CONSUMERS' ENVIRONMENTAL AWARENESS IN THE LIGHT OF THEIR DEMOGRAPHIC CHARACTERISTICS

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Abstract

Nowadays, more and more attention is paid to environmental awareness. Looking to the future, it is important to find out which customer groups pay due attention to environmental protection, and which groups' commitment to the topic requires the involvement of additional training and information tools. Due to the wide spectrum of the topic, our theoretical and practical research focused on the needs of the lower levels of the Maslow need pyramid. The aim of the study is therefore to assess the environmentally conscious behaviour of consumers at the lower level of the Maslow pyramid of needs hierarchy, taking into account the demographic characteristics of consumers, such as gender, marital status and education. Based on literature review, we assume that women, those with children, and customers with higher education are more committed to environmentally conscious behaviour. Our research is a multiple, descriptive, cross-sectional study, in which correlations have been explored regarding the demographic characteristics of consumers and their environmentally conscious shopping habits. Based on our results, we can state that education systems and influencing people have even more tasks in this area, as the environmentally conscious behaviour of our country's customers seems to lag far behind the more developed economies.

Key words: environmental awareness, behaviour of consumers, Maslow pyramid

JEL Code: J11, Q50, Q53

Introduction

Unfortunately, the world faces many challenges today. These include unsustainable consumption and production, climate change and various forms of pollution of the Earth. Consumer research is a creative process in which consumers are interacted with in different contexts and thus achieve different results. (Heiskanen, 2005) As a result, more and more attention is being paid to environmental protection, more and more environmentally friendly products from sustainable farms are appearing on store shelves, recycled raw materials are

coming to the fore and we are trying to replace finite energy sources with renewable ones. Prior to our research, we hypothesized that the growing content of environmentally friendly content in the media and the changes and processes taking place in the world may persuade people to consciously or subconsciously change their lifestyle and exhibit environmentally friendly behavior. Our study deals with the effect of gender, marital status and education on the environmentally conscious behavior of customers. Because we can talk about environmental awareness in all areas of human life, we were forced to narrow the boundaries of our research with the help of the Maslow Pyramid, which puts human needs in a hierarchical order and consists of the following levels: physiological needs, safety and protection needs, the need to belong somewhere, the need for self-esteem, and the need for self-realization. Our idea corresponded to the physiological needs at the lowest level, as they arise in all people (eating, drinking, sleeping), in contrast to the other levels, where we can already encounter more pronounced differences. To the three activities mentioned above, we attached environmental awareness issues related to food procurement, waste management, and daily fluid intake.

Theoretical background of the investigated problem

Some of the key impacts of global climate change will be felt among the population, especially in developing countries. (Morton, 2007) Social vulnerability to the risks of climate change may exacerbate current social and economic challenges. All societies are fundamentally adaptive, and there are many situations in the past where societies have adapted to climate change and similar risks. (Adger et al., 2003)

The European Union's environmental regulations are among the strictest in the world. Its environmental policy is based on Articles 11., 191-193 of the Treaty on European Union. In doing so, the Union shall take into account available scientific and technical data, the environmental conditions in each region, development, the potential benefits and costs of intervention and non-intervention. (Európai Unióról szóló szerződés, 1992 / Treaty on European Union, 1992)

The most recent initiative is the proposal for a European Green Deal, the main aim of which is to become the world's first climate-neutral continent by 2050. Climate change is having a drastic impact on rural livelihoods and agricultural productivity, but it is just one of many stresses that vulnerable rural households have to deal with. The livelihood approach is used to assess the role that seasonal climate forecasts can play in increasing resilience to the effects of climate change. (Ziervogel – Calder, 2003) In the words of Ursula von den Leyer, this is “the moment of landing on the moon for Europe”. It involves a process in which both citizens and

regions can reap the benefits of transformation, new jobs and businesses are created, large sums are invested in research into innovative, state-of-the-art solutions, and we reduce material use and emissions. For targeted action, the following policy strategies are separated in the draft: clean energy, sustainable industry, construction and modernization, sustainable mobility, biodiversity, pollution abatement and from producer to consumer. (Csurgó & Szűcs, 2019; Európai zöld megállapodás / European Green Agreement, 2019)

Slovakia is proving to be quite a green country compared to the rest of the world. According to the biennial EPI surveys, the 13th greenest in 2010, the 12th in 2012, the 21st in 2014, the 24th in 2016, the 28th in 2018 and the 26th greenest in 2020. can be said to be a state. (Environmental performance index, 2020)

The country's government operates a special ministry called the "Ministry of the Environment" (ministerstvo životného prostredia), which deals with the following areas: landscape and nature protection, water management, air and climate protection, emission quotas, ecological aspects of spatial planning, waste management, packaging and packaging waste, environmental impact assessment, provision of a unified information system on the living environment, protection of endangered animals and plants, regulation of trade in them, geological research and assessment, genetically modified organisms, fisheries, control of pollution of the living environment, environmental risk of chemicals reduction strategy, control of major industrial accidents, environmental labeling of products, environmental management and audit, consideration of mineral reserves, liquidation of obsolete mines, flood protection, provision of environmental education, promotion of environmental protection, control and coordination of environmental projects from the state budget. (Štatút ministerstva životného prostredia / Statute of the Ministry of the Environment)

Proper waste management and recycling is also important because many of them are difficult to decompose. A uniform time cannot be determined for all things thrown away, as it always depends on the material composition itself. So let's take a look at the most frequently recycled materials! (Höflinger, 2018)

Glass is one of the easiest and most infinitely recyclable material. Once cleaned and crushed, new products can be made from it immediately, but if we don’t do it right and throw it in the mixed trash, it can take millions of years to break down, but there are also assumptions that glass can never break down on its own. (Höflinger, 2018; Hányszor lehet újrahasznosítani a…? / How many times can it be recycled?, 2012)

There is a lot that can be made of aluminum. The best known things include cans and soft drink cans. Like glass, it can be recycled endlessly, but if you just let it degrade on its own,

this process can take up to 200 years. (Höflinger, 2018; Hányszor lehet újrahasznosítani a…? / How many times can it be recycled?, 2012)

In the case of plastics, there is no uniform degradation time because several types of plastics are produced. This is why a disposable plastic cup decomposes on its own in 50 years, while a PET bottle needs 450 years to do so, whereas recycling them is only a matter of days or weeks. Their selective collection is also important because in 2020, huge progress was made in the breakdown of plastics, courtesy of two young Hungarian chemical engineers who founded a startup called Poliloop. Their invention is none other than a unique bacterial cocktail in the world that converts plastic to nature-identical mud in just 6-8 weeks. (Höflinger, 2018; Gólya, 2020; Hányszor lehet újrahasznosítani a…? / How many times can it be recycled?, 2012) Unfortunately, in the last couple of decades, food has been extracted in a way that large corporations have looked to neither social nor environmental interests, merely trying to meet growing demand. These foods, in addition to harming whoever consumes them, also pollute the soil, drinking water and air. We can be thankful that a “trend” in support of organic farming has now started.

What do we mean by organic farming? Perhaps the best answer to this is the IFOAM (International Federation of Organic Agriculture Movements), which says that organic farming is a system that ensures the production of environmentally, socially and economically sustainable and healthy food and products, protects soil quality , the natural balance of animals and plants and aims to improve the quality of agriculture and the environment. (Definition of Organic Agriculture, 2008)

Organic farming has 4 main pillars: the pillar of environmental protection, the pillar of equity, the pillar of care and the pillar of health. Measures in organic farming usually affect several basic areas. (A biogazdálkodás általános alapelvei / General principles of organic farming, 2018)

The protection of the environment must include the preservation of biodiversity, the protection of the soil, the avoidance of pollution, the naturalization of the economy, the wise management of resources and the use of renewable resources. The equity includes the fair treatment of animals, ethical business relationships and ensuring the well-being of future generations. Care is equal to responsibility to society and nature. The "never harm" principle must always be taken into account. New methods and procedures must be thoroughly examined before they are introduced, so that they do not cause damage to nature or the quality of the products. The basic principle of health must also be applied as widely as possible. The soil in which plants, animals and nutrients are grown must be just as healthy, and therefore the

consumption of the product must also serve human health. (A biogazdálkodás általános alapelvei / General principles of organic farming, 2018)

In addition to organic farming, you can hear about more modern production techniques nowadays. One of them, for example, is the aquaponic system. The basis of this method is that fish and plants are grown simultaneously using fish farming tanks and plant growing tubs. The two types of units are connected to different sewer systems, as the aquatic medium created by the fish replaces the topsoil for the plants, thus providing them with sufficient nutrients. (B. Kiss, 2020)

The purpose of the packaging is to ensure that the product is in the best possible condition, without reducing the value in use, with the protection of the goods in mind and in the cheapest possible way in relation to the circumstances. Moreover, in some cases (dangerous / aggressive products), the packaging may not only be required to protect the product from the environment, but also to protect the environment from the product. (Gál, et al., online)
Packaging should be optimal at all stages of the delivery system. What do we mean by optimal packaging? This is illustrated by the Optimal Packaging Model, which is based on the protection of goods and the environment, followed by the facilitation of the transportability of goods, the provision of information and the level of convenience. (Gál, et al., online)

Figure 1: OP model

Source: Own editing based on Gál et al., online

As in all areas, we can be aware of innovative changes in the packaging of our products. Product markings are an important part of packaging. Their goal is to draw the attention of

customers to the special properties of the products, in our case their environmental friendliness. These product labels are called eco-labels. Companies cannot endow themselves with already well-known ratings, they have to meet different criteria in order to be judged by a third party (an eligible organization). (Környezetvédelmi jelölések / Environmental labels, online)

Eco-labels can be divided into 3 major groups, which are defined in ISO 14024. (Környezetvédelmi jelölések / Environmental labels, online)

We can state that today we are more excited about our social survival (electrical devices, entertainment, etc.) than our biological survival. This implies a kind of short-term thinking that, if we continue to do so 80 years from now, we will be so overwhelmed by the planet that billions of people could starve, take to the streets and be exposed to such already completely unpredictable vicissitudes of nature. Moreover, the health of our planet is already closely linked to our own health today. The WHO (World Health Organization) report, "Preventing Diseases by Creating a Healthy Environment," concludes that 12 to 18 percent of deaths in 53 European countries are caused by environmental pollution. Today, air pollution, hazardous chemicals and excessive noise are the biggest environmental hazards in Europe. It is also true that environmental damage is unequally dangerous for certain social groups, disadvantaged people, malnutrition, lack of exercise, excessive use of addictive substances and poor hygiene conditions are much more exposed to pollution problems. (Gulyás, 2009; Attenborough, 2020; Környezet és egészség / Environment and health, 2020) As retailers become more environmentally conscious, retailers and manufacturers enjoy excellent environmental performance; while the profitability of a weaker environmentally friendly firm will increase if the level of production competition is low and will decrease if the level of production competition is high. (Zugang – Anderson – Cruz, 2018)

The aim and methodology of the research

The main goal of our research is to assess the environmentally conscious behavior of Slovak customers with regard to the needs at the lowest level of the Maslow pyramid, taking into account the demographic characteristics of each customer group, such as gender, marital status, education. Based on the literature research, we formulated our related hypotheses, which are the following:

H1: Women, unlike men, are increasingly looking to take their own bag / box with them when shopping in an environmentally friendly way.

H2: People who have at least one child pay more attention to whether the packaging of the product they buy is environmentally friendly.

H3: People with higher education are willing to pay more for products from the organic farm than others.

Our research is inferential, descriptive, because as a researcher we are aware of the nature and structure of the problem. Since we sampled the population twice, we can talk about multiple cross-sectional research. Our sampling technique was non-random sampling, within which we used the snowball method. The first survey was conducted in March 2020, we were able to evaluate 240 completed questionnaires. The questionnaire consists of a total of 25 questions, of which 10 are for the person completing the question, 13 are for what kind of shopping habits they have and how they relate to environmentally friendly products, one question is about their fluid consumption and one about their waste management habits. The second survey was conducted in July 2020, with 163 evaluable responses. This questionnaire included questions from the first research and, in addition, was expanded with two questions. One question concerns whether the respondent participated in our March research. Due to the changed economic and health situation in the meantime (the globalization of the COVID-19 epidemic), we felt it was necessary for the other question to find an answer to whether people would spend more money on living a more environmentally conscious lifestyle in the absence of the epidemic.

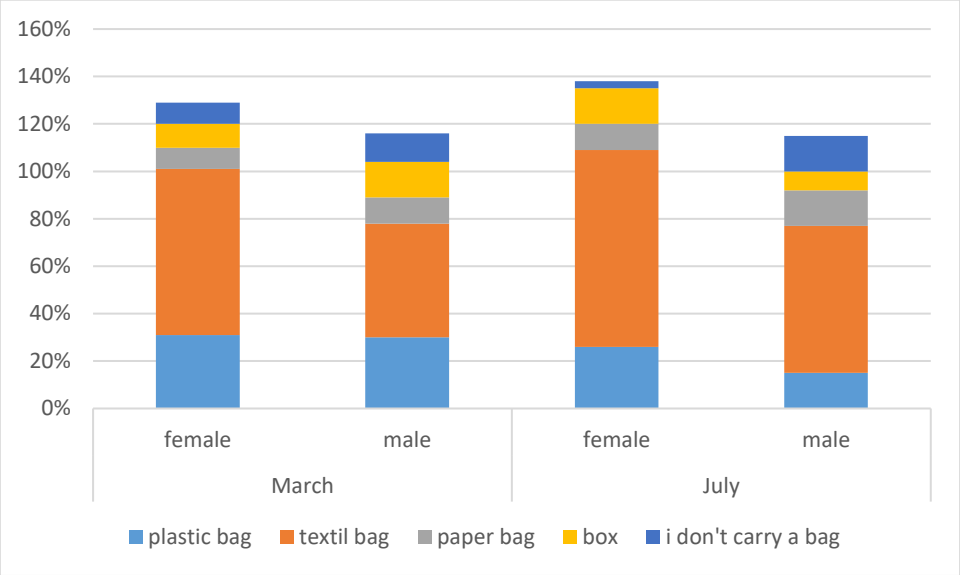
Research results

Our first hypothesis is as follows:

H1: Women, unlike men, are increasingly looking to take their own bag / box with them when shopping in an environmentally friendly way.

To test the hypothesis, we first needed to group the respondents by gender. Unfortunately, in both cases, women were significantly overrepresented in the sample, at about 90%. Probably for the reason that, in general, a higher rate of female non-compliance with questionnaires can be said. The above outlines, of course, warn us to be cautious about our research findings. And to do more research, we even had to look at another question in the questionnaire, which is, “What storage media do they bring with them for shopping? (plastic bag, paper bag, textile bag, box, no storage device) '.

Figure 2: Proportion of storage media carried for shopping



Source: Own editing based on Benita Szalay's data collection

Based on the figure above, we can state that the representatives of both sexes carry a textile bag and a plastic bag with them during both queries. From an environmental point of view, it is important to emphasize that we consider it positive that a significant proportion of customers carry storage equipment they have previously bought, with only a negligible proportion of those who do not carry any storage equipment with them for shopping. They are assumed to be either hand-held quantities during shopping or, unfortunately, every time they decide to buy a new storage device. After performing the cross-tabulation analysis, it seems that part of our hypothesis that ***shoppers are increasingly taking care to take their own bag / box with them in an environmentally friendly way when they shopping*** holds true. However, further studies were needed to determine whether gender differences in behavior could be detected. Since our variables were measured on a nominal scale, we can examine the nature of the relationship between them using the Chi-square index. If we found a significant relationship between the variables (gender and types of storage devices), we later examined the strength of the relationship based on Cramer V and the contingency coefficient. The summaries of our analyzes are summarized in the table below.

Table 1: Examining the relationship between the gender of customers and the storage device used during shopping

	Chi-square value		Sign.	
	March	July	March	July
carry a plastic bag	0,009	0,716	0,925	0,397
carry a textil bag	5,193	3,467	0,023	0,063
carry a paper bag	0,212	0,271	0,645	0,603
carry a box	0,784	0,556	0,376	0,456
carry anything	0,163	5,458	0,686	0,019

Source: Own editing based on Benita Szalay's data collection

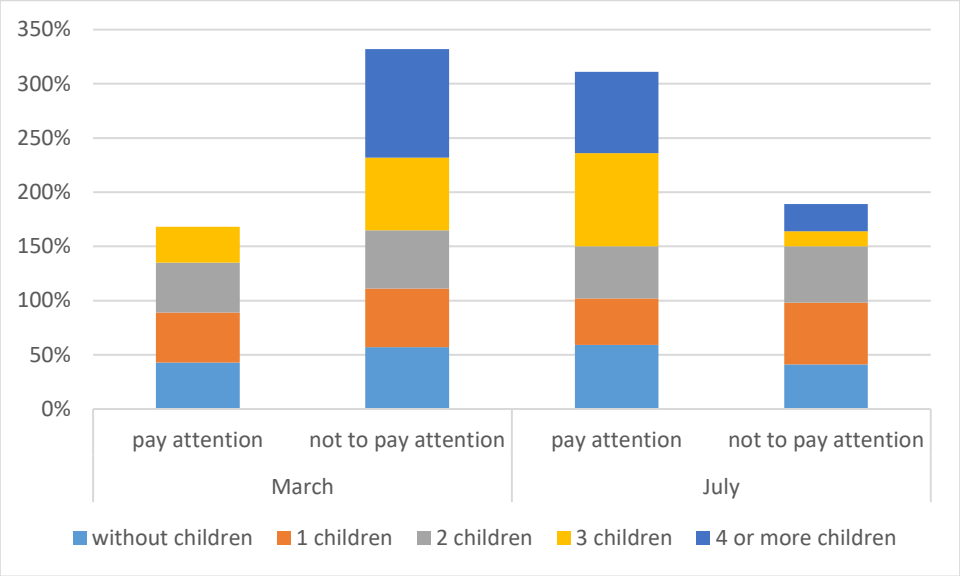
Based on the table above, we can state that at a significance level of 5%, a significant relationship between our variables can be detected in only two cases. In the March survey, we found a statistically significant relationship between the statements of those who used a textile bag during their shopping and those who did not carry anything with them to their shopping during the July survey. Examining the strength of these two significant relationships using Cramer V and the contingency coefficient, we obtained 0.147 and 0.183 values, respectively, indicating a weak relationship between the two variables. Therefore, based on our analyzes described above, we can only accept our first hypothesis with modifications, as there is no significant relationship between gender and the way we choose the storage device we take with us during shopping. Thus, we can state that based on the results of our research, ***shoppers, regardless of gender, are increasingly looking to take their own bag / box with them in an environmentally friendly way during shopping.***

In the following, the results of testing our second hypothesis are presented, according to which:

H2: People who have at least one child pay more attention to whether the packaging of the product they buy is environmentally friendly.

To test the hypothesis, we first compared, by univariate analysis, how our respondents who have or do not have children pay attention to the environmentally friendly packaging of their products.

Figure 3: The relationship between marital status and environmentally friendly packaging



Source: Own editing based on Benita Szalay's data collection

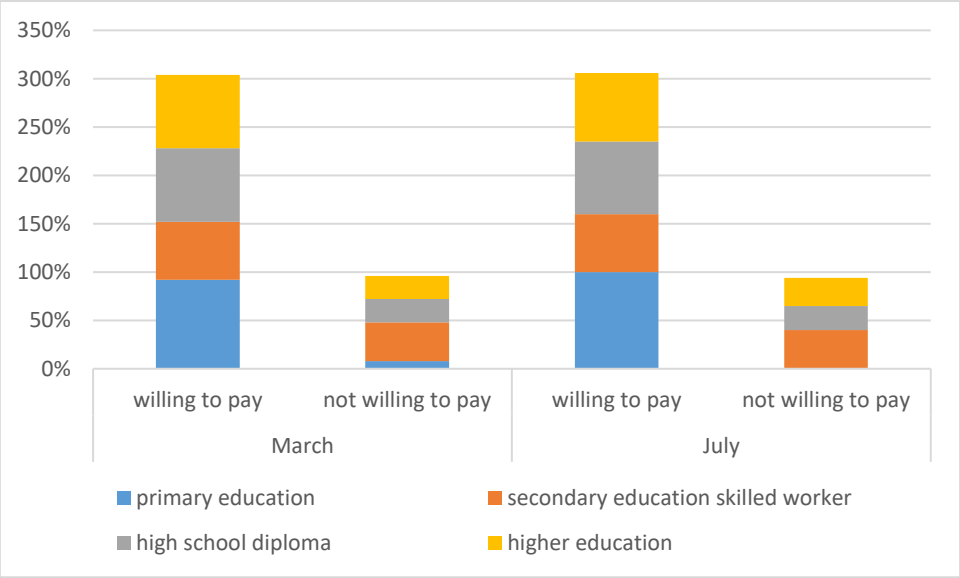
Overall, taking into account the results of the cross-tabulation analysis, it can be seen that consumers, regardless of their marital status, unfortunately prefer not to pay attention to the environmentally friendly packaging of their products. In only three cases did the July survey pay attention to environmentally friendly packaging for children without children or those with large families with 3 or more children. However, with the exception of families with one child, the trend lines moved in a positive direction between the two measurements, ie with the exception of those with one child, the proportion of those watching eco-friendly packaging in our sample increased in all cases, which may lead to little positivism for the future. Further analyzes were needed to determine whether our hypothesis was true or false. We examined whether a significant relationship could be discovered between having a child and paying attention to environmentally friendly packaging at both study dates. The results of the performed Chi-square tests were 2.188 at the significance level of 0.701 and 6.369 at the significance level of 0.173, respectively, ie we can state that no significant relationship can be detected between the marital status of the customers and the attention paid to environmentally friendly packaging. We therefore reject our hypothesis as described above. In the future, further awareness-raising is needed in this area to achieve a shift in consumer attention towards environmentally friendly packaging.

In the rest of our study, the results of testing our third hypothesis are presented:

H3: People with higher education are willing to pay more for products from the organic farm than others.

In examining the hypothesis, we examined the data of the March and July respondents separately. In both surveys, we can detect an increase in the composition of our sample towards those with higher and higher education. The results of our cross-tabulation analysis show that regardless of education, at least 60% of respondents are willing to pay more for a product from an organic farm. Thus, the assumption that the broader horizons and higher financial opportunities associated with higher education in general carry a higher proportion of people spending on organic products is not true.

Figure 4: Examining education and higher propensity to spend on products from the organic farm



Source: Own editing based on Benita Szalay's data collection

Based on our results above, we can state overall that regardless of education, most people are willing to pay a higher price for a product from an organic farm. This is also supported by our Chi-square tests, the results of which are 6,728 in chronological order at the significance level of 0.081 and 3,049 at the significance level of 0.384. Therefore, based on the above, there is no significant relationship between education and higher willingness to pay for products from the organic economy, ie we do not accept our hypothesis in the light of the results.

Summary

As a result of our study and research, we have obtained a number of correlations between the demographic characteristics of consumers and the environmentally conscious forms of consumer behavior that are receiving so much attention nowadays. We were able to accept the first of our pre-established hypotheses with modifications, while we had to reject the other two based on our research results. The bias of our sample towards significant female respondents warns us to be cautious, but it is clear that shoppers are increasingly paying attention not to spend their money on new storage devices, but rather to use a previously bought storage device to carry products. We can also state that further efforts are needed both in the field of education and at the social level to take into account the environmentally friendly packaging of products, as most of our respondents do not pay attention to this at all during shopping, even though discarded packaging puts a huge burden on the Earth's natural environment. Based on our research, the promotion of organic products seems to have been successful, as more than half of our respondents are willing to pay an even higher amount for a product from an organic farm, regardless of their education. Their results are the primary results of a study, and in the future we will definitely encourage us to look for further connections in the topic.

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