Visegrad Fund

JAN EVANGELISTA PURKYNĚ UNIVERSITY IN ÚSTÍ NAD LABEM
Faculty of Social and Economic Studies

# SUSTAINABLE POPULATION CONSUMPTION IN A POST-PANDEMIC ECONOMY.

# THE PERSPECTIVE OF THREE COUNTRIES

## EXPERT TEXTS

PROJECT ID: 22320074

This methodology was developed within the project **"SUSTAINABLE POPULATION CONSUMPTION IN A POST – PANDEMIC ECONOMY. THE PERSPECTIVE OF THREE COUNTRIES"**, which was implemented in partnership between Jan Evangelista Purkyně University in Ústí nad Labem, Comenius University Bratislava and University of Economics in Katowice.

*Realised within the project "Sustainable population consumption in a post-pandemic economy. The perspective of three countries", supported by a Visegrad fund.*
*Period: 1 November 2023 – 30 April 2025,*
*registration number 22320074.*

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**Objective:**

Researchers from three countries investigated the level of sustainable consumption through pro – environmental consumer behaviour in the Czech Republic, Poland and Slovakia. The research makes several contributions to closely related streams of research on the pro-environmental behaviour of contemporary consumers. First, it extends the knowledge of consumer behaviour in the marketplace and in their households. Second, it adds to the literature on changes in consumer behaviour caused by the COVID-19 pandemic. Third, it adds to research on the heterogeneity of consumer behaviour across generations (BB, X, Y, Z).

## CONTENT

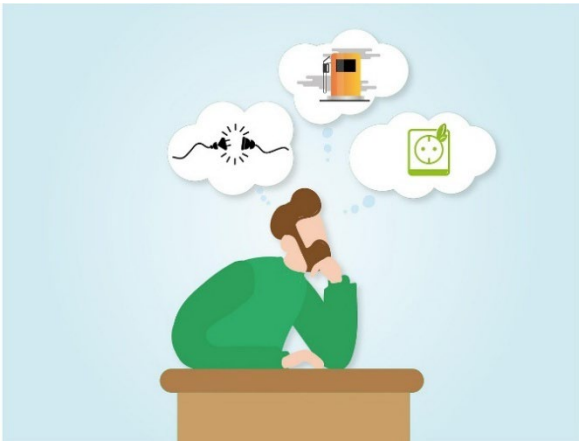
# 1 Sustainable consumption and from this define pro-environmental behaviour

The advent of new technologies and the development of the economy are reflected in environmental pollution and climate change (Hsu, Chang & Yansritakul, 2017; Liobikienė & Bernatonienė, 2017; Takahashi, Todo & Funaki, 2018). The world is undergoing gradual environmental degradation and destruction, and not only due to over-consumption by the population (Ienna et al., 2022; Nekmahmud et al., 2022).

Since the turn of the millennium, marketing, together with the concept of sustainable development, has been penetrating the minds of consumers. Patterns of consumer behaviour are beginning to respond to a growing awareness of the dangers to which the environment is exposed. The problem of environmental degradation is of primary concern to international organisations, as demonstrated by the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, which focused on the multifaceted issues of economic, social and environmental development, or sustainable development (Križan & Bilková, 2019; Lessassy et al. 2021).

In the light of the conference, one can ask whether the role of marketing is compatible with the needs of the environment or vice versa, whether or not consumer society is leading humanity to its own extinction in the near future. The solution to this problem lies in an awareness of the urgency for rethinking development tendencies and understanding the meaning of environmental development (Séverin, 2023).

Climate change, large-scale



deforestation, diminishing marine and ocean resources, declining biodiversity, and declining fossil fuel reserves are all signs of an impending ecological catastrophe. Society must accept that it is important to pay more

attention to the issue of green consumption and to lead a responsible lifestyle in terms of the environment (Berenguer, 2010). Promoting green purchasing behaviour is one of the ways in which the negative environmental impacts of products can be reduced in order to achieve sustainability (Liobikienė & Bernatonienė, 2017).

## *Characteristics of global consumer trends in the consumer goods market*

According to Euromonitor International's study of the consumer environment, the ten global trends driving the emergence of consumer trends and consumer behaviour include: an uncertain future, the expansion of the middle class in emerging markets, a lack of prospects for young people, social inequalities, climate issues, an ageing population, increasing mobility of people, proliferation of the internet, and the proliferation of Chinese brands (Westbrook, 2012).

These situations make consumers more cautious about spending their own money when making purchasing decisions. Different tendencies influence people's way of thinking, which leads to the diversification of consumer behaviour due to the influence of (Kiełczewski, 2005) the homogenisation and heterogenisation of consumption. The uncertain political and economic future of the world has become the main characteristic of the 21st century. The aforementioned statement means that the complexity, volatility and unpredictability of the conditions of contemporary consumers' activities are increasing year by year (Kita et al., 2020).

Today's consumers are full of fear and strive for a state of certainty in an increasingly unpredictable world. For this reason, they place a premium on safe consumption, which is typical for a period of uncertainty. Health, sufficiency of goods, ecology, quality of purchased goods or consumer ethnocentrism become important certainties (Rachocka, 2003). Research findings regarding the indicators of consumers' purchase behaviour reactions during a crisis vary depending on the geographical area and the type of crisis.

The issue of climate change is one of the most frequently discussed issues today. Changes in the Earth's climate have happened continuously in the past and are still happening today, but the alarming fact is that they are happening much more rapidly and with increasing intensity. Businesses are confronted with numerous climate and environmental challenges that involve various impacts and implications for business operations, in terms of ecological, social and economic issues (Kita, 2015). Enterprises that are able to be innovative in their solutions and values in a socially responsible way are most likely to succeed (Kotler & Keller, 2013).

More than 80 % of Europeans believe that a product's environmental impact plays a major role in their purchasing decisions. 90 % of the 70 million Americans between the ages of 20 and 30 who spend $180 billion on purchases want brands that are environmentally and socially responsible (Radjou & Prabhu, 2015). There is a disconnect between the ecological and technical aspects of consumption, i.e. on the one hand, there is a growing concern for nature conservation, the health aspects of consumption and sustainable development, while on the other hand, the boundaries between the natural and technological environment are becoming more distinct. In the context of sustainable development and eco-consumption, the retail sector must also take into account other elements related to the concerns of this development that have become the heart of customers' decision-making, i.e. all environmental (packaging of

goods, consumption of resources, distribution of goods, greenhouse gas emissions, recycling of waste, etc.) and social (customer health, food culture, food safety, affordability, etc.) externalities associated with production, consumption and the end of the product life cycle, in order to align the perceptions of value for the company and the customer (Bascoul & Moutot, 2009). For businesses to be sustainable, their benefits are not measured by a single dimension, which is the market (revenue and profit from sales), but also by the environmental and social dimensions that make up the principles of sustainable development and create multiple values for the customer related to these aspects in terms of the products on offer (Kita, 2017).

For this reason, the issue of climate change is no longer seen as just a possible future threat; rather, it is seen as one of the greatest environmental challenges of our time. Marketing managers must pay systematic attention to trends and macro trends. In fact, it is generally more sensible to adapt to prevailing trends than to be against them. A business evolves with its suppliers, with its intermediaries, with its customers and with its competitors in a global environment. The structures of this environment have a profound influence on the enterprise, but their influence on the enterprise is very weak: they are uncontrollable factors to which the enterprise must adapt.

## *Agenda 21 as a basis for contemporary sustainable development based on value*

Understanding the macro tendencies in the consumer environment is important because they are reflected more or less indirectly, over a shorter or longer timespan, in the functioning of the various elements of the consumption sphere. However, the development of consumption is not derived from one selected trend or factor, but is the result of the influence of a wide range of macro conditions and determinants, characterised by different strengths and directions of influence.

Marketing generally is a function and a set of processes (Jenson et al., 2020; Theoharakis et al., 2024) that enable an organisation to create, communicate and deliver value to its customers. Because it enables organisations to deliver more value propositions, it also represents an organisational resource (Hunt, 2000; Hunt et al., 2006). Changes in the consumption of European consumers are related to the acceptance of the values of a consumer society and are changing the consumption behaviour of households, which are gradually reaching the maturity stage of the consumption cycle (Kita, 2018). Knowledge of consumer behaviour is essential for a business to make decisions about market orientation and marketing in consumer product and service markets, as it chooses target customer groups as well as the products to offer to target segments based on an understanding of consumer behaviour.

However, current and potential consumer needs and demands are not the only measure of market orientation, as there is a trend towards green consumption, which is affecting demand and business competitiveness and weakening the impact of consumerism. The trend towards green and responsible consumption is gaining in importance and influencing the behaviour of market participants. Green consumption can be seen as an increased interest in environmental issues, value proposition and the promotion of respect for the natural environment. Therefore, according to Kita (2019), changes in the value proposition are related to an important challenge of our time, which is sustainability. Sustainable development offers room for the creation of a unique value proposition (Kita et. al. 2024).

According to G. H. Brundland, sustainable development can be defined as development that enables the present generation to meet its needs without hindering the development of future generations (ME CR, 2024). The idea of sustainable long-term development forms the basis of Agenda 21, which was adopted by 178 countries at the 1992 Earth Summit in Rio de Janeiro. Agenda 21 is characterised as an action programme for the 21st century, showing the way to sustainable business development, resting on finding coherence in achieving the economic goal (profit-profit), the social goal (persons-persons), and the environmental goal (planet-planet). These 3 P's are the components of green marketing. It follows that if a company is socially responsible, it must be able to be accountable for its actions and consequences to its stakeholders. This means that all members of an enterprise's environment are linked to it in some way through its activities, i.e. suppliers, shareholders, employees, customers, government bodies, political parties, the media, and so on (Bascoul & Moutot, 2009).

*Agenda 21 consists of four parts, some of which relate directly to business and marketing*

- The first part, entitled **Society and Economy**, includes the area of modifying consumption patterns,
- The second part, called **Resources**, covers environmental aspects linked to human activity, such as the protection of air, oceans, water resources, combating deforestation, management of vulnerable ecosystems, biodiversity, waste management, and the long-term promotion of rural and urban development,
- The third section, entitled **'Large companies'**, stresses the importance of broad public participation in decision-making and therefore access to information, particularly on products and activities that have or may cause environmental side-effects,
- A fourth section entitled '**Resources**', which seeks to define the nature of instruments and areas such as financial aspects, international cooperation and technology transfers, the role of science, education and training, legal and legislative aspects, the provision of information for decision-making.

Agenda 21 affects enterprises in most of its functions, emphasising the social and environmental implications of its activities, i.e. the modification of consumption patterns, affecting many aspects of the business policy of an enterprise. It generally notes the current unsustainability of consumption patterns, i.e. production-consumption, in rich countries and the use of renewable and non-renewable natural resources, resulting in the depletion of natural resources and the efficient use of these resources in terms of slowing down extraction and reducing pollution as much as possible. The marketing strategies of enterprises seeking to modify unsustainable consumer lifestyles are based on the following activities:

- Promote better use of energy and resources,
- reduce waste production as much as possible,
- to guide the choice of suppliers and consumer segments through organic products,
- direct product pricing based on environmentally friendly systems,
- reinforce the company's social values and mission to emphasise sustainable consumption patterns.

In this way, Agenda 21 challenges a society based on consumption and the waste or plunder of natural resources. It recommends the introduction of means of production and consumption that respect the environment. The implications for business marketing are that:

- at the product level, it is necessary to consider the product structure and the recyclability of the individual parts and to choose the most environmentally friendly solution,
- at the packaging level, the number of redundant elements present in the product must be reduced,
- at the level of marketing and communication, it is necessary to adjust the image of the company towards the use, in production, of environmentally friendly technologies and to provide information to consumers and distributors on the implications of the choice of such a product and consumption behaviour in order to encourage demand for and use of environmentally friendly products,
- at the price level, the costs associated with recycling, waste management etc. need to be factored into the selling price.

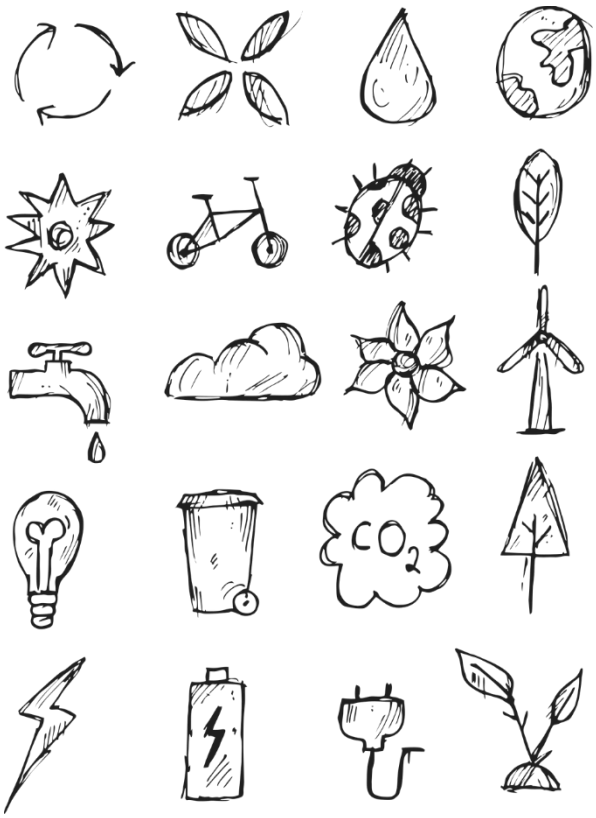


It can be said that some progress has been made in this respect, particularly in terms of the exploitation of key resources representing what a company needs to own in order to create and offer its value proposition to the market - for example, physical, financial, intellectual or human assets (Osterwalder, Pigneur, 2010). That is, for a business to influence consumer behaviour through its value proposition, it defines what the business is better able to provide for its customers than its competitors in creating and delivering value, maintaining customer relationships and generating revenue (Kita, 2018).

## *Sustainable consumption and the sustainable consumer*

According to Giannelloni (1998), consumption is an act whose consequences on the environment can be multiple, and a consumer who is concerned about the environment integrates this complexity into their decision-making and sustainable behaviour, which concerns an awareness of its long-term consequences on the natural or social environment. Sustainable consumption has become part of the consumption system and is related to specific consumer behaviours (Layton & Duffy, 2018).

Sustainable consumption is a practical process – it involves the economy, society and the environment in achieving sustainable development goals (Novikovienė & Navickaitė-Sakalauskienė, 2020; Čapienė et al., 2021). It refers to the responsible use of goods and services in order to minimise the use of natural resources, reduce emissions of pollutants and waste to avoid endangering the lives of future generations. It guarantees future generations a level of social well-being that is at least equal to that of today. The goal of sustainable consumption is to increase the efficient (Ahlström et al., 2020)



use of resources (natural, energy, water, land, transport, waste etc.) and promote sustainable lifestyles that have an impact on climate change (Cheng et al., 2021).

There are several forms of sustainable consumption (Maud, 2013; Mardellat, 2010), which are cross-cutting in nature and as such adopt a holistic approach that takes into account the interdependent relationships and economic, social and environmental aspects of sustainable development in a balanced and integrated way (Dion & Wolff, 2008): lower consumption or moderate consumption (consuming less but better) or even a decrease in consumption by adopting a more environmentally friendly lifestyle; more solidarity-based consumption corresponding to a preference for territorialised and localised consumption - solidarity economy; fair consumption based on fair trade networks; pro-environmental "green" consumption that consumes less natural resources, less energy and less polluting CO2 emissions, etc. (Hoballah & Averous, 2020; Chabault, 2017); collaborative consumption (Oliveira et al., 2022) - Collaborative consumption is the activity of sharing or exchanging goods and services between individuals, usually in exchange for compensation etc.

The consumer is seen as one of the main actors in the realisation of more harmonious economic development, ecologically respectful of natural resources and socially just. As a citizen (Rumpala, 2009), the consumer is directly affected by regulatory and incentive approaches implemented by local authorities (selective sorting, energy savings). The consumer also remains in direct contact with all climatic and economic events and phenomena transmitted by information and communication networks that have become global (Binninger & Robert, 2008).

Sustainable consumer behaviour is often described with words and phrases such as responsible, environmentally friendly or socially friendly consumer behaviour (Kadic-Maglajlic et al., 2019). To consume responsibly means to engage with a different

type of value-centred society. For this profile of the committed consumer, sustainable consumption, which permeates everyday life, takes on a dimension of identity (Maud, 2013), shaping relationships with others and cultural preferences that are bound by age, gender, standard of living, education etc. (Croat, 2015). A fundamental challenge to achieving sustainable development is to change consumer behaviour as part of the fight against the current unsustainable level of consumption that has contributed to the resource depletion, environmental pollution and climate change problems we face today. Increased interest in environmental issues and the promotion of respect for the natural environment, especially by the media, is weakening the influence of consumerism. Pro-environmental consumer behaviour motivates manufacturing and commercial enterprises to offer products that reduce the waste of raw materials in line with the principles of sustainable development, reduce global consumption by reducing the over-exploitation of natural resources (Kita, J. et al., 2017), motivate consumers to purchase socially responsible products (Dhandra, 2019; Kita et al., 2020) and contribute to increasing well-being (Sheth et al., 2011).

However, sustainability in general is not an easy choice for consumers. It requires effort in choosing and identifying the right product or changing purchasing behaviour. And often more money. But these barriers need to be overcome gradually to make sustainable consumption an easy choice for consumers.

The environmental factors in which consumers live are in constant evolution. They act as stimuli that can grab consumers' attention and influence their decision making (Clement et al., 2013). Consumers cannot settle for long-term certainty and are always oriented towards change at one time or another. Changing people's consumer behaviour can substantially help to limit climate change. Change is related to responsibility, utility and evolution. It induces learning, questioning and therefore provokes a negative attitude (Gouiran, 2012). According to Good (2007), the everyday is a space in which possibilities for political action

and 'ordinary resistance' are opened up. It is therefore up to the consumer to define what is important for quality of life or what is a correct and fair measure of their consumption in their choice of sustainable consumption practices. Thus, only the


consumer is able to define the right relationship to their desires to ensure a good quality of life. Playing an active role in protecting the environment and solving societal problems means that consumers should be committed and participate effectively in all aspects of the society in which they live.

People use or consume many resources and products when they engage in the normal activities of daily life. According to social practice theory (Schatzki, 1996; Southeron et al. 2012; Steiner, 2021), people's consumption practices may change according to specific activities, for example, when new environmentally friendly products, new norms, and new cultural expectations are launched. In short, the practice itself (what people do, how they do it, and what the implications of this are) becomes the focus of the analysis and shifts attention to the nature of their practices.

In this respect, it therefore seems essential to understand the ways in which the concept of sustainable consumption permeated sustainable consumption practices in everyday life during the Covid 19 pandemic and to identify the main implications at a behavioural level, based on the psychological and socio-demographic characteristics of consumers.

## *Consumer attitudes and sensitivity towards sustainable development*

Most market research confirms that consumers are very sensitive to corporate social responsibility. Consumer interest generally focuses on the following themes:

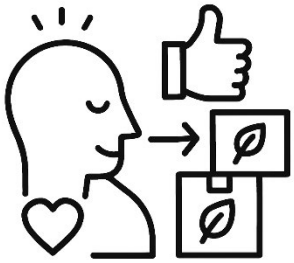
- the need to maintain clarity in production methods,
- research into the origin of products,
- preference for organic and bio-based products,
- dedication to environmental issues,
- sensitivity to the working conditions of companies in third world countries in terms of respect for human rights and remuneration.

In addition to these themes, it is possible to observe an increasing willingness of consumers to change their behaviour due to their own reflection on their relationship with society or the environment.


This trend is also confirmed in other surveys, and it can therefore be concluded that consumers are becoming increasingly interested in protecting their health and in ways of protecting and respecting the working conditions of exploited people in the Third World, since many products labelled as organic come from Third World countries and have a great potential for growth on the market, not because of their high price or for environmental reasons, but because of the quality of the food, which is perceived as a decisive factor for the health of consumers and their families.

This consumer mindset stems from issues such as the outbreak of the mad cow scandal or concerns about genetically modified organisms, which have reduced the credibility of the business practices of some producers and distributors in the food industry in developed countries.

In the case of a company producing products in an environmentally friendly way, the main objective is to meet the expectations of ecologically minded consumers who are very sensitive to environmental issues.



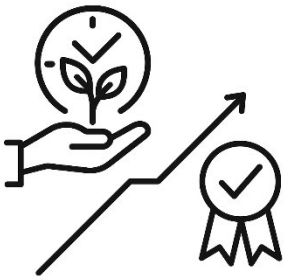
However, the problem for companies is to determine the degree of sensitivity in meeting their expectations with a given product, as it is dependent on the maturity of the personality of the individual consumer.

If an enterprise producing products in an environmentally friendly manner extends its outreach to such a segment of consumers to include the area of ethics in the management of the

enterprise, it can be assumed that it will achieve a favourable attitude of consumers towards its products.

Evidence of the improvement or establishment of a favourable consumer attitude is shown by consumer behaviour in the short term, which changes from the consumer's intention to purchase to actually purchasing the product itself.

In the long term, the most radical and persuaded consumers make their purchases based on their personal involvement in recommending the company's products to other consumers. This type of behaviour is characterised by a high degree of loyalty towards an enterprise and its products.



It can be concluded that consumer attitudes regarding corporate social responsibility are characterised by two main characteristics: consumer sensitivity to the benefits of long-term development and the credibility of the company in its approach to long-term development (Kita, 2007).

## *Impulses for innovation arising from consumer behaviour*

The impulses that come to the fore in relation to consumer behaviour during a pandemic are multiple. The rise of e-commerce and smartphones is contributing to a fundamental change in the way people shop. Fresh food sales are on the rise, alongside an increased emphasis on healthier, local and sustainable products, and the specific pathways by which these originated and made their way onto grocery store shelves are being more closely monitored (Kita, et. al, 2020). Technology is increasingly entering the daily lives of retailers, producers and end consumers.

More retailers are expected to introduce fast payment solutions in their stores through mobile apps, which can be useful for both shoppers and retailers. Mobile apps will even go beyond the payment itself. They will help shoppers navigate the sales floor, alert them to new products and trends, provide personalised recommendations, and give shoppers relevant information about the products on the shelves. Ecology, sustainability, traceability of food origin, transparent food or no food waste. Topics that resonate in the business sphere and have a common denominator – social responsibility.

More environmentally friendly products, more emphasis on sustainable development, online shopping and, above all, greater convenience. These are all overlooked factors that strongly underpin the changing retail landscape globally.

Socially responsible consumption is creating new opportunities for retailers to implement complementary activities related to the surge in consumer interest in sustainability. They can organise events to inform customers about the nutritional value of food, involve consumers in social campaigns, invite producers to explain the process of growing and producing food in a way that shoppers can understand, organise gourmet evenings with chefs, or organise, for example in cooperation with the Red Cross, help for communities in difficult social situations with food collections, online food donations etc., and so on. Producers,

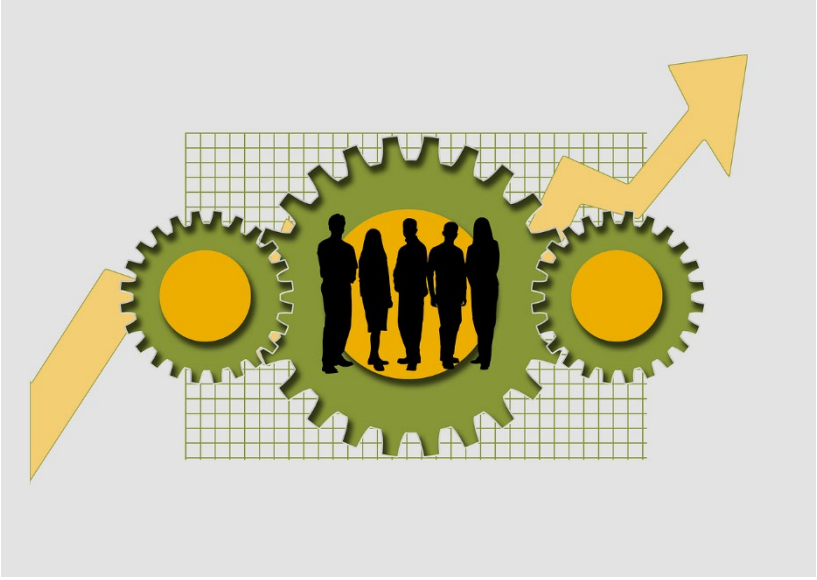
both large and local, will also play an important role in creating the ecosystem of the future. The search for local producers and the creation of a domestic network of suppliers responds to the stimuli of modern times and changing consumer demands. As a result, the opportunity to add own-brand product categories to the product range stands out.

## *Employee training*

In order to adapt to the labour market, employees of business organisations are offered training in relation to the above trends. The job market demands more technology skills and an increase in the level of training (Kita et al., 2018). Flexibility and complex problem solving are coming to the fore. At the same time, merely following technology trends is not enough.

It is necessary to understand what customers need and especially where and when they need it.

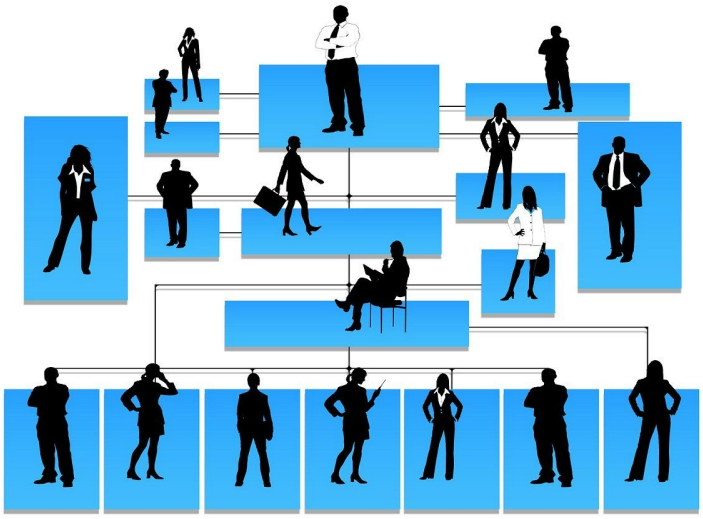
And then offer it to them – strategy is important, but implementation is the key to success. Employees are the primary factor in the development and success of a business. They are the primary source of an organisation's effective operation and prosperity. A company's competitiveness and profitability are fundamentally based on the skills and motivation of its employees, hence the importance of training, the usefulness of which is well known. The vision of a learning society is to provide a sufficient base for further development of knowledge and to offer a pathway for introduction into economic and social life (Kita & Mazalanova, 2024).



Training focuses on the acquisition of a specific skill and on mastering a specific task or job and is primarily intended for adults to acquire certain skills. Training is at the heart of any technological upgrading of an organisation and prepares employees for change and innovation. Training is an essential part of the process of transforming employees into engaged, productive and effective workers.

It teaches them more about their work so they can do it more effectively.

Small businesses often have few resources for in-house training and depend more on external resources. Professional organisations such as various academies, engineering associations or sectoral organisations, but also trade unions and a large number of other institutions, including universities and other colleges and research institutions, are involved in training. Old sales techniques are no longer a hindrance, not only to consumers, but also, thanks to the GDPR (General Data Protection Regulation), to the Data Protection Authority.



Technology is changing the way even the most basic operations are carried out and its effects are being felt in the retail sector overall. Various technologies are being applied, including mobile shopping, digital signage, smart scales, self-service checkouts, Quail wireless digital headsets, automated temperature and humidity measurement systems in store refrigeration and storage areas, portable terminals, voice-activated devices, new warehousing processes, the creation of new logistics systems etc. The use of cutting-edge technology facilitates the tracking of product movement through the distribution chain and store operations.

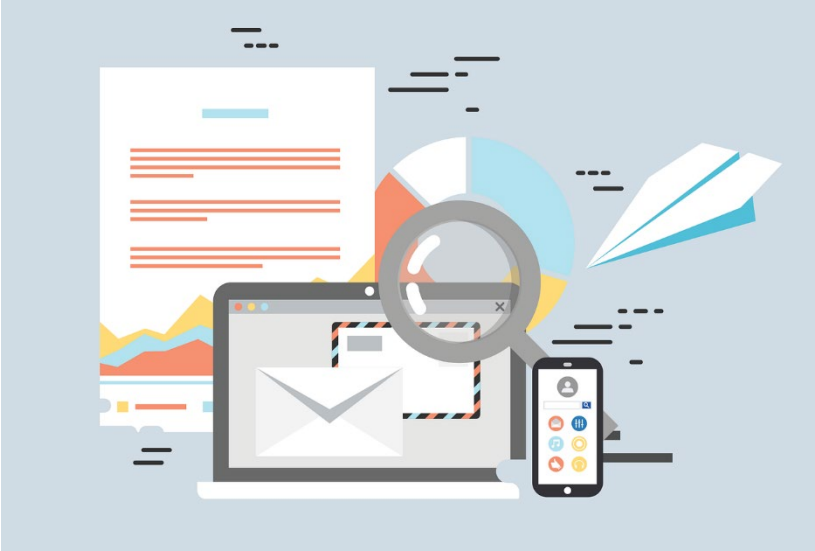
Fully functional technology is revolutionising the supply chain and the operation of different points of sale by enabling

the entire movement of goods to be tracked, from the factory to the shelves of the store.

The increasingly large presence of technology in the workplace means that the technical skills of staff are essential to the company on a daily basis. New technologies and other factors are allowing retailers to take a central role in supply chain management. This role, coupled with global expansion, has increased the complexity of their operations, and so it is necessary to have staff with excellent supply chain and risk management skills, excellent language skills and negotiation skills to thrive in a multicultural environment.

In addition, the need for staff with the technical skills needed to operate complex organisational and technical structures properly has increased significantly. E-commerce and new technologies are expected to limit the growth of some jobs in the sector, but create opportunities for other professions such as internet sales managers, website administrators, technical support service agents and other similar jobs.

Online shopping, the use of Radio Frequency Identification (RFID) techniques to speed up check-in and payment, and the use of self-service checkouts are already helping to reduce the demand for cashiers. However, given that many retail sales functions involve frequent customer contact,

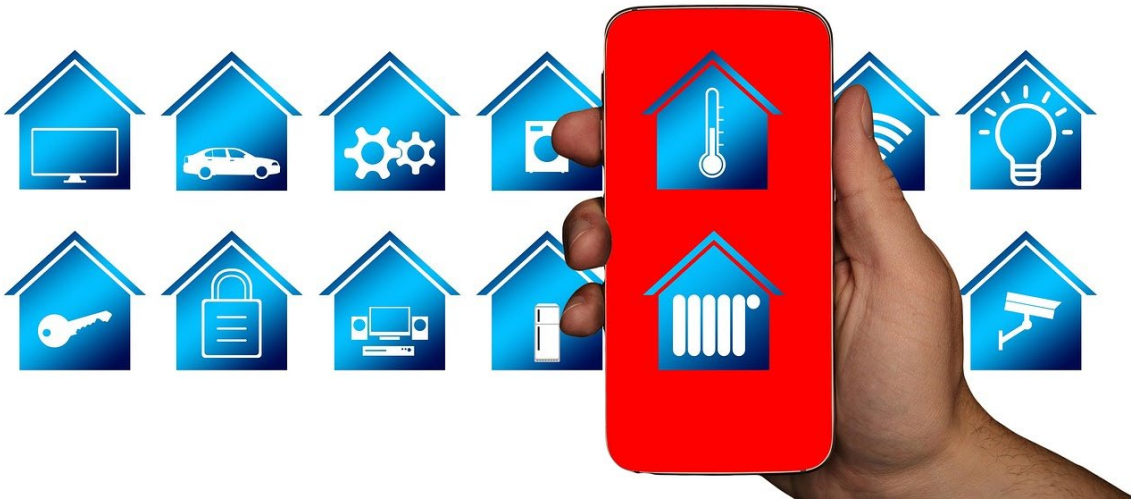


and that the main objective of many new technologies is to enable companies to differentiate themselves from their competitors through customer service, many will focus on the personalisation of sales and customer service rather than cost reduction in this area. While hyper-personalised selling is still making some headway, retailers are beginning to cater to specific customer tastes in real time, both offline and online. Therefore, it is expected that many sales and customer service jobs will continue to open up in the future. However, in order

to define the training needs of employees in new technologies, it is first necessary to establish the professional profiles applicable in the sector, as well as the skills and competences associated with them. Employers should identify the appropriate course category according to the knowledge or experience of employees for whom they believe that skills shortages can be addressed through intensive training, for example in terms of teamwork, customer reception, technical and practical skills related to retail operations, mastering information and communication technologies, administrative tasks etc. The most glaring shortcomings are still in customer service. Deficiencies are also noted in merchandising, in supporting retailers' promotional activities.

## *The relationship between sustainable consumption and pro-environmental*

According to N. Radjou and J. Prabhu (2015), today's consumers can be divided into two groups. In one group are those who are concerned about environmental degradation and the rising cost of living. This group is gaining more and more strength, and its members are better connected by technological communication possibilities (4.5 billion people on the planet use the Internet).



In the second group are those who are characterised by egoism, inertia and an inability to differentiate, i.e. to neglect the needs of future generations and focus on the present situation. The challenge for businesses is to influence consumer behaviour so that they do not feel

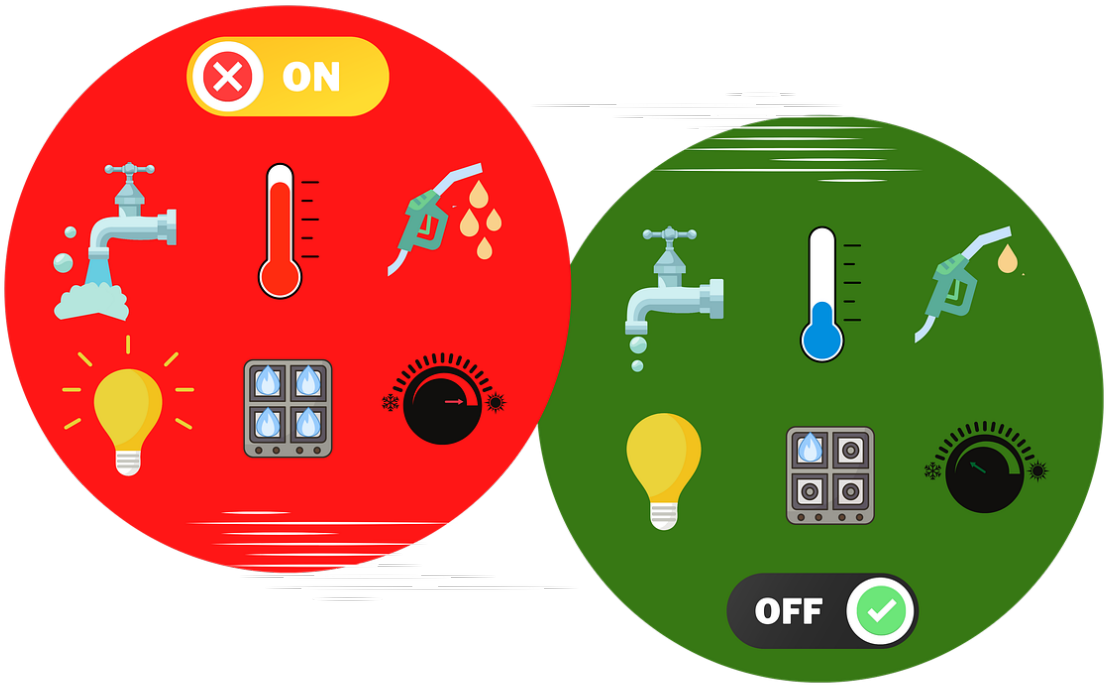
manipulated, to help them to temper their selfishness with concern for the future of the planet and to find a balance between a sense of frugality and affluence.

Alam et al, (2023) reported that those customers according to Zhang et al. (2019) who have greater environmental awareness and consciousness are more likely to buy eco-friendly products to demonstrate their concern for the environment.



A pro-environmental consumer will be motivated to protect the environment and therefore will be more inclined towards pro-environmental campaigns and products (Alam et al. 2023). In addition, several studies (Kautish et al. 2019; Zhang et al. 2018; Kita & Žambochová 2023) suggest that consumers are now more environmentally conscious and therefore more engaged with pro-environmental content and campaigns. This, according to Kumar et al. 2022, has a great influence on their purchasing decision-making processes, which makes them more attracted to pro-environmental products. Therefore, it can be concluded that a consumer characterised in this way will be more likely to make informed purchasing decisions. Behavioural intention is considered an important predictor of actual behaviour (Ajzen, 1991). Pro-environmental consumer behaviour is a practical expression of pro-environmental consumer attitude. Thus, it can be said that the stronger the attitude, the more likely the actual pro-environmental consumer behaviour.

In the context of sustainability and eco-consumption, the retail goods on offer must also take into account other elements related to sustainability concerns that have become core to customer decision-making, i.e. all environmental and social externalities associated with production, consumption and the end of the product life cycle, in order to align the perception of value by the business and the customer (Bascoul et al., 2009). For retail businesses to be sustainable, their benefits are not measured by a single dimension, which is the market, but also by the environmental and social dimensions that make up the principles of sustainable development and create multiple value for the customer related to these aspects of the goods on offer.

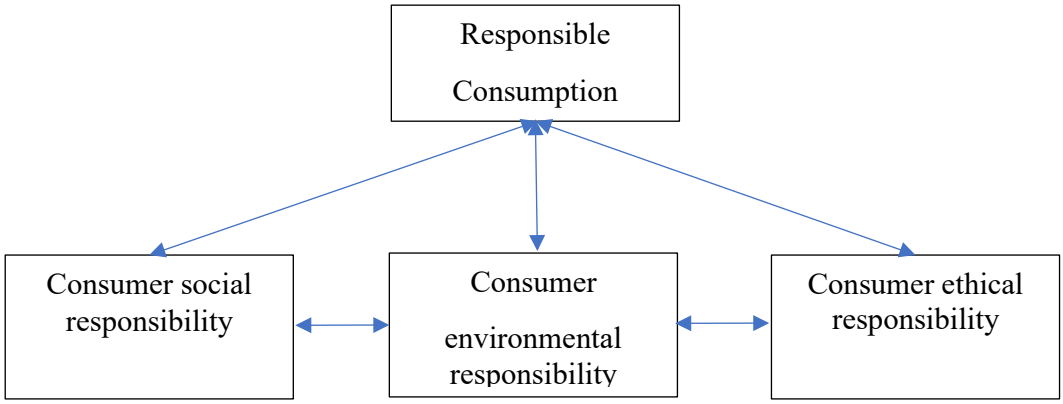



In addition to the added value traditionally used in trade and marketing, another source of value is added, namely the value associated with the long-term impact on consumption. This complementary source of value is a multiple value, i.e. the value that the customer receives does not just depend on satisfying the short-term interests of the seller and the customer. Externalities affecting the environment and society can alter this value and must be taken into account in the customer's perception of value. In this context, environmental concerns express the consumer's interests regarding their worries about consumption affecting the environment from their

purchase of goods and services (Kita & Žambochová, 2023). Such concerns are expected to influence this consumer's decisions and attitudes towards pro-environmental activities. These concerns are compounded by climate change, industrial pollution, and excessive personal consumption, which bring increasingly visible negative consequences for human life (Križan & Bilkova, 2019; Carfora et al. 2017; Thøgersen, 2009). The role of consumers in environmental protection, as demonstrated by various research, is that reducing environmental risks produced by consumers by increasing pro-environmental consumer behaviour has been a very significant step towards environmental protection.

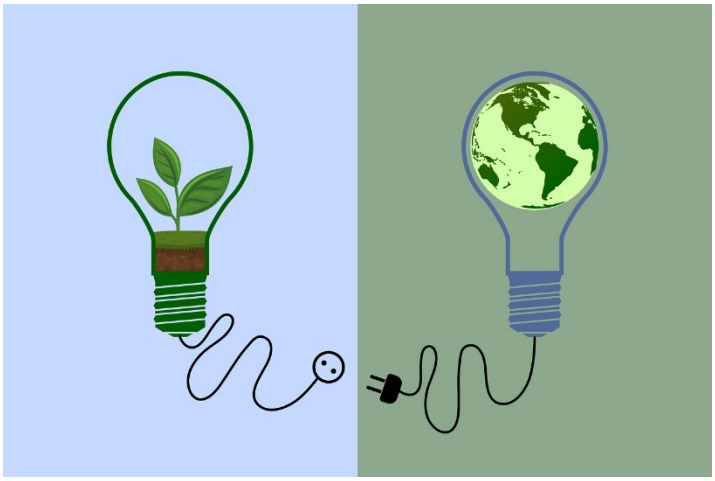
The consumer can rightly be considered as one of the main actors in the implementation of socially responsible consumption. The role of pro-environmental consumer behaviour is therefore very important in creating and maintaining environmental protection. Križan and Bilková (2019) state that in general, the consumer tends towards the environmental aspect of consumption through their purchasing behaviour in terms of sustainable consumption (Diagram 1). In this approach, the term green consumption or ecological consumption is often used, which, based on consumption value theory, defines ecological consumption values defined by the tendency of people to express their own values of environmental protection through their purchases and consumption behaviour (Haws et al. 2014, Wnag et al. 2020).

**Diagram 1. Components of responsible consumption and their interrelationships**




*According to Lim, 2017. in Križan and Bilková, 2019. and own elaboration.*

Recently, pro-environmental consumer behaviour has received increasing attention in literature (Alam et al. 2023; Wang et al. 2020; Lee, Haley 2022; et al. Jánská et al. 2023, etc.). Mainieri et al. (1997) defined pro-environmental consumer behaviour as a type of voluntary behaviour that consciously seeks to address environmental problems such as climate change, global warming, and environmental degradation. This type of behaviour has been shown to minimise the negative impact of their actions on the environment by purchasing green products that are beneficial to the environment (Alam et al. 2023). Typical pro-environmental consumer behaviours include purchasing environmentally responsible products that minimise environmental impact, products from companies with a good environmental reputation and/or products made using biodegradable, carbon neutral or recycled inputs, and so on (Cleveland et al., 2012).



Socially responsible consumption, or pro-environmental consumer behaviour, is a change in the consumer's pattern of life, aimed at achieving a level that meets basic needs and takes into account the prerequisites of sustainable development. It means using products and services in a way that minimises the use of natural resources, reduces waste and takes into account the interests of future generations. Individuals opting for such a model are aware that life satisfaction is also influenced by factors such as access to education, health, safety, employment, social justice and the state of the environment, influenced by the reduction of food waste in the supply chain and reduction of waste through prevention, reduction, recycling and reuse of recycled material.

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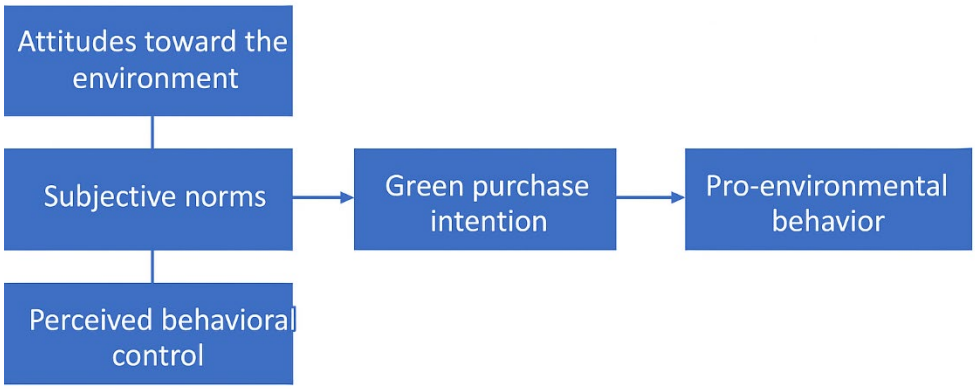
# 2 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB), proposed by Ajzen (1991), has been applied and acknowledged to explain consumer behaviour towards the environment, which belongs to the field of behavioural economics (Paul et al., 2016; Chwialkowska et al., 2020). In today's world, consumers are not considered as individuals with perfect free will to make decisions.

In the TPB framework, it is a theoretical approach that helps us to understand consumer decision making, focusing on their planned and conscious responses to the environment (Liu, et al., 2023). TPB is used to predict and analyse consumer behaviour and therefore how consumers will behave when making a purchase (Paul et al., 2016; Chen, 2017). In summary, it is a behavioural model, consisting of three basic psychological pillars, with the ultimate goal of understanding what drives consumer behaviour and their intentions to make green purchases (Blok, Wesselink, Studynka & Kemp, 2015; Paul et al., 2016; Chwialkowska, Bhatti & Glowik, 2020).

**Diagram 1: Theory of planned behaviour**




*Source: own elaboration based on Ajzen (1991)*

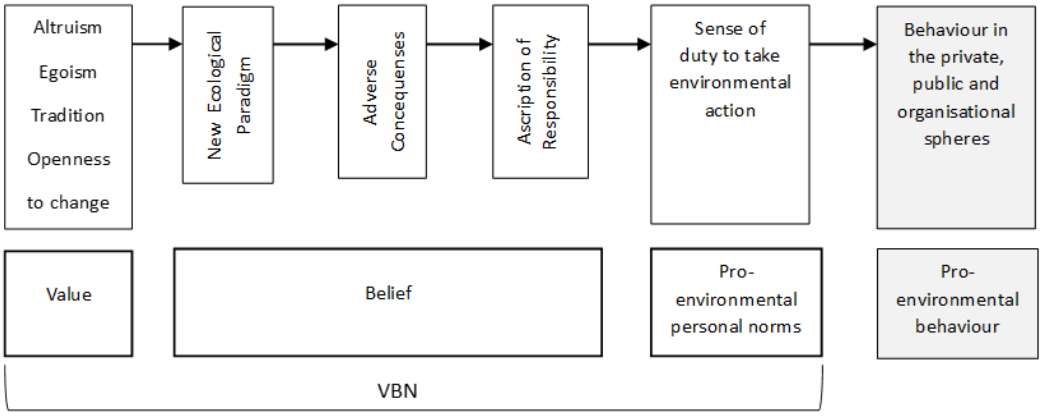
When analysing pro-environmental consumer behaviours leading to sustainable consumption based on the Theory of Planned Behaviour (TPB), attention should also be given to the Value-Belief-Norm (VBN) Theory, developed by Stern et al. (1999, pp. 81-97) as a theoretical framework explaining individual engagement in pro-environmental actions and support for social movements. The VBN Theory is based on the assumption that human actions are guided by a sequence of cognitive processes that begin with individual values, pass through environmental beliefs, and culminate in the activation of personal norms. The process explaining consumer engagement in pro-environmental actions is cascading in nature: values influence beliefs, which in turn activate personal norms, ultimately leading to specific actions. Personal norms serve as a key motivator for behaviour.


The VBN Theory builds on earlier concepts related to altruism (Moral Norm Activation), personal values (Personal Values), and a new perspective on ecological issues (New Ecological Paradigm, NEP) (Zrałek, 2018, p. 78). Stern's team identified five determinants of pro-environmental behaviour (Stern et al., 1999, p. 85):

- personal moral values,
- beliefs (particularly the ecological worldview – NEP),
- the belief that a violation of valued principles would have adverse consequences (Adverse Consequences, AC),
- the belief in the ability to mitigate these consequences through individual actions (Ascription of Responsibility, AR),
- pro-environmental personal norms (i.e., the sense of duty to act pro-environmentally).

According to the VBN Theory, these factors form a causal chain resulting in pro-environmental consumer behaviour (Stern, 2000, pp. 412-413). Pro-environmental consumer behaviours can occur in private, public, and organisational spheres (Fig. 1).

Fig.1 Consumer environmental behaviour according to VBN theory




Source: Stern et al. 1999, p. 84; Stern 2000, p. 412; Zrałek 2018, p. 78.

According to proponents of this theory (Stern, 1999, p. 462), it has a universal character as it explains the conditions under which individuals engage in any social movement, even though the VBN was originally developed to elucidate the mechanism behind the emergence of pro-environmental behaviours (Zrałek, 2018, p. 78). In recent years, researchers such as Brofman et al. (2015), Chen (2015), Lind et al. (2015), Kim and Seock (2019), Mutum and Yap (2019), and Canlas et al. (2021) have employed the VBN in studies on pro-environmental consumer behaviour.

When comparing the TPB to the VBN Theory (Table 1), it becomes evident that the former explains how individual intentions lead to specific actions. TPB posits that intentions are the best predictors of behaviour, and their strength depends on three components: **Attitudes** (evaluating the extent to which an individual perceives a behaviour as beneficial or detrimental), **Subjective Norms** (expectations from others and social pressure), and **Perceived Behavioural Control** (an individual's subjective assessment of their ability to perform a given behaviour).

The VBN Theory, on the other hand, is rooted in a rational approach. Behaviour stems from intentions determined by attitudes and a set of social norms, with intentions serving as an intermediary determinant of behaviour. This distinction underscores the broader applicability of the VBN framework, as evidenced by its use across a variety of studies, which may be of interest when exploring entrepreneurial approaches to consumer sustainability.

**Table 1. Comparison of VBN Theory and TPB Theory**

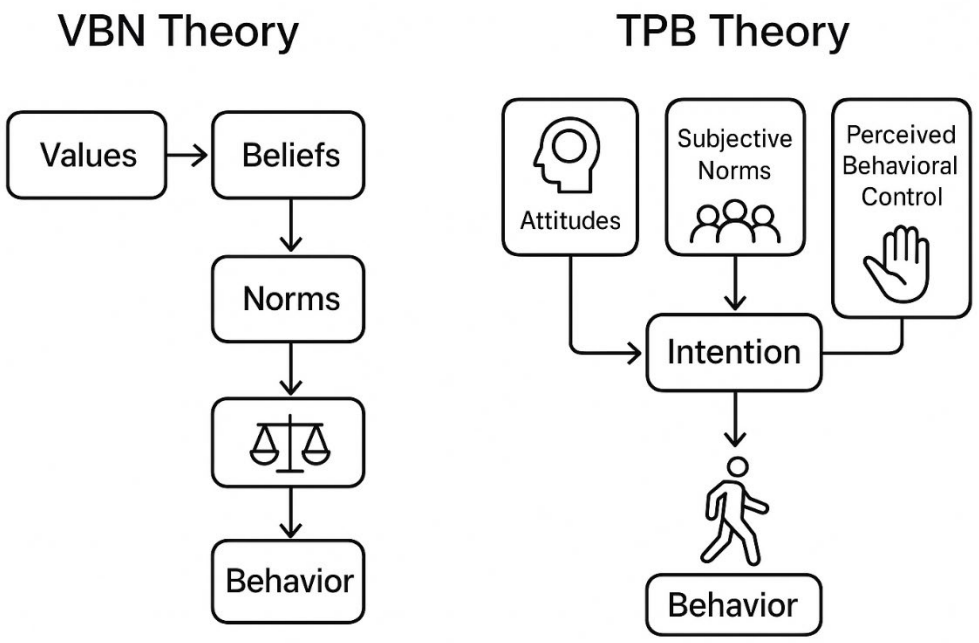
| Specification | Approach to Motivation | Role of values | Social Influence | Behaviour Predictor |
|---|---|---|---|---|
| **VBN Theory** | Emphasis on moral and normative foundations of behaviour (personal norms) | Values are a key element and foundation of behaviour | Lesser role of social pressure; greater focus on internal norms of the individual | Personal norms directly influence behaviour |
| **TPB THeory** | Based on a rational approach, where behaviour stems from intentions determined by attitudes, social norms, and control | Values are not explicitly considered; attitudes are the primary focus | Clear emphasis on the role of social norms and environmental influence on intentions | Behaviour is indirectly determined by intentions |

*Source: Ajzen 1991 ; Stern et al. 1999 ; Schultz & Zelezny (1999).*

Both theories find broad application in studying environmentally protective behaviours, such as energy conservation and public transportation use (TPB), as well as recycling, reducing consumption, and supporting pro-environmental policies (VBN).

In addition to these, a third research direction is also described in the literature, focusing on emotional (affective) factors shaping pro-environmental consumer behaviours.

This perspective is highlighted by Steg and Vlek (2009). However, this group of determinants is the least understood, making it difficult to identify a dominant theory. Studies examining the emotional factors influencing pro-environmental consumer behaviours include those by Carrus, Passafaro, and Bonnes (2008); Menzel (2013) and Maklan (2014).




It is worth emphasising that many researchers adopt a multi-faceted approach to investigating pro-environmental or, more broadly, sustainable behaviours (Onel and Mukherjee, 2015, p. 4). These researchers combine concepts, models, and variables from various theories, demonstrating that pro-environmental behaviours are simultaneously motivated by multiple factors of a diverse nature (Zrałek, 2018, p. 79). In this context, the approaches and research directions indicated by Steg and Vlek should be viewed as complementary.

The following subsections focus on the three main psychological pillars influencing consumer decision-making on green purchasing behaviour belonging to the aforementioned TBP, namely consumer attitudes towards the environment, subjective norms and perceived control of consumer behaviour. According to the research articles, these predictors have an impact on consumers' purchase intentions, which in turn influences their pro-environmental behaviour.

# *Psychological Pillars of the Theory*

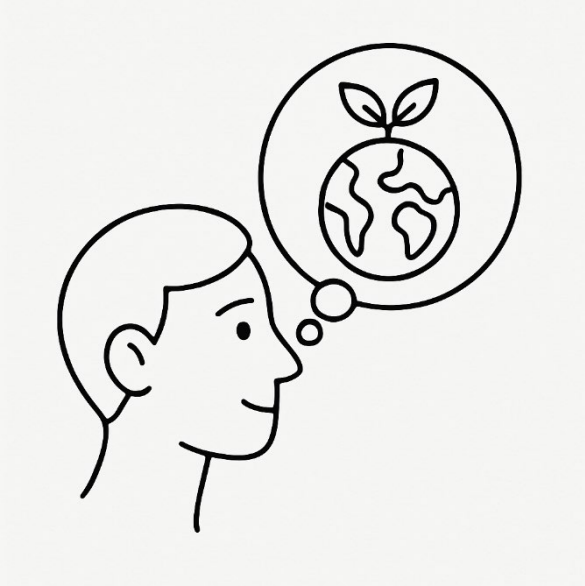
## *Attitudes towards the environment*

The first psychological pillar mentioned in the TPB is consumers' "attitude" towards the environment and green purchasing (Wulandari et al., 2015; Chen, 2017; Indriani et al., 2019).

Attitude is characterised as an internal feeling of favour or disfavour felt by a consumer towards an environmental product or the environment (Zhuang et al., 2021). It is one of the most important factors through which we can analyse consumer pro-environmental behaviour (Costa et al., 2021).

Consumers' pro-environmental attitudes are manifested in various ways such as consumers' recycling of products and consumption of green products (Choi & Johnson, 2019). Pro-environmental behaviour can be defined as behaviour towards the environment where an individual acts responsibly and considerately towards nature (Kukkonen et al.,, 2018).

According to Ham et al. (2015), in terms of attitudes, the consumer asks themself the question: "Do I want to perform the given behaviour?".



Costa et al. (2021) analysed whether consumers' attitudes are positively related to their intention to purchase green products. In the study, they also addressed the issue of consumers' past experiences of purchasing green products and their influence on environmental knowledge and attitudes towards purchasing green products.

Recognising that prior experience is not a new topic in the study of individuals' consumption behaviour, the authors linked

consumers' experiences of purchasing green products and the influence on their intention and attitudes to purchase green products. However, the result of the study showed that the previous experience of buying a green product did not affect the consumer's attitude or awareness of the environment (Costa et al., 2021).

Previous research on green product purchasing experiences and consumer attitudes towards the environment has been conducted by a number of other authors, such as Wang & Wu (2016), who found that green product purchasing experiences can both increase environmental awareness and influence consumption decisions in the future, which will contribute to sustainable consumption. Curvelo et al. (2019) then found that the experience of buying green products can contribute to improving consumers' attitudes towards green products, as consumers are then more likely to perceive the effectiveness of their environmental impact by preferring a green product over a traditional one. Cerri et al. (2018) also mention that consumers hold positive attitudes towards green sustainability if they believe that their actions have an impact on the environment.

Indriani, Rahayu & Hadiwidjojo (2019) in their study investigated the relationship between consumer attitudes towards green purchasing and environmental knowledge. Their research confirmed a positive relationship between the variables studied. The analysis of demographic and psychographic characteristics of consumers may contribute to more positive attitudes towards green purchasing. Demographic factors include age, gender, income, education, and marital status of consumers. Psychographic characteristics include consumers' environmental knowledge and awareness. Furthermore, consumers' beliefs that actions will help the environment or activism (Brochado et al., 2017).

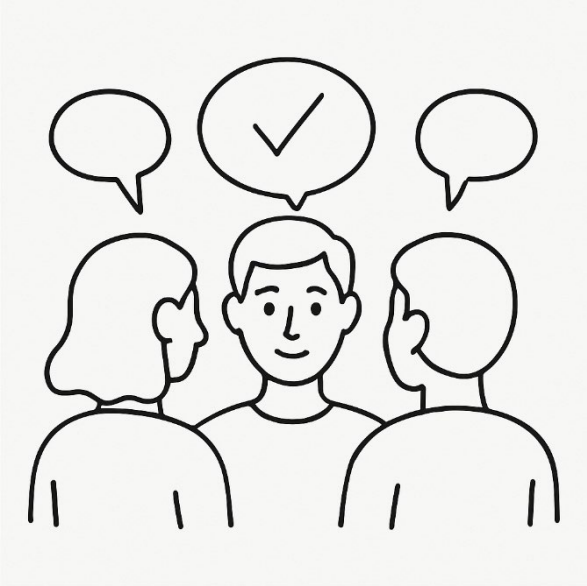
Sargin and *Akdoğan* (2022) point out that besides consumers' attitudes towards green purchasing, manufacturers of green products need to know other factors leading to consumers' consciousness to behave pro-environmentally.

This is because environmentally conscious consumers are concerned with information about the production of organic

products. Consumers are also interested in how the production process burdens the environment and whether the packaging of the products is made of environmentally friendly materials.

## *Subjective norms*

Another equally important pillar of the TPB that influences consumer decision-making on green purchasing behaviour is the 'subjective norm'. The term subjective norm is characterised as the social pressure on consumers (Yuriev et al., 2020). It is a belief that an important person or group of people endorse or support a certain type of behaviour through their actions (Izquierdo-Yusta et al., 2022).



Authors Ham et al. (2015) state that here the consumer is asking the question: "Do other people want me to perform the behaviour?". Thus, according to Aydin and Aydin (2022), subjective norms can be expressed as command norms within TPB.

Nie et al. (2021) mention that subjective norms are independent of attitudes, as a consumer may have a negative attitude towards a given behaviour, but if social pressure is exerted on them, their attitude may change.

In practice, this means that a consumer's intention to exhibit pro-environmental behaviour may be influenced by the views of close family members, friends, the community or, for example, government authorities. For example, if a close family member takes a favourable stance towards a given adoption of anti-pollution measures in a given area (such as water desalination), the consumer may perceive social pressure on themselves, and based on social pressure, they may behave in the same way as a close household member (Lili et al., 2022).

If we look at subjective norms from the perspective of environmental protection

and environmentally friendly behaviour, the subjective norm deals with the different opinions of individuals occurring around the consumer. If the social environment has a positive view and attitude towards consumers behaving in an environmentally friendly manner, this will positively affect and support their mindset towards environmental protection (Gansser & Reich, 2023).

## *Perceived behavioural control*

The third psychological pillar of TPB is the perceived control of consumer behaviour. Perceived consumer behavioural control reflects consumers' views on the convenience or, conversely, the difficulty of green purchasing behaviour (Zaremohzzabieh et al., 2021).

As early as Ajzen & Fishbein (1980), in their work on understanding consumer attitudes and predicting social behaviour, they mentioned that perceived behavioural control is an involuntary factor that predicts how consumers may perceive the ease or difficulty of performing a particular behaviour.

According to Ricci et al. (2018), perceived behavioural control refers to consumers' individual perceptions of their own ability to perform a given behaviour. Authors Ham et al. (2015) state that for perceived behavioural control, consumers ask themselves: "Do I have the necessary capabilities to perform the behaviour?".

According to Ricci et al. (2018), the question relates to the perceived ease or difficulty of implementing consumer behaviour. And it is the perceived consumer behaviour that may depend on both individual characteristics and external circumstances. Individual characteristics may include a difficulty to implement the behaviour because it may be too costly in

terms of physical effort, time or money. External circumstances include, for example, the availability of certain information about green products or, for example, the availability of green products in stores (Ricci et al., 2018).

Regarding the availability of organic products, a number of authors such as Sillani and Nassivera (2015) have found that if there is insufficient availability of organic products in stores, and this is also true for the food industry, consumers may be discouraged from buying organic products.

Subsequently, it is necessary to determine consumers' intention to make green purchases, which influences their pro-environmental behaviour (subsection 2.2).

### *Green purchasing intentions*

Consumers consider the outcomes of their actions (behaviour) in advance and only then decide to engage in a certain behaviour. Their decision leads to an action that aims to achieve the desired outcome of the pro-environmental behaviour. Consequently, consumers' pro-environmental behaviour is derived from their specific intention (Aydin & Aydin, 2022).

Consumers translate said intentions into actual behaviour when given the right opportunity. That is, if a consumer has a sufficient degree of control over their behaviour, then they are expected to realise their intentions the moment the opportunity arises (Ajzen, 1991; Chen, 2017).

And it is the psychological pillars of TPB (attitudes, subjective norms and perceived behavioural control) that lead to the formation of consumers' green purchase intentions, which in turn influence consumers' pro-environmental behaviour. "Intention" is defined as a consumer's intention to buy a green product, which

subsequently influences their pro-environmental behaviour (Zaremohzzabieh et al., 2021). In addition to psychological pillars, environmental concerns and consumers' willingness to pay a premium for green products can also influence their intentions (Prakash & Pathak, 2017).

Intentions are further divided into three basic categories, which are 'psychological factors', 'individual consumer characteristics' and 'social factors'. Psychological factors include cognitive factors (environmental knowledge, perceived behavioural control, risk perception etc.), consumer motivation and demand. Individual consumer characteristics include concern for the environment, lifestyle and attitudes towards the environment. The last category is social factors that influence consumer behaviour towards the environment, which includes subjective norms (social pressure from other people on the consumer) and collectivism. Collectivism emphasises mutual cooperation, harmony and dependence within a group or security within a family. The stronger the collectivism in a group, the more the group prioritises collective interests over the interests of individuals. Consumers are then willing to put their individual interests above the interests of the group (Zhao & Chen, 2008; Zhuang et al., 2021).

In general, the more favourable a consumers' attitude towards the environment or green purchasing, together with the subjective norm, the more likely it is that they will form an intention to perform a certain behaviour. Intentions will then lead to pro-environmental behaviour to the extent that consumers have some degree of control over their behaviour (Ajzen, 2016). TPB is known for its flexibility in terms of the predictors it examines.

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# 3 Sustainable consumption and pro-environmental behaviour

In recent years, the concept of sustainable consumption and pro-environmental behaviour has gained increasing importance across Europe, driven by environmental challenges, evolving consumer values, and international policy frameworks such as the Sustainable Development Goals (SDGs). Central and Eastern European countries, including the Czech Republic, Poland, and Slovakia, are actively engaging with these global imperatives. While united by geographic proximity and shared historical trajectories, these nations differ in their socio-economic development, market dynamics, and cultural approaches to sustainability. As a result, understanding the specific patterns of sustainable consumer behaviour within each of these countries provides valuable insights into the broader regional context of environmental responsibility.

This chapter presents a comparative analysis of sustainable consumption and pro-environmental behaviours in the Czech Republic, Poland, and Slovakia, based on recent empirical research and literature. It explores how consumers in these countries engage with environmentally conscious practices, the factors shaping their behaviours, and the role of public institutions, retail chains, and individual motivations in supporting sustainable development. By identifying similarities and differences among these three national contexts, the analysis contributes to a deeper understanding of consumer-driven environmental change in Central Europe and offers practical implications for policy-makers, businesses, and educators seeking to promote sustainable consumption.

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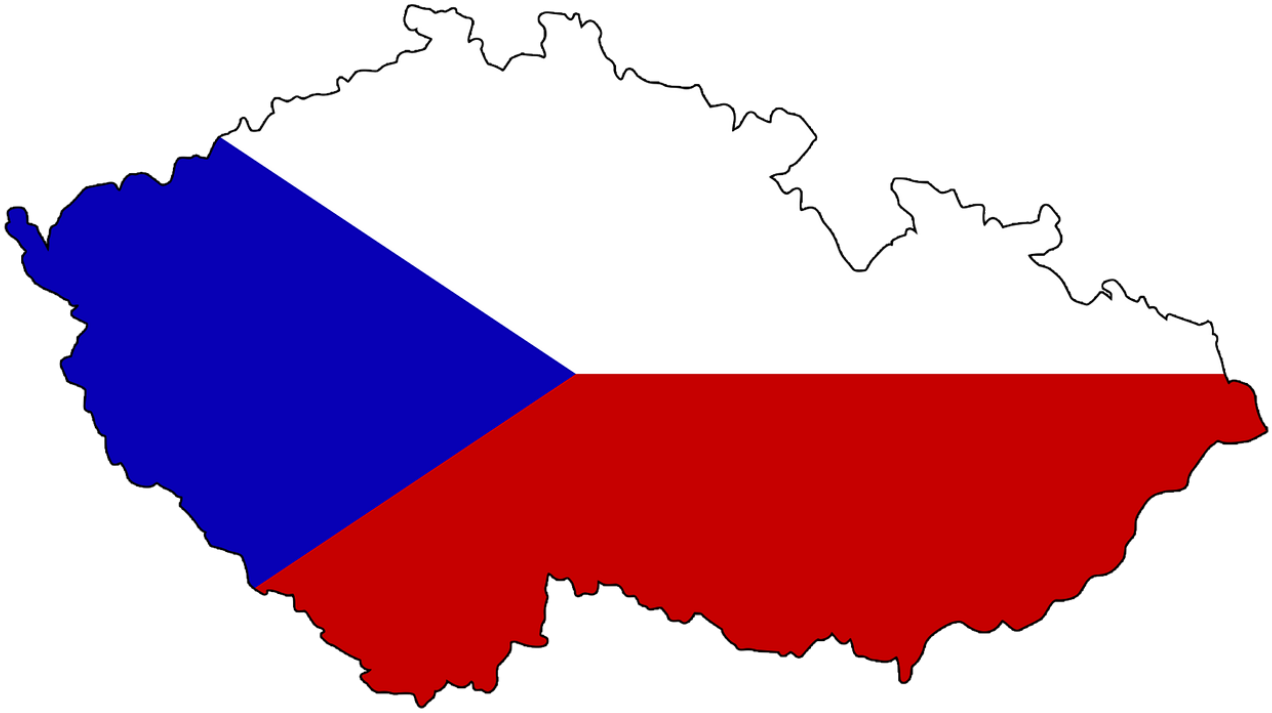
## 3.1 Sustainable consumption and pro-environmental behaviour in the Czech Republic



Pro-environmental behaviour in the Czech Republic is shaped by various factors, including household consumption patterns, the influence of education and socio-demographic characteristics. Research shows that households contribute significantly to environmental problems and are responsible for 30-40 % of problems such as pollution and resource depletion (Prášilová et al., 2015).

Green shopping is also part of sustainable development. The Ministry of Environment of the Czech Republic is also trying to look for alternatives to conventional products in public procurement. One alternative is, for example, the use of plastics for noise barriers. It is trying to motivate private and public enterprises to favour green products that have the least impact on the environment.

They also encourage them to produce products that are less energy intensive, with the smallest possible carbon footprint and the highest possible waste recyclability.

If companies meet these conditions, they can have an eco-label on their products, which guarantees that the product is environmentally friendly. The Czech Republic must recycle or materially recover 60 % of municipal waste by 2030. This is also the case in other EU countries (MZP, 2020).

One of the goals of green purchasing is to reduce the amount of waste produced. Disposable products or packaging, such as food and beverage packaging, account for a significant proportion of global plastic waste.

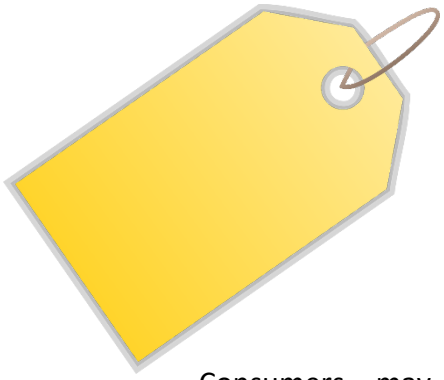
Often, waste sorting and recycling is only talked about in a positive sense, but unfortunately the use of recycling and disposal of this waste also has a significant impact on the pollution of the Earth. Therefore, as little unnecessary waste as possible should be produced (Lee et al., 2024). The average waste produced in the European Union was 4991 kg per capita in 2022. The country that was the record holder, but not in a good way, was Finland with 19,950 kg per capita. Latvia, on the other hand, produced the least waste: 1330 kg per person.

The Czech Republic ranks slightly below average in this respect, with 3,672 kg per person. In 2023, according to the CSO (2023), the amount of waste produced in the Czech Republic will slightly decrease to 3,489 kg per person. Waste sorting and recycling is often talked about in a positive sense, but unfortunately recycling processes and disposal of this waste also has a significant impact on the pollution of the Earth.Therefore, as little unnecessary waste as possible should be produced.

There are many alternatives that can reduce waste production. One of the big trends in this direction is packaging-free shopping. There are stores that offer packaging-free shopping where the customer scoops the products into their own bag or container.

There are also various alternatives to products that generate large amounts of waste. These include disposable bags in stores, which can easily be replaced with reusable cloth bags, or food wrapping which can be replaced with wax paper (BajaBee.cz, 2025). However, a lot of waste can be saved not only in the kitchen environment but also in cleaning products, for example Dm.cz (2025), offers filling stations at its branches that contain dishwashing gel, all-purpose cleaner, washing gel or dish soap. One only buys a container for a specific detergent for the first time and then goes to refill the liquid with the same container.

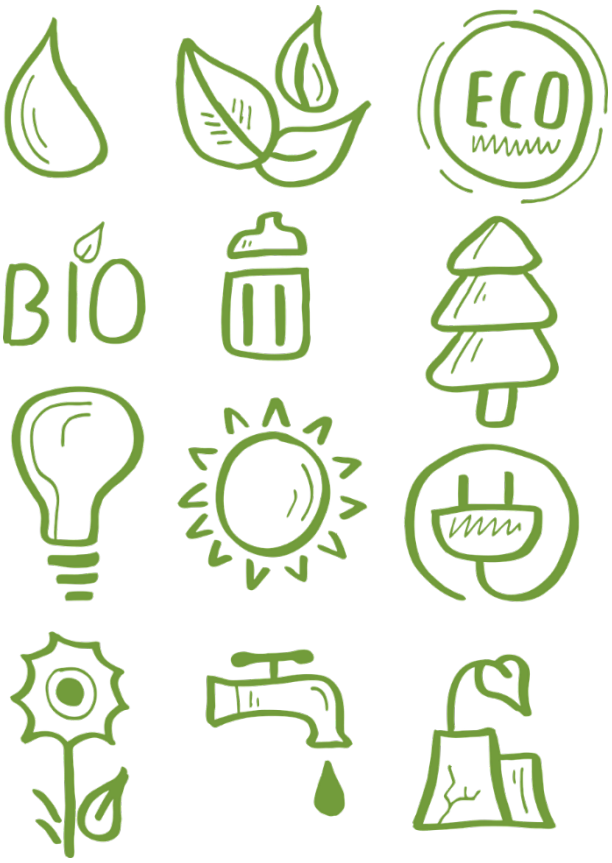
Manufacturers are also responding to the trend towards green shopping. It is often possible to see eco-friendly packaging that is more recyclable. There is also a lot of use of various certifications for which strict conditions have to be met. Among the very well-known certifications are, for example, ECO LABEL (Ecolabel.cz, 2025). Also very well-known are also the FAIR TRADE certifications, which, besides being environmentally friendly, also deal with respect for human rights and the prohibition of child labour (Fairtrade.cz, 2025). However, not all companies can achieve these certifications for a clear reason; they must meet strict conditions. However, some companies try to solve this by putting a logo on their label that is strikingly reminiscent of a particular certification. This is then called green labelling (Edevizy.cz, 2025).



Consumers may also encounter greenwashing, where manufacturers call their product organic, eco-friendly, natural or organic, but often this is more than a little far from reality (Edevizy.cz, 2025). The problem is that unless the consumer in question is more interested

in the topic, they have no chance of recognising green labelling or greenwashing.

Many people in the Czech Republic are interested in sustainability. Sustainability has become an important factor influencing consumers' intentions to buy organic products.




As consumers recognise the importance of sustainability, they are more likely to choose products that match their values, highlighting the need for businesses to adopt green marketing strategies. According to Ipsos, 15 % of Czechs are sustainability enthusiasts who are happy to pay more money for an eco-friendly product and adapt their behaviour to be as sustainable as possible. 87 % of the population would like to behave sustainably, but most are not willing to change their behaviour or pay more money (Ipsos.com, 2023).

According to a study by Jánská et al. (2025), it can be concluded that people who want to buy organic products for their own use are mostly willing to pay a 10 % premium for organic products, are influenced by the positive opinion of a close friend and buy organic products because they care about the environment. People who care about the environment but are not influenced by the positive opinion of close friends when buying organic products, or people who buy organic products not because they care about the environment but because of the positive opinion of close friends, are usually willing to pay a premium of 5-10 %. People who do not care about the environment or are not influenced by the positive opinion of close friends and do not consider buying organic products to be a good idea are those who will pay a premium of up to 5 % for organic products.

The research conducted by Zámková (2024) shows that brand recognition increases significantly as the net monthly household income of consumers increases. Organic food

is still significantly more expensive in the Czech Republic compared to conventional food (e.g. compared to Western European countries), so it is preferred by customers with higher incomes, also for economic reasons.

These customers are also often better educated and have better access to information. These consumers are often more interested in health and healthy lifestyles, are more educated and knowledgeable about organic products and are more willing to eat healthier foods. Zagata (2012), who studied the Czech market, also found that consumers perceive organic food as 'chemical-free' with health benefits, which is confirmed by research by Soroka et al. (2021).

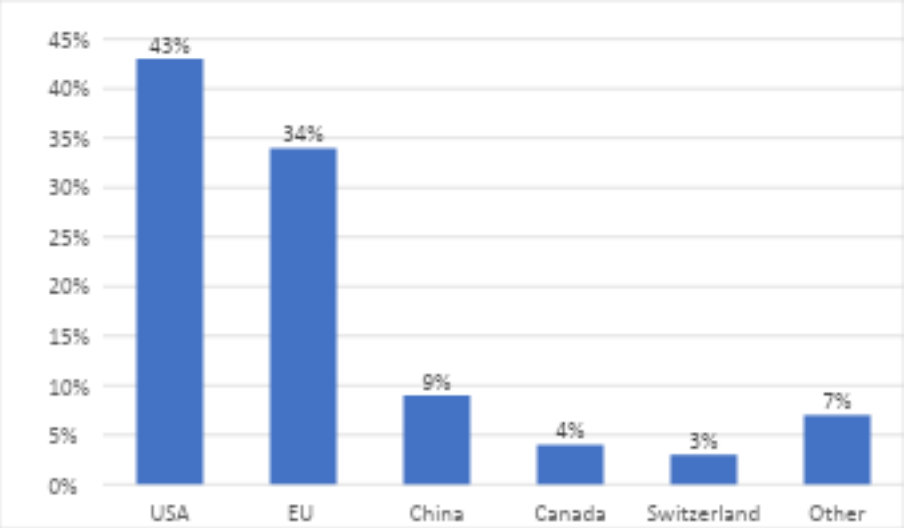
Zámková and Prokop (2014) focused their research on green purchasing behaviour in the Czech and Slovak Republics; their research shows that the attitudes of Czechs and Slovaks in this area are very similar. According to the data of ÚZEI (2024), Czech consumers in 2022 preferred retail chains (supermarkets and hypermarkets) when buying organic food; more precisely, retail chains represent 34 % of the methods used for buying organic food in the Czech Republic.

The most frequently purchased category of organic food is other processed food with a share of 36 %; this category is mainly composed of other processed organic food, coffee and tea, ready meals, baby food and also food supplements (ÚZEI, 2024). Fruits and vegetables follow in frequency of purchases with a 21 % share, followed by milk and dairy products with a 17 % share (ÚZEI, 2024).

The USA currently has the largest share of the global organic food market (43 %), followed by the European Union (34%), with the shares of other countries shown in Figure 1. In Europe, Germany (29%) and France (23%) are the largest organic food markets (ÚZEI, 2024). In their publication, Zámková and colleagues (2021) highlight the growing

market for organic food in the Czech Republic, which according to the authors was less important in the first decade of the 20th century, but in 2019 its value reached CZK 3.33 billion. According to the authors, there was a positive shift in consumer purchasing preferences for organic products in the Czech Republic between 2016 and 2019 (Zámková et al., 2021).

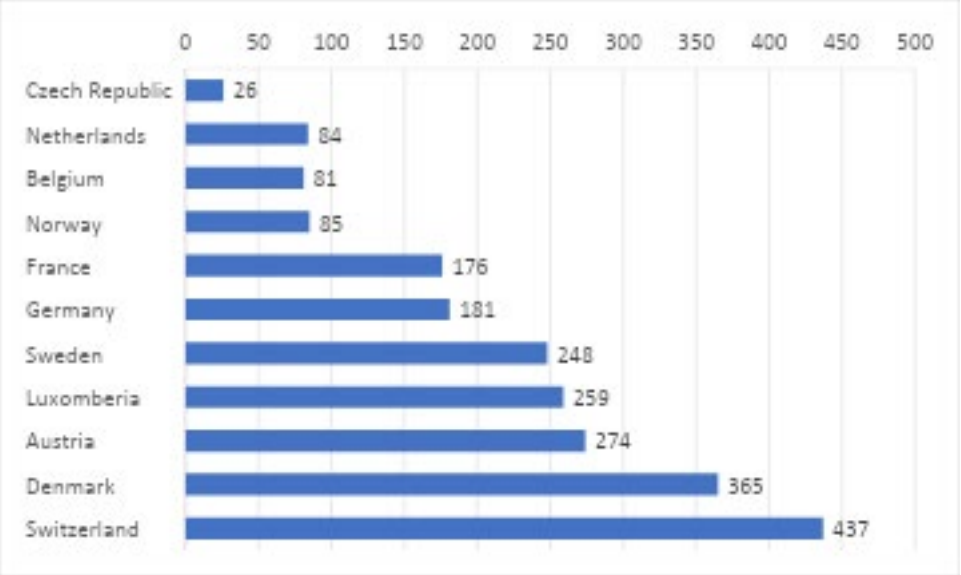
**Figure 1: Share of the world market for organic food**




*Source: ÚZEI, 2024*

ÚZEI (2024) reports that the average amount spent by consumers on the purchase of organic food in Europe in 2022 was €64 per capita, compared to €102 per capita in the European Union. In the Czech Republic, per capita consumption in 2020 was 642 CZK (€26) . Figure 2 shows a comparison of the per capita consumption in 2022 of the Czech Republic and the European countries with the highest per capita consumption (ÚZEI, 2024).

**Figure 2: Per capita consumption in 2022**




*Source: ÚZEI, 2024*

The consumption of organic food in the Czech Republic is growing; the year-on-year increase in 2021 was negatively affected by the coronavirus pandemic (COVID-19). In 2022, there was a 12.9% year-on-year increase compared to 2021.This is also confirmed by the authors Zámková et al. (2021), who report that the share of Czech consumers who have never bought organic food was about 20% in 2019, while in 2016 it was around 40%.

The share of organic products in the total consumption of organic food and beverages ranged from 0.65% to 0.72% between 2011 and 2014, after which growth started to accelerate, with the largest increase (0.26 p.p.) recorded between 2017 and 2018 (ÚZEI, 2024). In 2022, the share of organic food in total food and beverage consumption was 1.65% (ÚZEI, 2022); this can be considered positive due to the growth of organic food consumption, but the indicator is very low given the mentioned importance of increasing the consumption of organic products.

The organic food market in Europe has been experiencing growth in recent years, with most of the production being export-oriented (Vapa-Tankosić et al., 2018). According to the authors, the Czech Republic and Poland are among the countries with the fastest growing organic food markets; in the Czech Republic, the market grew four times between 2006 and 2010, while in Poland it grew five times. On the contrary, a slower development of the organic food market is observed in countries such as Bulgaria and Romania; these studies cite the low purchasing power of the population and the price differences between conventional and organic products as the main barriers to the consumption of organic food.

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## 3.2 Sustainable consumption and pro-environmental behaviour in POLAND

The outbreak of the COVID-19 pandemic made many consumers aware of, and reaffirmed for many, the necessity of adopting sustainable behaviours, especially pro-ecological ones. In studies conducted in Poland, half of the respondents believed that environmental degradation caused by irresponsible human activities was more than 40 % responsible for the outbreak of the pandemic (Maciejewski, 2023). Although these are often inexpensive and effortless choices (saving water, reducing electricity consumption, avoiding food waste, recycling), they should be promoted primarily as a starting point for more advanced educational campaigns (Bronfman et al., 2015). Similar conclusions are drawn by Kostadinova (2016), who notes that a lasting impact on consumer attitudes and behaviours can only be achieved by expanding the circle of so-called green consumers. On the other hand, in emerging economies (e.g., The Czech Republic, Poland, Slovakia), ecological behaviours of consumers are often limited by the high price of environmentally and socially friendly products (Carrete et al., 2012).

Ecologisation of consumer behaviours manifests not only in purchasing and consuming ecological products but also in the economical, rational use of consumer goods and shifting from ego-rationality to eco-rationality (Sobocińska, 2021). Environmentally friendly attitudes are characterised by reducing or eliminating the consumption of goods that have high non-renewable resource demands and purchasing products that do not generate a large amount of post-consumption waste, as well as segregating waste and reusing it. Furthermore, actions undertaken by consumers to deepen their knowledge of environmental protection or engage in ecological movements are part of the trend known as the ecologisation of consumer behaviours (Freestone & McGoldrick, 2008).

Pro-environmental consumer behaviour is the core of sustainable consumption (Kramer 2011, p. 7), which does not directly mean consuming less but consuming in a different, more efficient way that leads to an improved quality of life. It can be assumed that a sustainable level of consumption is one where goods and services are consumed sufficiently to meet basic needs and achieve a higher quality of life while minimising the use of natural resources and environmentally harmful materials produced at all stages of production. This is done without limiting future generations' rights to such consumption (Jastrzębska-Smolga 2000, p. 73; Janoś-Kresło 2006, p. 77; Małysa-Kaleta 2018, p. 87).

The concept of sustainable consumption encompasses meeting basic human needs and prioritising quality of life over material conditions. It involves minimising resource use, waste production, and pollution, considering product life cycles (their environmental impact during production and disposal), and taking actions with future generations in mind (Małysa-Kaleta 2018, p. 87). Sustainable consumption is characterised by durability, balance, and self-sustainability (Kryk, 2011, p. 210). Therefore, sustainable consumption involves seeking ways and directions to meet needs that can serve as a lasting principle over many

generations, without undermining the prospects for prosperity for any of them (Tarapata, 2015).

In discussions on sustainable consumption, voluntary simplicity, also known as minimalism or downshifting (Wilczak 2016; Mysona-Byrska 2021), is worth mentioning. It refers to reducing material consumption to free up financial resources and time, and seeking satisfaction through the non-material aspects of life. Practices such as repairing and upgrading used items, self-sufficiency (e.g., making preserves, sewing clothes), buying second-hand goods, bartering, and sharing items (the sharing economy) fall under resource-efficient usage. Waste management includes waste segregation and the use of eco-friendly packaging, while sustainable purchasing involves buying energy-efficient and eco-friendly products (Zrałek 2018, pp. 104-105).

Sustainable consumption can only be achieved if consumers make choices that consider others' needs and environmental protection. Therefore, the UN's adoption of the Sustainable Development Goals (SDGs) on 25th September 2015, aimed to "stimulate actions in areas of critical importance for humanity and the planet over the next 15 years" (UN 2015, p. 1). The SDGs sought to eradicate poverty in all its forms and dimensions, promote peace under conditions of greater freedom, ensure equality for all and respect for their rights, and restore and secure the Earth's significantly strained ecosystem. The goals and their associated tasks are considered indivisible and interdependent, ensuring a balance among the three aspects of sustainable development: economic, social, and environmental.

Numerous studies by institutions (e.g., OECD 2017; WHO 2017; World Bank 2017; CSR Consulting and BNP Paribas 2022) and researchers (e.g., Easterly 2015; Sachs et al. 2017; Schmidt-Traub et al. 2017; Bali Swain and Yang-Wallentin 2020) have examined achieving the SDGs through conventional methods and strategies, as well as through innovative solutions like artificial intelligence (Vinuesa et al. 2020). Forecasts based on these studies are not optimistic. Mayer and Hedden argue that by 2030, with current political priorities, the world will make only limited progress toward the SDGs. Their research shows that of the analysed variables related to sustainable development (9 indicators for 186 countries, totalling 1,674 national indicators), 43,2 % of the target values were achieved by 2015. They predict that by 2030, only 53,8 % of national variables will reach their target values, with even lower values in African countries (Mayer & Hedden 2020). Therefore, decisive action is required at political, business, and individual levels.

Research on awareness of the Sustainable Development Goals (SDGs) and sustainable behaviours among consumers is relatively rare and fragmented. A significant summary of studies on sustainable behaviours undertaken by consumers over the past 20 years, along with the factors determining such behaviours, is presented by Trudel (2019). The author described four

areas of scientific research that have dominated research agendas: (1) cognitive barriers, (2) self-concept, (3) social influence, and (4) product attributes. On the other hand, the impact of the idea of sustainable development on the diversity of consumer behaviours was studied by G. Maciejewski's team (Maciejewski, 2020; Maciejewski et al., 2021). These studies revealed, among other findings, that the most commonly adopted sustainable behaviours by consumers include

avoiding overconsumption (Kemp et al., 2013; de Ridder & Gillebaart, 2022), caring about healthy eating, and sorting and recycling waste. However, educating consumers and shaping their sustainable behaviours should primarily focus on the efficient use of electricity, natural gas, and water resources. The attitudes towards sustainable development and the sustainable behaviours of young people from Generation Z (18–24 years old) and Generation Y (25–39 years old) were studied by T. Zalega (2019). His analyses showed that young people most often engage in pro-environmental behaviours as part of sustainable actions. Characteristics such as gender, age, disposable monthly income, and place of residence significantly influence the propensity for sustainable behaviours.

This was confirmed by subsequent studies on Polish consumers published by the same author in 2024 (Zalega, 2024).

A comprehensive study on the challenges of sustainable consumption was presented by J. Zrałek, who developed a model illustrating the impact of perceived difficulty and effectiveness of sustainable behaviours on their occurrence (Zrałek, 2018). The transfer of sustainable consumption behaviours from the workplace to private life was studied by A. Gadeikienė's team (2019), highlighting that these behaviours often concentrate on specific domains, such as water and energy. Moreover, research has shown that the workplace can act as a stimulating factor, either encouraging or discouraging sustainable behaviours both at work and in private life. The literature also includes research on awareness and knowledge of the Sustainable Development Goals in specific communities. Examples include studies of university communities in Nigeria (Omisore Akinlolu et al., 2017) and Italy (Smaniotto et al., 2020). Research in Nigeria demonstrated that despite positive attitudes toward the SDGs, knowledge about them is very low, and without changes in educational curricula, it is unlikely that the idea of sustainable development will be widely implemented.

Interestingly, the level of knowledge among Italian students regarding sustainable development was also very low, despite their high interest in the SDGs and their declared positive attitudes toward the concept of sustainable development. Therefore, regardless of whether the research pertains to communities in developing countries or those from the world's largest economies (Baker, 2017), without adequate promotion of the merits of sustainable development and the inclusion of related information in educational curricula, achieving the set goals by the target year of 2030 will be challenging.

A more detailed discussion is warranted for the research on sustainable behaviours of Polish consumers conducted by G. Maciejewski (2023a). This study was carried out among registered participants of the nationwide Ariadna Research Panel. The socio-demographic profile of individuals registered in the panel corresponds to the profile of Polish internet users (Ariadna, 2022). From the panel's 300,000 members, a random sample was drawn. The sample size was determined to be 1,067 units, as at a 95 % confidence level and a fraction size of 0.5, the maximum margin of error is 3 %. A margin of error of 3 % is considered acceptable in social research. As a result of the study, 1,045 fully and correctly completed questionnaires were obtained and qualified for further analysis.

Polish consumers largely strive to engage in sustainable behaviours, which are primarily focused on their households and most often take place there.

They make efforts not to waste purchased food and ensure that waste is sorted and recycled. The respondents consider the state of the natural environment they live in important, which motivates them to avoid polluting it. A high percentage of positive responses was also observed for actions aimed at conserving water, electricity, and gas. Additionally, noteworthy are the respondents' declarations of deconsumption behaviours, involving reducing consumption by making thoughtful purchases of goods and services that are genuinely needed. However, the least frequently undertaken sustainable behaviours include those requiring personal involvement in others' issues, such as time,

energy, or resources. These behaviours include participation in various social aid initiatives, involvement in organisations supporting sustainable development goals, volunteering, or helping others (Maciejewski, 2023a, pp. 53-54).

The cited research findings also yield interesting insights when analysed based on the socio-demographic characteristics of respondents, such as gender, age, and place of residence. Sustainable behaviours were declared significantly more often by women than men across all 18 types of behaviours surveyed. Typically, these differences did not exceed 10 percentage points; however, in some cases, they were notably more pronounced. Key examples include donating still-usable but unnecessary items to aid organizations (57% of women vs. 32% of men), buying second-hand clothes and other goods (31% of women vs. 15% of men), and financially supporting aid organizations (47% of women vs. 32% of men).

Regarding age, it is evident that sustainable behaviours such as resource conservation, waste sorting, environmental cleanliness, deconsumption, and support for environmentally-conscious individuals, companies, and organisations tend to develop with age. Younger generations, however, are more frequently involved in activities requiring greater personal time and energy. These include participation in organisations supporting sustainable development goals, volunteering, helping others, social initiatives like holiday gift drives, and actions for environmental protection. Relatively minor differences in declared sustainable behaviours were observed based on respondents' place of residence, which is itself a significant finding (Maciejewski, 2023a, p. 56).

Consumer research conducted in Poland before and during the COVID-19 pandemic captured changes in their behaviours, including pro-environmental behaviours (Maciejewski, 2023b).

The most frequently mentioned changes in behaviour among Polish consumers resulting from the COVID-19 pandemic primarily included forced limitations on previous activities (such as

visits to cultural institutions, cafes, restaurants, or other service and retail establishments) and the necessity to shift many of these activities from the physical to the virtual sphere (remote learning, remote work, online shopping, and virtual meetings with others).

Additionally, the fear of infection and uncertainty about the future accompanying the pandemic led respondents to place greater emphasis on health and hygiene, as well as to reduce consumption from future income.

Findings from 2022 confirmed the continued presence of these behaviours compared to 2020. However, their scale was noticeably smaller. Polish consumers expressed a desire to return to "normalcy", aiming to resume the lifestyle they had before the pandemic by first abandoning all restrictions imposed during that period. In the longer term, after a pandemic has entirely subsided, a significant return to pre-pandemic consumerism can be expected, particularly among high-income households from Generation X and Baby Boomers (BB).

Not all forms of behaviour appear to be returning to those seen before 2020. For example, IT skills acquired or developed during the pandemic, along with the convenience of performing many tasks remotely, seem to contribute to the persistence of behaviours such as online shopping or handling various matters remotely (e.g., administrative tasks). These may represent a lasting change in consumer behaviour. Hopefully, the continued growth of pro-environmental consumer behaviours—such as paying attention to environmental protection, showing greater care for the natural environment, using limited natural resources more rationally, or striving to reduce post-consumption waste, particularly food waste—will also prove to be a lasting change. The research results obtained provide grounds for such optimism. This is especially likely among Generation Z consumers. A rationalisation and restructuring of consumption in this group, along with a shift toward pro-environmental behavioural trends such as eco-consumption, collaborative consumption, or consumption virtualisation (especially social commerce, social offering, and social shopping), are

expected, as noted by T. Zalega (2022). These observations are also confirmed by the findings of other authors on the topic (e.g., Mróz, 2021; Chlipała & Żbikowska, 2022).

The COVID-19 pandemic was a significant shock to Polish society as a whole (Dąbrowska & Janoś-Kresło, 2022). Over time, this shock diminished, and consumers began employing various coping strategies to mitigate the risk of virus infection. These strategies took the form of both active behaviours (e.g., increased attention to hygiene, remote learning, remote work, and online shopping) and passive ones (e.g., limiting visits to cultural institutions, restaurants, and retail establishments). The pandemic altered the lifestyles of many consumers. Interesting research on Polish consumer behaviour was published in September 2024 (Kucharska et al., 2024). This study confirmed previous observations while also shedding light on emerging changes in consumer behaviour. The quantitative research involved a sample of 1,100 Polish residents—consumers who were surveyed about their behaviours and attitudes in response to the COVID-19 pandemic. To clarify the results and explore the durability of pandemic-induced changes, qualitative research was also conducted among 14 experts, including academics and business practitioners.

The needs of Polish consumers during the COVID-19 pandemic were not fully met. They rated areas such as food, housing, education, and spending time with loved ones most favourably. Conversely, the needs served by the sectors hardest hit by the crisis—healthcare, tourism, and culture—were relatively the least satisfied. This resulted in a deterioration of mental and physical well-being, worsening financial situations, and, in some cases, permanent health decline. However, due to widespread restrictions, businesses sought to address the gaps and deficiencies caused by the crisis. Consequently, numerous technological and organisational innovations were introduced to facilitate the purchase of goods and access to services, as well as to enhance consumer

satisfaction during this challenging time. Polish consumers identified several positive outcomes of these solutions, including the ability to handle most matters without leaving home, access to telehealth consultations and remote prescriptions, cost savings, time savings, and the possibility of remote work or education.

The research also established that these changes in consumption were not only enduring but occurred at an unprecedented pace. The pandemic served as a powerful catalyst, even a gateway into the cyber world. While there were concerns about whether these solutions definitively improved and will continue to improve people's quality of life, such opinions aimed to balance the positive and negative impacts of the health crisis, which undoubtedly took a significant toll on societal mental health. Nevertheless, the adaptive measures sought to minimise losses. Thus, the pandemic can be considered a unique catalyst for innovative solutions that contribute to improving the standard and quality of life for consumers (Kucharska et al., 2024).

During the COVID-19 pandemic, consumers had to adapt to the surrounding conditions. They focused primarily on improving their skills, striving to save their income, but interestingly, they also pointed to an increased importance of travel. This can likely be attributed to the experience of being confined at home and the sense of missing opportunities to visit new places and explore different cultures. Some solutions and measures implemented during the pandemic have remained with Polish consumers afterward. Respondents reported taking better care of their health and hygiene, shopping online more frequently, and prioritising remote activities. They also consider themselves more environmentally responsible and economically rational, particularly when it comes to purchases made on instalments or credit. Noteworthy are opinions regarding the inevitability of the changes that occurred during the pandemic. Many respondents suggested that these changes would have emerged anyway, but certainly not at the pace made possible by

the pandemic's circumstances. While such rapid innovation might have been unachievable in a pre-pandemic world, it became necessary under the conditions imposed by the crisis. These innovative measures can thus be viewed as elements of a strategy for managing the unexpected challenges of the pandemic (Kucharska et al., 2024).

A typology of Polish consumers developed by G. Maciejewski's research team can serve as a summary of the discussion on sustainable consumption and pro-environmental behaviours among Polish consumers. The foundation of this typology was a set of 18 diagnostic variables reflecting the attitudes of the surveyed consumers toward sustainable development and sustainable consumption (Maciejewski et al., 2021, p. 942).

As a result of the cluster analysis, four relatively homogeneous types of consumers were identified based on their attitudes toward sustainable development, including sustainable consumption. The sizes of these types (number of observations in each type) along with their names are presented in Table 1.

**Table 1. Types of consumers by behaviour in the conditions of sustainable development and consumption (N = 1,045)**

| Type | Name | No. of observations | % of observations |
|---|---|---|---|
| **I** | Apologists | 315 | 30.1 |
| **II** | Hedonists | 84 | 8.1 |
| **III** | Active when necessary | 386 | 36.9 |
| **IV** | Moderately involved | 260 | 24.9 |
| Significant | | 1.045 | 100.0 |
| Limitations | | 0 | 0.0 |

*Source: Maciejewski et al., 2021, p. 941*.

The first group identified (type I) included consumers who, among the distinguished groups, most often declared behaviours supporting the idea of sustainable development and sustainable consumption (although the level of this support varies). Almost every respondent in this group declares saving resources (water, gas, energy), protecting the environment, sorting waste and taking care of recycling. People from the first cluster also try not to waste food and limit its consumption. They are also the most generous of all types of consumers to those in need. Not only do they declare financial support for them, but also nearly 90 % vote in elections for persons and political parties whose programmes support the vulnerable, the poor, or are concerned about the natural environment – (Maciejewski et al., 2021). Type I consumers could therefore be described as "apologists of sustainable development and sustainable consumption." In the collected sample, they constitute the second largest group of respondents (30.1 %) – Table 1.

On the other hand, consumers who belong to the second group (type II) could be assigned to the other end of the spectrum. In contrast to apologists, this type of consumer least frequently gets involved in activities aimed at achieving the goals of sustainable development and reducing excessive consumption. They also do not engage in any aid actions, nor do they belong to organisations working for the protection of the environment or supporting the vulnerable and the poor – (Maciejewski et al., 2021). They seem to be indifferent to the fate of other people and the entire planet. Hedonists focused on themselves, as we could call this type of consumer, constitute the least numerous group of respondents (8.1 %) – Table 1.

Type III consumers on the commitment and sustainability axis are at the centre. In the case of all variables analysed, they most often gave the answers "from time to time" among the identified types of consumers (Maciejewski et al., 2021). Therefore, these consumers are not opposed to sustainable development and

limiting excessive consumption, but for various reasons, they are not always involved in activities aimed at environmental protection and deconsumption. In the sample studied, consumers from cluster III constitute the most numerous group of respondents (36,9 %) – Table 1. They could be described as "active when necessary."

The last of the identified types of consumers is the third largest group of respondents. Every fourth respondent belongs to it (Table 1). They engage in activities aimed at sustainable development and consumption much more often than hedonists and are active when necessary, but clearly less often than apologists – it is especially visible where personal involvement is required of them: volunteering and helping other people, social campaigns such as "Christmas Package", participation in organisations concerned about environmental protection and supporting the goals of sustainable development. Clearly less often than apologists, they support various types of aid organisations with cash donations, or vote for people, political parties that declare support for the vulnerable and the poor, or care about the natural environment. On the other hand, at almost the same level as apologists, they take care of recycling and sort waste, try not to waste food, don't litter the environment, and save resources (Maciejewski et al., 2021). Type IV consumers could be described as "moderately involved in the idea of sustainable development and sustainable consumption".

The respondents classified as different types of consumers can be described more clearly thanks to their demographic and social characteristics (Maciejewski et al., 2021). So, apologists are more often women than men. They are people from generation X, i.e., now 40-59 years old, declaring a good or very good financial situation and having higher education. Hedonists, on the other hand, are much more often men than women,

millennials, usually representing 4 households, living in rural areas and small towns up to 50,000 residents. Among those who are active when necessary are most often the youngest respondents – people of generation Z – as well as respondents declaring an unsatisfactory financial situation and living in medium-sized cities (from 50,000 to 200,000 inhabitants), among all the identified types. Active when necessary describes respondents who are more often people with a lower level of education, representing households of 5 or more persons, than people clustered in other consumer groups. On the other hand, those who are moderately involved are more often the oldest respondents, representing the Baby Boomer generation, than people associated with other types of consumers. Perhaps, therefore, this characteristic should be seen as the reason for engaging in activities for sustainable development and sustainable consumption only in situations of great importance? The moderately involved are also people who represent smaller households (one, two or three persons), living in the largest cities, with more than 200,000 inhabitants (Maciejewski et al., 2021).

The presented review of literature and the findings of research on Polish consumers highlights the need for comprehensive studies on the awareness, knowledge, and acceptance of the concept of sustainable development, sustainable consumption, and pro-environmental behaviours among individuals and societies. Only by identifying information deficits can effective informational and educational campaigns be conducted. The first step toward achieving this goal is awareness of its existence, followed by its acceptance. It is only when people recognise the concept of sustainable development as valid that the widespread adoption of sustainable behaviours by individuals can be expected, ultimately leading to the achievement of sustainable development goals. However, this will be a long-term process, requiring individuals to develop new behaviour patterns (Maciejewski & Lesznik, 2022)

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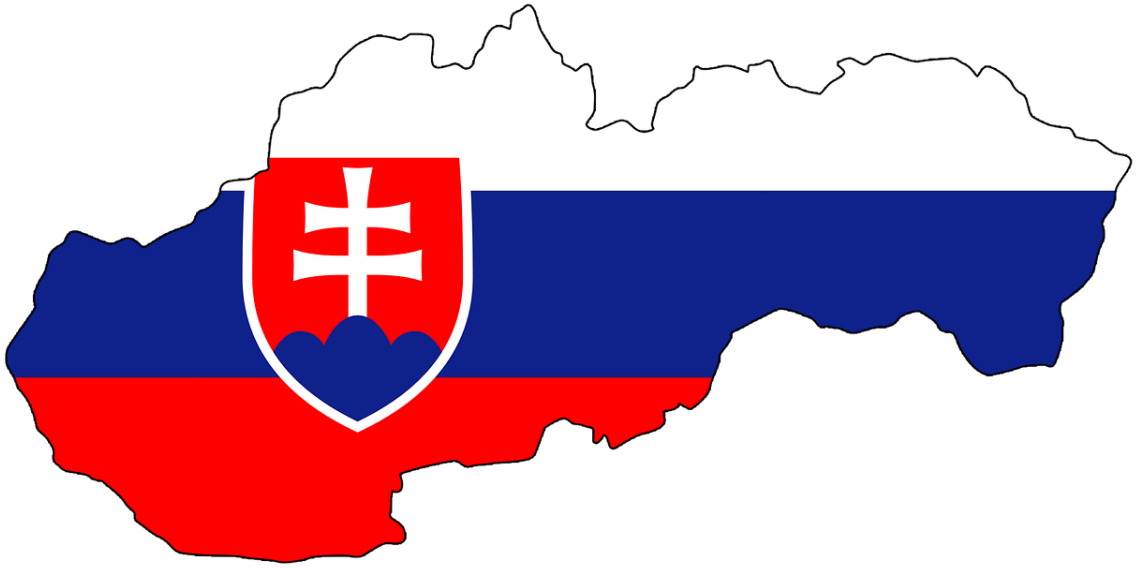
## 3.3 Sustainable consumption and pro-environmental behaviour in Slovakia



Marketers in the consumer products market, but especially in the food market, research and analyse various issues related to health, lifestyle or quality. Although nowadays their attention is increasingly turning to new approaches to investigate consumer behaviour in the context of sustainable development, there is no lack of studies on the transformations of traditional types of consumer behaviour in terms of consumer typologies (Križan, et al. 2020 b, Ozimek et al. 2023) reflecting attitudes towards the environment. It is this part of the publication that is devoted to one of the most recent streams of research in Slovakia, namely the characteristics of the pro-environmental purchasing behaviour of Slovaks. The first thing to notice is that it is the pro-environmental consumer behaviour that is the basis of the current marketing strategies of the management of food retail chains, represented by the value offered by the stores in question.

It can be stated that Kita and Čvirik (2024) noticed in their research that the current situation in food retail in Slovakia is distinguished by saturated markets, an advancing process of concentration, and intensifying competition (Kita & Čvirik, 2024). For this reason, retailers are forced to become more and more dynamic and ambitious in domestic and international

markets. In this context, grocery retail is one of the key "laboratories" in which unique value propositions are created, tailored to unique consumer segments crossing national borders, thus providing an interesting source of research topics through their orientation towards global markets.

Also, in post-pandemic conditions globally, retailers have demonstrated their adaptability to new market norms that require business managers to be able to cope with changes resulting from the outgoing crisis, which led to a reduction in economic activity and minimised social contacts in Slovakia, as in other countries, which affected exchange relations in the economic system (Kita et al. 2022). This was reflected in the economic situation of households, which affected levels of supply and demand for food during the COVID-19 pandemic (Kita et al., 2021).

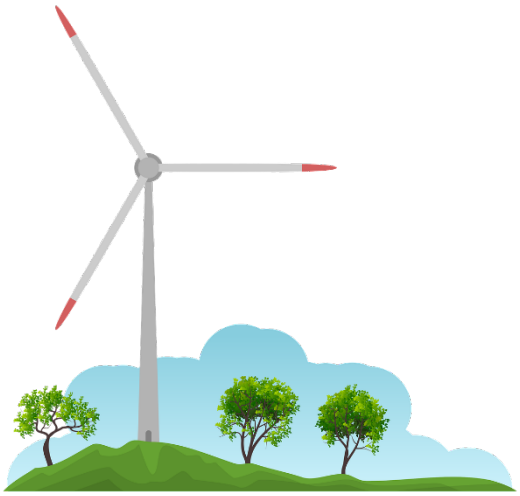
This part of the publication is based on several years of research by selected authors in the field of geography (Križan et al. 2020, etc.) and economists in terms of marketing in the BtoB market, e.g. Kita J. et al. (2010 and 2021), Musová et al. (2021), and in the BtoC market, e.g. Kita, P. et al. (2021 et al.), who have co-authored a number of papers and thematic studies on sustainable consumption and consumer behaviour in the food market in indexed scientific journals registered in the Scopus and WOS databases, or scientific proceedings at international conferences. In this context, the intention is to evaluate the concept of pro-environmental consumer behaviour of Slovaks from a marketing perspective, as reported by Kita, J. et al. (2015) in their works, a sustainable economy is gradually changing the values of customers and is thus conditioning new tendencies in the development of marketing and sales. Customers are becoming more and more oriented towards aspects not related to the product itself, but aspects connected with the influence of purchased products on the environment (Kita, J. et al. 2015).

**Table 1 – Relating constructs and measures to responsible consumption in the context of pro-environment consumer behaviour in Slovakia**

| Responsible consumption | Construct | Measures | Representative papers |
|---|---|---|---|
| Consumer social responsibility | Business models | Locality<br>Offer<br>Retail store – sized,<br>Value<br>Supply chain | Kita J. et al. (2010), Kita, J. (2012), Kita J. et al. (2014), Kita J. et al. (2017), Kita P. et al. (2024), Kita P. et al. (2023), Kita P. et al. (2011), Križan et al. (2019) |
| Environmentally responsibility consumer | Consumer behaviour | Cross border shopping<br>Loyalty<br>Typology of consumers | Kita P. et al. (2020), Kita P. et al. (2023), Kita P. et al. (2021),<br>Kita P. et al. (2024), Križan, et. al. (2016 a 2020a)<br>Križan et al. (2019), Križan(), |
| Ethical consumer responsibility | Consumption | Emotional values,<br>Health,<br>Hedonistic values,<br>Eco-labels | Kita, J. et al. (2019a),<br>Kita, J. et al. (2019b),<br>Kita, P. et al. (2023), Križan et al. (2020b), Musová et al. (2021), Mazalán et al. (2021) |

*Source: Own processing*

Kita et al. (2022b) propose that the environmental challenges contained in the European Green Agreement and the processes of digital transformation require a complete overhaul of retail business models. New technologies transform business operations and give rise to new elements of business models in addition to traditional business models (Schmuck (2021).



Authors Kita P. et al. (2021) note that the concept of sustainable consumption is a stimulus for important changes in consumer behaviour. Environmental protection is becoming more and more important, which is reflected in the gradual increase in the consumption of bio food and the awareness of the impacts of everyday shopping and consumption (Kita P. et al, 2021). In relation to environmental responsibility, the concept of sustainable consumption is increasingly emerging (Musová, 2021). Musová states that Miklencicova (2015) in her research notes that 79 % of respondents (358 consumers in Slovakia) claimed that the labelling system of environmental products in Slovakia is insufficient. Merchants or sellers are of the opinion that the environmental awareness of consumers in Slovakia is low. More than a half, 65 %, of respondents do not know, or have never noticed environmental labelling on a product. Older consumers in particular frequently do not understand graphic labels and do not take them into account when purchasing. The positive finding was that about 75 % of respondents were willing to learn more about environmental matters (Musová et al. 2021). However, the research by Križan et al. in a nationally representative survey in 2020 identifies a change in purchasing behaviour preference, which reports a determinant of behavioural change in consumers when they segment their attitudes towards purchasing consumer goods into utilitarians and hedonists. Its results show that in the 2020 survey Slovaks are primarily utilitarians. That is, a sample share of 81 %, which is made up of older consumers (65 years old), the high school educated without a high school diploma, who agree with the statement that food sold at farmers' markets is healthier than food sold at regular grocery stores.

In terms of hedonistic shoppers (19 % share) who prefer big-box stores, their attitude is the opposite. That is, they agree that large-format stores offer healthier and better quality food than small-format stores. Hedonists consider the goods on offer at large stores to be healthier and more environmentally friendly. This is related to consumer concerns, which research by Mazalán et al. (2021) suggests that concerns about the health of individuals, although they have always existed, have increased in recent years among Slovak consumers. It also states that consumers are changing their lifestyles, including changes in the structure of the quality of food they consume, although the BMI tendency is increasing (Mazalán et al. 2021).

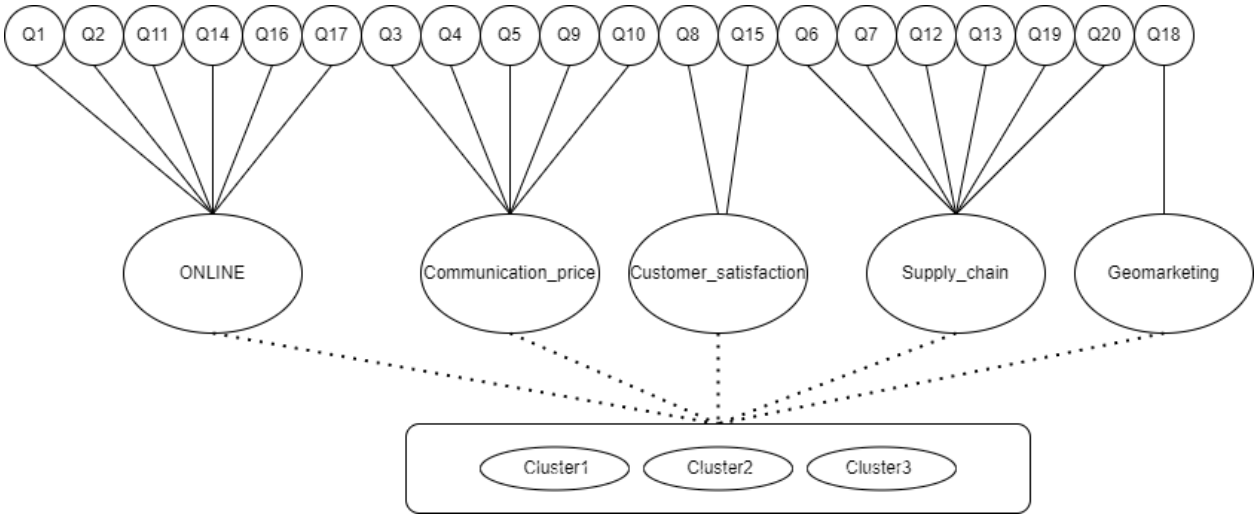
Based on the characterised pro-environmental consumer behaviour change, Kita, P. et al. (2022a and 2024) complement micro-level research by focusing on a managerial perspective of BM in his research from 2022, and in 2024 on samples from 250 food retail units with a sales area of up to $40^{m2}$, $100^{m2}$, $400^{m2}$, $700^{m2}$ and over $700^{m2}$ and which supply the majority of the population in Bratislava.

They have adapted their activities within their business models, which corresponds to the overall change in consumer behaviour that occurred with the onset of the pandemic and which continues after the pandemic.

The authors' research suggests overlaps in documenting consumer behaviour change oriented towards sustainability of consumption. Research by Križan et al. (2020a and 2020b) focuses primarily on the social aspects of consumption and examines the consumer market. The work of Kita, J. (2010, 2012, 2015, 2017, 2021) and Kita, P. (2014, 2019, 2022, 2023, 2024, etc.) in the current research is primarily concerned with the corporate perspective, as companies try to develop their business models based on the value proposition within the consumer food market under sustainable consumption conditions. Examples such as the impact of the pandemic that caused changes in the social paradigm, technological and digital trends, as well as the negative impacts of the macro environment are also reflected in changes in retail business models, which are becoming a multi-channel means of value creation (Kita, P. et al. 2019). Reflections of both authors' concerns about the health of individuals, although they have always existed, have increased in recent years among Slovak consumers. They have led to the publication of scientific articles documenting the situation in the consumer market as well as in the market of

intermediaries, i.e. retailers, on the basis of which changes in consumer behaviour and, consequently, in business models that jointly respect the environment and are environmentally friendly in the food market have been determined. On the basis of these studies, it can be concluded that Slovaks are pro-environmentally oriented consumers. This leads retail store managers to build business models that will bring long-term profits by introducing activities (Figure 2) that can give a retailer a competitive advantage based on activities that create value for end-customers.

**Figure 2. Visualisation of the business model**




*Q1We offer e-delivery of goods to your home; Q2 Online ordering and in-store pickup; Q3 We carry out promotions (events) for customers; Q4 Evaluate consumer purchasing trends for future pricing purposes; Q5 We gain customer trust through pricing; Q6 Influence the size of the packaging of goods on sale; Q7 We use new technologies in logistics and supplier relations; Q8 We strive to win the favour of local consumers through our activities; Q9 We involve consumers in the creation of the slogan, brand, etc.; Q10 We expand purchasing from local suppliers; Q11 We share information and customer experiences on the internet; Q12 Implement customer loyalty programmes; Q13 We pay attention to the cybersecurity of processed data; Q14 We improve our current online selection; Q15 We eliminate sources of customer dissatisfaction; Q16 We leverage shopping via mobile apps; Q17 We are moving new product sales to social networks and social media; Q18 We use a consumer geolocation system; Q19 The cost of digital technology is limiting us; Q20 We are introducing new technologies to optimise inventory*

*Source: Kita et al. PJMS….*

Kita, P., Čvirik, M., Maciejewski, G., Žambochová, M., Kitová Mazalánová, V. 2023. Activities of retail units as an element of business model creation. *Polish Journal of Management Studies.* Vol. 27(1) 133-147. DOI 10.17512/pjms.2023.27.1.08.

As the model shows (Figure 1), authors have identified five key activity areas within the activities studied in Bratislava which form the activity model: online, communication price, customer satisfaction, supply chain, geo-marketing. This model was the basis for segmenting individual retail outlets in Bratislava using a cluster analysis. The results indicate the existence of three segments.

Logically, the model takes its form based on the intensity of the realisation of each factor. In order to identify the individual retail outlet segments, we have used both the presented activity model and the characteristics of individual retail outlets, which completes the overall picture of the BM of established retailers (Kita P. et al. 2023). Authors suggest the existence of three clusters. The first

cluster can be termed “online innovators” as their characteristic feature within the activities are precisely activities in the online environment. It is these outlets that can be pioneers in online innovation. The second cluster represents the “international retail chains”, which focus their activity on the supply chain. It is their international experience and multiplicity that can bring innovative innovations and high efficiency in supply chain activities. The last cluster can be termed “regional chains”, which largely focus on efficiency in supply-chain activities. As these are regional players, proper targeting of customers is important, which can be seen in the high use of geo-marketing activity. These companies are characterised by a high percentage of domestic products on offer, which they also use in their communication and thus try to bring value to their customers (Kita, P. et al. 2023). The activities of this business model confirm its sustainability, because Musová Musová et al. (2021) recorded the best results in waste separation (under the recycling principle), where consumers act responsibly in activities related to reducing consumption (energy, water, using energy-saving appliances). Other activities also confirm positive changes in consumers´ perception and approaches to environmental issues (rethinking), although they are less pronounced (purchasing environmentally friendly products, bio products and organic food). Musová et al. (2021) adds that statistical testing confirmed the moderate correlation between positive attitudes to purchasing environmentally friendly products and real consumer purchases.

She concludes that positive environmental attitudes and conducting environmental activities increase the probability of environmentally responsible behaviour. On the contrary, lack of interest in the environment decreases this probability. Statistically significant variables that influence environmentally responsible consumer behaviour include age, gender, and income, number of household members and knowledge of eco-labels (Musová, et al., 2021). This fact leads to new consumption models, e. g. pro-environmental consumer

behaviour, and thus to new requirements as far as sales are concerned. The dynamics and complexities of the business environment are changing, and the increasing dynamics bring an increase in space and opportunities for the emergence of a competitive advantage (Kita, Čvirik, 2024). Therefore, enterprises have to identify consumer behaviour and be able to effectively offer them what they need and require. Enterprises must persuade a consumer about the advantages of buying their products (Kita et al. 2015).

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# 4 Methodology

The data collection methodology for this research project, which focused on pro-environmental behaviour in the Czech Republic, Slovakia, and Poland, utilised a questionnaire survey as its primary research instrument. This method was selected for its efficacy in gathering both quantitative and qualitative data from a large sample of respondents within a short timeframe.

The online survey technique was employed to maximise participation and accessibility. The research instrument—a well-structured questionnaire—was designed by members of the project team and consisted of five substantive questions aimed at capturing the core aspects of pro-environmental behaviour, alongside eight metric questions to gather demographic data. The questionnaire underwent careful translation into each national language, adhering to measurement equivalence principles to ensure consistency in understanding across different cultural contexts.

To facilitate participation, respondents accessed the questionnaire through a link or a QR code provided in the communication materials. The survey was hosted on the Google platform, ensuring a user-friendly experience. Additionally, upon request, participants were given the option to complete a paper version of the questionnaire, accommodating those who preferred or required this method.

Questionnaires were distributed in each country with a sample size carefully determined to ensure a representative population. Specifically, the survey included 524 respondents in the Czech Republic (N=524), 551 respondents in Slovakia (N=551), and 700 respondents in Poland (N=700). Data collection occurred during April and May 2024, which allowed for the capturing of current trends and consumer attitudes regarding environmental behaviours.


The questionnaires primarily focused on significant factors influencing pro-environmental actions, including demographic variables such as age, gender, education, and income levels. Additionally, questions examined the availability of green products on the market, the motivations driving consumers to purchase these environmentally friendly products, the sources of information utilised by consumers to learn about these products, and specific activities undertaken by participants to enhance environmental protection.

Subsequent analysis of the collected data aimed to identify key trends and determinants affecting pro-environmental behaviour in each country, thereby providing valuable insights into consumer attitudes and practices in the region.


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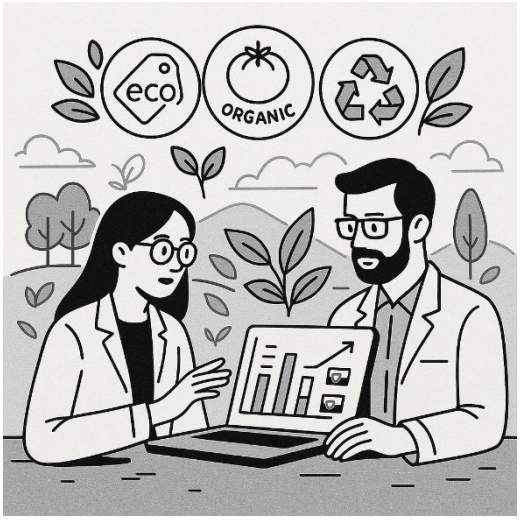
# 5 Results




The project Sustainable population consumption in a post-pandemic economy. The perspective of three countries was initiated in response to the escalating global challenges of climate change, environmental pollution, and overconsumption. While national and institutional efforts—both governmental and scientific—have addressed sustainable consumption independently, this project provides a unique comparative perspective across three Central European countries: the Czech Republic, Poland and Slovakia. Carried out between 2024 and 2025 by academic teams from Jan Evangelista Purkyně University in Ústí nad Labem, the University of Economics in Katowice, and Comenius University in Bratislava, the study specifically focused on consumer decision-making regarding organic products. The project sought to fill a knowledge gap by analysing pro-environmental purchasing behaviours in the post-pandemic context—often referred to as the "metalloid era"—and how these behaviours may support broader environmental and climate protection goals in alignment with the EU's Sustainable Development Policy.

The core aim of the research was to explore how consumers in the Czech Republic, Poland, and Slovakia adopt principles of sustainable consumption in everyday decisions—especially in their approach to green and organic purchasing. By applying a harmonised methodology across the three countries, the project allowed for robust cross-country comparisons while capturing specific national nuances. The surveys not only explored attitudes toward environmental sustainability and green product choices but also examined the socio-demographic determinants of behaviour, trust in information sources, and everyday ecological practices. This chapter presents the empirical results of the study and offers insight into how consumers in these countries are responding to contemporary environmental challenges through their individual choices—thereby contributing to the broader effort of shaping more sustainable societies in Central Europe.

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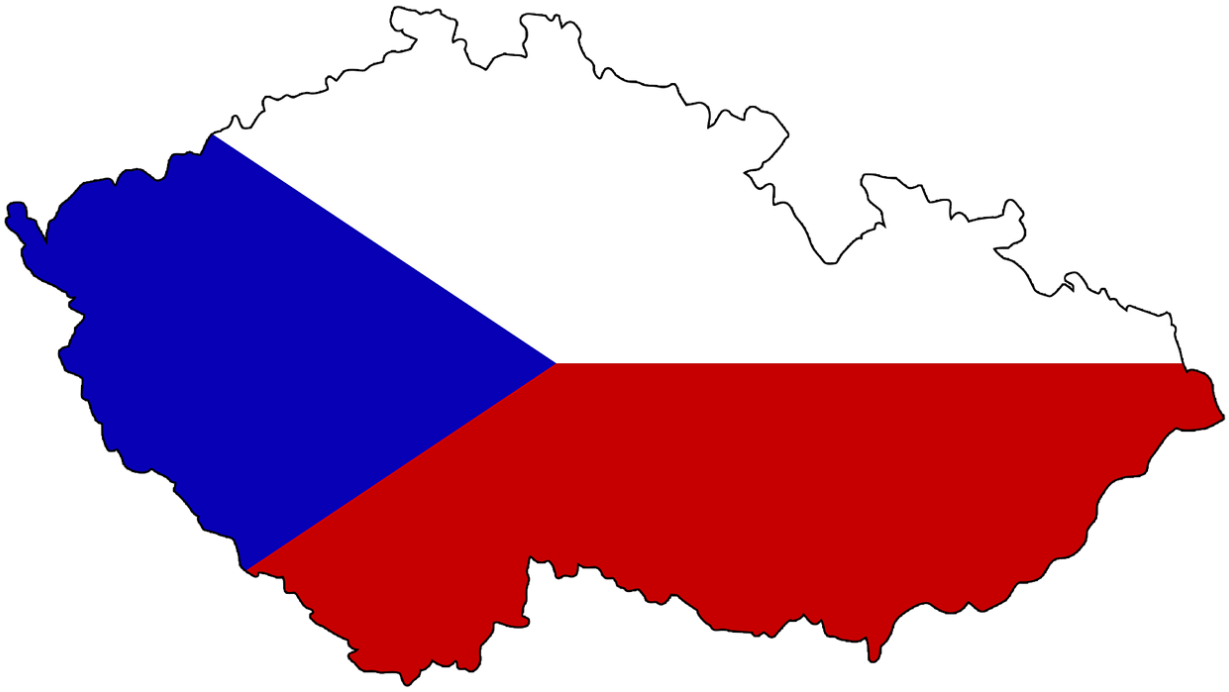
## 5.1 Scenarios of Sustainable consumption and pro-environmental behaviour in TH



Green shopping or sustainable consumption is a hot topic these days. However, it is important to understand which people are inclined towards green shopping. Even though this way of shopping is more affordable than before, it still generates a lot more waste from disposable products than it needs to.

Green consumption involves the careful selection, purchase, and use of products and services that minimise negative environmental impacts during their life cycle (Shehawy & Khan, 2024). Eco-friendliness and environmental concerns have become a topic of considerable interest among marketers, practitioners, and academics. Green products are perceived as eco-friendly, made from non-toxic, natural, well recycled materials and eco-friendly packaging (Nekmahmud et al., 2022).

The results of the 2024 study conducted in the Czech Republic for the project "Sustainable consumption of the population in a post-pandemic economy" show that Czech consumers have a generally positive attitude towards purchasing environmentally friendly products, with many of

them favouring reusability, recyclability and energy efficiency in their purchasing decisions. In their study, authors Liu et al. (2020) and Lee et al. (2024) focused on consumers' attitudes towards green shopping, while examining their influence on pro-environmental behaviour. Attitude is a psychological tendency that is expressed by evaluating an entity with a certain attitude, favour or disfavour, and is considered a key variable in predicting behaviour. These authors confirmed that better knowledge of environmental facts leads to more positive attitudes towards environmental protection and sustainable purchasing. The idea that environmental friendliness positively influences the purchase of green products is not universal. While some empirical studies show a positive relationship between these factors, others have found no connection between environmental awareness and intentions to purchase green products (Lopes et al., 2023).

Table 1 illustrates Czech consumers' attitudes toward buying organic products, showing that most respondents have a positive outlook and prioritise factors like reusability and energy efficiency when purchasing. The data indicates that caring for the environment is a significant motivator for choosing organic options, and consumers are generally willing to pay more for them. This assertion was confirmed by Pantone et al. (2016), where people with higher incomes behaved more pro-environmentally.

**Table 1. Consumers attitudes towards the purchase of organic products (CZ, N=524)**

| Specification | Evaluation* (%) | | | | | | | Position measures** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Me | Mo | M |
| I have a positive attitude towards buying organic products | 7.3 | 8.4 | 7.4 | 13.4 | 16.8 | 28.4 | 18.3 | 1.00 | 2 | 0.83 |
| When purchasing products, I pay attention to those that are reusable, recyclable, or at least energy-efficient | 9.7 | 11.1 | 12.2 | 15.8 | 22.5 | 18.7 | 9.9 | 1.00 | 1 | 0.26 |
| Organic products are widely available in the stores where I usually shop | 6.7 | 8.2 | 8.2 | 14.5 | 26.7 | 23.3 | 12.4 | 1.00 | 1 | 0.66 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| I buy organic products because my friends and acquaintances also purchase them | 31.1 | 14.9 | 13.0 | 17.2 | 12.0 | 9.7 | 2.1 | -1.00 | -3 | -0.98 |
| I buy organic products because I care about the environment | 10.3 | 6.3 | 8.4 | 13.2 | 21.8 | 20.8 | 19.3 | 1.00 | 1 | 0.69 |
| I buy organic products because I am a supporter of natural products | 11.8 | 8.2 | 9.9 | 17.7 | 19.3 | 18.3 | 14.7 | 1.00 | 1 | 0.38 |
| I am willing to pay a higher price for an organic product compared to conventional products | 16.8 | 12.2 | 10.3 | 12.4 | 19.3 | 19.7 | 9.4 | 0.00 | 2 | 0.02 |
| I avoid purchasing certain products due to environmental concerns | 16.0 | 15.8 | 13.2 | 21.2 | 15.1 | 10.9 | 7.8 | 0.00 | 0 | -0.33 |

*Note: * The respondents marked their answers on a seven-point scale. where: -3 meant totally disagree and +3 meant completely agree. ** Me – median, Mo – modal value, M – arithmetic mean. Due to the fact that the variables are measured on the ordinal scale, only the median and modal can be interpreted. The arithmetic average value is given for illustrative purposes only.*

*Source: Own research*

Consumers may become more aware of environmental and health issues due to social media, advertisements, marketing activities, and monitoring social media comments that encourage them to purchase green products. Consumers are more likely to purchase green products if they regularly use social networks to search for purchasing information and participate in online discussions about green consumption (Nekmahmud et al., 2022). Table 2 presents the sources from which Czech consumers gather information about the environment, revealing that social networks, books, and television are popular choices. The data also indicates that newspapers and magazines are less frequently used as sources of environmental information.

**Table 2. Sources of information about the environment (CZ, N=524)**

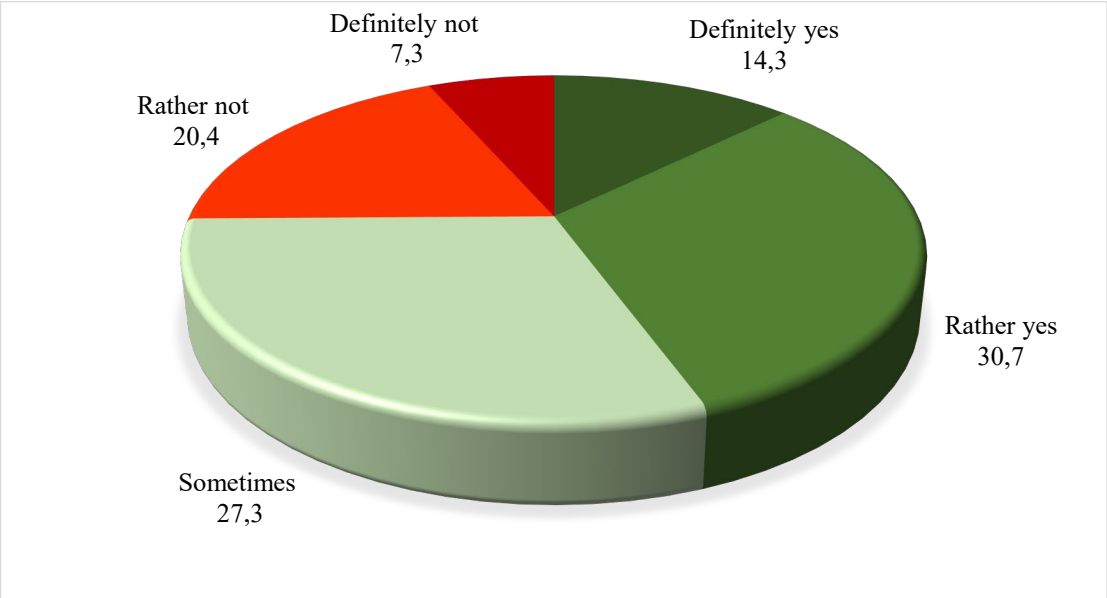
| Specification | Declaration* (%) | | | | | | | Position measures** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Me | Mo | M |
| Documentary programmes | 15.5 | 9.5 | 9.5 | 11.1 | 18.9 | 23.5 | 12.0 | 1.00 | 2 | 0.27 |
| Social networks | 12.0 | 6.9 | 8.0 | 10.3 | 19.1 | 19.8 | 23.9 | 1.00 | 3 | 0.73 |
| Books | 28.6 | 13.5 | 14.3 | 18.1 | 14.5 | 8.2 | 2.7 | -1.00 | -3 | -0.88 |
| Own observations of nature | 8.8 | 8.4 | 8.0 | 12.2 | 21.2 | 21.4 | 20.0 | 1.00 | 2 | 0.73 |
| From conversation with other people | 6.3 | 8.8 | 8.4 | 12.2 | 27.9 | 23.7 | 12.8 | 1.00 | 1 | 0.69 |
| Newspapers and magazines | 19.5 | 9.7 | 9.5 | 19.3 | 19.5 | 14.9 | 7.6 | 0.00 | -3 | -0.15 |
| Television | 10.7 | 6.1 | 7.6 | 11.5 | 20.2 | 24.4 | 19.5 | 1.00 | 2 | 0.76 |
| Podcasts | 31.9 | 8.6 | 7.4 | 14.5 | 16.0 | 12.0 | 9.5 | 0.00 | -3 | -0.52 |
| Websites | 9.7 | 5.3 | 5.2 | 11.1 | 19.7 | 25.2 | 23.9 | 1.00 | 2 | 0.97 |
| Specialist articles | 30.5 | 11.6 | 7.8 | 17.0 | 17.4 | 8.2 | 7.4 | -0.50 | -3 | -0.67 |

*Note: * The respondents marked their answers on a seven-point scale, where: -3 meant I definitely don't use it and +3 meant I definitely use it. ** Me – median, Mo – modal value, M – arithmetic mean. Due to the fact that the variables are measured on the ordinal scale, only the median and modal can be interpreted. The arithmetic average value is given for illustrative purposes only.*

*Source: Own research*

This pie chart (Figure 1) visualises the credibility of information sources related to the environment as perceived by Czech respondents. The chart shows that "Rather yes" and "Sometimes" are the most common responses, indicating a moderate level of trust in the information sources they encounter.

**Figure 1. Evaluating the credibility of information sources related to the environment (Czech Republic, N= 524, in %)**




*Source: Own research*

To understand pro-environmental behaviour, it is also necessary to understand that behaviour is situational and often only short-term or immediate. For pro-environmental behaviour to have any long-term impact, a habit must be formed. This is created when an activity is repeated regularly and thus becomes automatic. For example, if a person regularly sorts waste, the activity will gradually become a habit and the activity will be performed automatically without conscious thought (Lee et al., 2024). Table 3 outlines the pro-environmental behaviours of Czech consumers, revealing that many respondents actively sort waste, try to minimise food waste, and conserve resources like electricity and water. However, the data also suggests that fewer consumers engage in activities such as volunteering for environmental protection initiatives.

**Table 3. Pro-environmental behaviour of consumers (CZ, N=524, in %)**

| Specification | Declaration | | | | |
|---|---|---|---|---|---|
| | never | almost never | from time to time | almost always | always |
| I engage in volunteering and helping other people | 171 | 143 | 159 | 43 | 8 |
| I work for the protection of the natural environment (planting trees, cleaning forests, feeding wild animals, etc.) | 147 | 141 | 165 | 46 | 25 |
| I work in organisations supporting sustainable development goals (organisations active in environmental protection, combating social exclusion, promoting gender equality, equality of nations, etc.) | 384 | 63 | 35 | 23 | 19 |
| I install eco-friendly solutions (heat pumps, solar panels, photovoltaic systems, water and wastewater treatment devices, energy-efficient light bulbs and appliances, etc.) | 193 | 105 | 120 | 63 | 43 |
| I buy second-hand clothing and other used goods | 87 | 88 | 209 | 98 | 42 |
| I purchase goods and services from companies that care for the environment | 152 | 94 | 132 | 98 | 48 |
| I repair or have damaged appliances, furniture etc., repaired | 44 | 69 | 156 | 164 | 91 |
| I donate unnecessary but good items to charity organisations | 91 | 78 | 129 | 129 | 97 |
| I save electricity, gas | 9 | 31 | 97 | 159 | 228 |
| I save water | 9 | 30 | 98 | 172 | 215 |
| I act in ways that prevent environmental pollution | 16 | 40 | 97 | 185 | 186 |
| I promote a healthy lifestyle in my community (active recreation, healthy eating, limiting stimulants etc.) | 29 | 68 | 135 | 164 | 128 |
| I sort waste and ensure it is recycled | 33 | 41 | 83 | 146 | 221 |
| I try not to waste food | 8 | 16 | 76 | 160 | 264 |

| | | | | | |
|---|---|---|---|---|---|
| I strive to limit consumption by making thoughtful purchases of goods and services I truly need | 17 | 48 | 119 | 158 | 182 |
| In elections, I vote for candidates who commit to caring for the natural environment | 150 | 110 | 144 | 87 | 33 |
| I support various humanitarian organisations with financial donations (Caritas, UNICEF, etc.) | 235 | 104 | 105 | 47 | 33 |

*Source: Own research*

**Metrics**

There was a slight predominance of women in the sample (57.6%). The distribution according to age groups, including generations Z (18–24 years old), Y (25–39), X (40-49) and baby boomers (60–80), showed the largest group of respondents from Generation Z (34.7%), followed by Generation X (25.6%). Generation Y represented 19.5% of the sample, and the smallest group of respondents were representatives of Generation BB (20.2%). Furthermore, the sample was dominated by people with secondary education with graduation (47.5%) and higher (university) education (26.3%).

The respondents themselves most often came from urban centres with a population of 5,000 to 24,999 (23.9%). The respondents were most often employed (44.7%) or students (28.6%), with pensioners also represented (13.0%). They most often described their own financial situation as good (59.9%) or very good (24.0%) and represented households of two to three people (57.8%). The sample included the largest number of single people (49.6%) and married people (32.8%) – see Table 4.

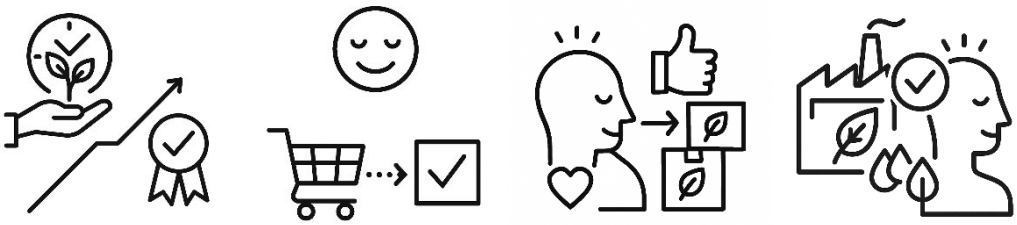


**Table 4. Characteristics of the studied sample (CZ, N=524)**

| **Item** | | **No. of observations** | **% of observations** |
|---|---|---|---|
| Gender | Female | 302 | 57.6 |
| | Male | 220 | 42.0 |
| | Other | 2 | 0.4 |
| Marital status | Single | 260 | 49.6 |
| | Married | 172 | 32.8 |
| | Divorced Widower | 86 | 16.4 |
| | Other | 6 | 1.1 |
| Age | 18-24 years old (Generation Z) | 182 | 34.7 |
| | 25-39 years old (Generation Y) | 102 | 19.5 |
| | 40-49 years old (Generation X) | 134 | 25.6 |
| | 60-80 years old (Generation BB) | 106 | 20.2 |
| Education (completed) | Elementary | 36 | 6.9 |
| | Secondary without graduation | 81 | 15.5 |
| | Secondary with graduation | 249 | 47.5 |
| | Higher (vocational) | 20 | 3.8 |
| | Higher (university) | 138 | 26.3 |
| Economic status (main activity) | Employed | 234 | 44.7 |
| | Student | 150 | 28.6 |
| | On special leave | 10 | 1.9 |
| | Self-employed | 48 | 9.2 |
| | Unemployed | 6 | 1.1 |
| | Pensioner | 68 | 13.0 |

| | | | |
|---|---|---|---|
| | In a household | 2 | 0.4 |
| | Economically inactive | 2 | 0.4 |
| | Other | 4 | 0.8 |
| No. of persons in household | 1 person | 78 | 14.9 |
| | 2-3 persons | 303 | 57.8 |
| | 4-5 persons | 133 | 25.4 |
| | More than 5 people | 10 | 1.9 |
| Subjective assessment of the financial situation of own household | Very good | 126 | 24.0 |
| | Good | 314 | 59.9 |
| | Average | 65 | 12.4 |
| | Bad | 15 | 2.9 |
| | Very bad | 4 | 0.8 |
| Place of residence by no. of inhabitants | Up to 1.999 inhabitants | 95 | 18.1 |
| | 2 000 – 4 999 inhabitants | 72 | 13.7 |
| | 5 000 – 24 999 inhabitants | 125 | 23.9 |
| | 25 000 – 49 999 inhabitants | 49 | 9.4 |
| | 50 000 – 99 999 inhabitants | 129 | 24.6 |
| | 100 000 – 299 999 inhabitants | 34 | 6.5 |
| | 300.000 or more inhabitants | 20 | 3.8 |

*Source: Own research*

A significant proportion of Czech consumers are motivated to buy eco-friendly products for environmental reasons and are willing to pay a higher price for these products. Czech consumers rely on a variety of sources for environmental information, with social networks, books and television being popular, while newspapers and magazines are less frequently consulted.

Czech consumers exhibit pro-environmental behaviours such as sorting waste, conserving resources such as electricity and water, and minimising food waste, although engaging in activities such as volunteering for environmental causes is less common. There are slightly more women than men in the Czech sample, with the largest age group being 18-24 year-olds (Generation Z). The majority of respondents have a secondary school education with a high school diploma (graduation), are employed or studying and rate their financial situation as good.

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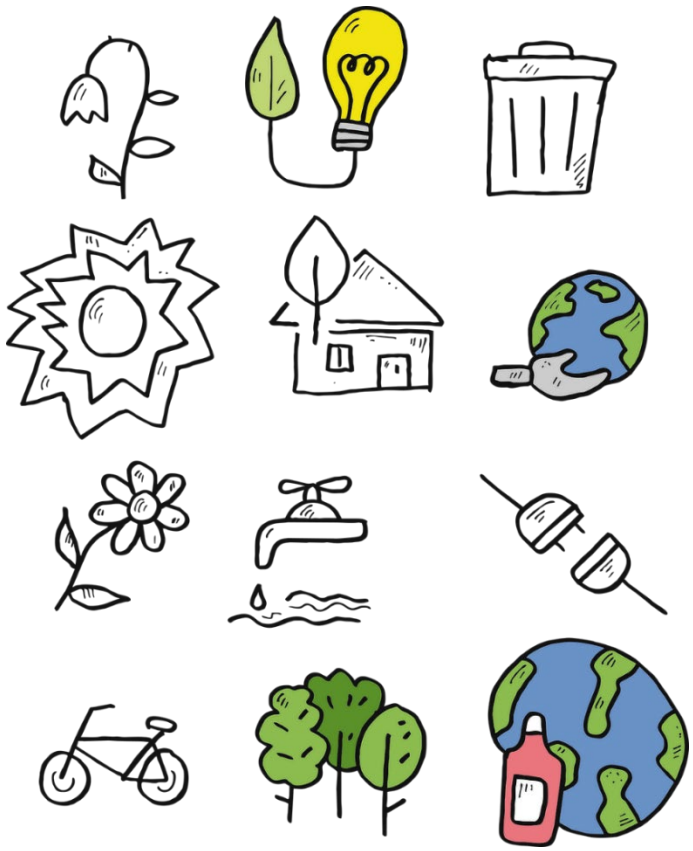
## 5.2 Scenarios of Sustainable consumption and pro-environmental behaviour in POLAND

Analyses of Polish consumer behaviour presented in the latest literature reveal their high level of environmental awareness (Maciejewski, 2023a; Maciejewski 2023b). However, the improved financial situation of some Polish households is creating opportunities for the development of consumerism, despite the generally desired and declared pro-environmental behaviour (Babicz-Zielińska, 2010). Numerous examples of pro-environmental activities described in the literature suggest that the creation of entire ecosystems or even simple solutions is met with high social acceptance in Poland (Dąbrowska & Jaroś-Kresło, 2017). The creation of new ecological recreational areas, for example, with minimal financial outlay, has an impact on consumerism as well as on ecological and economic social behaviour.

All initiatives to implement pro-environmental solutions are highly beneficial actions that significantly influence changes in consumer behaviour. These measures should be taken as often as possible to ensure a reduction in the economic and social costs of living while increasing

environmental awareness. The implementation of such solutions is socially and environmentally important due to the improvement in quality of life (Sukiennik & Dziadkiewicz, 2024).



Consumers' ecological attitudes are reflected not only in the conscious choice and consumption of ecological products, but also in a more thoughtful and responsible approach to the use of consumer goods. This consists of implementing the principles of thrift and rationality in everyday life, which involves a transition from an egocentric attitude, focused mainly on one's own benefits, to an ecocentric attitude, taking into account the good of the natural environment (Sobocińska, 2021). Pro-ecological consumer behaviour includes limiting or completely abandoning the use of products whose production and exploitation involve a high consumption of non-renewable resources. Consumers are increasingly turning to products that minimise the negative impact on the environment, both in terms of the production process and the amount of post-consumer waste generated. An important element of these activities is also waste segregation and reuse, which supports the idea of a circular economy and reduces the amount of waste going to landfill. However, consumer activities are not limited to consumption alone. Actively seeking knowledge about environmental protection and participating in environmental initiatives and movements is becoming increasingly important. Such involvement not only allows for a better understanding of the impact of everyday choices on the planet, but also contributes to the promotion of the idea of sustainable development in society (Maciejewski & Lesznik, 2022). All these activities are part of a broad trend towards the greening of consumer behaviour, which is gaining in importance both individually and socially (Freestone & McGoldrick, 2008).The results of a 2024 study conducted in Poland for the purposes of the project ‘Sustainable population consumption in a post-pandemic

economy. The perspective of three countries' seem to confirm the pro-ecological attitudes of Polish consumers towards the environment observed in previous years, as well as the positive attitudes of Polish consumers towards the purchase of organic products (Table 1).

**Table 1. Consumers attitudes towards the purchase of organic products (Poland, N=700)**

| Specification | Evaluation* (%) | | | | | | | Position measures** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Me | Mo | M |
| I have a positive attitude towards buying organic products | 2.9 | 3.7 | 5.0 | 12.6 | 21.1 | 26.3 | 28.4 | 2 | 3 | 1.38 |
| When purchasing products, I pay attention to those that are reusable, recyclable, or at least energy-efficient | 5.6 | 4.3 | 6.6 | 11.7 | 22.0 | 26.3 | 23.6 | 1 | 2 | 1.13 |
| Organic products are widely available in the stores where I usually shop | 1.9 | 3.4 | 7.3 | 11.7 | 24.0 | 31.4 | 20.3 | 2 | 2 | 1.28 |
| I buy organic products because my friends and acquaintances also purchase them | 25.1 | 12.6 | 11.7 | 20.4 | 17.4 | 8.1 | 4.6 | 0 | -3 | -0.65 |
| I buy organic products because I care about the environment | 8.6 | 4.7 | 9.3 | 11.3 | 24.7 | 20.0 | 21.4 | 1 | 1 | 0.85 |
| I buy organic products because I am a supporter of natural products | 7.6 | 4.7 | 8.1 | 13.0 | 19.1 | 23.6 | 23.6 | 1 | 2 | 0.96 |
| I am willing to pay a higher price for an organic product compared to conventional products | 12.7 | 7.6 | 11.6 | 13.7 | 22.4 | 18.4 | 13.6 | 1 | 1 | 0.35 |
| I avoid purchasing certain products due to environmental concerns | 11.0 | 8.7 | 14.9 | 15.3 | 19.7 | 14.6 | 15.9 | 1 | 1 | 0.31 |

*Note: * The respondents marked their answers on a seven-point scale, where: -3 meant totally disagree and +3 meant completely agree. ** Me – median, Mo – modal value, M – arithmetic*

*mean. Due to the fact that the variables are measured on the ordinal scale, only the median and modal can be interpreted. The arithmetic average value is given for illustrative purposes only.*
*Source: Own research*

More than three quarters of consumers surveyed agreed to a greater or lesser extent with the statement 'I have a positive attitude towards buying organic products' (total of responses from 1 to 3 on a scale). Almost the same percentage of respondents also agreed that organic products are widely available in the shops where they usually shop. Clearly, Polish consumers not only declare positive pro-environmental attitudes, but also pay attention to organic products in the places where they shop. What is more, nearly ¾ of Polish consumers admit that when shopping, they pay attention to products that are suitable for reuse and those that are recyclable or are at least energy-efficient – Table 1.

The basis for such attitudes seems to be concern for the environment and a preference for natural products, especially healthy, organic food. More than two thirds of the consumers surveyed admitted that they buy organic products because they are in favour of such products and because they care about the environment – Table 1.

The positive attitudes of Polish consumers towards the purchase of organic products seem to be quite strong. More than half of the respondents declared that they are willing to pay a higher price for organic products compared to regular products and that they avoid buying certain products for environmental reasons. Interestingly, the people around Polish consumers seem to have a relatively small impact on the purchase of organic products by them. Less than a third of the respondents stated that they buy organic products because their friends and acquaintances do so as well - Table 1.

Lack of trust in food products results in a lack of consumer interest and, consequently, a lack of demand for these products (Wang & Alexander, 2018). This view is confirmed by an analysis of the correlation between the declared trust which the Poles surveyed have in various types of food and their interest in these types of food. For organic food, the Kendall tau-b correlation coefficient was 0.440 and the Spearman rho was 0.526. For functional food, the tau-b was 0.503

and the $_{standard}$ $r_s$ was 0.585. For convenience food, the tau-b was 0.497 and the $_{standard}$ $r_s$ was 0.589. The results are statistically significant at the level of $p \leq 0.01$ (bilateral). It follows that food producers and sellers should build trust in the food products they produce and sell. They should focus primarily on gaining the trust of decision-makers in households, i.e. those responsible for feeding themselves and other household members (Maciejewski, 2020).

In the study in question, conducted in Poland, respondents were asked who in their household has the greatest influence on the choice of organic food, who buys it most often and who most often uses organic products in their household. Due to the cultural conditions of the Polish society, the result was predictable, but the scale of the phenomenon was not. In the vast majority of Polish households, these people are women, housewives (71.1%, 69.3% and 67.6%, respectively) – Table 2.

**Table 2. Persons who have the greatest influence on pro-environmental behaviours within the household (Poland, N=700, in %)**

| Specification | Persons with the greatest influence on the choice of organic products | Persons who most frequently purchase organic products | Persons who most frequently use organic products |
|---|---|---|---|
| Household manager (wife, mother, partner, girlfriend) | 71.1 | 69.3 | 67.6 |
| Household manager (husband, father, partner, boyfriend) | 16.2 | 16.0 | 13.6 |
| Other household members (grandmother, grandfather, children, relatives) | 12.1 | 14.0 | 18.0 |
| All members of the household to the same extent | 0.6 | 0.7 | 0.8 |

*Source: Own research*

Men and other household members are come the following places. However, their influence on the selection, purchase and use of organic products is incomparably smaller than the influence of women in this matter. It can be said that the role of other people in the purchasing and consumption behaviour towards organic products in Polish households is marginal - Table 2.

The 21st century is a time of significant technological innovation that is improving the flow and availability of information, which is causing significant changes in information relationships between people. These changes affect many aspects of life, reaching the very foundations of human existence and the environment in which they live. The continuous development of information resources leads to their uncontrolled growth, causing difficulties in accessing information and limiting possibilities to verify the collected information (Babik, 2014). This also applies to information about the environment in which people live or the food that comes from this environment. According to a study conducted in Poland in 2016, nearly 93% of consumers search the internet for information about the products they are interested in. On one hand, consumers perceive online information as necessary and useful (28.0%) and comprehensive (18.6%), and on the other hand, as unreliable, untrustworthy or fake (18.6%) (Kucia, 2016). In the face of many dishonest practices that mislead consumers, it is extremely important to prevent risks and raise awareness of the principle of limited trust in the information provided by manufacturers, retailers or service providers.

A 2024 study conducted in Poland for the purposes of the project 'Sustainable population consumption in a post-pandemic economy – The perspective of three countries' also attempted to identify the sources of consumer information about the environment – Table 3.

**Table 3. Sources of information about the environment (Poland, N=700)**

| Specification | Declaration* (%) | | | | | | | Position measures** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Me | Mo | M |
| Documentary programmes | 9.6 | 5.1 | 8.1 | 14.3 | 21.9 | 21.1 | 19.9 | 1 | 1 | 0.77 |
| Social networks | 11.0 | 4.3 | 3.4 | 9.0 | 19.1 | 26.6 | 26.6 | 2 | 2 | 1.07 |
| Books | 17.0 | 8.1 | 9.9 | 17.7 | 23.7 | 15.4 | 8.1 | 0 | 1 | 0.02 |
| Own observations of nature | 2.7 | 3.4 | 4.6 | 10.0 | 25.4 | 30.9 | 23.0 | 2 | 2 | 1.37 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| From conversation with other people | 2.0 | 2.7 | 3.1 | 7.3 | 25.3 | 33.9 | 25.7 | 2 | 2 | 1.56 |
| Newspapers and magazines | 19.9 | 7.9 | 7.6 | 15.9 | 20.1 | 19.3 | 9.4 | 0 | 1 | 0.04 |
| Television | 11.1 | 5.9 | 6.1 | 10.3 | 15.6 | 27.3 | 23.7 | 2 | 2 | 0.90 |
| Podcasts | 13.9 | 5.0 | 7.0 | 15.4 | 24.9 | 21.7 | 12.1 | 1 | 1 | 0.46 |
| Websites | 8.9 | 3.7 | 4.6 | 9.4 | 18.4 | 27.7 | 27.3 | 2 | 2 | 1.17 |
| Specialist articles | 20.0 | 8.1 | 7.0 | 17.1 | 20.9 | 15.0 | 11.9 | 0 | 1 | 0.03 |

*Note: * The respondents marked their answers on a seven-point scale, where: -3 meant I definitely don't use it and +3 meant I definitely use it. ** Me – median, Mo – modal value, M – arithmetic mean. Due to the fact that the variables are measured on the ordinal scale, only the median and modal can be interpreted. The arithmetic average value is given for illustrative purposes only.*

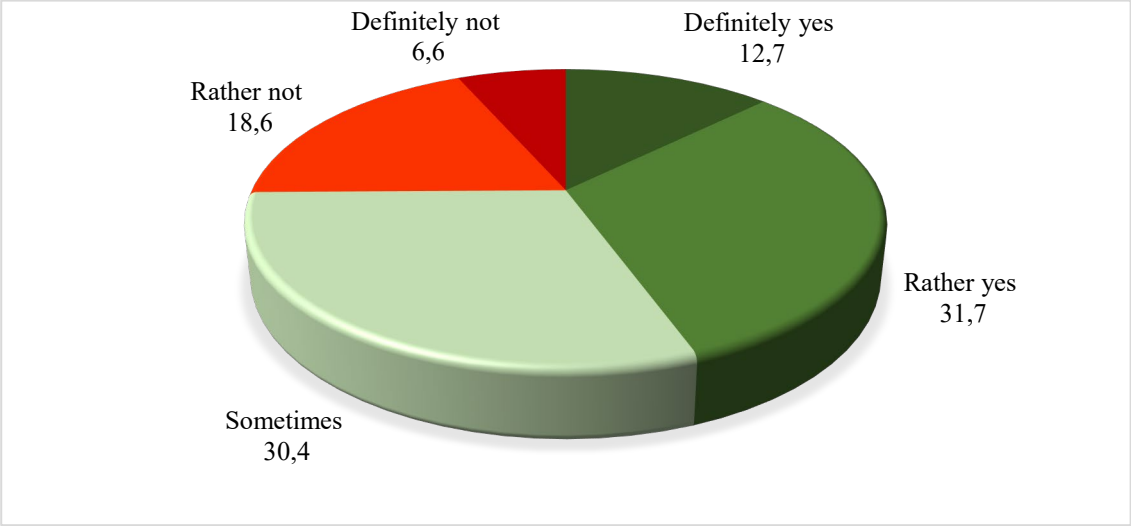
*Source: Own research*

When analysing the obtained data, it can be seen that Polish consumers obtain information about the environment primarily from conversations with other people and from their own observations of nature. To a greater or lesser extent (total of responses from 1 to 3 on a scale), 84.9% and 79.3% of respondents use these sources, respectively. They therefore rely on their own assessment of the situation and the opinions of others in their environment. The next most frequently used sources of environmental information for Poles are digital sources: websites and social networks. They are used as sources of information by 73.4% and 72.3% of Polish consumers, respectively. When looking at social networks as a source of information, a certain consistency can be seen. For Polish consumers, what matters most is information from other people they know, with whom they have direct or online contact – information that is easy to obtain, without searching or reading. The widespread use of internet sources in Poland favours its use. In 2024, 95.9% of Polish households had internet access. This is one of the highest results in Europe and in the world (GUS, 2024). Only then, in the following places, are television (66.6%), documentary programmes (62.9%) or podcasts (58.7%) among the sources of information about the environment. On the other hand, newspapers and magazines, specialist articles and books are among the sources of

information least frequently used by Polish consumers. Less than half of the consumers surveyed in Poland use these sources – Table 3.

Polish consumers seem to trust their sources of information. Less than 45% of respondents (answers 'definitely yes' and 'rather yes') check their reliability. In some cases, just over 30% of respondents check sources of environmental information (answer: 'sometimes') – Figure 1.

**Figure 1. Evaluating the credibility of information sources related to the environment (Poland, N=700, in %)**




*Source: Own research*

As already described in previous parts of this article, environmentally friendly behaviour is defined as actions taken by individuals or groups to minimise the negative impact on the environment. Such behaviour includes saving energy, reducing water consumption, waste separation, using renewable energy sources, as well as choosing ecological products and supporting actions for sustainable development (Kollmuss & Agyeman, 2002; Steg & Vlek, 2009). All organisations and governments should get involved in promoting environmentally friendly behaviour among consumers, as it is desirable for at least a few reasons:

- It contributes to protecting the environment by reducing greenhouse gas emissions, limiting the degradation of ecosystems and reducing waste. Consumers can play an important role in counteracting these problems through conscious purchasing choices and lifestyle (Thøgersen, 2014).

- It supports the achievement of sustainable development goals. Promoting environmentally friendly behaviour is in line with the Sustainable Development Goals (SDGs), which include responsible consumption and production and climate action (United Nations, 2015).
- It increases the environmental awareness of the public. Education and campaigns promoting environmentally friendly behaviour contribute to raising the awareness of all individuals living on Earth, which can lead to a change in social norms in favour of the environment (Schultz, 2011).
- It increases economic and social benefits. Pro-environmental decisions, such as saving energy or reducing plastic consumption, can lead to financial savings, cost reductions and an improved quality of life for both individuals and entire communities.

A study conducted for this project in Poland also attempted to identify consumer actions that lead to pro-environmental behaviour (Table 4).

Despite the difficulties caused by the recovery from the COVID-19 pandemic, Polish consumers largely tried to engage in pro-environmental behaviour. They focused primarily on their households, which was also where pro-environmental behaviour most often took place. The respondents tried above all not to waste the food they bought (81.1% answered always or almost always), and to sort all waste and recycle it (76.6% answered always or almost always). The state of the environment in which they live is important to the respondents, which is why they act in such a way as not to litter it (71.0 %). A high percentage of positive responses (always and almost

always) was also observed in the case of declared actions aimed at saving water (71.5 %) and electricity and gas (74.0 %). The declared de-consumption activities of Polish consumers are also noteworthy, consisting of limiting consumption by making thoughtful purchases of goods and services that are really needed (70.8 %) - Table 4.

Unfortunately, not all activities undertaken by Polish consumers are so common. The most rarely undertaken pro-ecological behaviours include, above all, those that require the respondents to commit their own time, energy and resources to other people's causes. These primarily include working in organisations that support sustainable development goals (only 7.1 % of positive responses: always or almost always), environmental protection activities such as planting trees, cleaning up forests or feeding forest animals (8.6 %), volunteering and actively helping other people (10.1%) or supporting various humanitarian organisations with monetary donations (23.3%) – Table 4.

**Table 4. Pro-environmental behaviour of consumers (Poland, N=700, in %)**

| Specification | Declaration | | | | |
|---|---|---|---|---|---|
| | never | almost never | from time to time | almost always | always |
| I engage in volunteering and helping other people | 34.7 | 25.9 | 29.3 | 6.7 | 3.4 |
| I work for the protection of the natural environment (planting trees, cleaning forests, feeding wild animals, etc.) | 39.6 | 31.0 | 20.9 | 5.9 | 2.7 |
| I work in organisations supporting sustainable development goals (organisations active in environmental protection, combating social exclusion, promoting gender equality, equality of nations, etc.) | 69.7 | 13.4 | 9.7 | 4.4 | 2.7 |
| I install eco-friendly solutions (heat pumps, solar panels, photovoltaic systems, water and wastewater treatment devices, energy-efficient light bulbs and appliances, etc.) | 22.0 | 18.1 | 27.0 | 17.4 | 15.4 |
| I buy second-hand clothing and other used goods | 24.1 | 20.3 | 25.7 | 17.4 | 12.4 |

| | | | | | |
|---|---|---|---|---|---|
| I purchase goods and services from companies that care for the environment | 12.6 | 22.9 | 36.3 | 20.4 | 7.9 |
| I repair or have damaged appliances, furniture, etc., repaired | 6.1 | 11.6 | 25.3 | 34.0 | 23.0 |
| I donate unnecessary but good items to charity organisations | 7.6 | 12.3 | 23.9 | 26.7 | 29.6 |
| I save electricity, gas | 2.9 | 5.7 | 17.4 | 35.0 | 39.0 |
| I save water | 4.0 | 7.6 | 16.9 | 33.1 | 38.4 |
| I act in ways that prevent environmental pollution | 2.9 | 6.1 | 20.0 | 35.7 | 35.3 |
| I promote a healthy lifestyle in my community (active recreation, healthy eating, limiting stimulants, etc.) | 4.9 | 8.7 | 27.0 | 30.9 | 28.6 |
| I sort waste and ensure it is recycled | 4.0 | 5.1 | 14.3 | 25.3 | 51.3 |
| I try not to waste food | 2.9 | 4.0 | 12.0 | 31.4 | 49.7 |
| I strive to limit consumption by making thoughtful purchases of goods and services I truly need | 2.6 | 6.6 | 20.0 | 35.7 | 35.1 |
| In elections, I vote for candidates who commit to caring for the natural environment | 20.1 | 20.6 | 29.6 | 18.4 | 11.3 |
| I support various humanitarian organisations with financial donations (Caritas, UNICEF, etc.) | 27.4 | 25.1 | 24.1 | 14.0 | 9.3 |

*Source: Own research*

Supporting environmentally friendly consumer behaviour requires both educational measures and appropriate legal regulations, and incentive systems, such as tax breaks or promotions for environmentally friendly products. Joint action by consumers, businesses and public institutions is crucial to achieving lasting, beneficial change.

**Metrics**

The survey was conducted between March and May 2024 among 700 adult Polish consumers. The sample size was determined in such a way that, with a confidence level of 95% and a fraction size of 0.5, the maximum margin of error would not exceed 4%. An error of this size is considered

acceptable in social research. It is also important to remember that the key role of population homogeneity, not its size, determines the sample size. As Pietrucha and Maciejewski (2020) prove, the sample can be reduced with an increase in population homogeneity, based on selected characteristics. The characteristics of the units that entered the sample are presented in Table 5.

The research method was a survey, which was conducted using the techniques of a distributed survey and an online survey. The distributed survey, in the form of a paper questionnaire, was administered by interviewers – students – mainly to older people who had difficulties in answering online. The online survey was conducted by inviting and sending links to the survey to people who agreed to participate in the survey. The electronic questionnaire was posted on the Google platform. The spatial area of the research covered the territory of Poland and was coordinated by researchers from several academic centres: University of Economics in Katowice, University of Economics in Krakow, University of Economics in Wrocław, University of Economics in Poznań, Warsaw School of Economics, Warsaw University of Life Sciences, Maria Curie-Skłodowska University in Lublin, University of Gdańsk and University of Szczecin. Due to limited financial resources, a non-random sample selection was used in the study.

**Table 5. Characteristics of the studied sample (Poland, N=700)**

| Item | | No. of observations | % of observations |
|---|---|---|---|
| Gender | Female | 434 | 62.0 |
| | Male | 266 | 38.0 |
| | Other | 0 | - |
| Marital status | Single | 294 | 42.0 |
| | Married | 321 | 45.9 |
| | Divorced /Widower | 64 | 9.1 |
| | Other | 21 | 3.0 |
| Age | 18-24 years old (Generation Z) | 205 | 29.3 |
| | 25-39 years old (Generation Y) | 176 | 25.1 |

| | | | |
|---|---|---|---|
| | 40-49 years old (Generation X) | 206 | 29.1 |
| | 60-80 years old (Generation BB) | 113 | 16.1 |
| Education (completed) | Elementary | 18 | 2.6 |
| | Secondary without graduation | 95 | 13.6 |
| | Secondary with graduation | 238 | 34.0 |
| | Higher (vocational) | 85 | 12.1 |
| | Higher (university) | 264 | 37.7 |
| Economic status (main activity) | Employed | 394 | 56.3 |
| | Student | 144 | 20.6 |
| | On special leave | 8 | 1.1 |
| | Self-employed | 38 | 5,4 |
| | Unemployed | 5 | 0.7 |
| | Pensioner | 104 | 14.9 |
| | In a household | 7 | 1.0 |
| | Economically inactive | 0 | - |
| | Other | 0 | - |
| No. of persons in household | 1 person | 76 | 10.9 |
| | 2-3 persons | 342 | 48.9 |
| | 4-5 persons | 252 | 36.0 |
| | More than 5 people | 30 | 4.3 |
| Subjective assessment of the financial situation of own household | Very good | 256 | 36.6 |
| | Good | 339 | 48.4 |
| | Average | 72 | 10.3 |
| | Bad | 23 | 3.3 |
| | Very bad | 10 | 1.4 |
| Place of residence by no. of inhabitants | Up to 1,999 inhabitants | 76 | 10.9 |

| | | | |
|---|---|---|---|
| | 2 000 – 4 999 inhabitants | 70 | 10.0 |
| | 5 000 – 24 999 inhabitants | 100 | 14.3 |
| | 25 000 – 49 999 inhabitants | 76 | 10.9 |
| | 50 000 – 99 999 inhabitants | 93 | 13.3 |
| | 100 000 – 299 999 inhabitants | 192 | 27.4 |
| | 300,000 or more inhabitants | 93 | 13.3 |

*Source: Own research.*

There was a predominance of women in the sample (62.0%). The distribution according to age groups, including generations Z (18–24 years old), Y (25–39), X (40–59) and baby boomers (60–80), showed almost equal groups of respondents from generations Z and X (nearly 30% of respondents in the sample) and a slightly smaller group of Generation Y respondents (just over 25%). The smallest group of respondents were representatives of Generation BB (just over 16%). Furthermore, the sample was dominated by people with higher education (49.8%) and secondary education (47.6%), and the respondents themselves most often came from urban centres with a population of 100 to 200 thousand (27.4%). The respondents were most often employed (56.3%), students (20.6%) and pensioners (14.9%). They most often described their own financial situation as good (48.4%) or very good (36.6%) and represented households of two to three people (48.9%). The sample included the largest number of married people (45.9%) and single people (42.0%).

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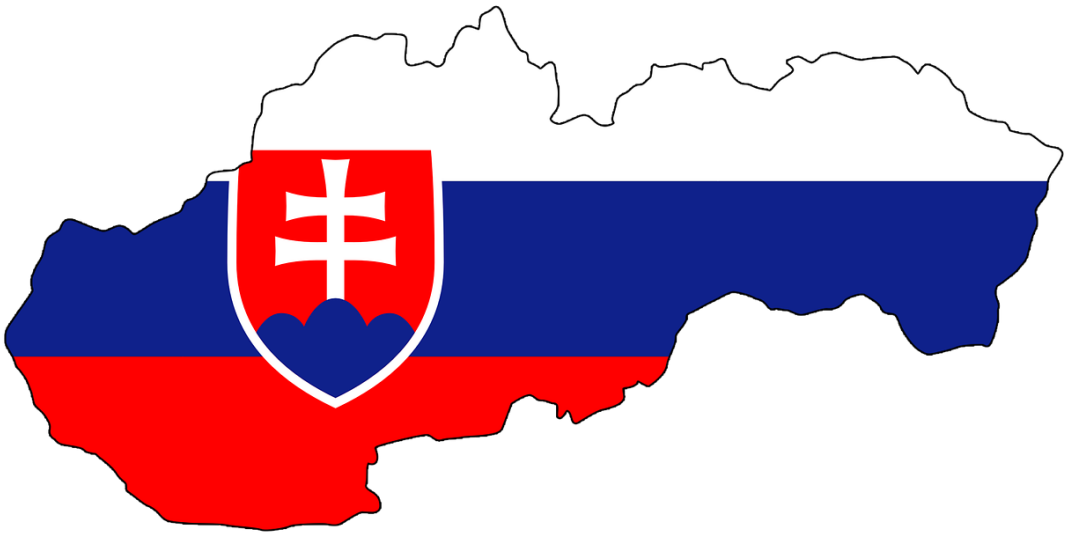
## 5.3 Scenarios of Sustainable consumption and pro-environmental behaviour in Slovakia



The impacts of the health and economic crisis to which households and individual consumers are exposed during the decision-making process affect their attitudes towards consumption, behaviour and purchasing with varying intensity and strength, and also lead to different outcomes. The aim of the empirical research in Slovakia for the project "Sustainable consumption of the population in a post-pandemic economy" carried out in 2024 was to learn about the attitudes of Slovak consumers' households towards socially responsible activities, behaviour, purchasing habits and decision-making, as well as to learn about respondents' views on environmental devastation and the emergence of a pandemic.

The identification of consumer preferences is considered one of the key concepts of consumer behaviour analysis (Vojáček, 2011). Pro-environmental consumer behaviour is aimed at reducing negative effects on the environment. Examples include reducing resource and energy consumption, using non-toxic chemicals and reducing waste generation. In other words, pro-environmental behaviour involves everyday, environmentally beneficial habits or activities. Although, the Slovak consumer declares the need to live in harmony with nature and an important

element of this attitude is healthy eating, their main criterion for food selection is an issue – see Table 1.

**Table 1. Consumers attitudes towards the purchase of organic products (Slovakia, N=555)**

| Specification | Evaluation* (%) | | | | | | | Position measures** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Me | Mo | M |
| I have a positive attitude towards buying organic products | 0.9 | 2.7 | 3.6 | 9.9 | 22.5 | 30.6 | 29.7 | 2.00 | 2 | 1.61 |
| When purchasing products, I pay attention to those that are reusable, recyclable, or at least energy-efficient | 2.9 | 6.1 | 5.8 | 11.5 | 27.6 | 31.5 | 14.6 | 1.00 | 2 | 1.08 |
| Organic products are widely available in the stores where I usually shop | 1.8 | 3.8 | 8.1 | 10.6 | 27.6 | 30.3 | 17.8 | 1.00 | 2 | 1.21 |
| I buy organic products because my friends and acquaintances also purchase them | 20.4 | 12.3 | 11.9 | 26.8 | 13.5 | 10.5 | 4.7 | -3.00 | 0 | -0.49 |
| I buy organic products because I care about the environment | 1.4 | 2.2 | 4.7 | 10.3 | 18.2 | 27.2 | 36.0 | 2.00 | 3 | 1.67 |
| I buy organic products because I am a supporter of natural products | 2.2 | 5.2 | 9.2 | 18.2 | 23.2 | 20.5 | 21.4 | 1.00 | 1 | 1.03 |
| I am willing to pay a higher price for an organic product compared to conventional products | 10.1 | 7.7 | 9.5 | 10.8 | 27.9 | 23.2 | 10.5 | 1.00 | 1 | 0.51 |
| I avoid purchasing certain products due to environmental concerns | 8.8 | 9.9 | 12.8 | 21.1 | 18.2 | 17.1 | 12.1 | 0.00 | 0 | 0.30 |

*Note: * The respondents marked their answers on a seven-point scale, where: -3 meant totally disagree and +3 meant completely agree. ** Me – median, Mo – modal value, M – arithmetic*

*mean. Due to the fact that the variables are measured on the ordinal scale, only the median and modal can be interpreted. The arithmetic average value is given for illustrative purposes only.*

*Source: Own research*

Lifestyle changes bring greater autonomy over one's physical, social and economic environment, which can have a significant impact on diet and other weight-related behaviours (Loria et al., 2010). Such autonomy is particularly important to examine in women, many of whom are the "gatekeepers" of the home eating environment and make eating-related decisions for themselves as well as for other household members (Rosenkranz & Dzewaltowski, 2008).

In contrast to the research of Kita et al. 2023, it appears that there is a change in the mother's position in the family following the Covid-19 pandemic, which is manifested by the prevailing traditional dietary patterns in the family disappearing and being influenced by other members of the immediate family. These new decision makers influence the mother and bring new elements not only to the family's dietary decision making but also to consumption patterns (Table 2).

**Table 2. Persons who have the greatest influence on pro-environmental behaviours within the household (Slovakia, N=555, in %)**

| Specification | Persons with the greatest influence on the choice of organic products | Persons who most frequently purchase organic products | Persons who most frequently use organic products |
|---|---|---|---|
| Household manager (wife, mother, partner, girlfriend) | 37.5 | 39.6 | 34.6 |
| Household manager (husband, father, partner, boyfriend) | 5.9 | 5.8 | 14.1 |
| Other household members (grandmother, grandfather, children, relatives) | 16.8 | 14.2 | 14.4 |
| All members of the household to the same extent | 39.8 | 40.4 | 36.9 |

*Source: Own research*

Slovaks are often digital readers, which shows how they search for information, although they have not yet discovered the advantages of podcasts. Since 2022, the increase of social network users has been enormous (Hrnčárová, 2024). The number of people who currently use social networks at least occasionally has stabilised at 86 %, indicating that the majority of the population is already present on the networks and usage is mainly focused on intensity of use.

Only 14 % of the population do not use social networks at all. In this context of the development of internet use, the research results add to the fact that Slovaks do not pay attention to professional resources. Rather, they trust another person's opinion, which is perhaps questionable from the point of view of their safety. It confirms the trend that Slovaks, wanting to easily obtain trustworthy information, do not want to read and do their own research.

**Table 3. Sources of information about the environment (Slovakia, N=555)**

| Specification | Declaration* (%) | | | | | | | Position measures** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 | Me | Mo | M |
| Documentary programmes | 10.6 | 7.6 | 4.9 | 11.2 | 25.6 | 23.1 | 17.1 | 1.00 | 1 | 0.71 |
| Social networks | 12.1 | 3.2 | 4.1 | 5.2 | 16.0 | 26.5 | 32.8 | 2.00 | 3 | 1.21 |
| Books | 20.9 | 11.0 | 9.2 | 20.8 | 20.2 | 12.3 | 5.6 | 0.00 | -3 | -0.32 |
| Own observations of nature | 3.8 | 4.9 | 4.9 | 16.6 | 22.2 | 24.0 | 23.8 | 1.00 | 2 | 1.15 |
| From conversation with other people | 1.1 | 2.7 | 2.7 | 9.7 | 24.1 | 36.9 | 22.7 | 2.00 | 2 | 1.55 |
| Newspapers and magazines | 16.9 | 9.0 | 7.6 | 16.4 | 21.4 | 17.7 | 11.0 | 1.00 | 1 | 0.13 |
| Television | 10.1 | 3.4 | 4.1 | 10.8 | 26.1 | 25.2 | 20.2 | 1.00 | 1 | 0.96 |
| Podcasts | 28.3 | 6.7 | 5.1 | 13.9 | 15.5 | 19.1 | 11.4 | 0.00 | -3 | -0.16 |
| Websites | 6.7 | 2.3 | 3.8 | 7.0 | 20.9 | 30.6 | 28.6 | 1.00 | 2 | 0.37 |
| Specialist articles | 15.0 | 7.7 | 7.0 | 14.4 | 22.2 | 18.4 | 15.3 | 3.00 | 1 | 2.56 |

*Note: * The respondents marked their answers on a seven-point scale, where: -3 meant I definitely don't use it and +3 meant I definitely use it. ** Me – median, Mo – modal value, M – arithmetic mean. Due to the fact that the variables are measured on the ordinal scale, only the median and modal can be interpreted. The arithmetic average value is given for illustrative purposes only.*

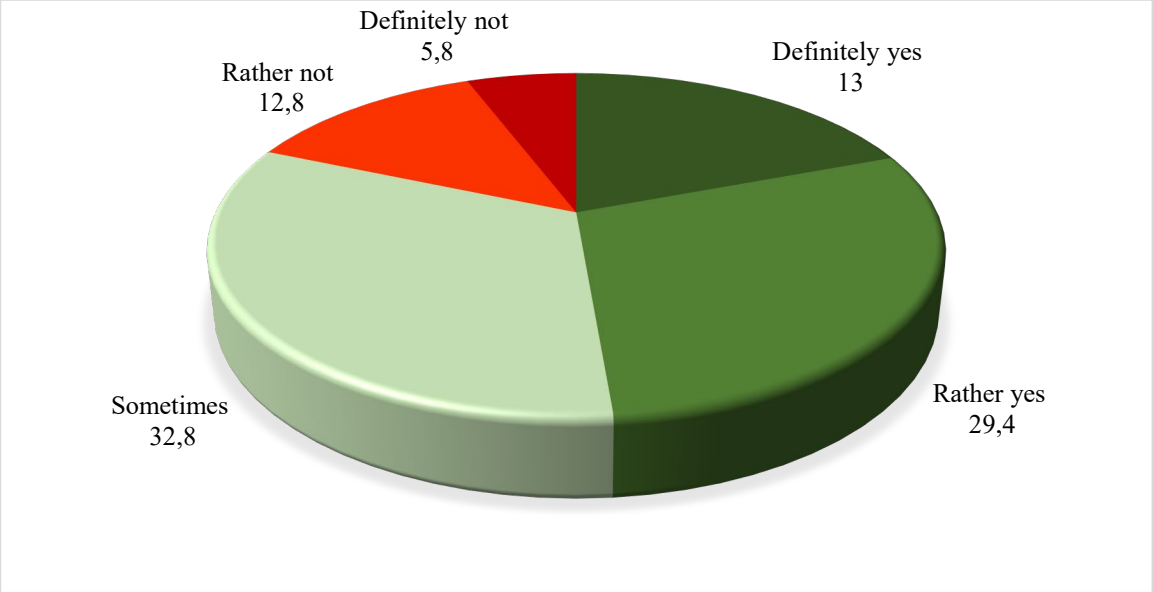
*Source: Own research*

According to Hrnčarová (2024), social networks have become an important element of Slovaks' everyday functioning – from communication to entertainment to work. Compared to previous years, there is a visible increase in the intensity of use of all major social networks. In 2024, it was clear that they are constantly growing and changing the way people interact with the world around them.

Research results from 2023 show that considering that Slovaks are very trusting and consume only what is recommended to them. They do not pay much attention to the credibility of the source of environmental information. In this context, the results of the change in the position of the mother as a decision maker on food purchases, who traditionally in the family is

responsible for several activities such as feeding the father, raising the children and taking care of the household, which is one of the strongly held beliefs, are confirmed (Kika & Kollár, 2020).

**Figure 1. Evaluating the credibility of information sources related to the environment (Slovakia, N=555, in %)**




*Source: Own research*

The health and economic crisis also became one of the most frequently discussed topics in the previous years of 2020-2021. As a result of it, individual concerns regarding health, current needs and financial stability have come to the fore as the most significant issues (Kita et al., 2023). In this context, global crises have forced consumers to change their consumption behaviour, as indicated by the results obtained by the current research. They show that on one hand, consumers support the development of sustainable consumption practices that require urgent attention, but on the other hand they are less active in activities such as involvement in organisations supporting the SDGs and social aid campaigns. However, an increase in interest in society-wide issues can be noted (Table 4).

**Table 4. Pro-environmental behaviour of consumers (Slovakia, N=555, in %)**

| Specification | Declaration | | | | |
|---|---|---|---|---|---|
| | never | almost never | from time to time | almost always | Always |
| I engage in volunteering and helping other people | 15.5 | 30.3 | 39.8 | 10.8 | 4.1 |
| I work for the protection of the natural environment (planting trees, cleaning forests, feeding wild animals, etc.) | 37.3 | 35.5 | 18.6 | 6.1 | 2.5 |
| I work in organisations supporting sustainable development goals (organisations active in environmental protection, combating social exclusion, promoting gender equality, equality of nations, etc.) | 61.4 | 20.0 | 9.9 | 5.6 | 2.9 |
| I install eco-friendly solutions (heat pumps, solar panels, photovoltaic systems, water and wastewater treatment devices, energy-efficient light bulbs and appliances, etc.) | 36.2 | 25.9 | 23.1 | 10.8 | 4.0 |
| I buy second-hand clothing and other used goods | 6.1 | 19.5 | 48.6 | 20.2 | 5.6 |
| I purchase goods and services from companies that care for the environment | 16.6 | 20.4 | 33.0 | 21.1 | 9.0 |
| I repair or have damaged appliances, furniture, etc., repaired | 3.8 | 9.8 | 30.6 | 34.4 | 21.3 |
| I donate unnecessary but good items to charity organisations | 6.8 | 13.9 | 32.3 | 26.1 | 20.9 |
| I save electricity, gas | 0.5 | 4.3 | 22.7 | 39.8 | 32.6 |
| I save water | 0.9 | 5.0 | 21.1 | 40.7 | 32.3 |
| I act in ways that prevent environmental pollution | 0.2 | 1.6 | 9.9 | 38.3 | 49.9 |
| I promote a healthy lifestyle in my community (active recreation, healthy eating, limiting stimulants, etc.) | 2.2 | 9.4 | 24.3 | 34.8 | 29.4 |
| I sort waste and ensure it is recycled | 0.9 | 4.0 | 15.0 | 33.8 | 46.4 |
| I try not to waste food | 2.3 | 2.0 | 8.8 | 39.3 | 47.6 |

| | | | | | |
|---|---|---|---|---|---|
| I strive to limit consumption by making thoughtful purchases of goods and services I truly need | 1.6 | 6.1 | 18.2 | 40.9 | 33.2 |
| In elections, I vote for candidates who commit to caring for the natural environment | 9.6 | 15.0 | 28.6 | 24.4 | 22.4 |
| I support various humanitarian organisations with financial donations (Caritas, UNICEF, etc.) | 41.4 | 22.9 | 24.7 | 7.4 | 3.6 |

*Source: Own research*

**Metrics**

There was a predominance of men in the sample (59.1 %). The distribution according to age groups, including generations Z (18–24 years old), Y (25–39), X (40-49) and baby boomers (60–80), showed the largest group of respondents from Generation Z (40.5 %), followed by Generation X (26.1 %). Generation Y represented 18.0 % of the sample, and the smallest group of respondents were representatives of Generation BB (15.3 %). Furthermore, the sample was dominated by people with a secondary education with graduation (51.2 %) and a higher (university) education (34.8 %). The respondents themselves most often came from urban centres with a population of 300,000 or more (29.5 %). The respondents were most often employed (31.2 %) or students (27.9%), with unemployed also represented (15.9%) and pensioners (13.7%). They most often described their own financial situation as good (51.9%) or very good (31.2%) and represented households of two to three people (54.1%). The sample included the largest number of single people (53.3%) and married people (31.7%) – see Table 5.

**Table 5. Characteristics of the studied sample (Slovakia, N=555)**

| Item | | No. of observations | % of observations |
|---|---|---|---|
| Gender | Female | 223 | 40.2 |
| | Male | 328 | 59.1 |
| | Other | 7 | 0.7 |
| Marital status | Single | 296 | 53.3 |
| | Married | 176 | 31.7 |
| | Divorced | 40 | 7.2 |
| | Widower | 38 | 6.8 |
| | Other | 5 | 0.9 |
| Age | 18-24 years old (Generation Z) | 225 | 40.5 |
| | 25-39 years old (Generation Y) | 100 | 18.0 |
| | 40-49 years old (Generation X) | 145 | 26.1 |
| | 60-80 years old (Generation BB) | 85 | 15.3 |
| Education (completed) | Elementary | 7 | 1.3 |
| | Secondary without graduation | 34 | 6.1 |
| | Secondary with graduation | 284 | 51.2 |
| | Higher (vocational) | 37 | 6.7 |
| | Higher (university) | 193 | 34.8 |
| Economic status (main activity) | Employed | 173 | 31.2 |
| | Student | 155 | 27.9 |
| | On special leave | 12 | 2.2 |
| | Self-employed | 37 | 6.7 |
| | Unemployed | 88 | 15.9 |

| | | | |
|---|---|---|---|
| | Pensioner | 76 | 13.7 |
| | In a household | 8 | 1.4 |
| | Economically inactive | 3 | 0.5 |
| | Other | 3 | 0.5 |
| No. of persons in household | 1 person | 86 | 15.5 |
| | 2-3 persons | 300 | 54.1 |
| | 4-5 persons | 148 | 26.7 |
| | More than 5 people | 21 | 3.8 |
| Subjective assessment of the financial situation of own household | Very good | 173 | 31.2 |
| | Good | 288 | 51.9 |
| | Average | 76 | 13.7 |
| | Bad | 16 | 2.9 |
| | Very bad | 2 | 0.4 |
| Place of residence by no. of inhabitants | Up to 1,999 inhabitants | 55 | 9.9 |
| | 2 000 – 4 999 inhabitants | 65 | 11.7 |
| | 5 000 – 24 999 inhabitants | 93 | 16.8 |
| | 25 000 – 49 999 inhabitants | 71 | 12.8 |
| | 50 000 – 99 999 inhabitants | 76 | 13.7 |
| | 100 000 – 299 999 inhabitants | 31 | 5.6 |
| | 300,000 or more inhabitants | 164 | 29.5 |

*Source: Own research.*

Less healthy eating habits are associated with disadvantaged socio-economic conditions (Dowler, 2008). Family well-being is considered a marker of socio-economic status (Davison et. al, 2021).

Slovak society is still considered to be culturally conservative (Potančoková, 2009) and oriented towards "traditional" values supporting family and marriage. Based on the analyses performed, the main target group is women with a higher income and a higher education.

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# 6 SUMMARY

## *Common features*

**Influence of gender and financial situation:** Gender and financial situation are significant factors influencing the purchase of organic products in all three countries. This suggests that marketing campaigns and educational initiatives should take these demographic variables into account.

**Importance of information:** Information sources play a key role in influencing purchasing decisions. Consumers in all three countries rely on a variety of information sources such as television, the internet, word of mouth, scientific articles and podcasts.

**Pro-environmental behaviour:** Consumers in all three countries show some pro-environmental behaviour such as saving water, sorting waste, installing green features in the home and voting for environmentally conscious candidates.

**Availability of organic products:** In the Czech Republic and Slovakia, organic products are commonly available in regular stores, while in Poland they are primarily available in specialty stores. This may affect availability and convenience for consumers.

## *Differences*

**Reasons for purchase:** In the Czech Republic, the main reason for purchasing organic products is 'interest in natural products', whereas in Poland and Slovakia it is 'renewability and sustainability'.

This suggests that consumers in different countries have different motivations for buying organic products.

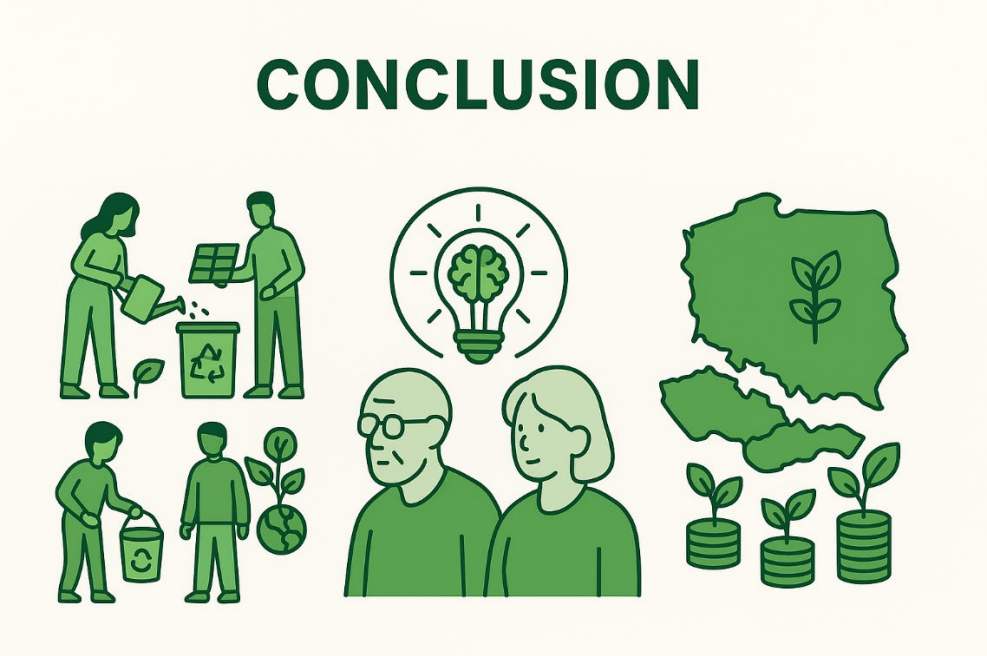
**Sources of information:** In the Czech Republic, consumers rely on television, scientific articles and podcasts, while in Poland and Slovakia they rely on the internet, television and word of mouth. This suggests that marketing campaigns should be tailored to the specific sources of information used by consumers in each country.


## *Conclusion*

**Pro-environmental behaviour:** In the Czech Republic, consumers save water but sort waste less, install green features in the home and vote for environmentally conscious candidates. In Poland, they install green features in the home and donate to charities, but volunteer and vote less. In Slovakia, they vote for environmentally conscious candidates and volunteer, but less people install green features in the home. This suggests that there are specific areas in each country where pro-environmental behaviour needs to be improved.

**Influence of age and education:** Age and education play a significant role in influencing the purchase of organic products in Slovakia, but not in the Czech Republic and Poland.

This research provides valuable insights into pro-environmental consumer behaviour in the Czech Republic, Poland and Slovakia. The findings suggest that there are both commonalities and differences between the countries. Marketing campaigns and educational initiatives should take these similarities and differences into account to be most effective.




## *Recommendation*

**Targeted marketing campaigns:** Marketing campaigns should target specific demographic groups and take into account their motivations and sources of information.

**Educational initiatives:** Educational initiatives should focus on raising awareness of the importance of pro-environmental behaviour and providing consumers with the information and resources they need to adopt this type of behaviour.

**Policy interventions:** Policy interventions should aim to promote sustainable consumption and pro-environmental behaviour, for example through tax breaks, subsidies and regulation.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