FOOD SAFETY IN THE LIGHT OF A QUANTITATIVE CONSUMER STUDY

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ABSTRACT
Food industry has been a strategic sector for Hungary. Production of abundant, safe and quality foodstuff is important for our domestic and foreign consumers. In the 21st century domestic food products still have appreciation, so it is quite important to maintain and improve consumers' trust in Hungarian food.
The topic of food safety has a central position on the global interest map. In Hungary – in harmony with the European Union's food safety policy – the most important areas are: consumer health protection (can not be influenced by any economic and/or political interest), food safety and food security (guarantee the country's sovereignty).
In the last five decades food supply and food consumption have changed and it has become more intensive in the last 15-20 years. The identification and management of emerging risks have also become important and necessary. Hungarian Food Chain Control Authority, food-businesses and consumers are all responsible for the reduction of risk factors in the food chain. The methodology of risk analysis includes studying consumer risk perception as a part of risk communication. Consumer research is a tool to gain first-hand information and results help building Authority programs and planning consumer-centralized projects for companies.

Keywords: food safety, consumer behaviour, consumer risk perception, consumer research, Hungarian Food Chain Control Authority

INTRODUCTION

The food safety situation is influenced by global environmental and climate impacts, environmental pollution, changes of agricultural and food processing technologies, extension of international food trading, lifestyle changes and deterioration of the immune system of the human population, risks of food adulteration, fraud and bioterrorism.
The regulation of food safety policy has to provide solutions for all of these challenges. The basic rules should be well-defined and clear: complex approach – from farm to fork, consumer-centralism, traceability, science-based and integrated approach, precautionary principle and extended responsibility.

Consumer behaviour is influenced by external (demographic [e. g. gender, age, education], economic [e. g. disposable income], cultural, etc.) and internal (psychological) factors. In addition, all activities communicated by the media have an effect on consumer decisions.
The knowledge of internal conditions has become more important in the last 15-20 years. The classification on psychological factors is well-known (BLACKWELL ET AL. 2006), the most accepted one is the model of isolated interaction factors (SOLOMON 1994):

-      Attitudes
-      Motivation
-      Perception
-      Personal experience, such as acquired knowledge and learning progress have an effect on consumer behaviour.

MATERIAL AND METHOD

The consumer research was based on questionnaire-guided personal interviews. The questions were discussed with the Ministry of Rural Development and Hungarian Food Chain Control Authority. The applied questions were closed, typically Likert-scale ones: 1-to-5 Agree-Disagree response questions.

The questionnaire was tested with pilot-research for specifying and measuring the filling time, which was important for the planning and organizing of the research.

Places and dates of sampling:

- Budapest, 1st – 4th October, 2012
- Debrecen, 8th – 9th October, 2012
- Győr, 10th – 12th October, 2012
- Nyíregyháza, 15th – 16th October, 2012
- Szolnok, 27th – 28th October, 2012

1 034 interviews were made, which number has guaranteed the implementation of statistical methods. Table 1. shows the demographic content of consumer sample.

Table 1. The demographic content of consumer sample

Demographic content of consumer sample				
Gender				
Woman: 55,76%			Man: 44,24%	
Age				
Under 25: 45,94%	Between 25-35: 17,04%	Between 36-50: 16,23%		Over 50: 20,79%
Location				
Budapest: 39,09%		Other city: 44,55%		Village: 16,36%
Education				
Elementary: 14,14%		Secondary: 41,69%		Graduate: 44,17%
Size of household				
1 person: 12,53%	2 persons: 24,95%	3 persons: 20,70%	4 persons: 23,04%	5 persons: 18,80%
Income level				
Low: 11,89%	Mid-low: 21,82%	Average: 55,12%	Over average 9,2%	High: 1,96%

RESULTS AND DISCUSSION

Food safety control should be a state-supervised activity (4,06) and according to the consumers, efforts of Hungarian authority has got a real impact on food safety (3,74). The integrated system approach was also considerably supported (3,62). There is a moderate acceptance of efficiency (3,01), but according to the consumer answers Hungarian customers hardly know the authority (2,39), which most likely gives an explanation on the average result.

Table 2. Opinions about Hungarian Food Chain Control Authority

Opinions about Hungarian Food Chain Control Authority				
Opinion	*Average*	*Median*	*Mode*	*Standard deviation*
Food safety is a national task	4,06	5	5	1,22
Authority has an impact on food safety	3,74	4	4	1,07
Integrated authority is necessary	3,62	4	5	1,23
The Hungarian authority is efficient	3,01	3	3	1,05
Hungarian authority is well-known	2,39	2	2	1,18

Sources of food safety information and communication channels have been also measured. The most important experience is that we could not find a single dominant element. Our earlier studies starting from 2000 indicated the leading role of television in all segments of population until last year. Now, however, Internet news portals (3,79) have become leader channels, television (3,78) still have a significant position. The effect of family members and friends (3,47) is appreciable. Newspapers (3,41) and radio (3,25) started to lose their roles in this field. Gaining of importance of social networking (3,04) is measurable. Important to mention the low score of authority and institutes websites (2,64); in the same time, these webpages offer authentic information that some of the conscious consumers were aware of.

Table 3. Numeric values of information sources of food safety

Where do you get information about food safety?				
Answer	*Average*	*Median*	*Mode*	*Standard deviation*
Internet – news websites	3,79	4	5	1,30
Television	3,78	4	5	1,38
Family, friends	3,47	4	5	1,28
Newspapers	3,41	4	5	1,35
Radio	3,25	3	5	1,42
Internet – social networking	3,04	3	3	1,41
Internet – authority institutes websites	2,64	2	1	1,46

Consumer risk perception – covering real or hypothetic food safety risks – was examined. Consumers evaluated the risks with relatively high scores, and differences between them were low.

Table 4. Numeric values of food safety risk factors

Consumer evaluation of food safety risk factors				
Answer	*Average*	*Median*	*Mode*	*Standard deviation*
Salmonella, E. coli	3,88	4	5	1,21
Pesticides	3,82	4	4	1,08
Hormones – meat, water	3,79	4	5	1,20
GMO	3,72	4	5	1,26
Food additives, E-numbers	3,69	4	5	1,14
Dioxin	3,66	4	5	1,24
Mushroom poisoning	3,65	4	5	1,37
BSE ("mad cow disease")	3,51	4	5	1,44

The question of food safety issues was an opened one and the most memorable cases and the influence of media could be measured. The mostly mentioned issue was in connection with the meat sector; illegal slaughterhouses and meat counterfeiting are in the consumers' mind. Methyl-alcohol found in Czech alcoholic beverages, German E. coli outbreak and BSE were also leading news in Hungary, such as the Hungarian red paprika and re-labelling and re-packing issue earlier.
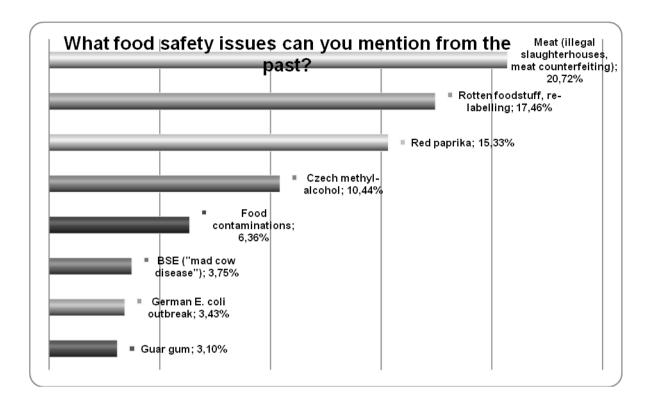
Figure 1. Food safety issues mentioned by consumers

According to consumers' answers expiration date (4,62) is the most sought for information on food labels. Other important information found on food labels: country of origin (3,96) and food contents (3,89). Consumers pay less attention to recommendations on use (3,20) and nutrition facts (3,03).

Table 5. Numeric values of food label information

What do you usually read from the label?				
Answer	*Average*	*Median*	*Mode*	*Standard deviation*
Expiration date	4,62	5	5	0,96
Country of origin	3,96	4	5	1,23
Food contents	3,89	4	5	1,25
Producer / Retailer	3,61	4	5	1,25
Quality logos, e.g. PDO	3,54	4	5	1,35
Recommendations	3,20	3	3	1,34
Nutrition facts	3,03	3	3	1,36

CONCLUSIONS

According to the research results consumers trust in the Hungarian authority and regard control of food safety as a state responsibility.

On the field of communication, the role of Internet news pages has become increasingly important, measuring the same level that of television, meanwhile the websites of authority and institutes are less-visited, but still used by conscious consumers.

In connection with consumer awareness, the Hungarian population is interested in most of the labelling issues, as well as remember and being concerned of food safety cases even from the long past (well over a decade).

Consumers risk perception and its research has become increasingly important in planning food risk communication. The Hungarian authority has also realized its role to pursue aimed communication to different consumer segments. It is also important to indicate emerging problems with so called "soft methods" that consumer research can offer.

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