

CHANGING THE CONSUMER BEHAVIOR IN FOOD PRODUCT PURCHASING ACCORDING TO THE CONCEPT OF SUSTAINABLE FOOD CONSUMPTION

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ABSTRACT

The limited natural resources with the growth of the population make the problem of sustainable food consumption very relevant and important, as it affects the environmental, economic and social aspects of life. The purpose of the study is to develop recommendations for shaping the behavior of food consumers based on the concept of sustainable consumption. The information base of the study was formed by interview data, official statistical materials, and the results of our own research. The research methods used were a systematic approach, an economic and statistical method, and an expert evaluation method. As a result of the study, the components of the sustainable food consumption system were determined in accordance with the concept of rational consumption; the motivators that guide the purchase of food products were characterized, as well as the demotivators that prevent consumers from sustainably consuming food products; proposals were made for changing consumption behavior in accordance with the concept of more sustainable food consumption.

Keywords: sustainable food consumption, consumer behavior, sustainability

JEL Code: Q50, Q56, M31

1 INTRODUCTION

Today, in a global context, the food system faces problems related to both meeting the population's food needs and environmental issues related to saving and preserving natural resources and protecting the environment. On the one hand, globalization, industrialization of production, and the growth of food production and sales are destroying natural resources and harming the environment. On the other hand, the population of some countries has a lack of food and hunger problems, and there is also a problem of obesity due to unbalanced nutrition, *etc.* Recent studies (Genova and Allegratti, 2024) emphasize the interdisciplinary nature

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of sustainable food consumption. That is, the issue of responsible nutrition and sustainable food consumption is interdisciplinary, related to economics, ecology, food production, nutrition, marketing, *etc.* Responsible consumer nutrition aims to improve food sustainability. Not only government regulation, but also marketing strategy has a significant impact on responsible nutrition. A well-formed marketing strategy should promote sustainable consumption by influencing environmental awareness and a new lifestyle of consumers, combining the social responsibility of business and economic incentives. A key role in this is played by information policy, which pushes businesses and consumers to sustainable behavior. Business can promote sustainable consumption by expanding the range of environmentally friendly and eco-efficient food products, adhering to ethical behavior, influencing consumer behavior through eco-labeling and advertising campaigns aimed at responsible nutrition.

The main aspects of sustainable consumption are environmental protection, reasonable satisfaction of basic needs and consideration of the needs of future generations. Regarding the definition of sustainable food consumption, the Sustainable Development Commission (2009) notes that it should meet environmental requirements and provide safe, healthy and nutritious food; contribute to the protection of the environment, animal welfare and biodiversity, promote energy conservation, minimize waste, *etc.*

Ensuring sustainable food consumption correlates with many sustainable development goals, primarily, overcoming hunger, good health, and quality education. The goal of overcoming hunger will be realized through rational consumption and minimizing food waste (Tekinbas Ozkaya, *et al.*, 2021). The goal of achieving good health is indisputably linked to quality and balanced nutrition (Genova and Allegratti, 2024). Spreading awareness about conscious consumption and, through this, environmental protection will influence the change in consumer behavior, as well as the implementation of the goal of quality education. Therefore, ensuring sustainable food consumption is a complex task that is achieved through healthy and balanced nutrition, reducing food waste, and raising consumer awareness about responsible food consumption.

Theoretical and practical approaches to studying sustainable food consumption are very diverse. Thøgersen (2010) focuses on sustainable consumption on organic food, Austgulen (2014), Vinnari (2008), Clonan *et al.*, (2015) studied the impact of sustainable meat consumption. Gorissen and Weijters (2016) primarily assess sustainable consumption from the perspective of ecology and environmental impact. Research by Alsaffar (2016), Friel *et al.* (2014), Meybeck *et al.* (2017) focuses on issues of balanced nutrition and health. Vassallo *et al.* (2016) sees sustainable consumption as having psychological and social impacts, and Barling (2011), Reisch *et al.* (2013) study barriers that limit the rapid transition to the concept of responsible nutrition.

Of particular note are works that study consumer behavior, which study influencing factors, primarily product availability, as well as cultural norms and traditions, physiological needs, fashion, tastes, community influence, health, *etc.* Thus, Wongprawmas *et al.* (2021) classified the factors of consumer food choice into psychological (mood, stress, and guilt), physiological (availability, education, and time), biological (hunger, appetite, and taste), social (culture, family, and peers), and economic (e.g., cost, income, and availability). Kamenidou *et al.* (2019) outlined the primary drivers that contribute to the consumer's transition to sustainable consumption, such as green consumption and local consumption. Genova *et al.* (2024) substantiate consumer behavior in choosing a consumption strategy by demographic characteristics of consumers, such as differences in age, gender, *etc.* Barcellos *et al.* (2011) formulated a typology of consumers regarding sustainable consumption, dividing them into clusters, namely indifferent to sustainability, environmentally conscious consumers and consumers oriented towards sustainable development.

Tobler *et al.* (2011), Vitterso *et al.* (2015), Yadav *et al.* (2019) analyze motivators and demotivators of sustainable food consumption, to which they attribute health concerns, ethical issues, food safety, seller reputation, social identity, concern for agricultural producers, concern

for animals, perceived accessibility, availability of environmentally friendly food products, excessive prices, time constraints, lack of information about eco-products, eco-labeling, limited marketing communication, ignorance of the impact of agricultural production on the environment. Sidali *et al.* (2016) substantiated the main motives of consumers when buying sustainable food products, which included naturalness, health impact, ethical issues, and innovation. Gorgitano and Sodano (2014) identified demotivators of sustainable consumption, namely the rebound effect, the gap between knowledge and action, and the gap in behavior and influence, which limit sustainable food consumption. In general, cultural and social norms, as well as individual consumer habits, are quite difficult to change. The reorientation of consumers towards sustainable food consumption is no exception.

A global index that allows you to assess the level of food sustainability of a country according to the criteria of sustainable agriculture, nutrition problems, and food losses is the Food Sustainability Index. This index simultaneously indicates the environmental, economic, and social problems that affect the nutrition of the population. The latest calculations of the index were carried out in 2021, 78 countries of the world were studied according to 95 indicators, covering 92% of the world's population and 92% of global GDP. Countries such as Sweden, Japan, Canada, Finland, Austria received a very high level of index value. Ethiopia, Morocco, Pakistan, Ghana, Kenya have low levels of the index (Food Sustainability Index, 2021).

In the process of shaping the behavior of food consumers based on the concept of sustainable consumption, the level of consumer awareness of the concept of rational consumption was investigated; motivators that guide food purchases were identified, as well as demotivators that prevent consumers from consuming food products sustainably; suggestions were made for changing consumption behavior in accordance with the concept of more sustainable food consumption.

The main goal of the study is to develop recommendations for shaping the behavior of food consumers based on the concept of sustainable consumption. To achieve this, the study addresses the following research questions: What are the main motivators and demotivators affecting sustainable food consumption? How do demographic factors influence sustainable food purchasing behavior? What strategies can be implemented to support sustainable consumption among different consumer clusters?

2 METHODOLOGY AND DATA

The information base of the study was made up of interview data, official statistical materials, and the results of our own research. The data collection process was carried out using an interview format based on questions regarding sustainable food consumption.

Questionnaire survey conducted online during August–September 2024 in Slovakia. It covered 117 respondents representing various age groups, genders, education levels, and income levels. Topics included consumption habits, awareness of sustainable food, motivations and barriers, influence of marketing, and social norms.

The study aims to identify factors influencing consumer behavior, their awareness of sustainable consumption principles, and their willingness to make more conscious decisions when choosing food products, taking into account environmental and social factors. The demographic profile of the respondents is presented in Table 1.

The diversity of respondents in terms of education, age, gender, and socio-economic status reveals different aspects of consumer habits, as well as factors that may influence attitudes towards sustainable consumption and nutrition. The questions to the respondents concerned consumer habits, awareness of the principles of sustainable consumption, willingness to change one's own behavior in favor of sustainable consumption, the influence of marketing factors on consumer behavior, social and cultural aspects of consumption. For quantitative processing of data, correlation analysis was used, which made it possible to determine the

Tab. 1 Demographic profile of respondents

Characteristics	Specific weight (%)	Characteristics	Specific weight (%)
Age of respondents		Educational level	
18–24	21	Higher education	65
25–35	29	Secondary education	35
36–44	27	Income level	
Over 45	23	Middle	69
Gender of respondents		High	19
Men	42	Low	12
Women	58		

Source: own research

relationships between variables.

3 RESULTS

The survey yielded the following results. The majority of respondents (45%) buy organic products occasionally, and 30% do so regularly. Only 15% buy organic products always, indicating a high level of awareness and interest in organic products, but a certain part of respondents still has limited experience. The greatest attention is paid to quality (75%) and environmental impact (60%). Price is the most important factor for 60% of respondents, indicating existing economic barriers to sustainable consumption. Most respondents (80%) are familiar with the concept of sustainable consumption. 85% say they have heard of certifications such as organic and eco-friendly. Most respondents (50%) are willing to pay more for organic products depending on the price difference, indicating sensitivity to price factors. Only 30% are willing to pay more regardless of cost. The main motives for buying organic products are lower prices and better accessibility. This shows that many consumers want to make sustainable choices, but are looking for a more economical option. The high price of organic products is the main obstacle for 70% of respondents. Insufficient consumer awareness (40%) and limited assortment (20%) may be other barriers. Marketing campaigns have a much smaller influence on the choice of eco-products: only 25% of respondents recall

Tab. 2 Generalized results of the survey of respondents

Factor	Average value (on a scale of 1–5)
Product price	4.7
Environmental awareness	4.3
Availability of goods	4.1
Certification	3.8
Marketing attractiveness	3.4
Socio-cultural component	3.0

Source: own research

Tab. 3 Correlation matrix (level of correlation with demand)

Factor	Level of correlation with demand	Description of the relationship
Product price	-0.68	High price may deter demand, especially among lower-income populations
Environmental awareness	+0.81	High environmental awareness stimulates demand for organics.
Availability of goods	+0.75	The more easily available organic products are, the higher the demand
Certification	+0.72	The presence of certificates increases trust and stimulates demand.
Marketing attractiveness	+0.52	Bright and correct positioning influences consumer choice.
Socio-cultural component	+0.64	Social trends and fashion have a positive impact on a healthy lifestyle.

Source: own research

advertising that convinced them to buy sustainable products. Consumers (50%) are moderately influenced by the behavior of their loved ones (friends, family) when choosing products. Generalized results of the survey of respondents presented in Table 2.

High price sensitivity indicates the need for government or business incentives (subsidies, discounts). Consumer awareness comes in second place, confirming the need for information campaigns. Certification has weight, but is considered secondary without the context of price or awareness. Marketing and social impact are important, but are considered supporting factors. Correlation matrix of sustainable consumption factors presented in Table 3.

Statistical methods can be used to analyze the correlation between different variables. Thus, the highest positive correlation with the demand for organic products was found in the factor of environmental awareness of the population ($r = +0.81$), which confirms the key role of the level of awareness of citizens regarding the consequences of consumption and environmental safety in the process of forming consumer preferences. Factors such as the availability of product certification ($r = +0.72$), the availability of organic products ($r = +0.75$), as well as socio-cultural attitudes ($r = +0.64$), which reflect the influence of values, norms of behavior and dominants in lifestyle, also correlate significantly positively with demand. This indicates the need to support the development of local organic producers, expand the distribution network and cultural adaptation of marketing strategies. The factor of marketing attractiveness demonstrated an average level of positive dependence ($r = +0.52$), which allows us to interpret it as an auxiliary tool for influencing the consumer, especially at the stage of familiarization with the product. The price factor showed a negative correlation with demand ($r = -0.60$), which indicates the deterrent effect of high prices on the decision to purchase organic goods. Therefore, the results of the correlation analysis indicate the multifactorial nature of consumer behavior in the organic products market.

The survey results show that the ways to change consumer behavior in accordance with the concept of sustainable food consumption are to reduce the volume of production and, accordingly, the consumption of food products of animal origin, which have the most negative impact on the environment. The transition to sustainable consumption requires changing the eating habits of consumers, which is a complex combined issue. Rational nutrition involves increasing the consumption of cereals, legumes, vegetables and fruits, and reducing the volume of consumption of animal food. That is, such adjustments are associated not

only with consumers, but also with producers who must provide the population with these products. Packaged and processed food products are also harmful to the environment, that is, minimizing sales of such goods will negatively affect sustainable consumption, although it requires changing the habits of consumers who will buy the corresponding products due to workload. The absence of fast food consumption, preference for purchasing locally produced food, consumer orientation towards the consumption of seasonal products, the habit of planned purchases, and increased well-being of the population and, accordingly, increased access to high-quality ecological food products, balanced nutrition, the possibility of reuse, and waste reduction will have a positive impact on sustainable food consumption.

The behavior of food consumers is influenced by economic, social and environmental aspects. The consumer wants to eat healthy, inexpensive, environmentally friendly, healthy food products. The environmental components of sustainable food consumption are the use of land resources, energy conservation, food waste management, minimizing carbon and water effects in food production, the use of recyclable packaging, the impact of local farmers on the environment, *etc.* Environmental components are associated with high-quality and healthy food, which ensures better health and minimizes morbidity. The economic component is primarily the price of food, i.e. the availability of high-quality and healthy food products for all segments of the population. The social component is consumer awareness of the importance of rational food consumption, as well as the level of development of society, values, quality of life, *etc.*

A significant problem in changing the behavior of food consumers according to the concept of sustainable food consumption is the lack of sufficient awareness of consumers about the importance and significance of sustainable and rational food consumption. The main mistakes that consumers make when buying food that affect sustainable consumption are excessive purchases, unconscious purchases, and incorrect behavior after consumption. These mistakes lead to such consequences as food spoilage, expiration date, losses during cooking, and not knowing what to do with leftovers, which is a negative side of sustainable food consumption.

Changing the behavior of food consumers depends on personal and external factors that can be influenced by society, the manufacturer, government institutions, or other consumers. Personal factors include personal psychological habits, consumption culture, income, lack of information about proper and rational nutrition, lack of time to cook, and lifestyle. External factors include population size and, accordingly, the availability of food products, and the marketing strategy of enterprises to influence consumers.

Effective strategic steps towards sustainable consumption include increasing the possibility of recycling food waste, information policy on motivating healthy eating and a sustainable lifestyle. Marketing communication tools are of great importance in changing consumer behavior towards sustainable consumption. Priority communication channels are public advertising, social networks, television advertising, and visual advertising. Planning purchases can also change consumer behavior, which will limit unexpected purchases, unnecessary and unnecessary food purchases. Local producers should focus on their own products, their freshness, longer shelf life, *etc.* The difficult task is to minimize waste after food consumption. Here, the appropriate consumer behavior would be not to throw away waste, but to give excess products to those who need them, if they are not subject to consumption, to sort waste, and accordingly use them either as fertilizers or for energy production.

Therefore, sustainable food consumption can be implemented by changing consumer behavior. Changing consumer behavior will contribute to improving the standard of living and the availability of environmentally friendly products.

4 DISCUSSION AND CONCLUSIONS

The results of this study provide valuable insights into the drivers and barriers of sustainable food consumption, offering both a theoretical basis and practical implications. The study confirms that the transition to sustainable consumption must take into account economic, environmental and social aspects simultaneously (Meybeck & Gitz, 2017; Barling, 2011). One of the key findings is the low level of consumer awareness, which remains a central barrier to behavior change. Many respondents are not fully aware of the importance of sustainability in their daily food choices. This finding echoes the findings of Gorgitano and Sodano (2014). Furthermore, the study identifies both motivating and demotivating factors influencing consumer behavior. Health, environmental concerns and ethical responsibility were identified as key motivating factors, which is consistent with the findings of Tobler, Visschers and Siegrist (2011) and Alsaffar (2016). However, demotivating factors such as lack of reliable sustainability labelling, higher prices and limited access to sustainable products are consistent with concerns raised by Yadav *et al.* (2019).

This study deepens the understanding of the factors shaping consumer behavior in the context of sustainable food consumption. One of the problems of the slow transition of society to sustainable food consumption is the lack of awareness of this issue, which is not perceived as important today. Unsustainable consumer behavior is associated with unplanned, unnecessary and incorrect purchases, unconscious consumption and post-purchase mistakes in dealing with surpluses and waste. The study allowed to form the components of the sustainable food consumption system in accordance with the concept of rational consumption; to identify motivators that guide food purchases, as well as demotivators that prevent consumers from sustainable food consumption; to provide suggestions for changing consumer behavior in accordance with the concept of more sustainable food consumption.

Despite its contribution, the study has several limitations. First, the sample, although demographically diverse, may not fully represent all consumer groups. Second, the data are based on self-reported responses, which may be influenced by social desirability bias or discrepancies between attitudes and actual behavior. In addition, although the study examined several demographic and socioeconomic indicators, more detailed psychographic or cultural variables (e.g., values, identity, media exposure) could enrich future analyses.

Future research could delve into specific consumer segments, such as youth, families, or the elderly, to identify individual strategies that respond to their unique motivations and barriers. Expanding the geographical scope or conducting comparative studies across countries could also help to illuminate cultural or political differences that influence sustainability-related behaviors. The transition to sustainable food consumption is a multifaceted task that requires interdisciplinary collaboration and long-term commitments from both consumers and producers.

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