

## **SUSTAINABLE CONSUMPTION OF FOOD: A CASE STUDY OF SLOVAK CONSUMERS**

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**Abstract.** The current environment is characterized by consumer society, in which the criteria by which to judge the maturity of individual markets include – maximum levels of comfort (especially in choosing and buying the product), convenience and growing product choice. These characteristics are the results of the change in consumer behaviour. The aim of the present paper was to realize the knowledge and application of the concept of sustainable consumption between and by the Slovak consumers. The method of structured questionnaire consisting of 12 questions was used. The total number of respondents was 300 randomly selected respondents. For a deeper analysis of the obtained results, seven assumptions have been set out and they have been tested with the use of Pearson's chi-square test, Mann-Whitney U-Test, Fisher's exact test and Cramer's contingency coefficient. The results of the present paper show that while the knowledge of the term sustainable consumption is not very high between the Slovak consumers (21% of respondents could explain what means the term sustainable consumption), its application into their everyday life is pretty high – more than 67% of respondents buy the so-called economical packages of food, more than 49% of respondents buy products of ecological production, almost 40% of respondents do really consume all the food which they buy and only 19% of respondents does not separate the waste from the food which they eat.

**Key words:** consumer behaviour, sustainable consumption, environment, product.

**JEL code:** M31, M39

### **Introduction**

The manner how we, as consumers, think brings the producers and companies to come out with new ideas and impulses, which can affect us to go to the shop and to buy the exact product. To the forefront of social interest are also becoming the ecological questions of not just the production but also of the consumption (what is connected with so called green thinking) which lead to sustainable activities of individual producers, companies, but also consumers.

Sustainable consumption is something what relates to all of us. There is no more the problem with that, how to produce something but how to consume it so that it will be less harmful. The essence of sustainable consumption consists in the preference of so-called eco products and in the consumption of renewable amount of natural resources and products.

The concept of sustainable consumption can be divided into three main categories:

- ethical and critical consumption – e.g. the importance of the decision;
- ecological consumption – including the favourite "3R" of ecological behaviour

(Reduce, Reuse, Recycle) and elements such as agriculture, organic farming and handicraft production;

- social and solidarity consumption – where the corporate responsibility comes to the forefront. It refers to the social relations and conditions, fair treatment and paying conditions, to the elimination of discrimination, promotion of integration and to the focus on international economic rules (Horska E., 2012)

The aim of the present paper was to realize the knowledge and application of the concept of sustainable consumption between and by the Slovak consumers. In order to achieve the aim, the method of structured questionnaire was used. The questionnaire was consisting of 12 questions formulated as closed, so that respondents (total number of respondents was 300 randomly selected respondents, Table 1; the research was conducted in October 2015) had to choose one, alternatively several options. The questionnaire was evaluated by using contingency tables, which were prepared by Excel with subsequently developed graphic representations.

**Characteristics of respondents**

Category of respondents	Number	Place of respondent's residence	Number
Male	58	City	192
Female	242	Village	108
Age structure of respondents	Number	Educational structure of respondents	Number
15 – 19 years	30	Primary education	8
20 – 25 years	44	Secondary education	148
26 – 35 years	102	Higher professional education	18
36 – 49 years	80	Higher education	126
50 and more years	44		
Net family income	Number	Region	Number
up to EUR 500	48	Banska Bystrica	40
EUR 501 – 1 000	122	Bratislava	68
EUR 1 001 – 1 500	70	Kosice	28
EUR 1 501 and more	60	Nitra	44
		Presov	8
		Trencin	36
		Trnava	38
		Zilina	38

**Source: authors' construction based on the results of the research**

For a deeper analysis of the obtained results, assumptions about the correlation between the purchase of so-called economical packages of food and the respondent's net family income; the purchase of so-called ecological products and the respondent's gender; the reasons leading to the purchase of economical package of food and the respondent's level of education; the imagination of the improvement of respondents healthy lifestyle and his level of education, resp. his gender; the tracking of the information about the recycling of waste from the bought food and the respondent's age as well as the separation of waste and the respondent's age have been set out. To test the dependences Pearson's chi-square test, Mann-Whitney U-Test, Fisher's exact test and Cramer's contingency coefficient have been used.

**Research results and discussion**

The main objective of the modern understanding of marketing is to establish long-term relationships with customers, to maintain and permanently increase the number of present customers. The company reports, in relation to

its surroundings, to the social responsibility for the environment and sustainable development of society (Nagyova L., 2014).

The essential feature of sustainability is to meet the needs of contemporary society with the regard to the possibility of satisfactory life of following generations. Unlike the idea of sustainable development oriented mainly on the business sector, sustainable consumption is a challenge especially for consumers – even if it is an individual or the state.

The origins of the term sustainable consumption can be dated back to the Rio Earth Summit in 1992 (Jones P., 2009) and very simply it can be defined as the use of services and related products that respond to the basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle so as not to jeopardize the needs of future generations (The United Nations Environment Programme, 2016), or as the reference to the need to stay within the global sustainability of resources (Dahl A., 1998).

Of course, there can be also found other definitions of the same subject, which, for example, say that sustainable consumption focuses on formulating equitable strategies that foster the highest quality of life, the efficient use of natural resources and the effective satisfaction of human needs in promoting equitable social development, economic competitiveness and technological innovation (Tukker A., 2008), or that sustainable consumption implies a more equitable sharing of the resources between rich and poor and ensuring that the Earth's resources are able to meet the needs of future generations (Bartels C., 2002). What can be said in general is the fact that sustainable consumption does not mean only the reduction of consumption but also of its reorientation in terms of change in consumer choice towards sustainable lifestyles and shopping decisions (Kopanicova J., 2013); and that its basic limitations are considered in terms of the inadequate attention given to the social, cultural, and historical contextualization of consumption. The implicit assumptions of sustainable consumption concern on rational individuals and their needs and wants, and neglect the significance of consumption practices as embodying the relations between individuals. Consumer practices are cultural and social practices that have historically developed and are manifestations of local and global linkages of social interdependencies (Dolan P., 2002). This is why the concept of term "consumption" has to change towards "sustainable consumption", which should contain:

- satisfaction of customer needs and increase in the quality of life but without endangering the needs of future generations (i.e. with the view to minimizing the amount of natural resources, toxic materials, emissions and waste production throughout the products life cycle);
- sustainable consumption is a dynamic concept, resp. model of consumption, which indicates the required and needed direction

Jelgava, LLU ESAF, 21-22 April 2016, pp. 167-169 and in many cases also the importance of implementation of number of changes;

- sustainable consumption can be characterized as the function of time, in which the environmental pressures (which will be in the spotlight from the long view) must be evaluated (counted);
- sustainable consumption does not necessarily mean a quantitatively lower consumption, the consumption of products is in a rather different, more intelligent and prudent manner (for such behaviour, significant changes in consumer behaviour are necessary as well as changes in the level of organizations in the framework of ongoing marketing activities) (Gubiniová K., 2012).

The sustainable consumption is not involved in the degradation of the environment and for the customers it does not mean problems with a lower level of satisfaction of their needs (Pajtinková Bartáková G., 2012).

Despite the fact that sustainable consumption has more pros than cons, this concept is still not very well known between consumers and therefore it is not so easy to apply it into their everyday lives. The basic barriers to sustainable consumption include:

- lack of awareness and training;
- lack of support from the community, government and industry;
- reluctance to include the true environmental and social costs in the price of goods and services;
- ingrained unsustainable thinking and behaviours pattern;
- and lack of alternative sustainable products and services (Srinivas H., 2015).

The task for governments, parliaments, but also nongovernment organizations and professionals is to educate the people, to bring them to change their mindsets and to bring them to act more rationally and environmentally.

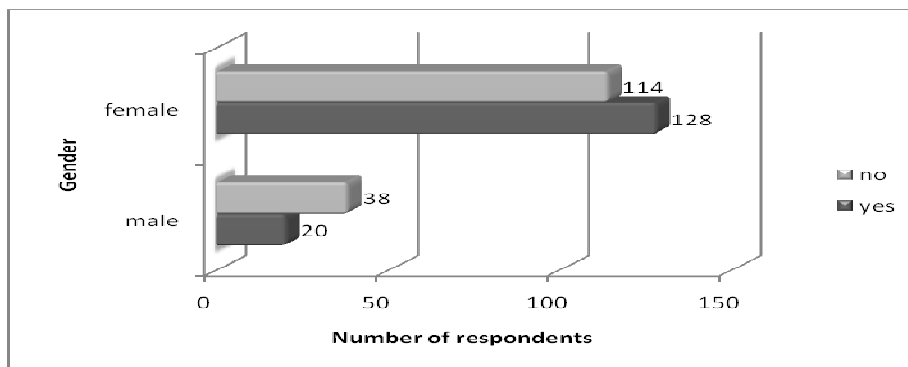
A questionnaire survey was conducted because of the need to determine the level of application of the concept of sustainable consumption between the Slovak consumers. The mentioned survey consisted of 12 questions, which have been given to 300 randomly selected respondents across the whole Slovak republic. As it could be seen from Table 1, the major group of respondents were female (81% of respondents), respondents between the age 26–35 years (34% of respondents) and respondents from the city (64% of respondents). Up to their education, net family income and region, it can be said that most of respondents have secondary education (49% of respondents), their net family income is between EUR 501 and 1 000 (41% of respondents) and they are from Bratislava region (23% of respondents).

As the results of authors' own research show, while the knowledge of the term sustainable consumption is not very high between the Slovak consumers, its application into their everyday life is pretty high. While only 21.12% of respondents could explain what does mean the term sustainable consumption, exactly 67.33 % of respondents buy so-called economical packages of food, 49.33% of respondents buy products of ecological production, 29.13% of respondents follow the trends on the food market (organic good, fast food, green food etc.), 39.67% of respondents do really consume all the food which they buy, 39.00% of respondents and 27.00% of respondents track the information about the recycling of waste from the food which they buy mostly and only 19.00% of respondents does not separate the waste from the food which they eat and 12.67% respondents has never thought about this possibility.

Connected with the evaluation of few above mentioned questions, there have appeared also the questions about the dependence resp. independence between few variables. Therefore, the dependence between the purchase of economical packages of food and the

Jelgava, LLU ESAF, 21-22 April 2016, pp. 167-170 respondent's net family income, between the purchase of ecological products and the respondent's gender, between the tracking of the information about the recycling of waste from the bought food and the respondent's age as well as between the separation of waste and the respondent's age have been evaluated with the use of Pearson's chi-square test, Fisher exact test and Cramer's contingency coefficient. While, up to the result of the Pearson's chi-square test, it must be stated that the H0 hypothesis must be rejected on the level of significance 5 % and the H1 hypothesis must be adopted, up to the result of the Cramer's contingency coefficient, it must be stated that this relationship is still very weak (the result of Cramer's contingency coefficient in the case of testing the dependence between the purchase of economical packages of food and the respondent's net family income, between the tracking of the information about the recycling of waste from the bought food and the respondent's age as well as between the separation of waste and the respondent's age were equal to 0.055409, 0.077876 and 0.05275). The Fisher's exact test was used for the evaluation of the relationship between the purchase of ecological products and the respondent's gender. From its evaluation is clear that between the tested variables (between the purchase of ecological products and the respondent's gender) there exists a statistically significant relationship which can be seen also from the Figure 1 (the result of Cramer's contingency coefficient was equal to 0.057422 what can be interpreted as a weak relationship between tested variables; the result of Fisher's exact test was equal to 0.013053 and is interpreted as statistically significant relationship) – female respondents prefer the purchase of ecological products in a higher way as the male respondents (exactly 52.89% of female respondents and 34.48% of male respondents have positively answered to the question of

purchase of food produced by ecological

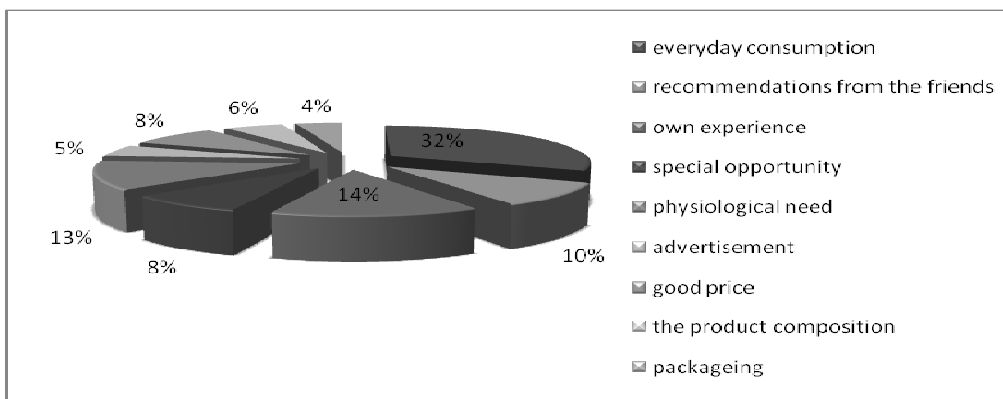


Source: authors' construction based on the results of the research

Fig. 1. Relationship between the purchase of ecological products and the respondent's gender

Because of the need to determine what leads Slovak consumers to their purchase of food, there was formulated not just the question of the frequency of their purchase but also of the factors which lead them to the purchase of food as well as of economical package of products and of ecological products. The results of authors' research show that most of Slovak consumers make their purchase of food mostly for few times in a week (41% of respondents), the most important factors which lead them to their

purchase are everyday consumption (31.75% of respondents), own experience (13.96% of respondents) and physiological need (12.58% of respondents) (Figure 2). The most important factor which leads them to the purchase of economical package of products is its better price (59.90% of respondents) and the most important factor which leads them to the purchase of food of ecological production is their better quality in comparison to the products of conventional production (35.81% of respondents).



Source: authors' construction based on the results of the research

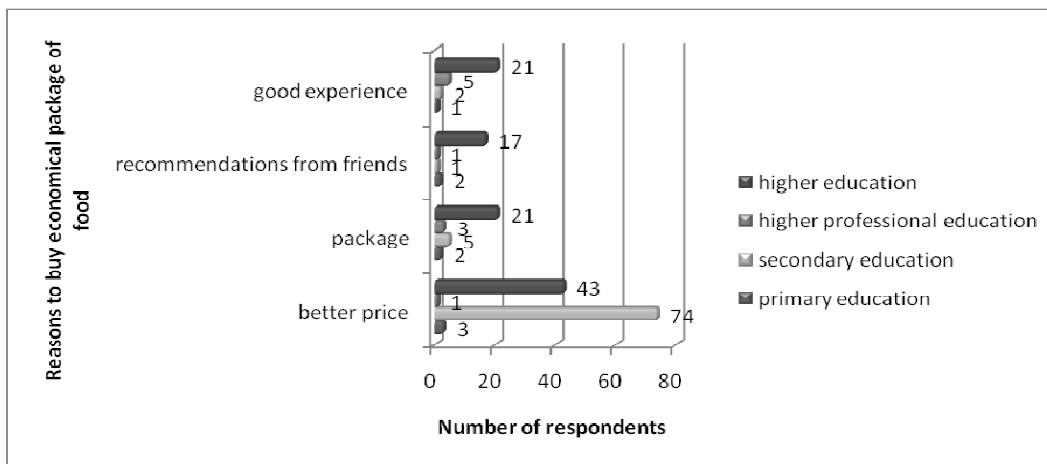
Fig. 2. Factors leading to the purchase of food, %

There has appeared also the question about the correlation between the respondent's answer to the question of factors leading to the purchase of economical package of food and the respondent's level of education. The mentioned relationship was tested with the use of Pearson's chi-square test and Cramer's contingency coefficient. Up to the results of both tests, it can be stated that there exists a statistically

significant relationship between the factors leading to the purchase of economical package of food and the respondent's level of education (the result of Cramer's contingency coefficient was equal to 0.103493 what is interpreted as a weak but statistically significant relationship between tested variables). The mentioned relationship can be also seen from Figure 3 – while people with secondary and higher education prefer mostly the

purchase of economical package of food because of its better price (more than 90% of respondents with secondary education and more than 42% of respondents with higher education),

Jelgava, LLU ESAF, 21-22 April 2016, pp. 167-172 people with higher professional education prefer them mostly because of their previous good experience (50% of respondents with higher professional education).

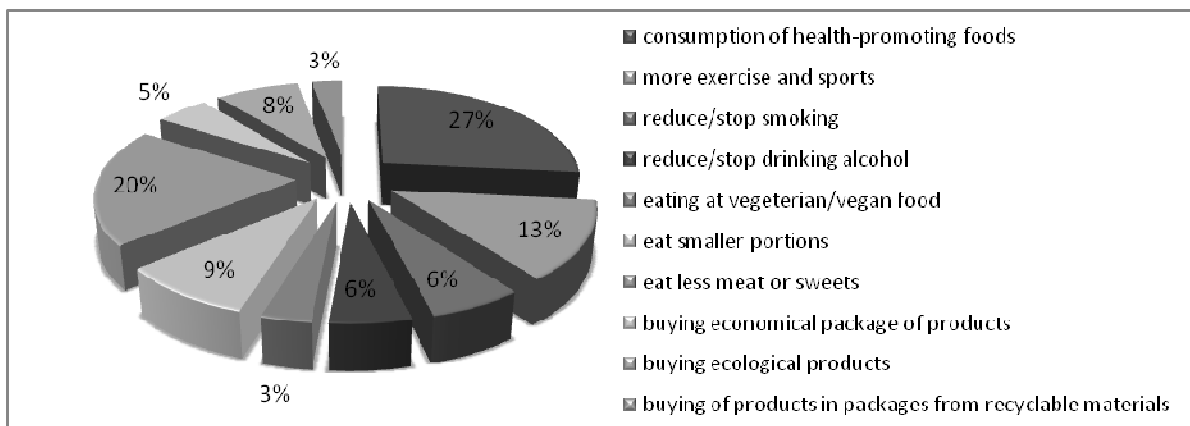


Source: authors' construction based on the results of the research

Fig. 3. Relationship between the factors leading to the purchase of economical package of food and the respondent's level of education

Up to the results of the research, it can be said that Slovak consumers imagine under the improvement of their healthy lifestyle mostly the consumption of health-promoting foods (28.25%

of respondents), to eat less meat and sweets (19.83% of respondents) and to make more exercise and sports (13.90% of respondents) (Figure 4).



Source: a authors' construction based on the results of the research

Fig. 4. Imagination of the improvement of respondent's healthy lifestyle, %

Connected to the above mentioned question, there has been tested the dependence between the imagination of the improvement of respondent's healthy lifestyle and respondent's level of education, resp. between the imagination of the improvement of respondent's healthy lifestyle and respondent's gender. While the first relationship was evaluated with the use of Pearson's chi-square test and Cramer's contingency coefficient, the second relationship

was evaluated with the use of Pearson's chi-square test, Mann-Whitney U-Test and Cramer's contingency coefficient. Up to the results of all statistical tests, it can be stated that between the both tested dependences there exist a statistically significant relationship (the result of Cramer's contingency coefficient was equal to 0.030147 and 0.03286; in the case of the secondly evaluated dependence – the U value was 14.5 and the critical value of U at  $p \leq 0.05$

was 23, which means that the result is statistically significant at  $\leq 0.05$ ).

### Conclusions, proposals, recommendations

As it was mentioned before, sustainable consumption means the use of services and related products that respond to the basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials. Despite the fact that sustainable consumption is a challenge especially for consumers, its limitations are considered in terms of the inadequate attention given to the social, cultural, and historical contextualization of consumption.

The present paper has focused on the realization of the knowledge and level of application of the concept of sustainable consumption between and by the Slovak consumers. Up to the results of author's own survey, which was held in October 2015, it can be said that:

- the knowledge of the term sustainable consumption between the Slovak consumers is still not very high – only 21% of Slovak respondents could explain the mentioned term;
- the application of the concept of sustainable consumption by the Slovak consumers is on a pretty high level – more than 67% of respondents buy economical packages of food, over 49% of respondents buy products of ecological production, more than 39% of respondents do really consume all the food which they buy, 27% of respondents track the information about the recycling of waste from the food which they bought, only 19% of

Jelgava, LLU ESAF, 21-22 April 2016, pp. 167-173 respondents does not separate the waste from the food which they eat;

- up to the factors leading to the purchase of food – the most important factor which leads the Slovak consumers to the purchase of food is everyday consumption (almost 32% of respondents), the most important factor which leads them to the purchase of economical package of food is its better price (almost 60% of respondents) and the most important factor which leads them to the purchase of food of ecological production is their better quality (almost 36% of respondents).

Recommendations up to the results of authors' research can be, up to the focus group, divided into two main groups and they are as follows:

- recommendations for governments, parliaments but also nongovernment organizations and professionals – to improve the knowledge of sustainable consumption between the Slovak consumers by more seminars, courses, modules, websites, advertisements etc. concerned at the particular issue;
- recommendations for consumers – seek for and read more information about sustainable consumption, follow the news on the internet and on TV, buy only those food which are really consumed in the household, go to the shop with a shopping list, separate the waste, increase the consumption of products from ecological production, follow the information about the ways of waste's recycling, think more about the environment because you leave it to our future generations.

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