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SUSTAINABLE MARKETING AND THE CHALLENGES OF GREEN MARKETING COMMUNICATION: SURVEY OF CONSUMER ATTITUDES AND BUYING BEHAVIOUR FOR SUSTAINABLE PRODUCTS IN THE CZECH REPUBLIC

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Abstract

Sustainability is a term that resonates throughout society in the broadest sense: from countries across continents, individual actors within communities or states – business entities, educational institutions and households, and public administrations. This is because the earth is highly likely to become unviable if we do not pursue sustainability. So many are aware of this and see sustainability as an important and no doubt long-term megatrend that affects us all. Businesses are not standing on the sidelines either, although it must be acknowledged that sustainability and economics do not always go hand in hand; however, projects with various practical sustainability benefits can be found. Unfortunately, sustainability is sometimes perceived as a topic that can be exploited in marketing in the form of "greenwashing." This article addresses the challenges of green marketing communication, and examples from the Czech Republic are presented. Questionnaires were conducted to analyze and evaluate consumers' attitudes and buying behavior toward sustainable products in the Czech Republic.

Keywords: consumer attitudes, behavior, green marketing, greenwashing, sustainability, sustainable marketing.

1 Introduction

Although the term sustainability or sustainable development can be located in the mid-1970s in Brundtland Report[2] (Brundtland, 1987) and the global summit in Rio de Janeiro in 1992 was a significant milestone that highlighted the urgency of environmental protection, the actual shifts in more than thirty years are far beyond the proclaimed intentions. In the last decade, perhaps also in the context of numerous natural anomalies or undesirable trends, especially the warming of the planet, sustainability has taken on a new dimension as a significant megatrend

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[2] *The Report was published in 1987 by Oxford University Press and is widely available on the internet.*

in the development of societies, permeating all their spheres, politics, economic development, business, education, household behavior, etc. Moreover, it is not a fad highlighting a particular country but a cross-cutting issue affecting virtually every country on Earth.

Undoubtedly, an important role plays in businesses, households, consumers, and their behavior regarding sustainability. At the outset, it must be admitted that sustainability is not very closely associated with economics, which often leads to reticence, even though both companies and individuals are willing to embrace sustainability. However, there is also a turn in this direction, with banks declaring their intention to lend to projects with a sustainability component and projects (new products and technologies) that will benefit the company and sustainability. The fact that sustainability is now playing a significant role in the focus on corporate social responsibility must be considered. From here, there is only a short step to various marketing activities that draw attention to the consideration of sustainability in both the products and services offered and the company's operation. There is nothing to object to this, as long as the presentations are based on the truth and are perceived as a certain new direction to reach real and potential business partners and customers and to influence public opinion. However, it is also possible to abuse this attractive topic, to present something concerning sustainability that may not be entirely true, or to beat the PR note of sustainability directly - greenwashing[3].

2 Sustainability

Sustainable development or sustainability[4] are concepts that have come into broader awareness over the last fifty years. Sometime in the late sixties, people with a wealth of practical experience associated with the so-called Roman club expressed concern about future developments, in other words, whether the pursuit of sustained economic growth worldwide was in danger of hitting an ecological barrier; we might have everything in the future, but it would no longer be possible to live on Earth. The iconic publication, The Limits to Growth[5] (Meadows et al, 1972) launched numerous activities, especially at the United Nations. This world organization initiated several research activities, the most famous of which are the conclusions of the commission led by Norwegian Prime Minister Gro Harlem Brundtland, who focused on current environmental issues, including sustainability. Our Common Future in Brundtland Report[6] (Brundtland, 1987) presents for the first time the concept of sustainable development as development that meets the needs of present generations without compromising the ability of future generations to meet their own needs. This Report was debated at the UN General Assembly in 1978 and subsequently at the World Summit in Rio de Janeiro in 1992.

The turn of the 1980s and 1990s was when the need to care for the environment was presented globally. Since then, however, there has been a disconnect (unfortunately between individuals and entire communities or societies), which consists, on the one hand, of verbally subscribing to various strategic objectives that have a common denominator, namely environmental protection (sustainability), unfortunately, on the other hand, too much less, more cautious action, behavior, implementation of the stated intentions, which is repeatedly reflected in statements at global summits on sustainable development that the stated objectives have only been partially achieved and new problems are emerging that need to be addressed.[7]

2.1 Key Environmental Issues

Without aspiring to completeness, it is possible to identify critical environmental issues (Gates, 2021) on which sustainability efforts should be focused. The first ecological issue is avoiding global warming, i.e., gradually

[3] *EY's 2021 survey shows that about half of consumers in 20 countries think companies should make a positive impact on the world and would rather buy from companies that disclose the impact their products have on people and the planet. About a third of Czechs are willing to pay extra for healthier food, and a quarter for more sustainable goods or services.*

[4] *In the following we will consider these terms as synonyms, however, a distinction is sometimes made between them in professional circles, sustainable development is perceived with regard to long-term development, i.e. over a longer period of time, while sustainability is sometimes perceived as a term for the present, momentary development, in the short-term reality.*

[5] *The Limits to Growth: a report for the Roman's club project on the predicament of mankind. 8th print. New York: Universe books, 1972. 205 p. ISBN 0-87663-165-0.*

[6] *The Report was published in 1987 by Oxford University Press.*

[7] *The so-called Earth Summit that took place ten years after Rio, in Johannesburg in 2002, more than the satisfaction of ten years of achievements, hinted at new global problems: the scarcity of fresh water, the depletion of the world's oceans in terms of fish catch, although the Kyoto Protocol had been signed for five years, its ratification was slow, and even the opportunity of a global summit meeting did not accelerate ratification. The most recent UN climate conference, COP 26, held in Glasgow in the autumn of 2021 with representatives from 197 countries, with climate change action as its theme, highlighted this contradiction in words and actions: Participants flew in some 400 private jets to the conference, which was supposed to reduce fossil fuel use; the conference proceedings dragged on for a day as a consensus was sought on avoiding fossil fuel use, which was eventually found in the replacement of the word "ban," with "divert," with the major polluters announcing that they would not end fossil fuel burning in 2021. China in 2060 and India in 2070. The UN's latest report on greenhouse gas emissions shows that the updated announced pledges for 2030 will have only a limited impact on global emissions: a 7.5 per cent reduction is expected, while a projected 30 per cent reduction would be needed to limit global warming to 2 per cent below the pre-industrial level set by the 2015 Paris Convention.*

reducing the burning of fossil fuels, primarily coal, natural gas, methane, transport fuels, etc., up to a ban in 2050. The next critical environmental issue is *limiting the consumption of resources*: water, energy, and primary raw materials, i.e., absolute reduction in consumption, use of recycled materials, extension of service life, use of renovation, etc. (circular economy). Another key issue is *the reduction of plastics; it is not just a risk of marine pollution; micro-particles* of plastics have also been found in the micro-organisms of animals (Cryptopygus antarcticus) in Antarctica. The problem is that they float freely in the sea, break down extremely slowly, enter the bodies of fish, and enter humans when they eat fish. The next critical environmental issue is *the recycling problem*, where a significant proportion of the plastic collected is incinerated, and the emerging phenomenon of "micro-plastics." The next issues identified are the loss of the natural regeneration of the planet due to deforestation of forests, but also forests (destruction by bark beetles), land taken for industrial and civil construction, and warehouses of logistics centers. Another key issue is *the warming and acidification of the world's oceans*. The next issue is *the declining natural diversity*, which means the disappearance of numerous plants and animals (biodiversity) in connection with the deteriorating environment; in its consequences, it leads to the disturbance of the balance in nature, even the laity perceive that crayfish have disappeared from streams, diverse meadow flowers, but also multicolored butterflies, often not only in forests but also in the vicinity of dwellings spread invasive animals such as wild pigs. Another critical environmental issue is *the aerosols in the air*, which means different mixtures of particles in terms of size, composition, electrical charge, concentration, and water solubility. The adverse effects on the human body will be determined by the method of inhalation (mouth, nose), the depth and frequency of breathing (determined by exertion), the length of stay (local, repeated, long-term), and the use of ventilation and protective equipment.

3 Gathered data to illustrate the above

The COVID-19 year 2020 has had some impact on sustainability. Many of the positive trends related to sustainability cannot be attributed to targeted efforts by governments or the business sector but have resulted from the various harsh restrictive measures that many governments have been forced to take to keep the Covid 19 pandemic at bay.

3.1 Global Developments

Here are some global developments that can be demonstrated. The year 2020 saw a decline in primary energy sources of about 4.5 % and CO2 emissions of 6.3 % since 1945; structurally, the most significant drop was in oil consumption -9.7 %, while renewable energy production increased by +9.7 % and hydroelectricity +1 %; the most significant decline in primary energy consumption was in North America -8 %, in Europe -7.8 %, in China consumption grew +2.1 % (Cenia, 2020).

Developing countries, including China and India, account for 61% of global energy consumption, 82% of carbon fuel consumption, account for 2/3 of all global CO2 emissions China's energy consumption alone is now higher than the US and EU combined, and China alone consumes 57% of global coal for power generation, renewable energy in China accounts for 5.4% of energy consumption, China's share of global CO2 emissions increased to 31%[8] (Cenia, 2020). Fossil fuels accounted for 83.1% of global energy consumption in 2020, of which oil accounted for 31.2%, coal 27.2%, natural gas 24.7%, the share of renewables globally was around 5.7%, wind and solar 3.9%, nuclear (globally 4.3%, the share of hydropower alone is higher at 6.9%) (Cenia, 2020). Unfortunately, the dominance of fossil fuels in total energy consumption persists even in developed countries, at 78%, and renewables, at 8.3%[9]. However, both the US and the EU are succeeding in reducing CO2 emissions, but this has yet to have a significant impact globally as they have increased by 1.9% globally (2020/2007).

There was a 0.5% decrease in 2020 globally compared to the previous year for electricity alone. Developing countries use fossil fuels for 68.2%, hydropower for 17.7%, and renewables for 8.5% of electricity generation; developed countries use fossil fuels for 51.3%, renewables for 16.4%, hydropower for 13.6% and nuclear for 17.2% (Cenia, 2020).

A controversial stance in professional circles is being taken towards biomass, mainly using wood as an energy source. However, an open letter from 500 scientists worldwide suggests that woody biomass is not carbon-neutral, and burning it leads to global warming.

3.2 Development in the Czech Republic

In this part, some developments in the Czech Republic will be demonstrated. In 2020, 81427,6 GWh of electricity was generated in the Czech Republic (Cenia, 2020). Steam power plants accounted for the largest share

[8] *It must be admitted though that China supplies the whole world, and especially the developed countries, with its production.*
[9] *In California, which has favourable climatic conditions, the share of wind and solar energy in total consumption was 6.8% in 2020.*

of 43.2%, while nuclear power plants produced 36.9%, steam power plants 7.4%, and gas and combustion power plants 4.7%. Photovoltaic power plants accounted for 2.7% of the energy produced, hydroelectric power plants for 2.6%, and wind power plants for 0.9% [10] (Czech Statistical Office, 2020).

In 2020, the Czech Republic mined minor coal since 1965; compared to 2019, complex coal production fell by 37.6% to 2.1 million tonnes (a drop to a quarter of 2020/2013), and lignite production fell by 21.3% to 29.5 million tonnes (a decline of more than a quarter 2020/2013). These figures are due to decreased consumption and profitability issues (in 1989, 120 million tonnes of coal were mined) (Cenia, 2020).

The state's strategic documents (under the responsibility of the Ministry of the Environment) are too general, with pessimistic statements such as: „The existing strategic documents contain several measures (mainly of a legislative nature), which are, however, often not implemented and often several years have already passed since the deadline for implementation. At the same time, work on several measures is not being carried out or has stopped altogether" (Czech Republic 2030, 2018). The macro-social view is completed by the fact that the Green Party has practically disappeared in the political structures of the Czech Republic; they have been elected to the Parliament of the Czech Republic for two terms in the last thirty years, and in the previous election they received 0.99% of the votes (Green Party Results in Districts, 2021).

It is clear from the above that the Czech Republic fundamentally aligns with global trends. Still, there are differences in the energy mix: a high share of fossil fuels (55%), a relatively high share of nuclear energy (about 37%), and a meager share (6.2%) of production from renewable sources. Eighteen national strategic documents in the field of the environment inevitably lead to the question of whether quantity is not a substitute for quality. From the current Report on the State of the Environment in the Czech Republic (2021), there are not very encouraging statements, which are apparent even to an ordinary citizen: due to the bark beetle calamity, the area of clearings has deepened, forests have become a source of greenhouse gas emissions, agricultural land has been declining for a long time (e.g., construction of warehouse centers, housing development projects on the suburbs of cities). Thanks to the COVID-19 pandemic, there has been a decline in water intake and an improvement in the air. Greenhouse gas emissions from stationary sources may have fallen, but they are rising from transport (Report on the State of the Environment in the Czech Republic, 2021).

4 Communication on Sustainability

To begin with, it needs to be noted that making any change, including positive shifts in sustainability, requires mastery of three activities contained in the words: know, want, and can.

The starting point for any change is awareness of what should be changed and how. Admittedly, the general understanding of environmental protection is good, and most of the population identifies with it. However, knowledge remains on the surface; there is a lack of incentive to learn more, and unfortunately, the formal education system is not very supportive. Moreover, this knowledge is from the natural and technical sciences, less popular with the younger generation.

If there is knowledge of something, it is easier in a person's behavior and society to want to achieve and change something. The following verb, „can, " states that the subject must be in a particular position of power to bring about change. Even a self-educated and motivated individual who wants to recycle a plastic yogurt cup cannot do much. Although he or she can put it in a collection bin, this is the beginning of the recycling cycle. from there, it has to be taken to a recycling plant (in many cases, there is sorting stratification into specific types of plastics, and only some of them (something like a third in the Czech Republic) are transformed into secondary raw material, about half of them is burnt. The rest end up unseparated in municipal waste. However, from the above brief excursion, it is clear that it all starts with knowledge, communicating knowledge about sustainability. With the awareness of a specific generalization, we can divide communication towards sustainability into several separate areas: 1) formal and non-formal educational systems, including communication in the media; 2) open communication of scientific research findings; 3) corporate communication, including marketing communication, 4) communication on websites, social networks, 5) ad hoc communication among people.

Let's admit that every communication is usually motivated by something, whether it is the need to use it for education or to communicate something, or it can, of course, be a tool for motivation, it means leading the recipient towards a specific behavior. We can motivate in a desirable direction for the benefit of sustainability, but sustainability can only be used with a positive effect on sustainability.

It is beyond the scope of this article to go into all the above aspects of communication in detail, so let's take a closer look at corporate communication. It can take three forms concerning sustainability: on the one hand, it can be neutral, which means it does not deal with sustainability (probably a widespread situation); on the other hand, it can positively use sustainability. Unfortunately, the third option, the misuse of sustainability in corporate

[10] *As we move away from fossil fuels for heating, warming, household operations, electricity consumption is projected to double by 2050.*

communication, is not excluded, the so-called greenwashing. Let's have a closer look at positive, sustainable corporate communication.

4.1 Positive corporate sustainable communication

The first thing to note is that this communication should take the form of both *internal* and *external communication*. *Internal communication*, which means inwards, should mainly address employees to explain general and strategic intentions towards sustainability, the company's guiding values, and, where appropriate, specific environmental protection practices. Internal sustainability communication must be considered because, as mentioned above, more is needed to declare sustainability. Implementing it in daily activities is essential, where the managers and employees are irreplaceable.

The starting point will be to define the top management as the owner and the company's direction for sustainability. Focusing on all possible directions of environmental protection at once is unrealistic, and a per-parties approach must also be applied to the strategic objectives. The critical question will be whether the company will focus on improving a product's sustainable characteristics or the operations' sustainability. Both are possible, depending on the problems the company focuses on, their riskiness, their economic complexity, and their payback over time. Strategic objectives must be appropriately formulated and justified, not only inwards but also in case of a loan application. Banking houses are willing to support this direction of corporate activities with credit support. A straightforward yet logical presentation must be prepared for the company's employees, differentiated for managers of different levels and operators.

External communication is intended for external stakeholders to increase their awareness about products or the company in the direction of sustainability. Also, in this respect, it will be necessary to determine what to communicate, to whom to share, and what communication channels to prioritize; all about the communication objective: this may be to use communication to increase the volume of sales of products and services, to expand awareness about products or about the company towards strengthening competitive advantage. Communication may also pursue long-term objectives in improving the image of the company or products.

However, sustainability in external corporate communication also has its pitfalls. Usually, companies focus only on a partial segment of the product life cycle, e.g., in the case of classic and energy-saving light bulbs[11], where manufacturers present savings during usage but not throughout the entire life cycle of the product, it means from raw materials, through their processing, supply to finalists, actual production, logistics to stores/customers, consumption/use, up to the disposal. Greenwashing, which means promoting shifts in sustainability that are not based on the truth or at least imply misrepresentation, is unfortunately also a recent reality. Still, various websites try to draw attention to this mischief. In a way, we can classify Greenwashing as an offshoot or subset of Brainwashing (Petherick, 2020).

5 Practical Examples from the Czech Republic

There are many positive and negative examples of sustainable communication from the present and recent past.

5.1 Positive Examples

Some positive examples from the Czech Republic can be demonstrated. In October 2019, the Association of Small and Medium Enterprises of the Czech Republic released "5 Signs of a Sustainable Company:" expanding the company's mission to include sustainability; employee involvement in company decision-making, monitoring and reducing negative environmental impacts; bringing sustainable innovations; supporting non-profit organizations and community service activities such as investment into education (ASME, 2019).

Another positive example can be demonstrated with the Czech Railways (CD): "Our shared mission: zero emissions, traveling green - with the smallest possible carbon footprint - your car would have to become up to 4 times smaller to have as low carbon footprint as traveling by train"[12] (Czech Railways, 2023). Sko-energy in Mlada Boleslav plans to replace the burning of lignite with woodchips in the company's energy mix. The two-billion

[11] A classic bulb, e.g. 100 W, can be bought for 10 CZK, an energy-saving bulb with the same luminous intensity but with a consumption of 16-18 W can be bought from 70 CZK up. On some e-shops you can find a calculation of when this investment will pay off in terms of lighting costs (they suggest that you light on average 3, 4, 5 hours a day). Already the problem is whether we always (e.g. in summer we light so much), and in winter the lower efficiency may not bother us, because we warm our interior. In addition, such a calculation does not include the higher ecological burden of producing an energy-saving bulb, nor the higher cost of its disposal (a conventional bulb can go to waste, an energy-saving bulb must be separated and disposed of as electrical waste).

[12] In absolute terms, the situation is even more complex: emissions from transport total 20 million tonnes of CO2 for the Czech Republic. Of this, road transport accounts for 72% of emissions (of which cars account for more than 60%, trucks for more than 38%, and motorcycles for over 1%), air transport for 13.4%, rail for 0.5%, and other transport (water, agricultural, construction machinery, etc.) for about 14%. The Covid pandemic contributed to the decline in emissions from air transport; for 2021, it was estimated that the number of flights handled at Ruzyne Airport will fall by one quarter (pre-pandemic period), while flights over the Czech Republic in 2021 will be about half as high.

investment is expected to be up and running by the end of 2025. Another project (worth 1.4 billion CZK) plans water recycling to use only recycled water in operation by the same date; the shortage of plastic leads to an acceleration of the use of recycled materials[13] (Economic Journal, 2021).

There are also examples from industrial practice: the automotive industry, in addition to focusing on electromobility, is looking for alternative natural raw materials for car interiors, petrochemicals - preserving plastics in the circular economy, and development of low-emission fuels for land and air transport. Transport, storage, packaging, and distribution optimization are becoming the focus of many companies. More examples can be stated from applying sustainability in the construction industry: starting with design organizations - human-sustainability concepts, which means user comfort with energy efficiency, conservation of natural resources, their subsequent circulation (Cradle to Cradle - C2C[14]), use of materials without pollutants, of plant origin, longer service life, more significant variability in office and operational buildings.

When considering perspectives for agriculture, current monitoring with sensors (temperature, humidity) allows for optimizing irrigation systems (water and energy saving) in fields and greenhouses. Considering common perspectives: monitoring and solving energy losses, installing photovoltaics on operational buildings, adopting low-cost measures to save energy, raw materials, waste, and pressure on suppliers about sustainability. Considering sharing cars, bikes, and scooters means producing and operating fewer products to satisfy a specific need; in the case of car sharing, one such vehicle replaces 8-12 regular cars in the city (Langerova, 2021).

5.2 Negative Examples

Negative examples relate to product promotion and company presentation, where the sustainability element (Eco-, Bio-, Zero Carbon, Zero Waste) is narrow and does not cover broader environmental aspects or is untrue or outright false. Various references to such examples, usually associated with Greenwashing[15], are beginning to appear online. Specific forms can vary; for example, in a vague statement without proof, it is not clear what is meant by "eco" or "organic." Adding 5% organic cotton to the material mix, the question is whether the textile produced afterward can be labeled organic.

Another form of a negative example is withholding other information, when only one environmental aspect is highlighted but others are not mentioned, e.g., „our coffee in your cup.“ Undoubtedly, it sounds organically, but it is only a fraction of fast food restaurants' packaging. A different form of a negative example is presenting a sustainable shift: made from eco-friendly or recycled material, which is, of course, eco-problematic. Let's admit that a plastic carrier bag is not very eco-friendly for raw materials and is problematic for recycling. However, paper bags need four times more water to be produced and more emissions. Their reusability is lower, although recycling of paper is more accessible. And perhaps even more ridiculous are the attempts to create packaging for cleaning products from plastics collected on beaches.

The following example of negative communication is a link to promote a charity eco-event when one purchases a given product, which does not have to be eco-friendly; in any case, it is a public collection, the organization of which is governed by law (Act No. 117/2001 Coll. on Public Collections) and must be notified to the relevant Regional Authority or Municipality, promotion can only be done after a certificate has been issued. Another form of negative communication is highlighting the eco-packaging, the eco-bag, and the pseudo-certificate without the actual product being organic. The last form of negative communication to be mentioned is circumventing eco-legislation or outright lying. Perhaps the most famous of recent times is the DieselGate deliberate manipulation of diesel emissions tests by several car companies (dTest, 2016).

6 Research questions and methodology

This survey aims to identify, analyze, and evaluate consumers' attitudes and buying behavior in the context of the consumers' attitudes toward sustainability and pro-environmental responsibility. In addition, the survey examines factors that influence pro-environmental behavior and the willingness to pay more for sustainable products in the Czech Republic.

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[13] The fact that even unqualified journalists can contribute to Greenwashing is evidenced by the headline in the Ekonomický deník, which also boasts the subtitle "Information for the informed:" Emission-free Mladá Boleslav. "Ško-energo power plant will completely replace coal with biomass." The burning of biomass is not emission-free, but according to the company's representatives, 400 thousand tons of CO2 will be saved annually, see: https://ekonomickydenik.cz/bezemisni-mlada-boleslav-elektrarna-sko-energo-zcela-nahradi-uhli-biomasou/

[14] Cradle to cradle is a play on the phrase "cradle to grave", implying that the C2C model is sustainable and considerate of life and future generations. https://objektove.tarkett.cz/cs_CZ/centrum-napovedy/co-je-to-cradle-to-cradle-2808.

[15] Greenwashing: „activities by a company or an organization that are intended to make people think that it is concerned about the environment, even if its real business actually harms the environment. A common form of greenwash is to publicly claim a commitment to the environment while quietly lobbying to avoid regulation.“ Unfortunately, it must be admitted that there are as yet no boundaries defining what is and what is no longer greenwashing. (Oxford Learner´s Dictionaries, in: https://www.oxfordlearnersdictionaries.com/definition/english/greenwash).

The research questions defined are the following:

Q1: What is the attitude of Czech consumers towards public information on sustainability?

Q2: Education on sustainability is considered by Czech consumers to be sufficient in terms of awareness and responsible behavior towards sustainability.

Q3: Most Czech consumers have a positive attitude towards sustainable goods or services where the manufacturer or seller has declared eco-/bio- aspect.

Q4: What place does sustainability have among the purchasing behavior attributes such as price, quality, ease and convenience of purchase, brand (branding), experience, and product reputation?

Q5: Increased costs of electricity, gas, or other energy sources become an incentive for Czech consumers to take action to make significant energy savings.

A survey based on a questionnaire was carried out to find cues to answer the research questions. An interview protocol was designed with questions to determine whether most Czech consumers are concerned about sustainability and the environment. The following research question examined the education on sustainability in the Czech Republic and responsible behavior towards sustainability. Furthermore, consumers' attitudes and buying behavior towards sustainable goods and services with a declared eco-/bio-aspect in the Czech Republic were examined. In addition, it was researched what place sustainability has among purchasing behavior attributes such as price, quality, ease and convenience of purchase, brand, experience, and product reputation. Last but not least, the research examined what actions Czech consumers undertake to make significant energy savings due to increased costs of electricity, gas, or other energy sources.

In the next part, the methodology used in this research is outlined. Considering the character of the research questions, a qualitative survey approach was adopted. A survey in the Czech Republic was carried out from May 8 to May 31, 2023, to analyze and evaluate consumers' attitudes and buying behavior toward sustainable products. A combination of online and face-to-face interviews (CAWI + CAPI) was used for the data collection method. There were 623 Czech respondents over 18 years of age surveyed. The sample selection was random, meaning the results cannot represent the Czech population.

6 Research and Findings

The first research question was aimed at finding out the attitude of Czech consumers toward public information on sustainability. The highest percentage of respondents think it is a matter of the state (Ministry of the Environment of the Czech Republic) and the business community, as there is little an individual can do (Table 1). Almost thirty percent of respondents think that the sustainability information is exaggerated and that there are various “scarecrows” in the interests of multiple lobbies. We can also see from Table 1 that for 17% of citizens, the public information on sustainability represents a long-time concern. About one-fifth of the respondents are not too concerned about general information on sustainability as they are interested in other, more critical issues. The least percentage of people lack relevant information.

Table 1: Attitude towards public information on sustainability

Q1: What is your attitude towards general information on sustainability?		
a)	For a long time, with concerns	17%
b)	I think the information is exaggerated; there are various "scarecrows" in the interests of multiple lobbies.	28%
c)	It is a matter of the state (Ministry of Environment) and the business community; there is little an individual can do.	37%
d)	I lack relevant information, so I have no opinion.	6%
e)	I am not too concerned about it but interested in other, more critical issues.	12%

(Source: Own elaboration)

The next question was whether Czech consumers consider their education on awareness and responsible behavior toward sustainability sufficient. It is important to note that here, the answer depended on age. Most of those respondents who answered that they did not learn much at school and used extracurricular sources such as the internet, media, and articles in newspapers and magazines were older generations (45) who attended school some 20 years ago. On the other hand, the younger respondents (18-25 years of age) mostly answered that they received sufficient education on sustainability. Some respondents (12%*)* responded that they received only partially adequate education about sustainability, and 8% of respondents considered the education they received on sustainability insufficient.

Table 2: Education on sustainability is considered sufficient regarding awareness and responsible behavior towards sustainability.

Q2: Do you consider your education on sustainability sufficient in terms of awareness and responsible behavior towards sustainability?		
a)	Yes.	35%
b)	Only partially.	12%

c)	I did not learn much at school; I use extra-curricular sources: the internet, media, newspapers, articles, magazines, etc.	45%
d)	I consider the information I have received from my school education needs to be revised.	8%

(Source: Own elaboration)

The next question was researching the attitude of Czech consumers towards sustainable goods and services in the cases where the manufacturer or seller has declared the eco-/bio- aspect of the products or services. From Table 3, it is clear that most respondents are price/utility-driven; they use web comparators to find the best price, and sustainability does not fit into their scheme. Almost one-third of respondents (31%) prefer sustainable goods or services and are willing to pay more. One-fifth of respondents are unconcerned about the eco-/bio- aspects of products and services as they suspect some marketing tricks behind them. A slightly higher percentage of Czech consumers (11%) are neutral towards sustainable goods or services; they do not see or exclude such products. The lowest percentage of respondents (8%) are unconcerned about sustainable goods or services.

Table 3: Attitude towards sustainable goods or services with eco-/bio-aspect.

Q3: What is your attitude towards sustainable goods or services where the manufacturer or seller has declared eco-/bio- aspect?		
a)	I prefer sustainable goods/services, and I am willing to pay more for them.	31%
b)	I am neutral, case by case, I do not seek or exclude such goods or services.	11%
c)	It leaves me unconcerned, I suspect some marketing tricks behind it.	10%
d)	I am price/utility-driven, I often use web comparators, and sustainability does not fit into that scheme.	40%
e)	I'm not too concerned with that; I am interested in other, more important topics.	8%

(Source: Own elaboration)

Another question related to sustainability was asking Czech consumers about sorting waste in their households. The following waste categories were considered: paper, plastics, glass, e-waste, small metal waste, and used or expired cooking oils. The research results showed that most consumers sort out paper (82%) and plastic (80%), followed by glass (69%) and e-waste (34%). The lowest percentage represented small metal waste (34%) and cooking oils (5%).

The following research question examined the place sustainability has among the purchasing behavior attributes such as price, quality, ease and convenience of purchase, brand (branding), experience, and product reputation. The research results show that more than half of the respondents place sustainability among the first three attributes (price, quality, ease, and purchase convenience). About one-third of respondents stated that sustainability is usually outside the preferred attributes. It is considered an additional criterion when consumers cannot decide. About 19% of respondents said they view sustainability little or only exceptionally in their purchasing decisions.

Table 4: Sustainability among purchasing attributes such as price, quality, ease and convenience of purchase, brand, experience, and product reputation.

Q4: What place does sustainability have among your purchasing behavior attributes such as price, quality, ease and convenience of purchase, brand (branding), experience, and product reputation?		
a)	Sustainability is among the first three attributes.	52%
b)	Sustainability is usually outside the preferred attributes and can be an additional criterion when I cannot decide.	29%
c)	I do not consider sustainability much in my purchasing decisions, or only exceptionally.	19%

(Source: Own elaboration)

Another research question examined how Czech consumers feel about sustainability and its associated activities. According to the research results, some respondents (15%) perceive the concept of sustainability as a fashionable issue that will fade away in two or three years, and other issues will be the focus. About 18% of respondents believe that the concept of sustainability is an issue that will be dealt with for at least this decade. Still, they think it will be a minor business and household behavior issue. The highest percentage of people (61%) believe that the concept of sustainability is already a priority for corporate management, including top management, and is unlikely to fade away for several years, perhaps even decades. The lowest among respondents (6%) have a different opinion; they do not consider it a priority of their interest.

The last research question concerning increased costs of electricity, gas, or other energy sources in the homes was analyzing what actions Czech consumers take to make significant energy savings. The research results showed that increased cost of electricity, gas, or other energy sources in the home led three-thirds of respondents (see Table 5) to consider significant energy savings in the future, such as replacement of the heat source, purchasing solar panels for the roof, and other energy saving activities. About one-fifth of respondents stated that the increased costs became an incentive to ad hoc activities such as replacing outdated electrical appliances with more efficient ones. The second lowest percentage of respondents (7%) assessed the increased costs as a temporary trend,

assuming that the situation would calm down during the next year and they would see it in a year. The lowest percentage of respondents see the increased costs as a marginal item (4%), so they are not concerned much about such respondents.

Table 5: Increased costs of electricity, gas, or other energy sources in your home become an incentive to take the following action.

Q5: Increased costs of electricity, gas, or other energy sources in your home become an incentive to take the following action:	
a) They lead to considerations about whether to make significant energy savings in the future (e.g., heat source replacement, purchase of solar panels for the roof, etc.).	71%
b) They lead to ad hoc activities (replacing outdated electrical appliances) with more efficient ones.	18%
c) They were assessed as a temporary development trend, assuming that the situation will calm down during the next year and we will see in a year.	7%
d) They represent a marginal item, so they do not concern us much.	4%

(Source: Own elaboration)

7 Discussion

From the above survey, we can see the attitude of Czech consumers towards public information on sustainability. Most respondents think sustainability is a matter of the state, the Ministry of Environment, and the business community. One-third of the respondents also believe that public information on sustainability is exaggerated and that there are various "scarecrows" in the interest of multiple lobbies. Many respondents have also been concerned about general information on sustainability. Based on the survey results, the majority of respondents who were over 45 years of age did not learn about sustainability much at school and used extra-curricular sources. On the other hand, younger respondents aged 18 to 25 did receive sufficient sustainability education.

When considering the attitude of Czech consumers towards sustainable goods and services, where the manufacturer or seller has declared the eco-/bio aspect of the products or services, most respondents are price/utility driven while using web comparators to find the best price. It is important to note that for such respondents, sustainability does not fit into their scheme. One-third of respondents prefer sustainable goods and services and are willing to pay more for those products. It would be interesting to find out what product categories they are most willing to pay extra for. Some respondents are unconcerned, and some are neutral towards the eco-/bio aspects of products and services.

Based on the survey results, more than half of the respondents place sustainability among the first three attributes (price, quality, ease, and purchase convenience). For one-third of respondents, sustainability is usually not among the preferred attributes, but they use sustainability as an additional criterion when they cannot decide on the purchase. About one-fifth of respondents need to consider sustainability more in their purchasing decisions. As far as analyzing what actions Czech consumers take to make significant energy savings, the survey showed that the increased costs of electricity, gas, or other energy sources in the homes led to considerations about substantial energy savings in the future, such as the replacement of the heat source and purchase of solar panels for the roof. For some respondents, the increased costs became an incentive to ad hoc activities such as replacing outdated electrical appliances with more efficient ones. A small percentage of respondents saw increased costs as a temporary trend or a marginal item that does not concern them.

8 Conclusion

Sustainability and sustainable development are currently resonating throughout the society. Most of us know that it is essential to pursue sustainability as the earth's resources are limited. Undoubtedly, businesses and households play an important role as consumers and their attitudes towards sustainability. Critical environmental issues were discussed in this article, and global developments and development in the Czech Republic were demonstrated. Any change, including positive shifts in sustainability, starts with education and communication. Some positive and some negative examples of communication on sustainability were illustrated. The survey results have shown that Czech consumers, mainly younger people with higher education, are better informed from school about sustainable development. Over one-third of the population thinks sustainability is a matter of state, especially the Ministry of Environment and the business community. Over half of the Czech respondents consider sustainability among the first three attributes (price, quality, ease, and convenience of purchase). Based on increased costs of electricity, gas, or other energy sources, most Czech consumers have taken some action towards energy savings in the future.

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References

Bartova, M. (2021). Scientists warn against using wood as a substitute for fossil fuels. Retrieved 20 07 2023 from https://energozrouti.cz/z/vedci-varuji-pred-vyuzivanim-dreva-jako-nahrady-za-fosilni-paliva.

Dieselgate – (ne)dočkáme se odškodnění. Retrieved 24 08 2023 from www.dtest.cz/clanek-5511/dieselgate-ne-dockame-se-odskodneni.

Gates, B. (2021). Jak zabránit klimatické katastrofě. Řešení, která máme, a průlomy, které potřebujeme. Jan Melvil Publishing.

Green Party results in districts. (2021). Retrieved 25 08 2023 from www.idnes.cz/volby/parlamentni/2021/celkove-vysledky?strana=zeleni&id=5.

Hamlin, L. (2020). Data on global energy consumption in 2020 shows that fossil fuels completely dominate world energy consumption. Retrieved 15 08 2023 from https://realisticka.cz/2021/07/13/udaje-o-globalni-spotrebe-energie-v-roce-2020-ukazuji-ze-fosilni-paliva-zcela-dominuji-svetove-spotrebe-energie/.

Hrubcikova, K. (2023). EY Future Consumer Index: Spotřebitelé už neslyší na značky. Udržitelnost výrobků mění za cenovou dostupnost. https://www.ey.com/cs_cz/news/2023/06/ey-future-consumer-index-spotrebitele-uz-neslysi-na-znacky.

Implementation Plan of the Strategic Framework Czech Republic 2030, p. 26, (see Government Resolution No. 669/2018). Retrieved 21 08 2023. https://www.cr2030.cz/strategie/wpcontent/uploads/sites/2/2018/10/Implementa%C4%8Dn%C3%AD-pl%C3%A1n.pdf.

Kratochvilova, Z. (2019). 5 Příznaků udržitelné firmy. Retrieved from https://amsp.cz/5-priznaku-udrzitelne-firmy/.

Langerova (2021). Doba sdílení je tady. Půjčování aut, kol a koloběžek dosahuje vrcholu**.** Retrieved 18 08 2023 from www.podnikatel.cz/clanky/doba-sdileni-je-tady-pujcovani-aut-kol-a-kolobezek-dosahuje-vrcholu/.

Meadows (1972). The Limits of Growth. Retrieved 25 07 2023 from en.wikipedia.org/wiki/The_Limits_to_Growth.

Ottman, J. (2011). The New Rules of Green Marketing: Strategies, Tools, and Inspiration for Sustainable Branding. Berrett-Koehler Publishers. ISBN: 978-1605098661.

Parsons, J. (2021). We're breating in 7,000 microplastic particles every day. Retrieved 07 08 2023 from https://metro.co.uk/2021/11/08/were-breathing-in-7000-microplastic-particles-every-day-15563091/.

Petherick, L. (2020). Greenwashing: The New Brainwashing. Retrieved 15 08 2023 from ourenvironment.ac.nz/2020/05/08/greenwashing-the-new-brainwashing/.

Reports on the state of the environment. Retrieved 24 08 2023 from www.mzp.cz/cz/zpravy_o_stavu_zivotniho_prostredi_publikace.

Sara, F. (2021). It's much worse with microplastics. We breathe in thousands of particles a day, a study found. Retrieved 23 8 2023 from https://www.novinky.cz/veda-skoly/clanek/s-mikroplasty-je-to-mnohem-horsi-vdechneme-tisice-castic-denne-zjistila-studie-40377350.

Scientists find solution to measure harmful plastic particles in human sewage. University of Portmouth V/202. Retrieved 23 08 2023 from https://www.eurekalert.org/news-releases/584229.