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SHOULD I BUY IT? SHOULD I EAT IT? – FOOD SAFETY AND LABELLING IN HUNGARY IN THE LIGHT OF A QUESTIONNAIRE SURVEY

Megenni vagy nem megenni? Ez itt a kérdés!

VÁGÁNY Judit - KÁRPÁTINÉ DARÓCZI Judit

Summary

Nowadays transparency and monitoring are two of the most important expectations towards organisations. But the fulfilment of these expectations imposes a major challenge for the participants of the economy.

Consumer expectations are twofold: they want food to be harmless (food safety) and they want good quality food (nutritional value, smell etc.) for the price they pay. The more developed the economy of a country the more intense the customer expectations are.

At the end of 2014 the food labelling regulations became more strict. As a result of changes retailers first will have more to do but customers will be more informed regarding food allergens.

To introduce the changes in food labelling regulations in Hungary mostly Hungarian scholarship was used. The literature review is followed by a primary research in order to reveal the relations of costumers' healthy nutrition

A questionnaire survey was completed regarding the food buying practices of customers then an observation was carried out to shed light on how Hungarian food retailer chains adjusted to changes in food labelling regulations.

Keywords: food safety, foodborne illnesses, food labelling, food intolerance, Quality Food From Hungary (QFFH), EFSA, Department of Agriculture and Rural Development (DARD)

Összefoglaló

Átláthatóság és nyomonkövethetőség. Ez napjaink egyik legfontosabb elvárása, melynek megvalósítása (vagy megvalósításának kísérlete) igen jelentős kihívás elé állítja a gazdaság szereplőit.

A fogyasztó az élelmiszertől egyrészt azt várja, hogy annak elfogyasztására számára ne jelentsen veszélyt (biztonságos legyen), másrésztől pénzéért megfelelő minőségű (tápértékű, ízű, illatú stb.) élelmiszer szeretne kapni. Minél fejlettebb egy ország gazdasága, ez az igény annál markánsabban jelentkezik.

Magyarországon 2014 végén szigorodtak a jelöléssel kapcsolatos szabályok, mely helyzet kezdetben plusz feladatok elő állítja a kereskedőket, viszont segíti a fogyasztók tájékozódását az allergén összetevők feltárásában.

A magyar helyzet bemutatásához a (javarészt magyar) szakirodalmi források felhasználása után primer kutatást végeztünk annak érdekében, hogy felmérjük a fogyasztók egészséges táplálkozáshoz való viszonyát.

Egyrészt kérdőíves kutatást készítettünk a fogyasztók élelmiszervásárlási szokásainak

megismerésére, másrészt megfigyelést végeztünk annak feltárására, hogy a jelentősebb Magyarországon működő élelmiszerláncokban hogyan valósították meg a módosult jelölésbeli előírásokat.

Kulcsszavak: élelmiszerbiztonság, élelmiszer minőség, élelmiszer eredetű megbetegedések, címkézés, élelmiszer intolerancia, Kiváló Magyar Élelmiszer védjegy, EFSA, NÉBIH

Introduction

Healthy eating is becoming more and more important in the developed world. The number of those customers who want to know more about the ingredients of the food they consume is increasing. They are also interested in food safety and the effects of food on their body.

Current article focuses on the development of food safety in Hungary, in the European Union and worldwide. It also explores consumer attitude towards their level of consciousness when it comes to deciding what type of food to buy. Additionally, we asked them what the main factors of their decision-making are. As a result of recent changes in food industry regulation, emphasis has been placed on food allergy information as well in our research.

First, tradesmen had added work resulting from changes in the food industry regulation. At the same time customers found more information on food allergens. This is crucial information for about 20 percent of today's welfare society suffering from either food allergies or food intolerance.

Food quality and food safety

Quality is an everywhere. It is also a popular topic of science whether it's about product or organisational quality (Gyenge-Kozma, 2013). If we want to make a comparison between food quality and food safety we can see that both are fundamental for dealing with food products on the market.

The marketability of public food products can be indicated by a value of quality, but marketability is limited by the lack of product safety (Biacs, 2004., L. Fenyvesi, E. K. Galli Sz., 2012).

Consumers have become considerably more selective when making decisions (Dawson, 2010), and pay more attention to what to buy and consume (Lehota, 2001). Decision-making processes become significantly easier for customers if there is sufficient information on products which leads to customer associations and positive opinions (Hofmeister-Tóth és Totth, 2007).

Recent scandals in the food industry: the BSE crisis, the Escherichia coli outbreak and deadly food caused by botulism, SARS, and dioxin-contamination crisis all brought food industry in the centre of world attention.

Despite the fact that the production of processed food products have been undergoing continuous quality improvement based on EU law harmonisation, customers are becoming more and more suspicious.

This might be stems from the oversupply of food products, the increasingly difficult orientation among food products, the growing numbers of scandals in the food industry, the

increasing number of food allergies and the health conscious lifestyle of consumers' [Ducsay, 2003].

The development of food-safety in Hungary, in the EU and in the USA

Regulation 46/2003 (IV. 16.) a national program devoted to health improvement⁶ aims at the followings:

„In 10 years the number of food and mushroom poisoning will decrease by 30 percent. In school food mass food poisoning will decrease by 30 percent, (...) the public food safety regulatory agencies, the HACCP, is becoming stronger and more reliable...”

In the National Food Safety Program (NFSP) the following can be found: 'The main aim of the NFSP is to safeguard consumer health and trust by improved food safety. Upon the achievement of our aims the number of foodborne illnesses will decrease, public health in general will improve and the good reputation of Hungarian food will spread.' [Szeitzné (ed.), 2004]

Since nutrition has a strong influence on our lives our quality of food is of great importance. Food safety represents a level of quality which had been established on our knowledge of presently known health risks and is upheld by meeting a set of requirements. The content and the requirements of food safety are continuously broadening. Still food safety does not automatically improve as a result of our greater knowledge. [Erdős, 2003].

Food safety is a widely covered topic. Berke (2003) claims that the following authors are to be highlighted:

Bauer and Berács (1998) analysed the environmental impacts on consumers as well as the internal mechanisms of the psyche. Both areas of analysis proved that risk has a significant impact on consumer behaviour. This line of thought first emerged in the 1960s.

In his empirical studies Bauer (1976) found that consumers do not maximise utility, rather they minimise risks associated with consumer buying decisions. The extent of risk changes in according to aims and the individual judgement [Cox, 1967].

Risk is the personal expectations of the consumer, in other words risk is the realisation of the negative consequences of their actions resulting in some kind of loss [Cunnigham, 1967].

According to Lehota and Tomcsányi (1994) the most common risk types are related to the following areas: financial, functional, social, psychological and health.

Food safety is a form of certainty that food is not harmful for consumers when it is prepared or consumed by them [ISO 22000:2005].

Continuing our previous thought the notion of food quality means to ensure that expectations related to competitiveness in the food industry are met. Food quality is described in Table 1.

⁶ „Az Egészség Évtizedének Johan Béla Nemzeti Programjáról”

Table 1 Explaining food quality

Intuitive factors	
Primary characteristics	Secondary characteristics
<ul style="list-style-type: none"> – colour, – smell, – consistency, – taste, 	<ul style="list-style-type: none"> – freshness, – „comfort”, – „appropriateness”, – packaging, – price.
Objective factors	
Nutritional value	Food safety

Source: Self editing based on Pallaginé (1999)

Food quality can be described by primary and secondary characteristics. Two main components can also be distinguished: nutritional value and food safety.

'Food quality' is defined by the primary characteristics but for each individuals it is different depending on personal taste whereas nutritional value and food safety are objective by nature.

Based on the previously stated characteristics Molnár (1992) listed the most important factors of food quality:

- health suitability (food consumption does no harm to consumers' health),
- enjoyment expressed by the characteristics of the senses (tastiness, attractive),
- nutrition biological value determined by chemical composition (food must provide energy and useful substances for the human body),
- suitability (food shouldn't expire for a certain period and should be packed and prepared in a manner which is desirable for consumers).

Food safety should be created by following the health requirements of consumers whereas food quality in a broad sense should be directly related to the value a certain food product represents.

Escher (2002) claims that high quality should always include safety.

In a different approach the basic marketability of food products are quality and safety [Biacs, 2004]

The complex nature of food quality is explained in Figure 1.

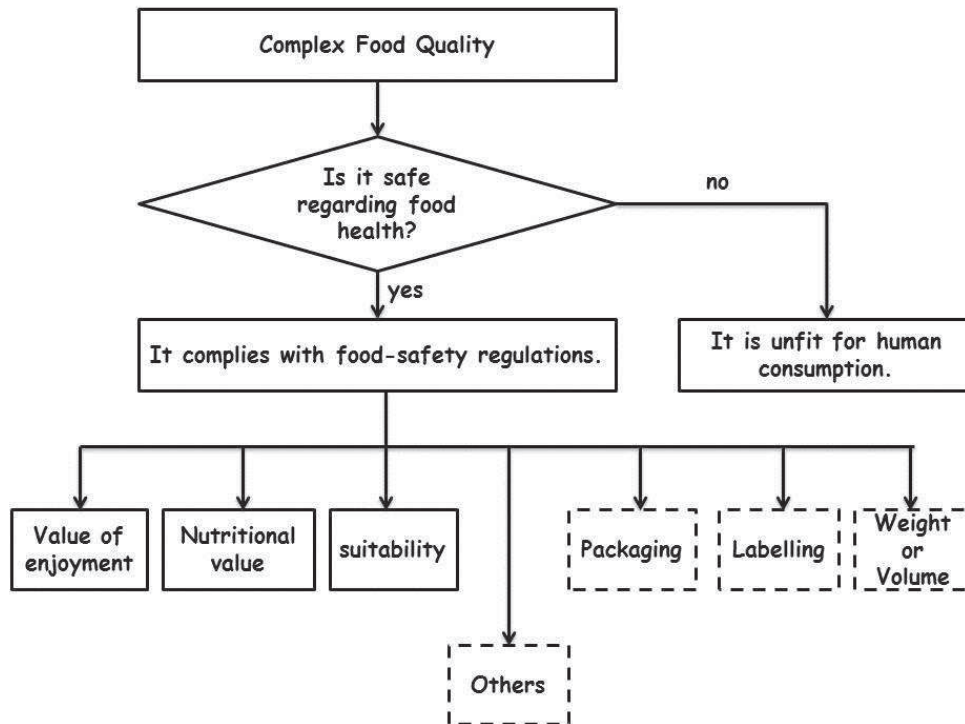


Figure 1. The complex nature of food quality

Source: Mattyasovszki, 2004

Food safety is important not only from an industry perspective but also from a social aspect. Food safety has short terms as well as long term effects.

In the USA a new national food safety program was initiated in 1997 under the title „Food Safety from Farm to Table: A New Strategy for the 21st century.

International agencies such as FAO and the WHO had continuously warned the public for the serious issue of food safety.

The WHO published its food safety strategy in 2002.

According to the WHO food related diseases became one of the major problems of public health because the number of these cases has been growing.

According to van de Venter (2000) the reasons behind this trend are the followings:

- urbanization, dynamically changing lifestyle,
- quick spread of fast-food restaurant networks,
- growth of tourism,
- spreading of 'take-away' food,
- street food and the incorrect storage and food preparation in households,
- changes in the nature of diseases,
- poverty and pollution (e.g. environmental),
- eating habits,
- other factors influencing health (e.g. wheat intolerance, lactose intolerance etc.)

It shouldn't be supposed that the above examples for food hazard are only typical of the food industries of underdeveloped countries with bad hygiene. Registered food poisoning occurrences are higher in developed countries. Certainly registration, consumer sensitivity and high quality health infrastructure should be considered (Keleti-RÁCZ, 1999).

Research results (Biacs, 2003) show that 70 percent of pollutants get into the human body through eating, 20 percent through drinking and 10 percent through breathing. In Hungary there are more than 10,000 cases of foodborne illnesses. 2 to 3 thousand out of the total number of these illnesses required hospital treatment (Biacs, 2003). Today, the number of foodborne illnesses is decreasing (See Table **Hiba! A hivatkozási forrás nem található.**).

There have been some researches related to the evaluation of the dangers of food consumption. Bánáti et al. (2003) studied the perception of food safety and the risk recognition of consumers in Hungary. They found that most of the respondents considered food safety a very important issue which is not yet well regulated.

Respondents considered the following sources of dangers (in alphabetical order):

- the presence of allergens,
- food bacteria,
- food microbes,
- cleanliness of restaurants, and canteens,
- negligence in terms of agency supervision,
- negligence in terms of processing,
- hormone residues in food (milk, meat),
- chemical preservatives,
- nitrate in drinking water,
- herbicide residues,
- food mould,
- personal hygiene,
- toxins,
- low standards of public food.

It is well known that food safety is one of the EU's priorities as well. According to the EU food safety is a tool to safeguard consumer health, to keep consumers away from bodily harm and to ensure fair competition on the worldwide market.

Public health and consumer protection have been cornerstones of the 1957 Treaty of Rome. Based on that the European Commission published a Green Paper on the general principles and requirements of food law in the EU. It formulates six fundamental aims for legislative bodies:

- The assurance of a high level of protection of public health and consumers' interests in relation to food.
- Free movement of products on the internal market.
- Food law must be based on scientific results and risk assessment.
- By promoting the competitiveness of the European food industry export opportunities can be widened.
- The primary responsibility of producing safe food falls on the food industry, manufacturers and those providing materials. By applying the HACCP (Hazard analysis and critical control points) system their responsibility can be ensured.
- Food law should be comprehensive, rational and above all beneficial for consumers.

Remarks and reflections on the Green Paper formed the basis for the White Paper on Food Safety. Its contents were widely discussed in order to allow all stakeholders to contribute to the debate. The White Paper includes suggestions on how to create a more proactive EU food law which can become a dynamic and comprehensive tool with the aim of ensuring health protection at the highest possible level.

According to Várkonyi (2000) the White Paper included the followings:

- Every statement reflects a comprehensive and integrated view regarding the food industry as a whole.
- All pillars of food safety (data collection and analysis, scientific conclusions, food law and market monitoring, consumer information) must be integrated.
- The roles of all participants in the chain of food products must be cleared.
- Consumers should also realize where their responsibilities lie in terms of storing food products and preparing them at home.
- Procedures must be put in place that allow the monitoring of feed and food and all their components. As a result of that in case of any risks occurrence those items involved can be instantly withdrawn from the market.
- Forming an effective and dynamic food policy through an integrated and coherent view of the food industry replacing the previous sectorial approach. The new food policy should be adjusted to challenges on a daily basis.
- Ensuring transparency.
- Food policy should be based on risk assessment which is composed of risk estimation and communication.
- Decisions related to risk management are based on the principle of prudence. This raises many further questions. For example what kind of suspicion, how great a danger and risk should be evaluated by referring to the principle of prudence?
- The role of science is highly valued because it is based on undisputable facts. Information used for research is transparent and can provide a firm base for fair competition.
- In the course of the legislative process food safety must be defined in a broad sense. Factors such as regulations in respect to environmental and animal protection, sustainable agriculture, provision of comprehensive information for customers etc.

The White Paper also called for the establishment of the European Food Safety Authority (EFSA) with the scope of responsibility covering risk assessment and communication related to food safety.

The equivalent of EFSA in Hungary is the Hungarian Food Safety Office (HFSO). It was established in 2003 as the partner institution of EFSA. It played an important role in the pre-accession period, law harmonization and the coordination of national and international food safety institutions.

As of March, 15, 2012 the HFSO was replaced by the National Food Chain Safety Office (NFCSO). It is the successor of the Central Agriculture Office CAO and the Hungarian Food Safety Office which has been integrated in order to unite the traditional core areas of expertise and incorporate food chain safety supervision. The new institution is able to handle the supervision of the whole of food chain safety (https://www.nebih.gov.hu/a_hivatalrol).

The efficiency of authoritative power contributed to the improvement in food safety in recent years (See Table 2). It is important to mention that the number of unregistered foodborne illnesses is quite high.

Quality Food from Hungary

In our research we wanted to explore whether consumers consider food trademarks important and whether they are influenced by them in any ways. Our research results will be presented later.

The Department of Agriculture and Rural Development (DARD) created the Quality Food from Hungary trademark (QFFH) with the following aims:

- Setting out from other products those ones which meet high quality requirements.
- Informing and at the same time protect consumers: QFFH as a trademark of high quality provides information about the high quality and reliability of products for consumers in their buying decisions. Not only producers but also the organisation granting the trademark is responsible for the quality of the product.
- Encouraging quality improvement. By using the trademark producers gain advantages on the market and become more encouraged to introduce conscious quality policies and to continuously monitor and improve their product quality.
- Contributing to consumer culture improvements. A trademark which differentiates products also leads to consumers who demand more high quality products. It strengthens the market and customer orientation of companies (<http://www.kme.hu/content/kivalo-magyar-elelmiszer-kme-vedjegy>).

World food safety

According to a study carried out by the World Health Organization (WHO) there are many issues related to food safety (Fact Sheet N°399, November, 2014). These are some of the main issues listed in the study:

- Access to sufficient amounts of safe and nutritious food is key to sustaining life and promoting good health.
- Unsafe food containing harmful bacteria, viruses, parasites or chemical substances, causes more than 200 diseases - ranging from diarrhoea to cancers.
- Foodborne and waterborne diarrhoeal diseases kill an estimated 2 million people annually, including many children.
- Food safety, nutrition and food security are inextricably linked. Unsafe food creates a vicious cycle of disease and malnutrition, particularly affecting infants, young children, elderly and the sick.
- Foodborne diseases impede socioeconomic development by straining health care systems, and harming national economies, tourism and trade.
- Food supply chains now cross multiple national borders. Good collaboration between governments, producers and consumers helps ensure food safety.

Food labelling

Food information to consumers is regulated by the Regulation No. 1169/2011/EU.

In our research the focus is on the labelling of prepacked and non-prepacked food products. In order to do so we need to review some of the most fundamental notions our research is built on.

‘Pre-packed food’ means any single item for presentation as such to the final consumer and to mass caterers, consisting of a food and the packaging into which it was put before being offered for sale, whether such packaging encloses the food completely or only partially, but in any event in such a way that the contents cannot be altered without opening or changing the packaging; ‘prepacked food’ does not cover foods packed on the sales premises at the consumer’s request or prepacked for direct sale; (1169/2011/EU)

The prime consideration for requiring mandatory food information should be to enable consumers to identify and make appropriate use of a food and to make choices that suit their individual dietary needs. With this aim, food business operators should facilitate the accessibility of that information to the visually impaired (Section 17).

Food labelling is an important tool of consumer protection and fair market competition. The basic rule of food labelling is that it should always be unequivocal.

Food information to consumers is regulated by the EU Regulation 1169/2011/EU. Chapter IV Section 1 Article 9 indicates the following particulars that shall be mandatory:

- a) the name of the food;
- b) the list of ingredients;
- c) any ingredient or processing aid listed in Annex II or derived from a substance or product listed in Annex II causing allergies or intolerances used in the manufacture or preparation of a food and still present in the finished product, even if in an altered form;
- d) the quantity of certain ingredients or categories of ingredients;
- e) the net quantity of the food;
- f) the date of minimum durability or the ‘use by’ date;
- g) any special storage conditions and/or conditions of use;
- h) a nutrition declaration.

Article 12

Availability and placement of mandatory food information

1. Mandatory food information shall be available and shall be easily accessible, in accordance with this Regulation, for all foods.
2. In the case of prepacked food, mandatory food information shall appear directly on the package or on a label attached thereto.

Article 44

National measures for non-prepacked food

1. Where foods are offered for sale to the final consumer or to mass caterers without prepackaging, or where foods are packed on the sales premises at the consumer’s request or prepacked for direct sale:

- (a) the provision of the particulars specified in point (c) of Article 9(1) is mandatory;
1. (b) the provision of other particulars referred to in Articles 9 and 10 is not mandatory unless Member States adopt national measures requiring the provision of some or all of those particulars or elements of those particulars.

Research methodology and the scope of research

In current article we present the results of our quantitative research which covered the following topics: consciousness of consumer food buying, the role of trademarks and product awards and consumer expectations related to labelling. We compare consumer preferences and the legislative background producers must comply with. This phase of research is an explanatory by nature because we set the task of understanding the food consumption and buying behaviour of Hungarian consumers and their preferences and the most remarkable characteristics of these processes.

Prior to our research we had the following assumptions:

- H1: Consumers living in Budapest are more conscious than rural consumers, and consumers living in Budapest pay more attention to label information when buying food products.
H2: Consumer food buying decisions are mostly effected by the origin of the product.
H3: In the consumer buying decisions the act of kindness is more important for consumers living in rural areas than those living in the capital.

The primary research had two phases:

1. Observation and a consumer questionnaire. Data collection took place between July and August, 2014.
 - 1.1. We had 354 respondents in our online survey. Questions focused on consumer behaviour and preferences. The filtering of our respondents was that they had to be 18 or over and carry out shopping regularly. Responds were evaluated by statistical methods of one or two variables. The questionnaire included closed questions and statements related to consumer preferences. Respondents were asked to determine how much they agree with the statement on a scale of five (the scale included the following options: strongly disagree, disagree, don't know, agree, strongly agree)⁷.
 - 1.2. The observation was carried out by surveyors for a week in 110 shops of 9 different kinds of retail chains. Altogether 140 shop assistants were interviewed. Surveyors had to ask those working behind the grocery deli counters about the allergen content of some products, and whether allergens are indicated and if yes how on the

⁷ The reason why we opted for the most commonly used (Bankenship and Breen, 1993; Scipiona, 1994; Malhotra, 2008) - 1-5 interval scale, because respondents can make their product evaluation or a marketing variable (e.g. analysis of traditional product purchases, agreement with attitude statements).

packages of products sold.

- The second phase of the research took place between January and February, 2015. During this phase we repeated our observation of the mandatory labelling of allergens in the 110 shops.

Research results

81.1 % of respondents in the questionnaire survey were women and 19.8% were men. This data is of course not surprising because one of our filtering conditions was that respondents had to carry out shopping regularly. In most households it is women who do shopping. The following age groups were present in our sample: age 23-34, age 35-45, age 46-60 and age 61-74. Most of the respondents (74%) were highly qualified, meaning they completed higher level vocational trainings (OKJ) (Figure 2.)

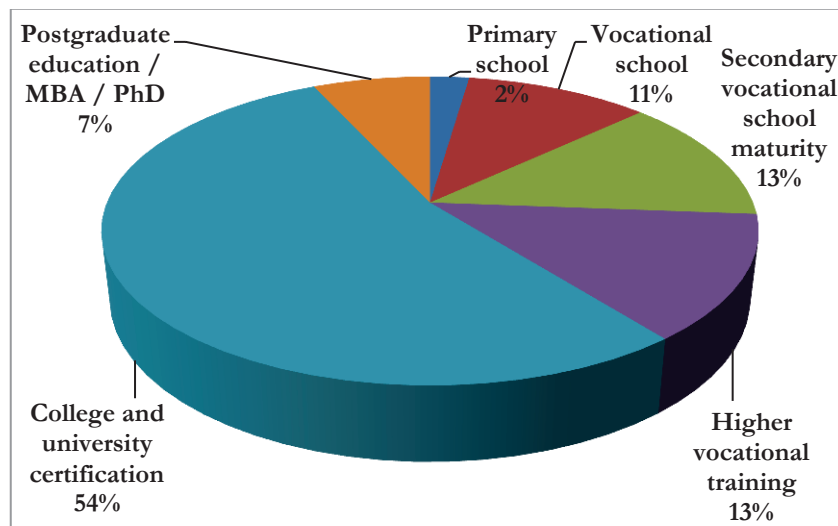


Figure 2. Qualifications of respondents

Source: Self-edited research result

In the next part of our article some of the research results related to consumer preferences will be presented.

- *Hungarian food products are of higher quality than foreign food products.*

A majority of respondents agreed with the above statement. The averages prove this because the response average is 3.43 and 45.7% of the responses were either 4 or 5 on the scale which is a satisfactory result (Figure 3.).

- *Food control is more strict in Hungary than in other EU countries.*

Based on our research results (Figure 4.) it can be stated that respondents had similar views on food control in Hungary and in other EU countries (Response average is 3.09 and the ratio of 1 and 2 was similar to 4 and 5 on the scale.). Consumers' perception reflects the harmonization of Hungarian and EU law.

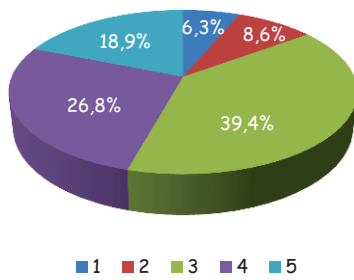


Figure 3. In my opinion Hungarian food products are of higher quality than foreign food products.

Source: Research results, self-edited

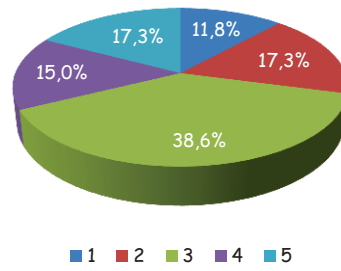


Figure 4. Food control is more strict in Hungary than in other EU countries.

Source: Research result, self-edited

- *The number of foodborne illnesses has decreased in recent years.*

Respondents have a negative perception towards foodborne illnesses in recent years (Figure 5.). The response average was 2.94 and there were more respondents giving 1 or 2 on the scale (33.1 %) and only 27.5% gave 4 or 5.

Bad consumer perception doesn't reflect reality though. As Table 2 shows the number of registered foodborne illnesses have decreased in recent years. But the active present of media reveals more of these cases much faster. As a result the public has a negative perception and feels that the number of foodborne illnesses is growing.

The general view of our respondents differs from the contents of the strategy document created by the National Food Chain Safety Office „Hungary – as an EU member state – is one of those lucky countries in the world in which food chain safety is high quality and *according to food professionals and consumers it has been improved in recent years.*”

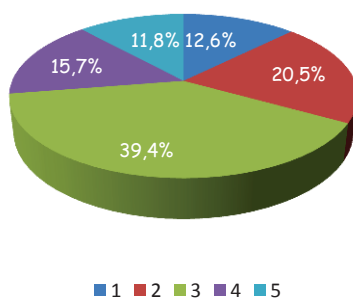


Figure 5. The number of foodborne illnesses has decreased in recent years.

Source: Research results, self-edited

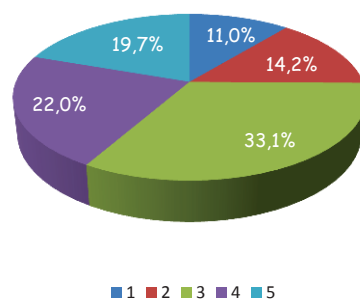


Figure 6. I'm willing to pay more for products with the trademark 'Quality Food From Hungary' on them.

Source: Research results, self-edited

- *I'm willing to pay more for products with the trademark 'Quality Food From Hungary' on them.*

Respondents agreed with the statement (Figure 6.) above (average=3.25). The results show that response 1 and 2 were chosen by 25.2% and response 4 and 5 were chosen by 41.7% of the respondents. This corresponds with the statement on the webpage of 'Quality Food From Hungary' trademark which says that 'The QFFH trademark represents value for consumers, because the issuing body guarantees high product quality and safety through independent lab evaluation annually.' (<http://www.kme.hu/content/kivalo-magyar-elelmiszer-kme-vedjegy>) There is significant difference between consumers of varied levels of education.⁸ Consumers with higher levels of education⁹ are more willing to pay more for food products with the QFFH trademark. Most of the respondents (70.1%) are happy to buy products with trademarks whereas 16.5% consider trademarks irrelevant and only 13.4% of respondents pay no attention to trademarks at all.

- *Healthy lifestyle is considered to be an important factor when buying food products.*

Most of our respondents agreed with the above statement. The data results showed a 4.16 response average. 79.5% of the respondents gave 5 on the scale. There is significant difference between the views of respondents of different age groups regarding the issue of healthy lifestyle.¹⁰ Respondents between the ages of 23-45 consider healthy food as an important part of a healthy lifestyle.

Product origin is important for most of our respondents (81%). Consumers prefer Hungarian and local products although various product types have different results. Differences in product types and consumer preferences are shown in Table 3.

Table 3. The distribution of responses regarding the question 'What product origin do you prefer the most?'

Type of food product	Local	Hungarian	Foreign	No matter
Carcase meat	14,2%	79,5%	0,0%	6,3%
Processed meat product	7,1%	3,9%	0,0%	77,2%
Baked goods	31,5%	61,4%	0,8%	6,3%
Confectionary product	1,6%	43,3%	12,6%	42,5%
Dairy product	12,6%	68,5%	2,4%	16,5%
Fruit and vegetables	22,0%	65,4%	1,6%	11,0%
Alcohol free drinks	1,6%	66,9%	4,7%	26,8%

Source: Research results, self-edited

Hungarian origin is most preferred in the category of carcass meat (79.5%). Dairy products are second in the list (68.5%) and fruit and vegetables are third (65.45%). Locality is the most important in case of bakery products (31.5%). Fruit and vegetables are also considered important to be produced locally (22%). Surprisingly, consumers opted for Hungarian products when it came to alcohol free drinks (66.9%) and they have very little preference to foreign soft drinks.

Exploring consumer preferences we found that the strongest relationship is between price and quality. All the other factors were evaluated at least with a 3 or higher on the scale.

⁸ Significance level of 90 %

⁹ Higher level of education is considered to be higher-level vocational training (OKJ), college/university degree or postgraduate degree.

¹⁰ Significance level of 95%

Respondents gave the highest scores to the following three factors: shelf cleanliness, the clean cut appearance of shop assistants, and fair pricing (Figure 7.). The factor 'shelf cleanliness' is not only the most agreed on by consumers but also has the highest statistical mode of 5.

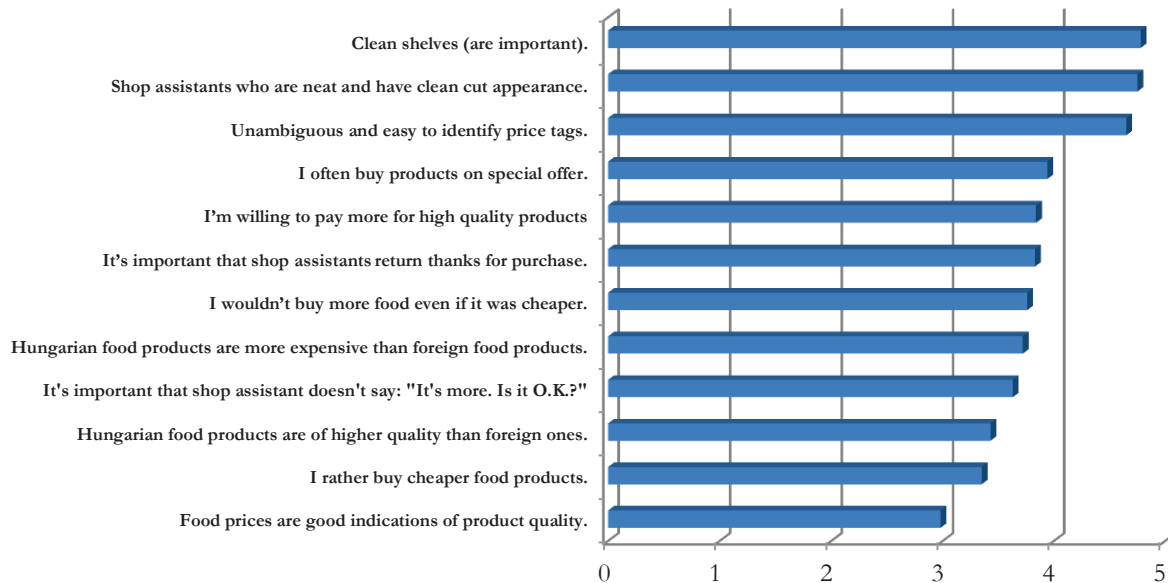


Figure 7. Respondent preferences

Source: Self-research results

We were curious to know if it can be proved by statistic methods that consumers living in rural areas find human relations (e.g. shop assistants return thanks for purchase) more important than those living in the capital. This assumption could be proved right because there was a significant relationship between the role of shop assistants and the place of living.¹¹ With the size of population decreasing this factor is becoming more important. This is not surprising because the smaller a town is those living there find human relations more important because they rely on each other more as a result human relations are increasingly important.

In case of fair pricing there is no difference between those living in rural areas and in the capital. They both find it important that price tags are unambiguous and easy to identify. No consumer wants to be 'screwed up'.

We also looked at the consumer expectations regarding allergen identification. There is no significant difference in terms of consumer expectations and either level of education or place of living.

When it comes to allergen identification respondents thought that identification should be clearly placed on the counter next to the products (average of 3.72). It was followed by the Internet (average of 3.54) and the information placed on the grocery deli counter (3.24). The last two options preferred by consumers were catalogues (3.02) and finally verbal information provision (2.3).

¹¹ Significance level of 95%.

The last result coincides with an observation we made in August, 2014. Shop assistants could provide information (ingredients, allergens) about a product in 43 cases (30.7% of the total cases).

There was a significant improvement in that regard as a result of change in legislation: our January and February, 2015 we found that there has been an improvement in all factors related to bakery products. In case of fruits and vegetables and non prepacked cold cuts the easy identification of allergens wasn't typical at all (2.4%). At the same time a large number of shop assistants (fruits and vegetables 88.2%; non prepacked cold cuts 68%) could provide information about product ingredients and allergens.

In case of bakery products shop assistants complained about the fact that because of the additional product information the tag including the name and price of the product is overloaded with information and doesn't fit any more. It also happens a lot that consumers accidentally push the oversized tag off the shelf. At the time of our survey in the shop hasn't yet found a solution for this problem.

Conclusion

It can be concluded that consumers who participated in our survey are conscious buyers because healthy lifestyle is an important factor in their consumer buying decisions, they prefer products with quality trademarks, and the QFFH products represent value for them. As a result they are willing to pay more for products holding the QFFH trademark. Also, respondents prefer local and Hungarian products as opposed to foreign ones.

The first hypothesis stated that 'consumers living in Budapest are more conscious than rural consumers, and consumers living in Budapest pay more attention to label information when buying food products' could not be proved. Based on responses we could not show a relationship between the area where consumers live and conscious buying practices.

The second hypothesis stated that 'consumer food buying decisions are mostly effected by the origin of the product' could be proven. In almost all categories respondents preferred local and Hungarian food products as opposed to foreign products (**Hiba! A hivatkozási forrás nem található.**).

The third hypothesis stated that 'in consumer buying decisions the act of kindness is more important for consumers living in rural areas than those living in the capital'. This hypothesis could be proved too. There is a significant relationship (significance level of 95%) between the role of shop assistants and the area where consumers live. With the decrease of the population the importance of this factor is increasing. The smaller a town is the more its citizens need to rely on one another which leads to a community in which human relations are considered more valuable.

Our research results show a very positive picture regarding the food purchasing behaviour of Hungarian consumers and their preferences and consumer consciousness.

Our respondents claim that they pay a lot of attention to labels before choosing a product and often collect information on the ingredients and origin of certain products. They also said that they prefer healthy food.

It would be interesting to look at whether responds received coincide with reality which is purchasing food products.

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Table 2. Foodborne diseases in Hungary between 2005 and 2014

Year	Number of occurrences				Number of patients				Number of hospital patients	Death toll	Mushroom food			Communal feeding		Industry-market	
	Individual	Group	Mass	Total	Individual	Group	Mass	Total			Number of occurrences	Number of patients	Death toll	Number of occurrences	Number of patients	Number of occurrences	Number of patients
2005	126	52	13	191	290	597	1149	2036	341	1	67	155	0	33	1418	7	56
2006	89	65	18	172	179	714	5964 ¹²	6857	689	7	33	70	2	51	2210	9	449
2007	93	41	10	144	172	425	555	1152	374	0	61	149	0	28	710	4	32
2008	66	51	16	133	152	577	1261	1990	336	2	41	92	1	38	1290	7	347
2009	44	25	7	76	93	314	439	846	127	1	24	39	0	24	666	2	25
2010	116	30	9	155	238	332	533	1103	335	4	107	261	3	22	740	4	12
2011	22	42	8	72	47	511	519	1077	142	1	12	28	1	31	847	2	10
2012	70	28	10	108	158	354	475	978	284	2	58	162	2	19	641	0	0
2013	53	29	7	89	113	306	704	1123	184	1	32	71	0	17	839	1	6
2014	79	18	10	107	151	193	1054	1398	198	2	45	81	0	20	1179	5	23

Source: Self-editing based on OÉTI

¹² Waterborne disease of Miskolc resulted in 3673 illnesses.

