests important to the public. Thus it behoves different food-chain actors to be open and transparent about their activities and motivations.

Institutions and organisations must consider how best to develop and maintain public confidence in risk management practices. While public trust is, of course, contingent on institutional transparency, other factors, such as institutional reactivity to public concerns and involving the public in the risk management decision - making process itself, are also important.

It has been argued that much of the controversy associated with food risks has been the result of regulatory bodies failing to take account of the actual concerns of the public, which has fuelled public distrust in the motives of regulators, science and industry (Frewer et al, in press). Jensen and Sandoe (2002) have observed that the decline in public confidence in food safety matters continues, despite the creation of new food safety institutions such as the European Food Authority. In part, they argue, this is because communications about food safety issues that are based on scientific risk assessments do not reassure the public. This may be because “risk assessments are determined by the exact choice of putative hazard….to be assessed for possible unwanted consequences, and by the exact demarcation in time and space of the possible consequences to be addressed. These choices clearly affect the outcome of the risk assessment, but they are not themselves the results of a scientific process”. (page 247).

One conclusion may be that all actors in the food chain need to take due account of consumer concerns. An institutional response to the decline in consumer confidence in food quality has been to increase transparency in risk analysis systems. This has also provided society with information about the potential for societal or institutional values to influence all stages of risk analysis, mitigating against further “functional separation” of risk analysis activities. Specifically, models of risk analysis have assumed that risk communication follows on from risk management, which, in turn, is the outcome of risk assessment. More recent frameworks have assumed some integration between these three elements of risk analysis (for example, FAO / WHO, 1998). However, the decline in public confidence in those institutions and industries with responsibility for risk management continues unabated, raising further questions as to how the science and
society interface might be more integrated into the process. It is essential that greater vertical integration of the food chain occurs if consumers are to perceive that open and transparent risk management throughout the food chain guarantees quality. Efficient communication and dialogue between different food chain actors will facilitate this process.

CONCLUSIONS

Many public concerns about food production issues, are the result of perceived lack of transparency in regulatory systems and public perceptions that the “truth” about risks was being concealed in order to protect the vested interests of regulators, scientists, producers or the food industry. This is also linked to the failure of science, regulators and industry to take account how the public perceives risk.

There are also increased demands for public participation in the debate about regulation and scientific strategy, and the rise of the “consumer citizen” who expresses acceptance or rejection of products through purchase decisions or consumer boycotts. Perceptions of food quality are dependent on many factors other than taste and keeping properties, and that these must be taken into account when considering what constitutes “quality” or rather acceptance. Understanding societal responses to emerging technologies and their applications is key to developing commercialisation strategies associated with specific products, as well as optimising strategic development of science and technology in the future. New integrated risk analysis systems should be developed which do not a priori assume that risk assessment, risk management and risk communication should be functionally separated.

Literature Cited
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