

# Present Issues and Developments in Consumer Food Safety Behavior

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## Abstract

*Nowadays, there is an increasing preoccupation, without precedent, concerning food security and food safety, translated into the development of food and nutrition policies and strategies at all levels. In this context, the efficacy of such instruments significantly depends upon the analysis of food consumption behavior, but also upon its positive orientation towards viable food choices, which can minimize the impact of foodborne risks. The starting point for this action should be ensuring the access to enough healthy food, besides emphasizing the consumer awareness for the creation of an appropriate food consumption behavior.*

**Key words:** *food safety, consumer behavior, foodborne illnesses*

## Introduction

Today, the problems involved in the prediction of changes in food consumption are becoming increasingly important in marketing analysis, from the vendor's point of view. Variables derived from microeconomic theory have recently proved to be unreliable indicators for the estimate of future demand for food products, as the determinant factors of the consumption behavior are very complex. Closely related to the problem of prediction is the theory of diffusion, which refers to the flow of new products or practices within a social system. To identify innovators and to study their behavior enables to predict quantitative or qualitative changes in food consumption, before a greater number of people follow their examples.

Though, we should take into consideration not only the impact of these potential changes on the food industry, but also the importance and the necessity of creating appropriate food behaviors as to ensure that food safety concerns reach their true purpose.

## Food Marketing and Consumption Patterns

Food products often involve the general marketing approaches and techniques applied by the marketing of other kinds of products and services. In food marketing, topics such as test marketing, segmentation, positioning, branding, targeting, consumer research, and market entry strategy, for example, are highly relevant. In addition, food marketing involves other kinds of challenges - such as dealing with a perishable product whose quality and availability varies as a

function of current harvest conditions. Also, the value chain - the extent to which sequential parties in the marketing channel add value to the product - is particularly important.

Today, processing and new distribution options provide increasing opportunities available to food marketers to provide the consumer with convenience. Marketing, services, and processing added do, however, result in significantly higher costs. In the old days, for example, consumers might have baked their own bread from locally grown flour. Today, most households buy pre-manufactured bread, and it is estimated that the farmer receives only some 5% of the price paid by the consumer for the wheat.

Certain foods - such as chicken, cheese, and soft drinks - have experienced significant growth in consumption in recent years. For some foods, total market consumption has increased, but this increase may be primarily because of choices of subgroups. For example, while many Americans have reduced their intake of pork due to concerns about fat, overall per capita consumption of pork has increased in the U.S. This increase probably results in large part from immigration from Asia, where pork is a preferred dish. Consumption of certain other products has decreased. Many consumers have replaced whole milk with other varieties, and substitutes have become available to reduce sugar consumption. Beef and egg consumption have been declining, but this may be reversing as high protein diets gain increasing favor. Some food categories have seen increasing consumption in large part because of heavy promotional campaigns to stimulate demand.

A far more complex set of factors are now driving food consumption patterns in high-income countries than economists have traditionally analyzed in demand studies. Food consumers have moved up Maslow's hierarchy of needs pyramid from satisfying basic physiological needs. If the traditional focus was on quantity demands for homogeneous commodities, attention needs to increasingly be given to the demand for quality-differentiated food products.

Where people buy food, instead of producing it, the form in which they buy it and where they eat it are all changing. To simply distinguish between food consumed at home and away from home is no longer adequate. Rapid demographic and socioeconomic changes, such as the massive entrance of women into the workforce and increasing multi-ethnicity, are a fundamental driver of food buying and dietary patterns.

## **Hazards and Risks for the Food Safety**

Unsafe food consumption occurs when food contains known substances that lead to short or long-term illness or death (botulism, for example) and suspect substances that are believed to lead to delayed diseases (such as pesticides). It also constitutes ingesting a fast acting poison or a set of substances that lead to debilitating diseases over a long period of time. Some dangerous food substances are well known (e.g. wild mushrooms); some are unknowable until long after the damage is done (e.g. pesticides).

Some substances, present in the foods people eat every day, are not harmful in small quantities, but at some dose they become dangerous. That dose differs by the size, genetics and immunity of individuals, but at some critical level food that carries potentially harmful substances interferes with nourishment and, therefore, diminishes health, normal cell growth and bodily functions.

Unsafe food consumption also occurs when hunger or over eating contribute to long-term illness and shorter life expectancy.

Thus, "*safe food consumption*" may be the concept that unites food safety and food security in a whole, underlining the significance of both, although the context differs for the poor people and the rich one.

Unsafe food eaten by poor people jeopardizes their health as surely as too little food. As an abnormality, hunger and being overweight may often co-exist in the same household, which threaten one's ability to earn income and in turn, purchase healthy food.

Unsafe consumption of food and subsequent health issues *include*:

- 1) Foods that contain microbes in sufficient quantities to lead to short-term illness or death such as botulism or E.coli O157 H7.
- 2) Foods that contain substances that are believed to pose potential long-term health problems such as pesticide residues or bovine spongiform encephalopathy.
- 3) Foods that have unknown, but suspected, health consequences such as foods that have been genetically modified or irradiated.
- 4) Foods that contain nutrients or ingredients such as trans-fats or simple sugars, that, when consumed in excess quantities, lead to chronic diseases such as diabetes, cancer, and cardiovascular heart disease.

Acute and temporary illnesses are largely preventable by good manufacturing practices (GMP) and good handling practices in the supply chain starting at the farm and ending with the consumer.

Traditionally, those who study and regulate food safety concentrate their research and policy analysis on microbial contamination, but other issues become more and more relevant.

In this context, *hazard* is the measurable probability that contamination exists in an amount sufficient to cause illness. This can generally be determined by laboratory tests. *Risk* refers to the hazard plus the consequences that consumers will suffer when they are subjected to the hazard and become ill. To assess the risk, one needs to know the probability that people of various ages and lifestyles will become ill when exposed to various hazards in their food.

The new approach in the field of food safety, rather than focus on substances in food that make it unsafe, it focuses on the safe consumption of food. This one requires the acceptance of some risk, an acknowledgement that quantity matters, and responsibility for the dietary context and needs of people in various situations and cultures.

## **Perceiving Food Borne Risks – the Impact on Consumers' Attitude**

At the present, more and more consumers show greater motivation and interest to avoid foodborne illness. Coverage by all type of media of the foodborne illness outbreaks stimulated consumer awareness of the risk of foodborne illness. In this context, both individuals and consumer groups have turned their attention to food safety issues, especially in the developed countries.

The importance of the many channels for food safety education is reflected in the array of sources consumers cite as providing food safety information. The main sources of information regarding such risks are: television, radio, newspapers, magazines, labels or instructions on the package, cookbooks and brochures at grocery stores, government sources, family, relatives, friends, colleagues, physicians etc.

But consumers place different levels of trust in information from different sources. Placing messages in the most trusted media is also important in influencing consumers' attitudes and behavior. Some researches examined consumer trust in various sources of food safety information; the study found that consumers trusted government sources and food labels more than other sources of food safety information.

Though, the consumers with high-risk motivation may accept reducing the pleasure of taste in the favor of much healthier choices. In designing food safety messages, educators must take into account the consumer's tradeoffs between safety and other aspects of food consumption, such as convenience and palatability. For example, to reduce the risk of foodborne illness, consumers are asked to change many traditional recipes, and that may cause a reaction of reluctance.

Individuals who are more vulnerable to foodborne illness represent one potential target for food safety education. These individuals may also represent a niche market for foods produced with extra protection, such as irradiated foods. Vulnerable individuals include young children, senior citizens, immuno-compromised individuals, and pregnant women.

Between the factors shape the motivation to avoid foodborne illness, studies shown that consumers who had experienced foodborne illness reported significantly higher levels of risk aversion than those who had not, after holding other personal and household characteristics constant.

Here the question may be: people must become sick in order to increase their motivation to avoid risk? We could answer: not necessarily, but food safety messages that successfully convey the serious consequences of foodborne illness may be more effective in motivating consumers to change their behavior than messages that are less explicit in describing the consequences.

In addition to changing food-handling behavior, some consumers also seek to protect themselves from foodborne illness through their purchasing behavior. Some consumers avoid purchasing foods they perceive as unsafe, including some imported foods, and they choose food products they believe to be safer, such as irradiated meat or organic food.

Even after a problem has been resolved regarding the safety of a food, consumer perceptions about the implicated food product and about the supplier's or exporting country's ability to produce safe food may be slow to change, and these perceptions may have a lasting influence on food demand and global trade. This is another proof for the changing behaviors - the fact that, when consumers perceive a food as unsafe, demand for the food can drop dramatically, as in cases of *E. coli* O157:H7 and *Cyclospora* outbreak, the bovine spongiform encephalopathy (BSE, known as "mad cow disease"), the dioxin, the avian influenza etc. Besides, all significant food safety issues that quickly spread across national borders caused serious trade impacts.

In order to protect themselves, consumer have and pursuit the opportunity to purchase foods processed with "extra steps", such as irradiation, to further reduce the risk of harmful bacteria. Studies in the US shows that, to this end, consumers were willing to buy irradiated ground beef or chicken, and a fourth were willing to pay a premium for these products, which cost more to produce than comparable non-irradiated products.

Also, research shows some consumers perceive organic products as a safe and healthy way to avoid potential risks of exposure to pesticide residues in foods. Sales of organic baby food have been steadily increasing, despite an increasing price, but the cost-effect (price vs. health benefits) correlation is not enough analyzed.

Beside self-protective actions, in the developed countries (USA, for instance) some consumers also seek compensation for foodborne illness through lawsuits filed under product liability law.

But even with all precaution taken, beside the aware and well-informed consumer's intention to change his food behavior to a much appropriate one, there are circumstances that prevent people to do so. Studies show that when individuals are hungrier, busier, and consume food away from home, their information about health and nutrition has a smaller impact on their actual food choices. Also, individuals who have higher opportunity costs, are less informed about health and nutrition, or consume more food prepared away from home will be more adversely affected by short-term situational factors such as perceived hunger.

Designing public and private policies to maximize the potential for good health and longevity is a balancing act between the cost of regulation and/or building safety into a product and the benefits of healthy, productive people who might be incapacitated from a food-borne illness.

Here one can establish a clear liaison between food security (in terms of access mainly) and food safety. People who do not have enough to eat and are undernourished obviously benefit from more food availability, but food that makes them ill is not helpful. Making the food delivered to all people as safe and nourishing as possible should be a basic criteria for delivering nourishment at all levels of income and caloric intake.

Arguments that focus on the inability of developing countries to meet the food safety standards of countries that are potential importers and, therefore, should be allowed a lower food safety standard, end up jeopardizing the health of people everywhere, including the poor in a potentially exporting, developing nation.

If resources are focused on helping poor nations to meet health and safety standards for their citizens and to be able to participate in world commerce, their incomes should rise, and food security problems can start to be alleviated.

## Conclusions

Reducing foodborne illness requires not only preventing contamination through improved processing and inspection, but also educating consumers to avoid higher-risk consumption choices and to avoid cross-contamination while preparing food. Educating consumers in turn requires an understanding of who is most at risk and what factors motivate consumers to follow food safety recommendations.

Consumers all over the world should grow aware of food safety issues. Thus, increasing the risks that consumers perceive helps to change their behavior. Information may play a role in shaping consumers' risk motivation, although it is difficult to separate the effects of different sources. Also, further research is required to study the complex interaction of information and attitudes.

Research needs to give more attention to the demand for differentiated, frequently branded food products, and to recognition that traditional demographic factors may have limited explanatory power.

Informing consumers with emphasis on preventive methods to reduce food safety threats will lead to reduced concerns and changes in food consumption habits, which – as we consider – is not the way to go. The point is not necessarily to reduce concerns and to limit behavioral changes, but to encourage such science-based changes to the limit of banning the insecure products from consumption and from the market.

In some circumstances, there are many factors that induce behaviors contrary to one's long run health objectives, even in the case of a well-informed consumer. These include mainly *situational* factors, such as where food is procured and the level of hunger when making food choices matter for the analysis of food and nutrient demand.

Omitting them will bias the estimated relationship among prices, income, information, and diet quality. Although our knowledge about the importance of eating well should increase our intentions to follow a healthy diet, our intentions can be influenced negatively by hunger, a chaotic schedule, and where we choose to obtain our food. Making specific reference to such situations and suggesting ways to mitigate their effects should enhance the usefulness of educational campaigns designed to improve diet quality. Some measures may include:

- increasing the convenience of foods with higher nutritional value;
- providing nutritional information on foods prepared away from home;

- improving the nutrient content of foods that are relatively more convenient;
- encouraging consumers to take control of the interval between meals;
- planning increasing the portion of meals that are prepared with foods from a grocery store or supermarket, as they significantly decrease caloric consumption, and improve overall diet quality;
- encouraging individuals to plan and make their food choices before increasing their vulnerability to situational factors such as hunger and having the option to super-size.

Future nutrition campaigns should focus on those aspects of information that have the most influence over observed behavior: importance and perception. Individuals should become better aware of their actual diet quality and convince them of its importance for healthy living, and they should reduce the discrepancy between perceived and actual diet quality in order to improve diet quality.

Safe food consumption is compatible and consistent with food security in all parts of the world, and the magnitude of these dual food and diet issues clearly poses new challenges for global food policy and food security.

The role of governments and food industry executives is to discover the right combination of policies and practices that will work in a given economy and culture in order to deliver the optimum level of safe food consumption.

## References

1. Buchholz, R. - *Innovative Consumption Behavior on the Food Markets*, Acta Hort. (ISHS) 155:217-220, [http://www.actahort.org/books/155/155\\_37.htm](http://www.actahort.org/books/155/155_37.htm)
2. Kinsey, J. - *Does Food Safety Conflict with Food Security? The Safe Consumption Of Food*, The Food Industry Center, University of Minnesota, Working Paper 04-01, IAAE 25<sup>th</sup> International Conference of Agricultural Economists, Durban, South Africa, August 16-22, 2003
3. Mancino, L., Kinsey, J. - *Diet Quality and Calories Consumed: The Impact of Being Hungrier, Busier and Eating Out*, Working Paper 04-02, March 2004
4. Rimal, A. et al. - *Perception of Food Safety and Changes in Food Consumption Habits: A Consumer Analysis*, International Journal of Consumer Studies, Volume 25, Issue 1, Page 43, March 2001
5. Senauer, B. - *The Food Consumer in The 21st Century*, Department of Applied Economics and Co-Director of The Retail Food Industry Center, University of Minnesota, Working Paper 01-03, EAAE Seminar, April 18-20, 2001, Zaragoza, Spain
6. \*\*\*, <http://www.cdc.gov/nccdphp/dnpa/obesity>
7. \*\*\*, <http://www.ers.usda.gov/briefing>
8. \*\*\*, [www.consumerpsychologist.com](http://www.consumerpsychologist.com)

## Probleme și evoluții actuale în comportamentul consumatorului privind siguranța alimentară

### Rezumat

În prezent, asistăm la o dezvoltare fără precedent a preocupărilor pentru securitatea și siguranța alimentară, concretizate în elaborarea unor politici și strategii alimentare și nutriționale la toate nivelurile. În acest context, eficacitatea acestor instrumente depinde în mod direct de analiza comportamentului alimentar al consumatorului, dar și de orientarea benefică a acestuia către opțiuni alimentare viabile, care să minimizeze impactul riscurilor asociate hranei. Punctul de pornire în acest demers este constituit de asigurarea accesului la hrană sănătoasă și suficientă, ceea ce se completează cu accentuarea conștientizării consumatorului asupra necesității formării unui comportament alimentar corect.