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POSSIBILITIES FOR REDUCING HEALTH RISKS IN FOOD RETAIL

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Key words: organic food, food retail, perception of risks.

CONCLUSIONS

Managers of organic food stores – as regarding the influence on health – see reliable origin to be the most important criterion during their product selecting decision making process. In the case of traditional foods they find additive artificial materials and GMOs significant among health risks, in the case of organic foods they think that significant problems arise from the shortness of the „best before” period. Dangers coming from the market orientation are judged to be more serious in the case of traditional foods than in the case of organic foods. It is in connection with the mentality with that during their product selecting decision making they emphasize factors connected to safety (eg.: reliable origin) more than market considerations (eg.: fast circulation or it is included in the choice of the competitors). Healthy foods are expected to have a reliable origin, too. In connection with the reliable origin of the products I could throw light on the contradiction that they regard the reliability of producers and sellers important, at the same time the place of origin has little influence on how safe they regard a particular product. 50% of the shopmanagers looking for products with a reliable origin judge Hungarian foods to be safe, 19% of them judge import, 34% of them judge regional products to be safe. Based on these results I find it needed to make a research that gives the possibility to examine the profiles of differentiated products based on their places of origin, in respect of their influence on health and their risk factors. In the case of imported products it would be crucial to make difference between products coming from more and coming from less developed countries than our country. In the case of organic foods it is especially reasonable because the major part of their choice is products from abroad, that come from West-Europe (mostly from Germany and Austria), but more and more cheaper eastern organic foods appear in their portfolio (eg.: Romanian). During checking the hypothesis it could be seen that the risks of food safety were sensed in the whole process of production by shop managers. But with their behaviour to reduce risk factors they want to filter the factors of inner ingredients (eg.: artificial additives, GMOs) that directly endanger health, and they do not pay attention to indirect sources of danger (eg.: place of origin). For this reason I think it is needed to analyze the supply chain of organic foods getting into the market from the point of view of safety, so that not only risks coming from inner ingredients are supported. This would provide a starting point for the managers of organic food stores to minimalize the whole circle of risk factors.

ABSTRACT

In the framework of this research project, interviews were conducted with the managers of 77 organic food retail stores in Hungary. In their opinion, the main risks for the safety, quality and health effect of food products are the following: production process, transportation; lack of quality control, characteristics of ingredients, expiry date, environmental hazards, and economic (cost-saving) considerations. On of the long list of risks, synthetic additives and inadequate processing and storage are considered the most dangerous. This special retail channel aims at meeting the requirements of consumers who strive for healthy lifestyle and diet; therefore, managers place special emphasis on building up a wide range of high-quality products: they purchase healthy food from reliable sources, mainly from specialised wholesalers or directly from the producers.

INTRODUCTION

Gaining the trust of consumers is an especially complex task arisen from the nature and function of the product, as - comparing to other product groups - these consumers are confronted with a larger number of risk factors during their decision-making in shopping (*Smink – Hamstra 1994 in Lehota, 2001*). According to the definition of *Bauer-Berács (2002)* „we talk about risk when the consumer is in an uncertain situation, has not enough information about the product and the shopping circumstances, so (s)he is in danger of making the wrong decision. The wrong decision always involves a loss, which the consumer would like to avoid. ... The risk in fact means the probability of the loss, that derives from mistaken decisions.” As regarding foods Hungarian inhabitants find arti-

cial additives, preservation with radiation treatment, GMOs and animal fat the most dangerous by far (*Lehota, 1996; Kasza, 2002; Kovács, 2003; Szakály et al., 2005*). *Biacs (2005)* points to that in our days the quality and reliability of the products on the market is such a concept of value, that is the subject of the judgement of the market. Commercial units can not keep the lower quality and less safe products out of the circulation if there is a demand for them. Nevertheless they should make an effort not to let products to get into the market that are risky to consume. The loss of confidence coming from the realization of the dangers of traditional nutrition and food-scandals broken out in the food industry and trade – exaggerated through the media (see arena theory *O.Renn 1991 in Lehota, 2001*) and (*Trail 1992 in Lakner et al., 1998*) – cause a significant danger for the traditional food industry and trade enterprises. At the same time the winners of this process are the enterprises, that distinguish themselves from their rivals on the market by doing safe (or noticed safe by consumers) disposal. The consumers of both West Europe and Hungary show more trust in organic food stores than in conventional trade units (*Schaer, 2001; Kovács, 2006*). In the summer of 2005 besides the interviews with experts done in organic food stores (n=77) shown in the publication I also performed a survey among consumers (N=697). According to the results of the market research they expect more reliability from the examined distribution channel than from hiper- and supermarkets. This they attribute to the good relationship with the sales staff, the possibility of getting information, the possibility of tracing the products and the quality assurance system. In my present publication I am examining what roles may food trade units – and within this organic food

stores regarded safe also by customers – have in minimization of health risk, as a result of their gate-keeper function. The examination is based on the results of the expert interviews with the managers of Hungarian organic food stores. I am looking for the answer to the question: what risk factors they notice in the case of foods as well as according to what criteria they judge a particular kind of food to be safe. I study to what extent the criteria judged to be important considering safety appear in their decisions made on choosing and purchasing the products. According to my hypothesis the managers of organic food stores endeavour to minimize the noticed risk factors and to enforce the criteria regarded important by them during choosing both the purchasing place and products.

MATERIALS AND METHOD

In the summer of 2005 I conducted an expert consulting with the help of standardized questionnaires. In the filling in process I got help from the specialized students of our institution. Based on the mailing list got from synthesizing of available data bases about organic food stores I tried to make a representative sample according to the regional position and the size of the town. I asked the managers of 77 organic food stores with the help of a questionnaire including both open and closed questions. The statistical analysis was conducted using the SPSS 10.0 software.

RESULTS AND DISCUSSION

Demonstration of the sample

While creating the mailing list I experienced that the position of the organic food stores is connected to the economic state of development of the area. The

role of Budapest and Pest County is still prominent in this sector. There are big differences between the districts of the capital city as regarding the number of organic food stores linked to the differences of the purchasing power. 47% of the organic food stores in the research were opened in the city centre, 31% in frequented areas, while the rate of shops in the outskirts is only 13%. 30% of the organic food stores work in a self-contained place. 6 organic food stores are in a market, two in one of the hipermarkets (Tesco, Auchan) and one in one of the shopping centres. The difficulty to approach can cause problems at the case of only one shop. More than one third of the organic food stores in research work in stores of less than 40 square metres. Only nine shops are on a bigger than 60-square-metre area. In the sample there are only three especially big organic food stores, one with 140 square metres and one with 150 square metres (in Budapest and Szolnok), also one with 250 square metres (in Budapest). Creating these large ground space shops is part of the concentration process that can be seen since the beginning of the 2000s in this trade channel as well: owners of organic food stores having several smaller shops change their small shops for one or two bigger ground space ones (Kovács, 2003).

Factors (risks) endangering the safety of foods

Asking factfinding, disclosed questions I examined that in the judgement of shop managers what risk factors endanger the safety of traditional and organic foods. In table 2 I summarised that how the risk factors noticed by shopmanagers can be grouped.

Table 1

**Describing the sample according to the location
of the shop and its ground space**

		Frequency	Rate (%)
Administrative category	Budapest	43	55.8
	Bács-Kiskun county	3	3.9
	Baranya county	1	1.3
	Csongrád county	1	1.3
	Győr-Moson-Sopron c.	2	2.6
	Hajdú-Bihar county	1	1.3
	Heves county	2	2.6
	Jász-Nagykun-Szolnok c.	1	1.3
	Nógrád county	1	1.3
	Pest county	14	18.2
	Somogy county	1	1.3
	Szabolcs-Szatmár-Bereg county	1	1.3
	Tolna county	1	1.3
	Vas county	1	1.3
	Veszprém county	1	1.3
Zala county	3	3.9	
Category based on customer flow <i>(several answers are possible, N=76)</i>	In the city centre	36	47.4
	At a frequented place	24	31.6
	Individual place	23	30.3
	At a quiet part of the place	18	23.7
	In the outskirts	10	13.2
	At the market	6	7.9
	In a hipermarket	2	2.6
	Hard to approach	2	2.6
	In a shopping centre	1	1.3
Category based on the size of ground space	Others	1	1.3
	0-20 m ²	22	28.9
	21-40 m ²	26	34.2
	41-60 m ²	19	25.0
	61-80 m ²	4	5.3
	81-100 m ²	1	1.3
	121-140 m ²	2	2.6
Over 141 m ²	2	2.6	

Source: own research, 2005 n=77

Table 2

Risks for food safety according to shop managers

Risk	Explanation
Risk factors connected to production functions	Risks arising during production of base material and processing the product
Risk factors connected to the logistic functions	The product is damaged during wrapping, storing and transporting.
Risk factors coming from the lack of checking	The lack of examining if the rules are followed and avoiding the sources of danger and also in case of organic foods the lack of controlling about following the rules concerning producing organic foods
Risk factors connected to the content factors of the product	The quality of base materials, additive content, GMO, Usage of chemicals during processing, ingredients (eg.: high content of fat, carbohydrate or salt)
Risks connected to the „best before” date	The „best before” period becomes shorter or is over by the time it gets to the customers because of problems about the composition of the product and/or the processing procedure and/or the logistics

Risk factors that can be traced back to environmental harms	Risks coming from environmental phenomena (eg.: weather) and environmental pollution (eg.: pollution of soil and water)
Risk factors based economics	Problems coming from market orientation (pushing down the prices and the force towards quantity production)

Source: own research 2005, n=77

According to the shop managers the risks in the case of traditional foods and in the case of organic foods are not the same. It appears as a characteristic difference that in the case of traditional foods the risk factors are traced back to the processing procedure, meanwhile in the case of organic foods the risk factors are traced back to the pollution of the environment in a higher rate. The pollution of the environment was traced back by most experts to the chemicals used in conventional agriculture. The safety of traditional foods is endangered by more dangers – mainly additives (preserva-

tives, colourings, condition developers and genetic modifying – during the processing than organic foods, nevertheless not all the shop managers totally trust the risk-free ecoagriculture and the authenticity of the form of production. Dangers arising from the lack of logistic functions and market orientation are regarded a more significant problem in the traditional food industry. In the case of organic foods the problem comes more often from the shortness of the „best before” period of the products that can be traced back to the artificial additive-free preservation.

Table 3

Characteristics of foods judged to be safe by managers of organic food stores

Criterion	Average	St. Dev.
Not including genetically modified organs	4.74	0.640
Producing is controlled since base material production	4.73	0.553
No artificial materials are used during production	4.64	0.725
Quality controlled	4.63	0.835
Organic product	4.49	0.724
Detailed information is given on wrapping	4.42	0.868
Information on wrapping is easily comprehensible	4.32	0.908
Trademarked	4.32	0.955
Source of information where inquiring is possible is marked on it	4.03	0.938
Control of an independent certifying organization	4.03	1.110
Name of the producer is marked on wrapping	4.01	1.101
The product is protected by up to date wrapping	4.11	0.918
The product is slightly processed	3.75	0.995
It comes directly from the producer	3.55	1.189
The product was processed using a developed technology	3.51	1.052
It was made from only home base materials	3.49	1.125

It comes from the region	3.16	1.159
Importproduct	2.85	0.989

1= not safe at all, 5= completely safe

Source: own research 2005, n=77

Requirements for safe food products claimed by shop managers

For the shop managers the base of food safety means not using gene-manipulated organs and artificial materials. Production controlled from the producing of the base material and quality control mean the most important guarantees for safety. These factors are decisive criteria for 90% of the experts when judging the safety of a particular product. Organic foods characterised with a large number of important parameters (GMO-, additive-free, controlled and have trademarks) are categorised as safe food products by 85% of the experts. And they require technological development mainly in order to make wrapping materials safer. From the point of view of safety possibilities to get informed is a key factor. 86% of the shop managers expect that detailed information should inform about the product, its origin and producer. They give products made from home base materials more votes of confidence than to import products. Control done by an independent certifying organization is thought to be less important than trademarks. Control is regarded important by only 70% of shop managers, while trademarks are desirable for 82% of them.

Preference of shop managers when choosing the product

Experts when choosing a product regard its influence on health and confidence of origin the most important factors. They want to purchase healthy food products from a authoritative source, and this shows us that 90% of the shop managers who regard health very important, regard authoritative source also very important, and the importance of health shows a significant +0.555 value correlation with the importance of authoritative source. The influence is also connected to suitability for diets and applicableness in new cuisine. With the importance of health, importance of applicableness in new cuisine showed +0.394 correlation, while applicableness in diets showed +0.288 correlation. In the questionnaire a separate statement list was studying the judgement of the shop managers about the profile of healthy food products. According to its results the most important characteristic of healthy food products are that they are free from genetically modified organs and artificial materials and is of organic quality. And these characteristics are completely equal to the first five criteria claimed about safe foods.

Table 4

Factors influencing shop managers when choosing products

Criterion	Average	St. Dev.
Healthy	4.79	0.471
Authoritative source	4.78	0.532

Demand from consumers	4.74	0.661
Good quality	4.68	0.594
Proper price-quality relation	4.66	0.579
Producer is trustworthy	4.51	0.839
Organic product	4.39	0.784
Reform product	4.39	0.884
Circulates quickly	4.36	0.939
Seller is trustworthy	4.31	0.900
Trademarked	4.00	1.197
Dietary product	3.93	1.082

1=not important at all, 5=very important

Source: own research 2005, n=77

Authoritative origin of the product is guaranteed first of all by the authenticity of the producer. Between the importance of the origin of the product and the importance of trust in producers and sellers we could see a significant +0.483 and +0.486 correlation. Trademarked products are consciously looked for by 68% of the shop managers. Between the importance of authoritative source and the importance of trademarks a significant +0.296 correlation could be revealed. Organic quality was either an important or a very important criterion for 66 shop managers. The importance of authoritative origin and the importance of organic quality a significant +0.247 correlation could be shown. Seeing the emphasized importance of authoritative origin while judging the profile of safe foods (see Table 3) undervalued factors connected to origin raise the question whether endeavouring to decrease risk factors is influenced by the place of origin. It is thought by only 39 shop managers that being made from home base materials is important or very important, 25 says that it provides a kind of safety that it comes from the region, and 14 of them trust

import products. As regarding the place of origin 34-52% of them say that it does not influence the safety of foods. I also studied that when making decisions about purchasing what relation there is between endeavouring to choose products from an authoritative origin and the requirements with safe foods. (I highlighted the factors connected to origin.) In crosstable 5 I show what attitude shop managers regarding authoritative origin, authoritativeness of producers and sellers have about particular places of origin. From the results it can be seen that 50% of the shop managers looking for foods from an authoritative place of origin judge Hungarian products to be safe, 19% think that import and 34% of them think that products from the region are safe. It appears as a difference comparing to the West-European attitude that they do not find products coming from their own region safer than those from other areas of their country or from abroad.

Table 6 includes the results of the Pearson's correlation calculation. According to the results of the calculation for shop managers preferring products

from authoritative places, proper information provided and identifiability of the producer give safety. Though no significant correlation could be shown with the judgement of the influence of home materials on safety. The importance of authoritative origin showed a +0.321 corre-

lation with the judgement of safety of import products. On the other hand between the importance of trusting the producers and the safety of import products a -0.108 significant correlation could be revealed.

Table 5

Judgement of the place of origin of products from the point of view of food safety among shop managers regarding origin important

		Authoritative origin				Trustworthy producer				Trustworthy seller			
		Very important		Important		Very important		Important		Very important		Important	
		F	%	F	%	F	%	F	%	F	%	F	%
Home	Very safe	13	17.1	1	1.4	7	9.7	5	6.9	8	10.7	3	4.0
	Safe	19	25.0	5	6.6	18	25.0	2	2.8	15	20.0	4	5.3
Import	Very safe	3	4.1	1	1.4	1	1.4	1	1.4	1	1.4	0	0.0
	Safe	9	12.2	1	1.4	7	9.9	2	2.8	7	9.7	2	2.7
Regional	Very safe	10	13.5	2	2.7	9	12.7	1	1.4	9	12.3	1	1.4
	Safe	12	16.2	1	1.4	7	9.9	3	4.2	7	9.6	3	4.1

Source: own research 2005, n=77

Table 6

Factors of food safety defining the authenticity of the origin of products

Defining variables from the point of view of food safety		Criteria of choosing products		
		Authoritative origin	Trustworthy producer	Trustworthy seller
It comes directly from the producer	Pearson Correlation	0.240(*)	0.290(*)	0.233(*)
	Sig. (2-tailed)	0.038	0.013	0.045
Source of information where inquiring is possible is marked on it	Pearson Correlation	0.306(**)	0.090	0.380(**)
	Sig. (2-tailed)	0.007	0.450	0.001
Detailed information is given on wrapping	Pearson Correlation	0.322(**)	0.069	0.267(*)
	Sig. (2-tailed)	0.005	0.566	0.021
Information on wrapping is easily comprehensible	Pearson Correlation	0.351(**)	0.162	0.217
	Sig. (2-tailed)	0.002	0.180	0.065
It was made from only home base materials	Pearson Correlation	0.073	0.008	0.092
	Sig. (2-tailed)	0.531	0.946	0.431
Import product	Pearson Correlation	0.321(**)	-0.108	0.054
	Sig. (2-tailed)	0.005	0.371	0.650
It comes from the region	Pearson Correlation	0.280(*)	0.058	0.173
	Sig. (2-tailed)	0.015	0.632	0.144
Organic product	Pearson Correlation	0.293(*)	0.179	0.134

	Sig. (2-tailed)	0.011	0.135	0.256
Quality controlled	Pearson Correlation	0.232(*)	0.024	0.184
	Sig. (2-tailed)	0.045	0.844	0.116

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Source: own research 2005, n=77

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