CONSUMERS’ PURCHASING PREFERENCES TOWARDS ORGANIC FOOD IN SLOVAKIA

Zdenka Kádeková, Roman Récky, Ľudmila Nagyová, Ingrida Košičiarová, Mária Holienčinová

ABSTRACT
Submitted paper deals with the consumers’ purchasing preferences towards organic food in Slovakia, pointing at the situation on the organic food market in Slovakia finding the consumers’ preferences when buying organic food. The results of the questionnaire survey identified the preferences and opinions of respondents about organic food. Paper analyses the questionnaire survey by 227 respondents concerning the purchasing preferences towards organic food in Slovakia. In order to achieve given aim and to ensure deeper analysis of the results, there had been stated 3 assumptions and 5 hypothesis. As the results of the survey proved, 65% of respondents buy organic food, of which 39% of respondents buy organic food at least once a week. Up to 98% of respondents have already met the concept of organic food and know what it means. 37% of respondents buy mostly organic fruits and vegetables, 18% of respondents buy the most the meat and meat products in organic quality and 13% of respondents prefer dairy products in organic quality. The most preferred place to buy organic food are specialized stores (36%), to buy organic food directly from the producer is the most popular way for 29% of respondents, hypermarket and supermarkets are favorite place to buy organic food for 19% of respondents, and 12% of respondents buy organic food mostly in farmers’ markets. Only 4% of respondents prefer another way to buy organic food. Quality of organic food and not using the pesticides is the most important criteria for buying organic food (36%). Price has also really strong influence on purchasing decision, when 34% of respondents are the most affected by the price when purchasing organic food. Package is considered as the least important criteria when buying organic food by 72% of respondents. On the basis of provided results of our survey and formulated hypothesis which were evaluated by Chi-square goodness of fit test, Chi square test of the square contingency and Kolmogorov-Smirnov test. Based on research can be concluded that there is a difference in preferences of respondents. In Slovakia exists the dependence between the consumers’ preferences towards organic food and conventional food product and there are strong preferences for buying the organic food.

Keywords: organic food; consumer; purchasing preference; Slovak republic

INTRODUCTION
Organic food is currently widespread and an increasing number of consumers are becoming more interested in organic products and domestic products (Kretter, Kádeková, 2013). Consumers are aware of their benefits, but for many of them are inaccessible due to the higher price compared to conventional food (Givens et al., 2008). The higher price is caused by higher demands on the production of this food and a relatively demanding certification system (Krystallis, 2005).

Domestic organic food production is not big enough to cover the growing demand of consumers and therefore we need to import organic products (Hoyer, 2010). The most common is the import from the third-countries like China (Jankajová et al., 2016). Many consumers do not trust these products and are afraid that they are not real organic. However, these imported foods must meet the strict criteria laid down by Slovak and European legislation (Baourakis, 2005).

Slovak consumers are increasingly looking for organic farming products and the private brands are trying to meet them. They include organic food in their assortment, and also expand by organic farming products (Halberg et al., 2006). However, organic products have insufficient marketing communications and therefore have to stand up to a competitive battle with conventional foods that have very strong marketing communication, especially advertising (Huttmanová et al., 2009). In general, we can say that the interest in organic food is increasing (Koivisto-Hursti, Magnusson, 2003). Consumers are aware that this food do not contain any pesticides and has better and more pronounced flavor (Golian, 2011).
Organic farming is receiving more and more attention in all its sectors (Horký et al., 2017).

The increasing consumer demand for organic products caused that the organic food market has expanded in all continents of the world (Nagová et al., 2014). Organic foods represent a specific segment of the food market. Currently land area farmed organically in Slovakia represents 9% of the total agricultural land (Kozelová et al., 2013). In the year 2015, total 552 operators were registered in the organic farming system, with increase by 5% over the previous year. Besides organic farmers are also included the processors, importers, exporters and traders of organic food. Most Slovak organic produce goes as a raw material for further processing (Nagová et al., 2014). The reason why there is no interest in supplying these products to the domestic market is the lower purchasing power of consumers in Slovakia compared to the Western European countries (Jankajová et al., 2016).

The organic food market is still shaping in Slovakia and it is important to keep consumers’ confidence in organic products (Lacko-Bartošová et al., 2005). From the point of view of consumers, organic products attach a lot of benefits, in particular, that they consider them healthier, tastier and qualitative at a level comparable to that of ordinary foods, and last but not least, they attribute many benefits to the environment (Bordeleau et al., 2012).

Whatever the benefits of these products, there are also limitations that do not support the purchase of these foods (Laroche et al., 2001). On the one hand, there is insufficient public awareness, so people do not even realize that such products are in the market and on the other hand are there some marketing problems associated with insufficient supply, distribution and promotion, which result in consumers’ inability to find such products and easily distinguish them from conventional farming products (Kubelaková, 2015).

Europe has the largest and most elaborate market for organic products in the world (Kubelaková and Sugrová, 2017). The high level of growth in this market causes many sectors to suffer from insufficient supply, so the lack of local production must be offset by imports (Blair, 2012).

Organic farming is experiencing boom, including the number of farmers, producers, processors and importers. Over the last few years, retail in organic products has grown strongly in most European countries, from 5% to 30% (Nagová et al., 2012). Organic brand people abroad recognize as a sign of high quality food, which is characterized by natural taste and guarantees a healthier and more responsible approach to life (Magnusson et al., 2003). Since the share of organic food is small in the overall market, it is still addressing a target group of ecologically and healthily aware consumers who are not indifferent to their environment and their own health (Pickett-Baker et al., 2008).

In the Slovak Republic can be organic food and organic products bought:
- on organic farms and on sale from the yard
- in specialized retail stores with a healthy diet and local products
- in retail chains
- in online stores
- on fairs and exhibitions
- from framers’ markets (Kretter, Kádeková, 2013).

It can be concluded that consumer behavior is changing with the increasing demand for product quality and increasing environmental awareness among the population (Thompson, 1995). The situation in Slovakia, where organic food and environmentally friendly products have also been given space in trade chains, also looks good (Šugrová et al., 2016).

Recent research by TNS Slovakia (2017) shows that the potential for buying organic food in Slovakia really exists, generally almost 84% of inhabitants recognize the organic food and 29% of the Slovak population really purchase organic food (mainly yoghurts, meat, fruit and vegetables). Organic food is most often purchased by residents of Bratislava and Nitra region and people from the cities with more than 20,000 inhabitants. The biggest barrier to increasing environmental consumption is the high price of organic food and its relatively narrow range as well as the unavailability of different product categories. A positive trend affecting consumers as well as manufacturers or traders is that the issue of sustainable consumption at home and abroad is getting more attention to all types of media as well as to all levels of the education system. It is therefore likely that the segment of "environmentally conscious consumers" will grow over time (Padel, Foster, 2005). Organic food awareness is slightly higher in the neighboring Czech Republic, where it is known by up to 87% of people. There is also a slightly higher percentage of people buying these products, when 31% of Czechs buy organic food in comparison with Poland, where 57% of inhabitants know organic food but only 19% of Poles really purchase it (Gfk Slovakia, 2017).

Although Slovakia can boast of intensive organic farming, the bulk of the production is directed towards exports, where organic food is processed and re-imported (Smutka et al., 2016). This increases their price and reduces sales in Slovakia. The reasons for the relatively small organic food market and the low demand for Slovaks are several, but the biggest one is undoubtedly a high price compared to the Slovak population’s purchasing power (Récky, 2011).

Another dampening of domestic sales is limited distribution (Kubicová and Habánová, 2012). One of the welcome options is to sell from the yard so that the customer can buy organic food directly from the producers and therefore at discounted prices, helping to increase the sales of small family farms and the availability of organic products to the Slovak consumer (Rovný, 2016).

MATERIAL AND METHODOLOGY

The aim of the paper was to point at Slovak consumers’ purchasing preferences towards organic food. In order to achieve the stated aim, there had been used the research methods of survey and structured questionnaire. The questionnaire survey was conducted from January to March 2017 on a sample of 227 respondents chosen randomly, their basic characteristics are given in the Table 1.

The questionnaire covered the entire territory of Slovakia, representing all regions. The questionnaire was conducted over the internet and consisted of 18 questions divided into two parts, the first part consisted of classification questions through which we surveyed the
basic data on respondents. The second part of the questions concerned the issue of the purchase of organic food. In order to ensure the representativeness of the results, we applied the random selection and geographic diversification of our respondents. The questionnaire was evaluated using the contingency tables prepared by Microsoft Office Excel, under which they were subsequently created the graphs.

In the evaluation of the questionnaire was used Chi-square goodness of fit test, Chi square test of the square contingency and Kolmogorov-Smirnov test. For deeper analysis of the results, there had been stated following assumptions:

- Assumption No.1 – we assume that most of our respondents have higher education.
- Assumption No.2 – we assume that most of our respondents have monthly income between 501 Euro and 1000 Euro.
- Assumption No.3 – we assume that most of our respondents live in the city.

We had stated following hypothesis:

$H_01$ – there does not exist the dependence between the frequency of organic food purchase and the respondent’s place of living.

$H_{11}$ – there exists the dependence between the frequency of organic food purchase and the respondent’s place of living.

$H_02$ – there does not exist the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income.

$H_{12}$ – there exists the dependence between the respondent’s purchasing preferences towards organic food and the respondent’s income.

$H_03$ – there does not exist the dependence between the place of purchase of organic food and the respondent’s level of education.

$H_{13}$ – there exists the dependence between the place of purchase of organic food and the respondent’s level of education.

$H_04$ – there does not exist the dependence between the price of purchased organic food and the respondent’s level of income.

$H_{14}$ – there exists the dependence between the price of purchased organic food and the respondent’s level of income.

$H_05$ – there does not exist the dependence between the consumers’ preferences towards organic food and conventional food products, preferences are the same.

$H_{15}$ – there exists the dependence between the consumers’ preferences towards organic food and conventional food products, preferences are different.

### Table 1 Characteristics of Respondents.

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>Number</th>
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<tbody>
<tr>
<td>Male</td>
<td>104</td>
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<tr>
<td>Female</td>
<td>123</td>
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</table>

<table>
<thead>
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<td>City</td>
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<tr>
<td>Village</td>
<td>98</td>
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<table>
<thead>
<tr>
<th>Age Structure</th>
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</thead>
<tbody>
<tr>
<td>15 – 19 years</td>
<td>9</td>
</tr>
<tr>
<td>20 – 25 years</td>
<td>38</td>
</tr>
<tr>
<td>26 – 35 years</td>
<td>79</td>
</tr>
<tr>
<td>36 – 49 years</td>
<td>69</td>
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<tr>
<td>50 years and more</td>
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<table>
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<td>Primary education</td>
<td>9</td>
</tr>
<tr>
<td>Secondary education without A level</td>
<td>18</td>
</tr>
<tr>
<td>Secondary Education with A level</td>
<td>31</td>
</tr>
<tr>
<td>Higher professional education</td>
<td>67</td>
</tr>
<tr>
<td>Higher education</td>
<td>102</td>
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<table>
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<th>Net Family Income</th>
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<tr>
<td>Up to 500 €</td>
<td>27</td>
</tr>
<tr>
<td>501 – 1.000 €</td>
<td>101</td>
</tr>
<tr>
<td>1.001 – 1.500 €</td>
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</tr>
<tr>
<td>1.501 € and more</td>
<td>23</td>
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</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
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<td>Banska Bystrica</td>
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<td>Bratislava</td>
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<td>Kosice</td>
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<td>Nitra</td>
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<td>Presov</td>
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<td>Trencin</td>
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<tr>
<td>Trnava</td>
<td>12</td>
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<tr>
<td>Zilina</td>
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</table>

Source: Results of the research.
products, there are strong preferences for buying the organic food.

**RESULTS AND DISCUSSION**

According to the results of the questionnaire survey, 65% of respondents buy organic food, of which 39% of respondents buy organic food at least once a week (Figure 1). The majority of respondents buying organic food live in the city (78%). Up to 98% of respondents have already met the concept of organic food and know what it means.

Most respondents (37%) said they buy mostly organic fruit and vegetables. The second most important group that consumers most buy in organic quality is meat and meat products 18%, dairy products such as butter, yoghurt, cheese are purchased by 13% of respondents (Figure 2). At least consumers buy organic sweets, bakery, etc., which can also be caused by the fact that there is a difference in price by 100% or more. Consumer preferences are highly influenced by income, with up to 42% respondents said they would buy organic food in larger quantities and more often if they had a higher income.

Respondents in the questionnaire stated that the most preferred place to buy organic food are specialized stores (36%). To buy organic food directly from the producer is the most popular way for 29% of respondents, they also believe this is the way to make sure the purchased food is high quality and as fresh as possible. Hypermarkets and supermarkets are the most preferred place to buy organic food for 19% of respondents, where they can find a wide range of organic food. Just 12% of respondents buy organic food mostly in farmers’ markets and 4% of respondents prefer another way to buy organic food (e.g. internet store with organic food etc.) (Figure 3). Education of respondents plays an important role when deciding about purchasing the food, respondents with higher education are more likely to buy organic food, and at the same time tend to buy these products in specialized stores, directly from the producer or in the farmers’ markets.

Figure 4 shows that 36% of respondents emphasize the quality of organic food, they strongly consider previous using of pesticides, price, when 34% of respondents is the most affected by the price when purchasing organic food and content of the product (18%). Another important criteria when buying organic food is the country of origin, 8% of respondents believe this is the most important factor when deciding about the purchase of organic food and the brand (4%). Slovak consumers are trying to favor domestic producers and thus support the domestic economy. In general, consumer behavior in organic food purchases is mainly influenced by the fact that no pesticides are used for cultivation, level of the organic food prices, organic food quality and its origin. Different cultural and social environment also significantly influence which food consumers choose. Package is considered as the least important criteria when buying organic food, this option was marked by 72% of respondents.

![Figure 1](image1.png)

**Figure 1** Frequency of Buying Organic Food (in %). Source: Results of the research.

![Figure 2](image2.png)

**Figure 2** Preference of Purchased Organic Food (in %). Source: Results of the research.
Subsequently, we have identified the respondents’ attitude towards the purchase of conventional food and organic food. To compare real, empirical preferences with theoretical preferences, we used the Kolmogorov-Smirnov test. We have set the following hypotheses:

**H05** – there does not exist the dependence between the preferences towards organic food and conventional food products, preferences are the same.

**H15** – there exists the dependence between the preferences towards organic food and conventional food products, there are strong preferences for buying the organic food.

The value of the test characteristics 0.357 was greater than the table value 0.113465, meaning that we rejected the null hypothesis H05 and accepted hypothesis H15, claiming that there is a difference in consumer preferences when buying food, and with 95% probability we can claim that there is a difference in preferences of respondents and there is a clear preference for organic food purchases.

**Figure 3** Preferred Place to buy Organic Food (in %). Source: Results of the research.

**Figure 4** The Most Important Criteria when Buying Organic Food (in %). Source: Results of the research.
There exists the dependence between the preferences towards organic food and conventional food products, there are strong preferences for buying the organic food – accepted.

Evaluation of Formulated Hypotheses

Connected with few of above evaluated questions, there have appeared also the questions of the dependence resp. independence between few variables. This is the reason for formulating five different hypotheses in Material and Methodology. These have been tested by using Chi-square goodness of fit test, Chi square test of the square contingency and Kolmogorov-Smirnov test.

$H_0$ – there does not exist the dependence between the frequency of organic food purchase and the respondent’s place of living – rejected.

$H_1$ – there exists the dependence between the frequency of organic food purchase and the respondent’s place of living – accepted.

$H_2$ – there does not exist the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income – rejected.

$H_3$ – there exists the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income - accepted.

$H_4$ – there does not exist the dependence between the place of purchase of organic food and the respondent’s level of education-rejected.

$H_5$ – there exists the dependence between the place of purchase of organic food and the respondent’s level of education-accepted.

$H_6$ – there does not exist the dependence between the price of purchased organic food and the respondent’s level of income-rejected.

$H_7$ – there exists the dependence between the price of purchased organic food and the respondent’s level of income-accepted.

$H_8$ – there does not exist the dependence between the consumers’ preferences towards organic food and conventional food products, preferences are the same-rejected.

$H_9$ – there exists the dependence between the consumers’ preferences towards organic food and conventional food products, there are strong preferences for buying the organic food-accepted.

CONCLUSION

Nowadays, many people realize the importance of a healthy lifestyle. Organic food is becoming more popular and almost all of our everyday products can be found in the organic quality as well. Consumers buy organic products because they consider them healthier and better than conventional foods and because they are grown without using of pesticides. Paper analyses the consumers’ purchasing preferences towards organic food in Slovakia, pointing at the situation on the organic food market in Slovakia. To find the consumers’ preferences when buying organic food was taken the questionnaire survey by 227 respondents. In order to achieve given aim and to ensure deeper analysis of the results, there had been stated following 3 assumptions and 5 hypothesis:

- Assumption No.1 – we assumed that most of our respondents have higher education.

- Assumption No.2 – we assumed that most of our respondents have monthly income between 501 Euro and 1000 Euro.

- Assumption No.3 – we assumed that most of our respondents live in the city.

We had stated following hypothesis:

$H_0$ – there does not exist the dependence between the frequency of organic food purchase and the respondent’s place of living.

$H_1$ – there exists the dependence between the frequency of organic food purchase and the respondent’s place of living.

$H_2$ – there does not exist the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s place of living.

$H_3$ – there does not exist the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income.

$H_4$ – there exists the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income.

$H_5$ – there exists the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income.

$H_6$ – there exists the dependence between the place of purchase of organic food and the respondent’s level of education.

$H_7$ – there exists the dependence between the place of purchase of organic food and the respondent’s level of education.

$H_8$ – there does not exist the dependence between the price of purchased organic food and the respondent’s level of income.

$H_9$ – there exists the dependence between the price of purchased organic food and the respondent’s level of income.

$H_{10}$ – there does not exist the dependence between the consumers’ preferences towards organic food and conventional food products, preferences are the same.

$H_{11}$ – there exists the dependence between the consumers’ preferences towards organic food and conventional food products, there are strong preferences for buying the organic food.

As the results of the survey proved, 65% of respondents buy organic food, of which 39% of respondents buy organic food at least once a week. Up to 98% of respondents have already met the concept of organic food and know what it means. 37% of respondents buy mostly organic fruit and vegetables, 18% of respondents buy mostly the meat and meat products in organic quality and 13% of respondents prefer dairy products in organic quality. Respondents in the questionnaire stated that the most preferred place to buy organic food are specialized stores (36%). To buy organic food directly from the producer is the most popular way for 29% of respondents, hypermarket and supermarkets are the most preferred place to buy organic food for 19% of respondents, 12% of respondents buy organic food mostly in farmers’ markets and 4% of respondents prefer another way to buy organic food (e.g. internet store with organic food etc.). Education of respondents plays an important role when deciding about purchasing the food, respondents with higher education are more likely to buy organic food. Quality of organic food and not using the pesticides is the most important criteria for buying organic food (36%). Price has also really strong influence on purchasing decision, when 34% of respondents are the most affected by the price.
when purchasing organic food. Package is considered as the least important criterion when buying organic food by 72% of respondents.

On the basis of provided results of our survey and formulated hypothesis which were evaluated by Chi-square goodness of fit test, Chi square test of the square contingency and Kolmogorov-Smirnov test can be concluded, that

- there exists the dependence between the frequency of organic food purchase and the respondent’s place of living,
- there exists the dependence between the respondents’ purchasing preferences towards organic food and the respondent’s income,
- there exists the dependence between the place of purchase of organic food and the respondent’s level of education,
- there exists the dependence between the price of purchased organic food and respondent’s level of income.

To compare real, empirical preferences with theoretical preferences, we used the Kolmogorov-Smirnov test. The value of the test characteristics 0.357 was greater than the table value 0.113465, meaning that we rejected the null hypothesis H05 and accepted hypothesis H15, claiming that there is a difference in consumer preferences when buying food, and with 95% probability we can claim that there is a difference in preferences of respondents and there is a clear preference for organic food purchases. There exists the dependence between the consumers’ preferences towards organic food and conventional food products, there are strong preferences for buying the organic food.

On the basis of the findings from the questionnaire survey, we formulate the following suggestions:
- Ensuring higher demand for organic food can be achieved by increasing of promotion of organic food at least to the level of promotion of conventional food, in order to increase consumer awareness.
- Another possibility to increase organic food sales is financial support from the state for domestic organic farmers and processors of organic products, which would also increase the interest in the production and processing of organic products by young farmers as well.
- Another option to increase demand for organic food and the interest of consumers in organic food is to organize healthy nutrition projects in schools so the children realize the benefits of healthy nutrition.

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