Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics

Bachelor Thesis

Consumers Perception towards Eco-friendly Products

Denisa Šenkeříková

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

BACHELOR THESIS ASSIGNMENT

Denisa Šenkeříková

Economics and Management

Thesis title

Consumers Perception towards Eco-friendly Products

Objectives of thesis

The aim of the bachelor thesis is to determine and to evaluate consumption and consumers perception towards eco-friendly products.
The aim will be fulfilled based on the partial aims. Then, several hypotheses will be defined and verified. Based on the results of empirical analysis the final conclusions will be introduced.

Methodology

The bachelor thesis will cover both, theoretical and empirical part. Theoretical part will contain theoretical background of the selected topic as well as the methodological framework. Scientific literature will be used to prepare the literature overview. Based on the empirical analysis the results will be presented and some recommendations will be suggested.

To fulfill the aim of the thesis the selected methods will be employed as following:

– index analysis (base index, chain index)

– regression analysis (trend function)

– survey of consumers' behavior based on own questionnaire

The proposed extent of the thesis

40 – 50 pages

Keywords

Consumer, consumers behaviour, eco-friendly product, survey.

Recommended information sources

DE VAUS, D A. *Surveys in social research.* London: Routledge, 2014. ISBN 978-0-415-53018-7.

FRANK, R H. – BERNANKE, B. – ANTONOVICS, K L. – HEFFETZ, O. *Principles of microeconomics.* New York: McGraw-Hill Education, 2016. ISBN 978-1-259-25410-9.

HATCHER, L. *Advanced statistics in research : reading, understanding, and writing up data analysis results.* Saginaw, MI: ShadowFinch Media, LLC, 2013. ISBN 978-0-9858670-0-3.

MONTGOMERY, D C. – PECK, E A. – VINING, G G. *Introduction to linear regression analysis.* Hoboken, N.J.: John Wiley and Sons, 2012. ISBN 978-0-470-54281-1.

SCHIFFMAN, L G. – KANUK, L L. – WISENBLIT, J. *Consumer behavior.* Boston: Pearson Prentice Hall, 2010. ISBN 978-0-13-700670-0.

Expected date of thesis defence

2022/23 SS – FEM

The Bachelor Thesis Supervisor

Ing. Lenka Rumánková, Ph.D.

Supervising department

Department of Economics

Electronic approval: 16. 6. 2022

prof. Ing. Miroslav Svatoš, CSc.

Head of department

Electronic approval: 27. 10. 2022

doc. Ing. Tomáš Šubrt, Ph.D.

Dean

Prague on 03. 03. 2023

Declaration

I declare that I have worked on my bachelor thesis titled “Consumer Perception towards eco-friendly products ” by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 15.03.2023 _____

Acknowledgement

I would like to thank Ing. Lenka Rumánková, Ph.D., for her advice and support during my work on this thesis.

Consumers Perception towards Eco-friendly Products

Abstract

The degradation of the environment has led to an increase in the demand for environmentally friendly products, which points out the fact there are more eco-friendly-conscious consumers nowadays. The rising demand for green products has forced companies to re-design those products and offer them to such consumers. Environmentally friendly products refer to green-certificated products that cause minimal degradation, help conserve energy, and minimize carbon footprints. Sales of uncontaminated products and services are based on their environmental benefits. Purchase, as well as consumption, are influenced by consumers' perceptions, decision-making processes, and the overall buying behaviour of individuals. This paper aims to understand and express the perception of consumers towards eco-friendly products, awareness about the availability, quality, and price of such products, as well as the demographic profile of green consumers. Of 320 respondents who participated in the prepared questionnaire, the majority were aware of the environmental degradation and availability of green products in the marketplace. Several factors affect the purchase and overall consumption of green products. One of the factors is price, which significantly influences the respondent's perception of eco-friendly goods. Based on the practical part results, green consumers are well-educated young to mid-age people with a mostly positive attitude towards green products who actively look for eco-labelled products and services. Eco-friendly products are perceived to be high quality, as well as high-priced, insufficiently rather than sufficiently promoted, and in most cases easy to identify.

Keywords: Consumption, consumer, consumers behaviour, consumers perception, product, eco-friendly product, labelling, price, survey

Spotřebitelské vnímání ekologicky šetrných produktů

Abstrakt

Zhoršování životního prostředí vede ke zvýšení poptávky po výrobcích šetrných k životnímu prostředí, což poukazuje na skutečnost, že v dnešní době existuje více ekologicky uvědomělých spotřebitelů. Rostoucí poptávka po ekologicky šetrných produktech donutila společnosti přepracovat výrobky nabízené svým spotřebitelům. Produkty šetrné k životnímu prostředí jsou ekologicky certifikované, způsobují minimální degradaci, pomáhají šetřit energii a minimalizují uhlíkovou stopu. Prodej těchto produktů a služeb je založen na jejich přínosech pro životní prostředí. Nákup, stejně jako spotřeba, jsou ovlivněny spotřebiteslkým vnímáním, rozhodováním a celkovým chováním jednotlivců při nákupu. Cílem této práce je pochopit a přiblížit spotřebitelské vnímání ekologicky šetrných výrobků, dostupnost, kvalitu a cenu, a také demografický profil spotřebitelů nakupující tyto eko-produkty. Z 320 respondentů si byla většina dotázaných vědoma zhoršování životního prostředí a také dostupnosti ekologických produktů na trhu. Existuje několik skutečností, které ovlivňují nákupní proces a celkovou spotřebu ekologických produktů. Jením z nich je i cena, která významně ovlivňuje vnímání eko-produktů. Na základě výsledků praktické části jsou spotřebitelé vzdělaní lidé mladého až středně pokročilého věku se spíše pozitivním vztahem k ekologickým produktům, kteří aktivně vyhledávají výrobky a služby s ekoznačkou. Ekologicky šetrné výrobky jsou vnímány jako vysoce kvalitní a cenově dostupné, ve většině případů snadno identifikovatelné, ale spíše nedostatečně propagované na trhu.

Klíčová slova: Spotřeba, spotřebitel, spotřebitelské chování, vnímání spotřebitelů, produkt, ekologicky šetrný produkt, označování, cena, průzkum

Table of content

1 Introduction

The world faces a green revolution which is a growing concept that refers to a natural phenomenon in everyday life. The Green revolution started in the second half of 20 century and covers topics such as environmental protection, sustainable development, protection of the earth, and more. Lately, ecological values and consumer attitudes are congruent with the consuming public's actions toward green products. Moreover, understanding consumer behaviour is crucial for vendors in the global economy. Therefore, this research study is based on consumer attitudes, purchase intentions, and decision-making toward eco-friendly products, which have been a global concern for the preservation of pollution and degradation of the environment. The principal purpose of this study is to understand the variables affecting the consumption and purchase of environmentally friendly products.

Firstly, this work expresses the aim with related assumptions, as well as the methodology that represents a step-by-step procedure to fulfil the key goal of this thesis. Then, a literature overview follows based on research of the theoretical background of the analysed topic that briefly sums up information, ideas, and already known opinions from people interested in the same field of study.

The body of the work splits up into theoretical and empirical parts. The theoretical part contains the background of the selected topic and the methodological framework. Therefore, the theoretical part covers consumption, consumer behaviour, and perception. On top of that, it defines a product, eco-friendly product, environmental labelling, and price.

An adopted quantitative approach represents the second part of this work. The empirical part covers Index analysis and Regression analysis of secondary data. Then the structured questionnaire follows, which is conducted based on primary data collection and analyses obtained results using a software package to prove the hypotheses set. The total sample size comprises 320 respondents who answer close-ended questions related to the chosen topic. The results are expressed in charts, tables, and figures to provide a better understanding for readers, and the comments and improvements are listed.

Lastly, the research conclusion summarizes overall consumer perceptions of eco-friendly products in the marketplace.

2 Objectives and Methodology

2.1 Objectives

The bachelor thesis aims to determine and evaluate consumption and consumers' perception of eco-friendly products by using quantitative analysis. Several working hypotheses are defined and going to be verified. On top of that, the partial aims show additional findings related to the researched area. The conclusions are introduced based on the results of the empirical analysis.

Generally, the goal is to show the range to which consumers are acquainted with organic products and their attitude towards these products. Moreover, what people consider the most while shopping. Is it the product quality, price, or even country of origin? Whether the eco-products and their labelling are relevant, and whether consumers search for green products actively. How many of asked consumers prefer to buy green products rather than products that proceed non-ecologically, and where is the purchase activity done? Is it a local shop with domestic supplies or a supermarket with all kinds of goods? Additionally, how people evaluate the current offer of environmentally friendly products.

The results gained from these questions will provide information and a better understanding of the current situation of people's choices while decision-making and overall product purchase.

Another examined problem refers to the relationship between knowledge and purchasing eco-products and consumer characteristics.

The partial aims show additional findings related to the primary goal of this Bachelor's thesis and form the overall understanding of the researched area.

The partial aims are the following:

- To detect and describe the long-term tendency in the consumption of organic food worldwide.
- To determine the main determinants of consumption of eco-friendly products.
- To discover and explain the preferences of consumers towards eco-friendly products.

Based on the aim of the work and the survey, the working hypotheses were composed.

2.1.1 Working hypothesis

H_{01}: More than half of the respondents have already encountered the expression eco-friendly products or eco-label.

H_{02}: More than a third of respondents are actively looking for eco-labels on products.

H_{03}: Most respondents prefer the purchase eco-friendly products before buying other products.

H_{04}: The price of organic products plays a significant role in decision-making.

For the working hypothesis explanation, a few more terms need to be defined. Term Eco-friendly product - refers to a product that is not harmful to the environment and prevents contributions to air, water, and land pollution (Anthony Webb, 2021).

Eco-label - represents a mark placed on a product packaging that meets environmental criteria and helps consumers identify those products quickly (United States Environmental Protection Agency, 2022a).

Actively looking for ecolabel - consumer purposefully searches and buys a product marked with eco-labels while shopping (Danley Sam, 2022).

2.2 Methodology

The bachelor thesis splits into two parts, the theoretical and practical parts. The theoretical part represents a detailed literature review of scientific literature research that creates a background for the selected topic.

The methodological approach employs a quantitative analysis with a descriptive design. The Index analysis, descriptive statistics, and Regression analysis parse collected secondary data. More precisely, the Index analysis represents the basic and chain indexes, then the descriptive statistics of collected data describe the most important values such as mean, median, mode, and others. On top of that, the Regression analysis provides outcomes and shows the trend function slope.

Then the survey of consumers' behaviour and perception of eco-friendly products is based on a questionnaire designed with close-ended questions for primary data collection. The collected answers provide the questionnaire results commented on and presented for a better understanding of what people think about the selected topic.

Moreover, the listed procedures are going elaborate on this bachelor thesis:

1. Study of scientific literature and processing of literature overview
2. Secondary data collection
3. Index analysis, descriptive statistics, and Regression analysis
4. Primary data collection using a structured questionnaire
5. Synthesis of results and insights
6. Evaluation of results and discussion
7. Conclusion

The first part of this bachelor thesis is devoted to professional literature study. The elaborated literature overview research is based on the studied literature and other selected sources related to the issues developed in the next part of the work.

Then, the practical part follows. In the bargain, quantitative research represents secondary data collection used for index and regression analysis together with a questionnaire applied to obtain the primary data. The questionnaire tool represents an online survey complied that its results respond to the established working hypotheses and the work objectives achievement.

In addition to verifying the working hypotheses, the developed survey allows us to find out the interest in environmentally friendly products and whether the respondents perceive these products as relevant for the human future. The survey also describes who, where, and how often shop for eco-labeled products.

The questionnaire consists of close-ended questions and composes several identifications and filtering questions, followed by thematic questions.

The survey was available via Google docs Forms from November 1st to December 31st the year 2022. The distribution among the respondents was in the way of a direct link via e-mail correspondence and social networks. The goal was to obtain answers from at least 100 respondents during the survey.

The collected data has been processed, analyzed, and explained in the empirical part of the work. Furthermore, verification of the established working hypotheses, mutual comparison of the question results, and synthesis of the results of this survey follow.

Collected data processed via Microsoft excel, else tables and graphs created through this program present more accurate results.

Lastly, the evaluation of results and discussions of the topic is displayed.

2.2.1 Questionnaire

The Google Forms platform chosen for the survey represents simplicity, clarity, easy usage, and the possibility of free use. The design is based on areas covered in the theoretical part and knowledge of basic and formal rules connected to the questionnaire creation.

At the beginning of the questionnaire, respondents are acquainted with the purpose of the questionnaire investigation. This part contains information about respondents‘ anonymity, the minimum age limit of 18 years old, and the form of questions representing closed-ended questions. Then the questionnaire consists of two parts - the demographic profile with four filtering questions and the thematic part with nine questions focused on respondents‘ knowledge in the selected area. Followed by the last page with the acknowledgment for the time spent filling up the survey.

2.2.1.1 Evaluation of questionnaire

The questionnaire distribution took place on several levels, mainly via social media such as Facebook and Instagram, but also via emails. Family members, relatives, friends, and colleagues were asked to help with spreading the questionnaire among people. And at the same time, the survey was posted and shared with several groups focusing on filling up questionnaires.

A total number of 320 respondents participated in the online questionnaire from many countries, such as the USA, Belgium, Hungary, Iran, Portugal, Slovakia, Canada, and others.

The responses collection took place in the period from 1.11. to 31.12.2022.

3 Theoretical part

The theoretical part covers the literature review of the consumption history and the changes from the 12th century to nowadays consumption patterns.

The literature review briefly highlights and elucidates relevant aspects. History of consumption explains in detail how consumption has been developing throughout history, including ideas, opinions, and theories of well-known scholars that gave a basis to consumption in today‘s world. As well as change from regular consumption to modern consumption patterns, known as sustainable consumption. The second part explains consumption in the 21st century, mainly the consumer’s attitudes and behaviors, products, labeling, and pricing. It also includes the circular economy enlargement of the green economy, a brief explanation of ISO International Standards typology, and examples of the most known recycle labels. As well as examples of EU and International criteria, schemes, product and service labeling, and other crucial content helping the readers understand how consumption has been changing and developing over time.

3.1 History of consumption

In the past, an asymmetrical relation created the basis for the production and consumption relation. Where only produced goods could be consumed by a person. But product transformation precedes the demand for these goods. The economists saw the application of this relation universally. Generally, the economy was the general framework with an established market where the exchange phenomena and circulation did not depend on it directly.

The transformation of an object into a product has a long history. The first use of the term “consumption” was in French in the 12th century. Then translated into English and later into other European languages. Consumption meant the using up of food, candles, and other resources. All the meanings connected to consumption informed that many pre-modern governments regulated citizens’ consumption. Moreover, European states and their American colonies formed “sumptuary” laws to stop the tide of fashion and fineries between the 14th and 18th centuries (Roche et al., 2000).

Adam Smith created several publications where he pointed out the social and psychological impulses that push people to accumulate objects and small machines. *In The*

Wealth of Nations (1776), Adam Smith presented the quote "consumption is the sole end and purpose of all production" (Smith, 1902). This means that all the goods and services are produced and then available in the marketplace. Then, people purchase these products or services and pay according to the value for the usage that satisfies their needs and wants. Additionally, in *The Theory of Moral Sentiments (1759),* Smith observed that people looked at objects as "means of happiness" that mattered the most. Hence, the imagination of the object became part of a peaceful system and created the pleasure of wealth.

Between the 15th and 18th centuries, in Europe and other countries world goods were dramatically expanding in unprecedented ways. For instance, Ming China experienced a golden age of commerce that conveyed porcelain cups, lacquerware, and books, prized for the ancient past. In Italy, houses were full of clothes, musical instruments, and furniture that circulated as stored wealth. Oppositely, the English and Dutch prized more on premium goods such as exotic goods like coffee or tea. As well as products like the small tools, machines, or devices that caught the attention of Adam Smith (Brewer & Porter, 2013).

After the French Revolution, economics writers did not even think there could be something like sustained growth. Therefore, consumption could be considered a destructive act that used up all resources or at best reallocated them. Unlike today, nobody distinguished the goods and services purchased by households and industrial uses of resources. Hence, nobody has even thought about better living standards or different groups of people as "consumers".

3.1.1 Consumption in 19. century

In the early 19 century, Jean-Baptiste Say stated that "supply creates its own demand". In other words, if a manufacturer creates goods or services, automatically, there is a demand for them. The French economist considered consumption on its own in his publication *Treatise on Political Economy*. An interesting fact is that Say also included the "reproductive consumption" of industrial goods used in factories, such as coal and wood, alongside the private use by customers. Simply, producers are forced to consume values while dealing with the production process of new items. Thus, reproductive capital refers to "the value they produce beyond what they consume," which creates the surplus that is the additional wealth people obtain, so-called reproductive consumption (Say, 1971). In addition to Jean-Baptiste Say, Frédéric Bastiat's thought was "to learn by looking at everything from the consumer point of view" (Bastiat & Stirling, 1873). Bastiat points out that consumption

should be a goal of producer efforts to find the solution to all problems. This idea created the basis of neo-classical economics. Where consumption is a point of production, and by maximizing consumption, society and individual well-being maximizes as well. However, his thoughts and ideas never became a theory, as Bastiat believed that free markets take care of everything.

A curious discrepancy between material and intellectual trends occurred in the middle of the 19th century. In contrast to the expansion of the customer market in the previous two centuries, in economics, the customers were still marginal figures catching attention in market failure situations. In the second half of the 19th century, William Stanley Jevons published the *Theory of Political Economy*. In his publication, he stated that "economics theory must begin with a correct theory of consumption" (Jevons, 1965). Jevons looked at the value of goods differently than his antecedents. He explained the customer created the value of goods, not the producer. Hence, the value depends on the level of personal desire. Furthermore, that desire varied and depended on the utility function of a specific product. The goods had "final (or marginal) utility," where every previous product portion had more utility than the following (Jevons, 1965).

In addition to Jevons, Menger and Walras worked on similar ideas during the same period. All together put the study of consumption and economics on entirely new foundations. Subsequently, Marginalism was born and quickly formed a foundational aspect of economic thinking. Therefore, by now, the utility of any good could be measured as a mathematical function. In the 1890s, Alfred Marshall built on these foundations and turned economics into a proper discipline at the University of Cambridge. Marshall agreed with Jevons to some extent. He disputed that needs and desires changed over time, and similarly, the attempts and means bestowed to satisfy them. At the same time, Marshall believed that human beings had natural compulsions for self-improvement that moved from drink and inactivity to physical exercise, travel, and an appreciation of the arts. Additionally, Marshall linked the history of civilization to a ladder, where people climbed on towards higher tastes and activities. This statement could be considered a Victorian view of human nature. Also, he criticized the world of goods and mass production that was tight with mass consumption. Moreover, Marshall hoped that people would change their buying attitude and demand less quantity with higher quality than asking for many things with low quality. In this way, he presumed that this would benefit highly-skilled workers (Marshall, 1890).

Due to the growing attention to consumption, national economists accept it as a national strength indicator. Consequently, most powerful nations were in higher demand. By that time, the United States had the highest standard of living, and in 1889 the country had entered a "new order of consumption," as Simon Patten (1889) announced. Thus, a society no longer fixated on physical survival was created. That society enjoyed a surplus of wealth and developing habits for greater pleasure and welfare.

To be continued, economists who discovered and dealt with consumption were part of greater movements of states, social reformers, and customers in the 19th century. During this period, imperial expansion accelerated globalization. The attention was on living standards, referring to a new concept that investigated household budgets. The aim was to determine not only the income and savings of the household but also the expenditures. However, the needs and wants were changing as it is today too. At this time, water and gas were the new material networks that collectively brought customers together. In 1871, a Water Consumers' Association started a protest against water taxes. People refused to pay extra money for more water they used. As a result of their anger, they organized a boycott.

During the golden years of consumer politics, most working-class families were a member of a consumer cooperative before First World War. Britain recorded one of the largest movements that brought visibility and rights to women. Hence, women were in charge of the vanguard of ethical consumerism, which is a political act that penalties the values of manufactured goods by choosing one product over another (Trentmann, 2012). Consumers used their power to target businesses that offered better working conditions. This act was important for involving advanced social welfare that gave a powerful weapon to all women in the battle for the vote. Later, consumers became citizens known as "citizen-consumers".

3.1.2 Consumption in 20. century

During the First and Second World Wars, states had a temporary interest in organizing purchasing power for war efforts which led to the introduction of consumer councils and ministries. In the 20th century, during peacetime, markets and business lobbies returned. Welfare and social services took over many of the causes. The markets, choice, and competition were no longer tight with politics. But it represented something like a

customer‘s best friend. Academics focused more on consumers and their acts to understand future moves, decisions, and trends of consumers.

In the second half of 20 century, young generations created subgroups and actively celebrated meaning and added value to products followed by media. That shows consumers were directing the businesses. In 1992, the idea of sustainable consumption was born (Vergragt et al., 2014b). Mainly due to the climate changes that make the consumption future uncertain. There was a hope that more efficient activities, technologies, and initiative pricing would lighten the material footprint. Due to the assumption referring that people get bored of owning and are happy sharing stuff. They start to favor experiences. There have been many predictions about the end of consumerism at the turn of the 20th and 21st centuries. Therefore, the next phase is supposed to be materials and waste quantity reduction, so-called dematerialization. But an error occurred in this forecast because, even in the past, experiences led the consumption. Today, services rise faster than goods. Nevertheless, it does not mean that the quantity of supply is declining. The service economy is not virtual, and it requires resources of materials. For example, after the economic crisis in 2008, demand started to grow, and people were purchasing three times more than a few decades ago (J. Arnould & J. Thompson, 2005).

Yet in 1900, reformers tried to deal with questions about social reform and responsibility, or consumer representation. However, population adaptation to climate change remains unsolved. People need to learn from the past and adapt the climate change. Consumers influence the quality and quantity of production. By putting together their interests, consumers help public politics (Trentmann, 2016).

3.2 Consumption in 21. century

At the beginning of the 21st century, consumption patterns were unsustainable, especially in developed countries. People consumed enormous amounts of scarce resources, such as raw materials and energy, to create hazardous waste. On top of that, the population also consumed an unsuitable rate of renewables. However, many types of research have shown no higher level of happiness because of more material consumption. There are even indicators that show “unsustainable consumption patterns contribute to greater inequity”

(Lorek & J. Vergragt, 2022). Additionally, developing countries quickly follow developed countries in the way of material over-consumption resulting in greater inequality.

With the change of climate, mainly global warming, sustainable consumption and production became an agenda in 2003, known as “New economics”.

Nowadays, states and their governments are trying to bring up new ideas and activities that will lead to better consumption. The aim is a tenfold increase in resource-use efficiency. Therefore, there is an increasing recognition of transformation to a low-carbon. All over the world, governments and businesses concerted but not coordinated efforts to reduce resource use and energy. However, this may also lead to an even bigger gap between poor and rich people. The most effective way to reduce consumption and achieve more sustainable lifestyles in rich countries should be carbon reduction and the ultimate delivery of health benefits. Every newly created consumption agenda needs to consider social well-being, welfare, individual equity, and at the same time benefit of the environment (Vermeulen et al., 2009). According to Oslo Roundtable in 1994, sustainable consumption is “the use of goods and services that respond to basic needs and bring a better quality of life” with the aim to “minimize the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle” so the needs of the future generations will not endanger from today‘s consumer behaviors (Earth Negotiations Bulletin (IISDO), 1994).

The culture needs to change its habits and move on from prevalent consumerist culture towards new values and lifestyles. From an economic point of view, it means shifting away from producing many unsustainable goods towards bringing such activities that lead to the production of more sustainable services and infrastructures.

Consumption has material, economic, cultural, institutional, and power aspects. In addition, it is part of a system including investments, production, trade, consumption, and waste. Thus, changes in consumption entail modifying the entire system (Vergragt et al., 2014a).

Nowadays, scholars‘ opinions differ about what constitutes sustainable consumption. There are several distinctions between studies comprising static analyses that study the state economy under static conditions. The economy is studied at a point in time with no change in the size or the level of national output, stock of capital, prices, and employment while normal activities go on. Firstly, scholars distinguish existing consumption practices and the effort of sustainable consumption. A second difference is between individual and collective

consumption associated with culture, society, and consumerist lifestyles. The third distinction is between materials, economic and sociocultural aspects. According to the economic aspect, these are transactions between buyers and sellers, as well as investments, promotions, trade, etc. In addition to static analyses, dynamic analyses as social movements, innovations, and socio-technical transition frameworks exist, known as changes of processes analysed "through the lens of power relationships between elements of the incumbent system and actors who want to change the system" (Lorek & J. Vergragt, 2022). The main differences between static and dynamic analysis are in realness, datedness, time framework, and stability. The static analysis is not real, under-dated, timeless, and with given and in advance known conditions. On the other hand, dynamic analysis is a study of reality (real world), variables are up to date, the time series is known and used, and the conditions are changing (Glocal Economist, 2022). Lastly, production and consumption is a complex system envisaged by scholars who also analysed the changes in such a system.

The dominant consumerist culture is tightly related to the issues of economic power. So far, sustainable consumption research is insufficient. Generally, economic power plays a significant role in creating structural barriers to sustainable consumption, samely in bounding opportunities for intervention. The connection between economic power and sustainable consumption also highlights questions related to democracy. Economic power consists of actor-specific and structural elements, material, and other sources (Fuchs & di Giulio, 2014). Consequently, politics hardly touch consumption models and levels. A market economy is based on free choices and consumer self-sufficiency. Hence, governments hesitate to interfere with consumer lifestyle choices. Consumption needs to be constantly increased by the market-economy system to maintain the economy and full employment. Therefore, governments carefully intervene and calibrate environmental problems while economic activities are not decelerating. Accordingly, increased attention to efficiency and green consumerism allows sustainable consumption while governments still allow consumer sovereignty, and tacitly or explicitly encourage continuous consumption (Akenji, 2014).

In this case, efficiency is crucial, but the leading principle we should focus on is sufficiency with its question: how much is enough? Sufficiency is connected with individual and social well-being and also ecological sustainability. Thus, sufficient lifestyles should stay within the ecological footprint and also improve social well-being. The challenge is to develop strategies and policies to fulfill appealing visions of the future. In other words,

systematic change that involves not only government legislation and policies, but also a complex interaction of culture, consumer behavior, and business practice, is required. So far, governments have insufficient policies and strategies. This is why we cannot assume people will spontaneously change their behavior and attitudes. However, there exist several strategies for systematic change, developed lately. These strategies are mainly technological, social, and cultural innovations. In fact, this is important for further changes that will lead to new ways of thinking (Princen, 2005). For example, Greenpeace, Natural Resources Defense Council (NRDC), Grameen Foundation, Care Center Yawaragi, Hokkaido Green Fund and Friends of the Earth International, and other represents the innovation that creates systematic changes (Novak, 2018).

On top of that, contemporary social movements bring social mobilization with the help of new lifestyle development, identity transformation, or other cultural innovations. These newly established social movements reject materialistic consumerism and support the modern idea of leading to happiness and success, increasing productivity and progress, and promoting new values and understandings of the social world. Lewis Akenji (2014) introduced the "attitudes–facilitators– infrastructure (AFI) framework" representing three main conditions necessary for the system to be moved forward the sustainable development. The first condition refers to "the right attitudes by all stakeholders" which are shaped by values and knowledge. Second, indicate „facilitators to translate attitudes into action", and the third condition is "sustainable infrastructure" that includes provision and physical infrastructure systems (Akenji, 2014).

3.2.1 Consumer awareness and choices

In general, the environmentally friendly consumer is aware of the impact of his behaviour on the environment and tries to minimize these impacts. Consumer behaviour is a multidimensional phenomenon influenced by several factors such as social, psychological, economic, demographic, and cultural.

According to Miller and Layton (2000), the concern may lead to a higher level of environmental consciousness. "The field of consumer behaviour studies deals with how individuals, groups, and organizations select, buy, use and dispose of goods, services, ideas, or experiences that meet their needs and desires" (Kotler et al., 2016).

In today‘s marketplace, the main goal is to do the shopping while saving or not harming the planet. Products purchased and choices made by consumers have to correspond with social and environmental consequences, which increasingly called upon consideration of more sustainable consumption patterns. Thus, managing the impacts has every individual in their hands. Responsibility shifts from the central government‘s ecological governance and decision-making to new institutions, basically from coalitions to individuals (Jasanoff & Martello, 2004). Since the beginning of the 21st century, consumers‘ awareness of issues connected to the environment, is rising. As well as, consumer choice awareness that is associated with their health.

The majority of consumers consider a sustainable product to be biodegradable or made from recycled material, bringing responsible sourced and minimal packaging, carbon neutral, and supporting biodiversity. In the case of purchasing, buyers value “durability and repairability over recyclability or biodegradability” (Archer et al., 2022).

In the last few years, there is an increasing number of people adopting more sustainable lifestyles. Numerous studies have been constructed to assess the factors affecting ecological consumption. In the study of Saxena and Khandelwal (2008), the findings show that 90% of the consumers recognize environmental problems and want to protect the earth.

Additionally, Tanner and Kast (2003) reported that the knowledge of each consumer is related to environmental issues that are linked to better behaviours. In other words, the consumption decision changes over time to greener products.

The focus is mainly on purchasing what buyers need, on lower carbon emission modes of transport, on reducing meat and overall animal consumption, and also on consumers purchasing more seasonal and local products. The process leading to better lifestyles starts at home, where people try to reduce their waste, recycle or compost food waste.

According to Katona and Strumpel (1978), both consumer attitudes and perception are closely related and tend to affect population perceptions and shape the behavior.

“Perception is the process by which people select, organize, and interpret sensations” (Madichie, 2012). Basically, everything added to a sensation gives us meaning, and every human being has a different interpretation of their unique needs, expectations, experiences, and biases. Therefore, the perception of consumers may influence the process of decision-making and buying behavior.

According to Mahapatra (2013), perception refers to a state of mental awareness affected by internal together with external environmental stimuli. The external stimuli are

social, economic, and cultural phenomena. On the other hand, internal stimuli represent a way of satisfying personal needs. Hence, everyone has a different perception that is changing over time.

An area of consumer focus is watching what exactly they shop for, mainly the possibility of reducing single-use plastic or the number of new products they buy.

The sustainable and ethical choices of buyers are presented mostly in the products or services they purchase most frequently. Talking mainly about the food and beverage industry, clothing, footwear, household items, beauty services, etc. For instance, people tend to repair the items, rather than replace them or buy second-hand products rather than brand new. In addition, brand values become crucial as the sustainable and ethical decisions are made more often, in the last decade. Consumers value highly reducing waste and carbon footprint, and they pay attention to the ethical conditions of workers and human rights. Across all categories, the major focus is on "value conserving biodiversity, water, and other natural resources" (Archer et al., 2022). Similarly, adopting circular practices that cover "the reuse, recycling, refurbishment or repair of goods" (Archer et al., 2022).

3.2.2 Circular economy extended by sustainable society

Circular practices refer to a so-called circular economy that uses 3Rs symbols representing reduce-reuse-recycle symbols and tends to support sustainable development. A circular economy (CE) employs practices that reduce the use of materials, redesign materials to be less intensive, and recapture waste as a resource to manufacture new materials and products (United States EPA, 2022). The Circular economy model creates a core for Green Economy extended from waste and material use focus to human well-being and ecosystem resilience (see Figure 1). The CE's main benefits include waste prevention, ecodesign, better security for raw materials supply, higher competitiveness, innovations, job creation, money-saving from product reuse, and economic growth. As well as higher product durability and innovation offered to consumers that increase quality and saves money for longer period of time.

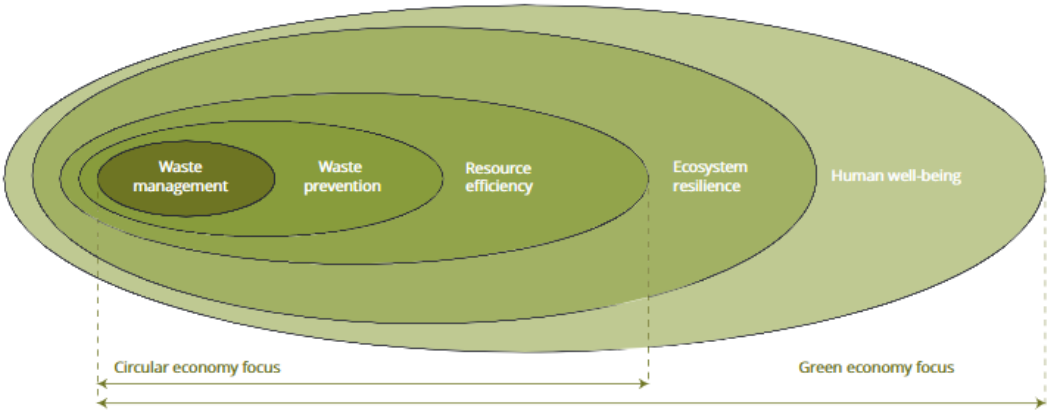


Figure 1 Circular and green economy (European Environment Agency, 2016)

The European Union is working forward to becoming a circular economy every day. In 2020, European Commission presented a CE action plan with the main focus on the electronics and ICT, plastics and textiles sectors. In 2021, the Parliament finally approved a resolution on this plan requiring additional measures "to achieve a carbon-neutral, environmentally sustainable, toxic-free, and fully circular economy by 2050, including tighter recycling rules and binding targets for materials, use, and consumption by 2030" (European Parliament, 2022). This year, in 2022, the EU Commission published the first part of the Circulae Economy action plan, the package of measures to speed up the process of moving towards a circular economy. The first part mainly includes empowering consumers for the green transition, upgraded regulations of product construction, a new strategy for sustainable textiles, and an aggregate boost of sustainable goods.

Later this year, in November 2022, the European Commission came up with new rules on the packaging. The EU-wide rules aim to improve the design of labels and reduce packaging waste. For instance, these rules include clear labeling for the promotion of reusing and recycling, as well as bio-based, biodegradable, and compostable plastics. According to The European Union, the plan for 2023 is to adapt some initiatives under the action plan such as "a proposal for substantiating green claims made by companies", as well as "measures to reduce the impact of microplastic pollution on the environment" (European Commission, 2022c).

The world needs to switch to a circular economy because of the continuous population growth that causes higher demand for raw materials. But, at the same time, the supply of

these materials needed is scarce. The higher use of raw materials increases energy consumption, emissions, and pollution and also impacts the overall environment. Hence, clever use of raw materials lowers these impacts on the environment.

However, there is still slow or sometimes even any adoption of sustainable lifestyles. The primary reasons are connected to cost, lack of interest, and lack of information about environmental issues. This could be a barrier referring to the low level of consumers‘ belief that “adopting a more sustainable lifestyle makes no difference and that it is too difficult or not available to them” (Archer et al., 2022). Thus, consumers should be able to have greater access to information, and businesses should offer better affordability and availability of sustainable options.

3.2.3 Product labelling and pricing

Product labeling schemes represent a crucial means of supporting changes in people‘s behavior and decision-making. Labeling is part of the strategy for improving standards within industries. Labels are tools used in communicating these improvements and engaging customers in this process. Environmentally informed consumer choices also influence manufacturers and their production processes to make goods or services more ecologically friendly, as well as certification schemes.

In the economic field, firms focus on sustainable development by using a tool known as Green Chain Management.

Miryala and Mennakanti (2016) define Green Chain Management as one of the most important and effective tools for achieving green transformation that “focuses on the increase of environmental and social awareness across the supply chain” (Miryala & Mennakanti, 2016). In addition, Miryala and Mennakanti (2016) refer to higher demand across society, where people are willing to spend more money on green products.

Eco-labels differ mainly in design, purpose, and quality. Based on the continuous development of market knowledge and understanding, also labeling rapidly evolves. These labels help to convey ecological responsibility and advantages for firms in form of attracting “a certain type of ‘conscious’ customer” (Bruce & Laroiya, 2007).

The government actively regulates and supports this development, labeling processes, and certification schemes. Together with encouraging consumers to purchase less harmful products and businesses to make improvements in manufacturing and supply chains. According to the Environmental Audit Committee (2009), three main government actions

should be “reducing consumer confusion by promoting the simplification, unification, and verification of environmental labeling” across all products and services in different sectors. The second government priority should be “working with manufacturers and retailers to support the adoption of robust certification schemes to underpin the simple presentation of information”. The third priority for government action is “encouraging manufacturers to make improvements to their products” which should be a goal of all businesses. On top of that, the government has to support clarity, simplicity, and consistency in labeling (Committee, 2009).

Communication is happening mainly between businesses or governments on one side and businesses, consumers, and governments on the other. The schemes include business-to-business (B2B) or business-to-consumer (B2C) communication. “Ecolabels can be owned or managed by government agencies, nonprofit environmental advocacy organizations, or private sector entities” (United States Environmental Protection Agency, 2022b). Labeling can be single-attribute or multi-attribute. Single-attributes focus on a single lifecycle stage of a product or a single environmental issue, whereas multi-attribute concentrate on the entire product lifecycle and various ecological issues (recycling, chemical use, etc.). Product lifecycle impacts need to be specified in order to determine facts making products or services more sustainable.

3.2.3.1 ISO Standards

The widely-used ISO International Standards typology for environmental label schemes provides criteria, definitions, and guidelines for labels, claims, and declarations in the marketplace. ISO standards provide internationally agreed criteria and methods of labeling. Industry, consumers, and regulators represent three main groups that benefit from the ISO standards for environmental labeling.

These standards help businesses create eco-labels that clearly describe products. When businesses provide an accurate description of their products, consumers benefit from this information and may compare products or services on the marketplace. Regulators rely on ISO standards. They create public policy meeting international commitments and help to establish criteria for environmentally-related incentive schemes. As well as address many challenges connected to climate change. The ISO standards cover three main types of environmental labels. Type I environmental labeling (ISO 14024) covers schemes that

clearly define criteria for products. This type is based on multi-level attributes and focuses on non-food products aimed at consumers. The Type II self-declared environmental claims (ISO 14021) are for products and services with neither criteria nor labeling schemes. It covers recyclable and biodegradable content. Type III environmental declarations (ISO 14025) include "specific aspects of products using a life-cycle approach" (ISO Central Secretariat, 2019). This type refers to a quantitative indicator of environmental performance and is mainly between B2B or used in public orders.

Subsequently, twelve groups exist, sorted into two major groups known as Mode of communication and Standard characteristics, focusing on ISO standards characteristics. These twelve groups provide detailed descriptions and examples of criteria for the public (companies, agencies, etc.) that are clear and easy to understand (Prag Andrew, 2016).

3.2.3.2 Worldwide labelling symbols and standards

The United States Environmental Protection Agency (EPA) stated that "the number of standards for green products has increased in recent years due to growth in market demand for „green" products" (US Environmental Protection Agency, 2022). Nowadays, more than 460 ecolabels and standards exist in a marketplace that gives the market coherent ways to evaluate, measure, and alleviate the social and environmental impacts.

The worldwide most known labeling symbols include The on-pack recycling labels (OPRL), Plastic resin codes (plastic bottles, pots, tubs, trays, bags, and wrapping), Glass recycling, Paper, card, and wood recycling, Mobius Loop, Waste electricals, The Green dot, Tidyman, and many others. Labeling symbols, mainly recycling, can be found on any type of goods, and the majority of people are aware of and recognize them (see Figure 2).

Figure 2 Examples of the most known recycle labels (The Waste and Resources Action Programme (Wrap), 2004)

In 1992 the European Union presented the "voluntary label for environmental excellence" (European Commission, 2022a) known as "EU Ecolabel" recognized in all parts

of the world nowadays. European Union ecolabels cover a wide range of products people use daily at home or work, including products for experts, and tourist accommodation. On the main web page, European Commission claims that "the label also encourages companies to develop innovative products that are durable, easy to repair and recyclable" (European Commission, 2022b). This shows that the EU uses the EU Ecolabel to empower not only manufacturers. But also customers who make informed choices and help the environment in the green transition by offering truthful and reliable environmentally friendly alternatives to all products. The European Green Deal aims to reach climate neutrality by 2050, zero pollution for a toxic-free environment, and shift to a circular economy.

Moreover, the EU divides labels into groups and sets criteria to minimize environmental impacts, where EU member states comply with these criteria. These criteria are periodic to reflect innovations and also crucial as every product has unique characteristics and a different life cycle. It includes EU Organic Labels (all member states), Nordic Swan (Nordic countries), Blue Angel and RAL (Germany), Ekologicky šetrné výrobky (Czech Republic), Prijatel Okoliša (Croatia), and many others (see Figure 3). In addition, the EU presents the International Ecolabels that include Nature Plus, Ecologo, Good Environmental Choice Australia (GECA), and others (European Commission, 2022b) (see Figure 3).

Figure 3 Examples of EU and International eco-labels (European Commission, 2022a)

In general, ecolabels help purchasers identify and procure more sustainable products. For example, Environmental performance standards that show specific performance levels to maintain a product or service are "environmentally preferable", or the standards for electronics, buildings, and other materials.

In addition, doubts about the "greenwashing" and uncertainty related to the trust of standards and labels are arising as the marketplace change. Based on this increasing concern about environmental claims, The Federal Trade Commission (FTC) created Green Guides to help ensure the ecological attributes of products are truthful and substantiated. The Green Guides cover general environmental benefit claims, carbon offsets, certifications and seals of approval, compostable claims, recyclable claims, and many other specific claims. However, these guides explain only when and how the environmental attributes can be claimed, but not how to assemble eco-labeling programs or broader ecological standards (S. Clark, 2012).

Between the years 2015 and 2016, EPA published the Framework Assessment of Environmental Performance Standards and Ecolabels that encourage the improvement of products and services. EPA developed the Framework with the help of a multi-stakeholder consensus-based process to ensure a fair approach to evaluating private sector standards and ecolabels for referrals to federal purchasers. The United States Environmental Protection Agency updates standards every three months to ensure all changes are recorded and published publicly (US Environmental Protection Agency, 2022). The Framework covers detailed information for creating the Environmental Performance Standards and Ecolabels. As well as four main sections explaining criteria that need to be met by the Environmental Performance Standards and Ecolabels. According to the US Environmental Protection Agency, every newly created Eco-label or eco-standard assessment needs to contain the name, lead organization, primary contact person, email address, and phone number of the contact person. Also, the category, the belonging section, and readily available documents demonstrate a sufficient availability of the product or service (US Environmental Protection Agency, 2022). In fact, there are four sections explaining the criteria that need to be met:

- Section I - Standards Development Process
- Section II - Environmental Effectiveness
- Section III - Conformity Assessment Process
- Section IV - Ecolabel Program Management

In addition, links show the existence of a publicly available and current registry of products or services and standards, including criteria that meet or exceed federal sustainable acquisition statutory mandates. Based on the category of product, there exist four requirements groups that apply to the specific product. The first group represents "The

Comprehensive Procurement Guideline (CPG) program" promoting the usage of materials from municipal solid waste. Buyers ensure that collected materials will be reused, by purchasing products made with recovered materials. This group covers 61 products designated in eight categories (United States Environmental Protection Agency (EPA), 2022). The second group is "the Federal Energy Management Program (FEMP)" which creates a guide for product categories specified in different efficiency programs, such as ENERGY STAR, promoting the reduction of greenhouse gas emissions. Then, FEMP Designated sets efficiency levels that have the potential for generating significant energy savings. FEMP Low Standby Power refers to "electricity consumed by a product when it is switched off and on" (U.S. Department of Energy, 2021). The WaterSense program focuses on labeling water-efficient products in households, offices, and properties that use water. And two more, the EPEAT and Suspended Product Category programs. The third group represents "the BioPreferred Program", identified with the ‚FP' symbol, covering 139 categories with more than 25% of biobased content. The U.S. Department of Agriculture (USDA) created this program intending to "increase the purchase and use of biobased products" (United States Department of Agriculture, 2022). Lastly, the fourth category "Significant New Alternatives Policy (SNAP) Program" was established to evaluate substitutes for ozone-depleting substances. The SNAP considers all risks to human health and provides the public with detailed information (U.S. Government office, 2022).

3.2.4 The change in purchasing patterns and its consequences

The 21st century is marked by the digital revolution. The reality shows that consumer attitudes and decision-making have changed. Nowadays, online purchases are more typical than ever before. People tend to shop from home due to the higher comfortability and speed of the whole purchasing process. Enterprises had to adapt to these changes. Thus, discounts have obliterated margins, and many retailers have had to eat into their margins to be able to compete in the marketplace. According to changes in consumer attitudes, consumer loyalty diminishes and the price points stay a factor for 21st-century consumers, but it is not the only thing they consider while purchasing. Slashing prices to a minimum is no longer impressive (Paul Freudenberg, 2021). Any business or entrepreneur has the ability to deliver a service or product for a rock-bottom price. Hence, more than an advantage, it can be considered a warning signal about the quality in most cases. Consumers are price sensitive, their goal is to get maximum benefits for money and time.

"Pricing strategies differ based on industry, target customers, and even the cost of goods" (Odjick, 2022). The chosen pricing strategy impacts the business's success and future development.

Already in 19th century, the fixed-price policies were established together with large-scale retailing. Kotler and colleagues (2005) described fixed-price policies as "setting one price for all buyers " (Kotler et al., 2005). Therefore, the fixed prices are a relatively new idea in the economy.

But before establishing a product price, the marketers need to understand the market for the product they sell, distribution channels, and the competition. The best way is to analyse the overall market situation, factors affecting the market, and possibly the companies or producers offering similar goods or services.

In addtition, it is crucial to distinguish between the products and services. Product prices are more sensitive to changes than service prices. If the price of products rapidly increases, the demand for that particular product fastly declines. But if the service prices quickly increase, the regular customer still returns.

Prices have changed in the last two decades. Pricing a product or service is a process that determines the value based on internal and external factors. Many factors influence price changes in categories such as food, beverages, liquid fuels, electricity, recreation, and culture, where the prices are increasing (Office for National Statistic, 2017). Nowadays, issues the world has been dealing with lately (the pandemic and war in Ukraine) are mainly responsible for the change in prices, as well as consumer behaviors.

Modern 21st-century consumer behavior is an omnichannel experience. Lisa Painter (2022) explains the omnichannel experience as "the ability to offer fast, personalized, uninterrupted service across web, mobile, and social apps" (Painter, 2022). It is not only about adding new channels, but also about building deeper relationships with customers over time through conversation and providing quicker support. Nowadays, prosperous enterprises understand and match their strategies with the messaging and platforms used for delivering a modern customer experience. In fact, the majority of businesses sell their products or services via social media, which may represent an intentional decision to comply with the wants and needs of the target group. On the opposite, for some firms, it can result in another missed opportunity to satisfy consumer desires.

Omnichannel represents an opportunity if businesses use them effectively. Because of the current economic situation, most companies use omnichannel to boost their sales. This

is understandable in small businesses that need the profit to survive and maybe expand in the future. In the case of medium and large enterprises, profit should not be the most important thing. The company shares and overall value is the main factor showing the development and success. Therefore, the fact that most companies only focus on boosting their sales poses no interaction or engagement with buyers because firms do not spread their stories. These companies are focused only on profit which does not correspond 21st consumer requirements.

4 Practical Part

The Practical part presents a methodological approach that creates a basis for empirical research that allows the removal of personal biases. Instead, it uses real-world evidence that helps to conclude. The main idea of empirical analysis is direct observation, in this case, primary data collection, which is one of the best ways to examine reality and find the truth about the market situation in today's world.

The empirical research represents a quantitative analysis of a descriptive design with primary data collection. A tool for collecting data represents a questionnaire that was designed and spread among people. Another step represents an analysis of collected data to uncover findings and statistical inferences. Based on the analysed data, the index analysis and regression analysis derive results providing the final information from the survey.

4.1 Data collection methodology

With the help of Microsoft Excel and Gretl software, Index and Regression analysis were used to analyze the secondary data. Moreover, the assumptions and expectations, so-called working hypotheses, created the basis for the questionnaire. These working hypotheses, already listed in the Methodology part, should be confirmed or refused after analyzing the collected data. Additionally, these hypotheses refer to estimates based on studied materials and literature.

4.2 Index analysis and Descriptive statistics

Index analysis is recognized as one of the most frequent ways to represent analysed data by percentage. The Basic index expresses the difference between two measured numbers by designating one number, the first number in the measurement, as the "base" and then expressing the second and other following numbers as a percentage of the first. The value of the Chain index describes the annual change in time series. That represents the comparison of the current time value with the previous time value (Cleveland & Cleveland, 2013).

In this case, Table 1 expresses secondary data collection based on data published by Statista. The index analysis shows changes based on the time series between 2000 and 2020, where the index numbers represent the measurement of organic food sales worldwide.

Table 1 shows data collection based on discrete-time series and the use of descriptive analysis. The index numbers, calculated as a ratio shown in Table 1, provide relevant information about the structure of the analysed time series.

According to the Base index in Table 1, there is a continuous increase in organic food sales worldwide since 2000, except for a decrease recorded in 2013 and 2018. Which could be caused by climate change. According to National Centers for Environmental Information, the year 2012 and 2017 belongs to the years of the hottest recorded temperature worldwide since 1880 (NOAA National Centers for Environmental Information, 2023). Therefore, based on the values recorded in the chain index during the given time series, the highest increase was in 2014 from 2013 and, similarly, in 2019 from the previous year.

Descriptive statistics are based on data analyses that sum up, describe, and express the data for better understanding. Descriptive statistics provide brief observations about the specific analysed data sets and show patterns and factors influencing the data. Graphs, charts, and other visuals are helpful in the expression of quantitative data, mainly in the preliminary stage of data analysis, because this type of statistics does not provide the complete information needed for the conclusion. However, it creates a basis for further, more complex, data set analysis (Jones, 2022).

In this case, measures of central tendency describing the central proportion of frequency distribution represent descriptive statistics. The measures of central tendency represent mean, mode, and media. Mean, known as average, is calculated as the data values summary divided by number two. Mode expresses “the most frequently occurring number or item in a data set ” (Conner & Johnson, 2017). A bi-mode or a multimode represents two or more modes presented in the data set. The median is the middle value of the data set used to express the extremes of analysed data. In the case of an even number of data set values, the two middle values are summed up and divided by number two to reach the average of those two values (Holcomb, 2016).

Then the measurement of standard deviation represents the spread of the data, more precisely, it shows the average value of how far each value lies from the mean. The higher the standard deviation is, the more values are far from the mean. Moreover, the coefficient of variation describes the ratio of standard deviation to the average value of the data set, the so-called mean (Holcomb, 2016).

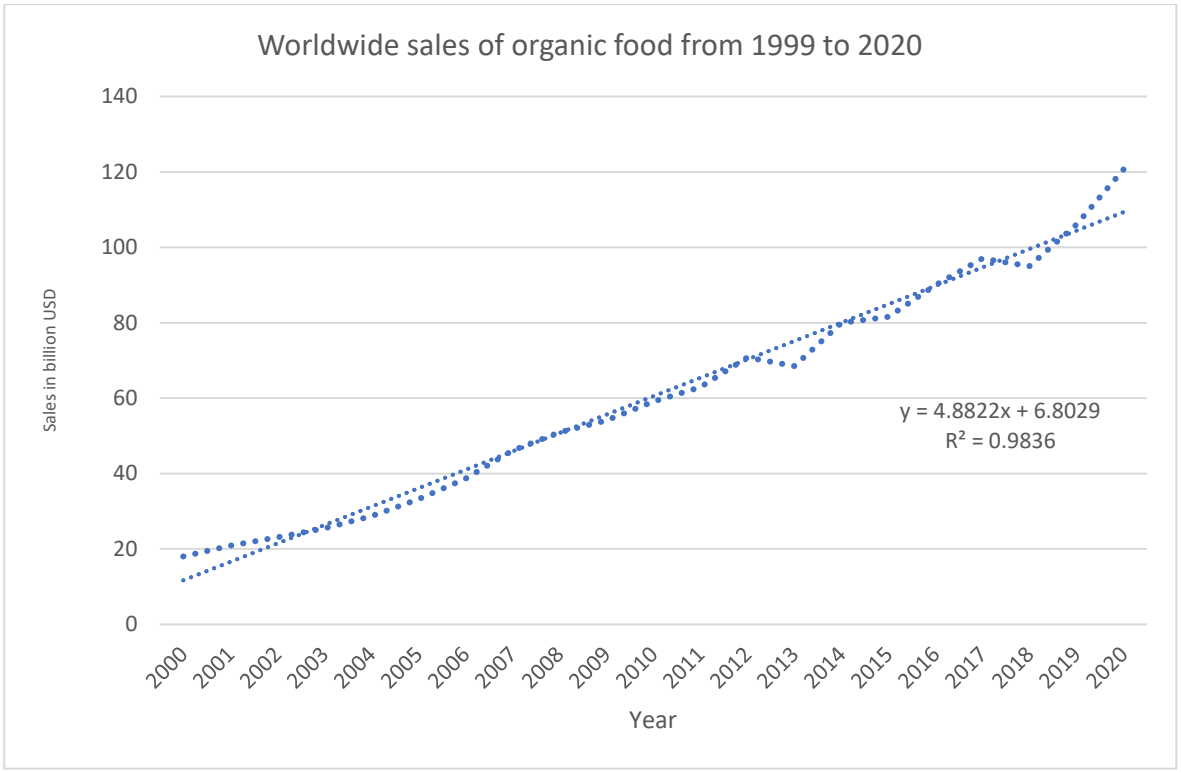
Thereon, the average sales of organic food result in a value of 57.76 billion USD, with a standard deviation of about 30.5 %. In graph 1, the trend function with increasing slope (+6.8029) represents the coefficient of determination (R2) with a value equal to 0.9836, which is a very strong positive correlation representing a high-quality trend function, thus, a high quality of the whole model. Also, in Table 2 the P-value and probability error that equals 1 % (***) show a high quality of the model.

Moreover, Table 1 expresses some more interesting facts, such as the significant change in value recorded in 2000 and 2020. The data set of worldwide organic food sales in 2020 is more than six times higher than in 2000. Thus, based on the data, it is visible that organic food sales are increasing in the long-term period.

Year	Sales in billion USD	Basic Index	Chain Index	Organic area (in million ha)	Organic producers (in millions)
2000	18	1.00	- - -	14.98	0.25
2001	20.9	1.16	1.16	17.30	0.38
2002	23.1	1.28	1.11	19.88	0.44
2003	25.5	1.42	1.10	25.77	0.38
2004	28.7	1.59	1.13	29.97	0.49
2005	33.2	1.84	1.16	29.25	0.68
2006	38.6	2.14	1.16	30.17	0.91
2007	46.1	2.56	1.19	31.51	1.24
2008	50.9	2.83	1.10	34.47	1.39
2009	54.1	3.01	1.06	36.27	1.81
2010	59.1	3.28	1.09	35.73	1.56
2011	62.9	3.49	1.06	36.67	1.77
2012	70.8	3.93	1.13	36.83	1.92
2013	68.5	3.81	0.97	43.07	1.95
2014	80	4.44	1.17	48.70	2.06
2015	81.6	4.53	1.02	50.30	2.23
2016	90	5.00	1.10	57.99	2.54
2017	97	5.39	1.08	69.18	2.93
2018	95	5.28	0.98	70.99	2.78
2019	106	5.89	1.12	72.07	3.15
2020	120.65	6.70	1.14	75.10	3.5

MIN	18	1	0.97
MAX	120.65	6.70	1.19
MEAN	57.76	3.21	1.00
MEDIAN	56.6	3.14	1.08
MODE	- - -	- - -	1.16
Standart dev.	30.5443	1.696905382	0.060321287
Coeff. of variation	52.88431	52.88431363	6.024377474

Table 1 Data collection of analysed data and Descriptive statistics (Statista & Shahbandeh M, 2022)



Graph 1 Trend function (Statista & Shahbandeh M, 2022)

```
Model 1: OLS, using observations 2000-2020 (T = 21)
Dependent variable: S_USD

             coefficient   std. error   t-ratio    p-value
  ---------------------------------------------------------
  const        6.80286      1.81418      3.750    0.0014    ***
  time         4.88221      0.144481    33.79     1.96e-018 ***

Mean dependent var   60.50714   S.D. dependent var   30.54430
Sum squared resid    305.3977   S.E. of regression   4.009185
R-squared            0.983633   Adjusted R-squared   0.982771
F(1, 19)             1141.855   P-value(F)           1.96e-18
Log-likelihood      -57.90718   Akaike criterion     119.8144
Schwarz criterion    121.9034   Hannan-Quinn         120.2677
rho                  0.279378   Durbin-Watson        1.125497
```

Table 2 Gretl Software – Descriptive statistics

4.3 Regression analysis

Regression analysis represents a statistical method to discover and eliminate a relationship between one or more variables, mainly between one dependent variable and two or more independent variables. This method helps measure the variables' relationship strength, as well as it may help forecast future relationships among variables (Sen & Srivastava, 2012).

Regression analysis consists of several types such as linear, non-linear, and multiple linear. In this work, the multiple linear regression analysis is presented. The multiple linear regression analysis is "a model with one dependent variable and more than one independent variable, " assuming "that the response variable is a linear function of the model parameter" (Yan, 2009) with two or more independent variables included in the model.

Based on the time series from 2000 to 2020, data collection shows the Worldwide organic food area (farmland in million ha) and producers of organic food (in million units), and the Worldwide organic food sales overall.

The organic food area and producers are considered independent factors related to organic food sales as expressed in the multiple regression model in the linear form:

$$\mathbf{S\_USD = f\ (OA;\ OP)}$$

$$\mathbf{S\_USD = 7.36 + 0.27x_2 + 25.72x_3 + \varepsilon_1}$$

For deep analysis, the Gretl software is used to analyse variables, and results are explained. Table 3 shows a detailed overview of twenty-one observations (T=21).

```
Model 1: OLS, using observations 2000-2020 (T = 21)
Dependent variable: S_USD

             coefficient   std. error   t-ratio   p-value
  ---------------------------------------------------------
  const        7.36240      2.36643      3.111    0.0060   ***
  OA           0.268123     0.150042     1.787    0.0908   *
  OP          25.7215       2.77403      9.272    2.82e-08 ***

Mean dependent var   60.50714   S.D. dependent var   30.54430
Sum squared resid    219.7222   S.E. of regression   3.493822
R-squared            0.988224   Adjusted R-squared   0.986916
F(2, 18)             755.2911   P-value(F)           4.35e-18
Log-likelihood      -54.45005   Akaike criterion     114.9001
Schwarz criterion    118.0337   Hannan-Quinn         115.5802
rho                  0.122184   Durbin-Watson        1.721856
```

Table 3 Gretl Software - Regression analysis of dependent and independent variables results

In this case, the coefficient of determination (R^2) is a high value close to one (0.9882), meaning that there is a good quality trend function. From a statistical view, the quality of the whole model is also high according to P-values, which shows statistical significance with a probability error of 1 % (***). Therefore, organic producers, and similarly, an organic area, can significantly predict organic food sales. The standard error of the regression (S.E. of regression) expresses the observed values fall an average of 3.49 units from the regression line. Based on the observed data, the lower value of the S.E. of the regression provides a more precise prediction.

Regarding the regression analysis results, organic food sales are increasing in long-term tendency, and explanatory variables influence the dependent variable. With the worldwide organic food sales increase, consumption is also rising, and production increases, as well. Consequently, the area of organic farmland must increase to meet the rising demand for organic food. Which naturally leads to higher numbers of organic food producers.

Many other factors may influence organic food sales. A real-world example may be the Covid-19 pandemic which affected the world's organic food sales. According to Katy Askew (2020), organic food recorded significant growth during the pandemic and exceeded sales of conventional food alternatives. As Katy Askew stated in the report, the reason is mainly due to the "rising consumer awareness of the relationship between nutrition and health" (Askew Katy, 2020).

Climate change, namely floods and droughts, represents another significant factor that may influence organic food sales worldwide in the future. "Climate change is expected to

increase the frequency of severe weather patterns" (Ahmed Magdi, 2017). Magdi Ahmed (2017) pointed out that the consequences of droughts may reduce production, leading to a decrease in sales and consumption. As well as floods that may impair the farmland (Ahmed Magdi, 2017).

Evidently, based on the listed and other factors, the future of the world economy is uncertain.

4.4 Consumer perception towards eco-friendly products survey

4.4.1 Respondents' Demographic profile

Question 1: Gender of the respondent

Gender	Count of respondents	In %
Man	70	21.9%
Woman	250	78.1%
Grand Total	**320**	**100%**

Table 4 Distribution of gender (Source: Author)

The representation of women and men in the world population is almost identical - men 50.5 %, women 49.5 % (CountryMeters, 2023). However, in this survey, women create 78.1 %, and men 21.9 % of all the respondents. Thus, the survey results are not representative in this case, and the questionnaire represents a tool that provides better knowledge about respondents' perceptions and feelings about eco-friendly products.

From this observation, it can be concluded that women shop more often than men, which could be related to the role of women as family caregivers and household keepers.

Question 2: Age of the respondent

Age	Count of respondents	in %
1971 and more (51 and more)	49	15.3%
1991 - 1972 (31-50)	90	28.1%
2004 - 1992 (18-30)	181	56.6%
Grand Total	**320**	**100%**

Table 5 Age category (Source: Author)

Based on the answers, a cross-section of the age distribution of respondents was determined. The age group from 18 to 30 years has the highest representation creating 56.6 %, followed by the age group from 31 to 50 years, representing 28.1 % of all respondents. The lowest-represented age group in this survey form respondents 51 and more years old (15.3 %).

The results show that younger people, probably younger families, are interested in this area as they shop more often than older generations. Also, the reason could be that people in the age group 51 and more years buy less or other (younger) family members shop for them.

Question 3: Highest level of achieved education of the respondent

Achieved level of education	Count of respondents	in %
College / University	146	45.6%
High School	172	53.8%
Secondary school	2	0.6%
Grand Total	**320**	**100%**

Table 6 Achieved respondents' ducation level (Source: Author)

According to answers achieved, the majority of respondents create people with achieved at least a high school level of education. This group represents 146 people with a college/university degree and 172 people with a high school level of education. Both groups together create 99.4 % of all respondents.

Based on the answers, it can be concluded that most educated people care about what they purchase more than people with a basic education level. This could be supported by the fact that higher-level education schools have been focusing on sustainability topics more than ever before. Mainly due to climate change and other things influencing today‘s world.

Question 4: Current situation of the respondent

Current situation	Count of respondents	in %
Employed	181	56.6%
Maternity leave	17	5.3%
Retired	15	4.7%
Student	107	33.4%
Grand Total	**320**	**100%**

Table 7 Respondents' current situation (Source:Author)

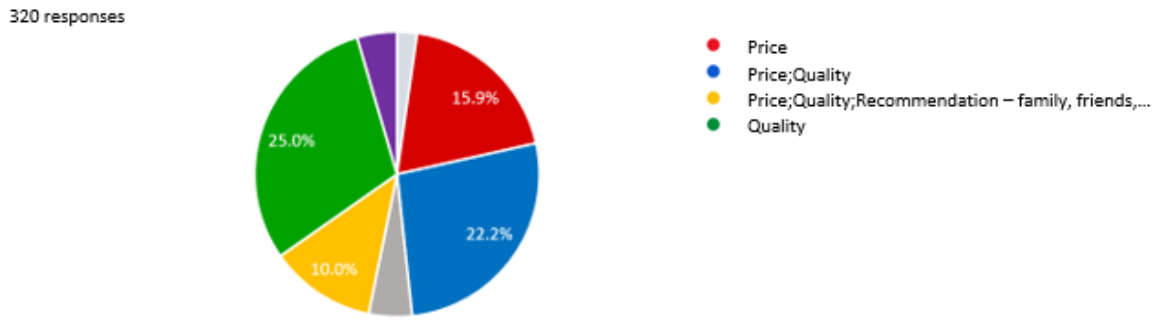
In this case, as could be seen from the results, a group of employed people together with students represent 90 % of all respondents. This fact brings us back to Question 2: “Age of the respondent,” where people from 18 to 50 years old represent 84.7 % of the 320 answers. Therefore, it can be inferred that employed people and students fall into the group between 18 to 50 years old respondents who are the most interested in the area focusing on consumers‘ perception towards eco-friendly products.

4.4.2 Respondents' Perception towards eco-friendly products

Question 5: What do the respondents consider the most while purchasing?

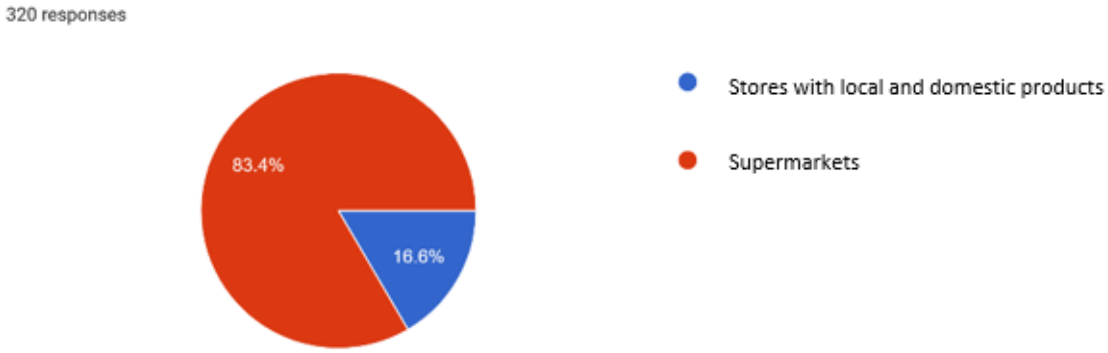
What do you take into account the most while buying goods?	Count of resp.	in %
Country of origin	6	1.9%
Labelling/packaging	2	0.6%
Price	51	15.9%
Price;Country of origin	3	0.9%
Price;Quality	71	22.2%
Price;Quality;Country of origin	13	4.1%
Price;Quality;Country of origin;Labelling/packaging	5	1.6%
Price;Quality;Country of origin;Labelling/packaging;Recommeditation - family, friends…	5	1.6%
Price;Quality;Country of origin;Recommeditation - family, friends...	4	1.3%
Price;Quality;Labelling/packaging	4	1.3%
Price;Quality;Labelling/packaging;Recommeditation - family, friends...	2	0.6%
Price;Quality;Recommeditation - family, friends...	32	10.0%
Price;Recommeditation - family, friends...	5	1.6%
Quality	80	25.0%
Quality;Country of origin	12	3.8%
Quality;Country of origin;Labelling/packaging	1	0.3%
Quality;Country of origin;Recommeditation - family, friends...	8	2.5%
Quality;Labelling/packaging	2	0.6%
Quality;Labelling/packaging;Recommeditation - family, friends...	2	0.6%
Quality;Recommeditation - family, friends...	6	1.9%
Recommeditation - family, friends...	6	1.9%
Grand Total	**320**	**100%**

Table 8 Factors effecting decision making during the purchase (Source: Author)



Graph 2 Factors effecting decision making during the purchase in graph (Source:Author)

Question 6: Where do the respondents shop?



Graph 3 Place where respondents purchase the most (Source:Author)

The results of questions five and six show that people who participated in this survey value the most quality together with price and shop mainly in supermarkets.

According to question five, the quality of a product creates 25 % and the price almost 16 % of all respondents. However, product price and quality represent 22.2 %, and with the recommendations, it represents 10 % of all answers.

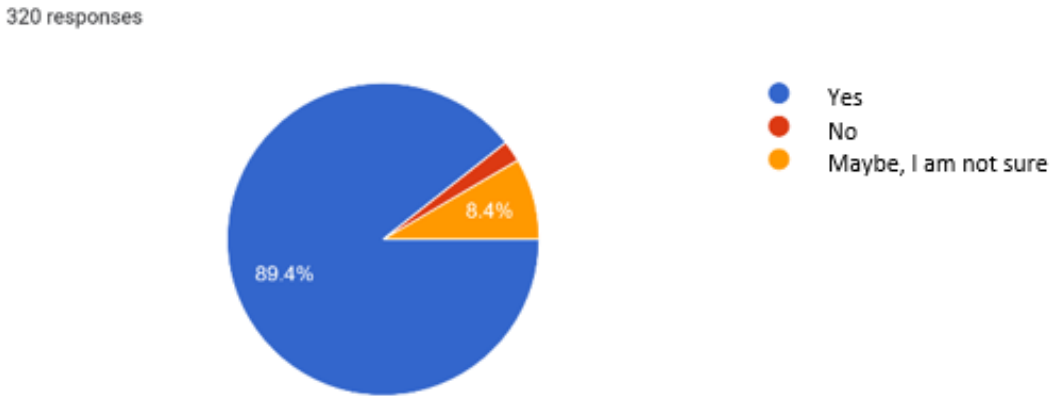
Regarding Accenture survey, "quality and price remain top consumer concerns" (Cantwell Guy et al., 2019) during the purchase. Similarly, based on a study conducted by Cagatay Akdogan, the results show that "price and payment conditions are highly effective variables in consumer purchase decision-making" (Akdogan, 2021).

The survey results and research express that other factors do not play a significant role in consumer decision-making while shopping.

Regarding question six, the vast majority of people who participated in this survey shop in supermarkets (267). Only 53 respondents shop for local and domestic products. The reason could be that local shops do not offer as many goods as supermarkets. The range of offered products is enormous in the supermarts, and buyers have the ability to choose from different types, brands, and prices.

Based on the results from questions five and six, it may be concluded that people are searching for high-quality goods with affordable prices or good deals offered mainly by supermarkets.

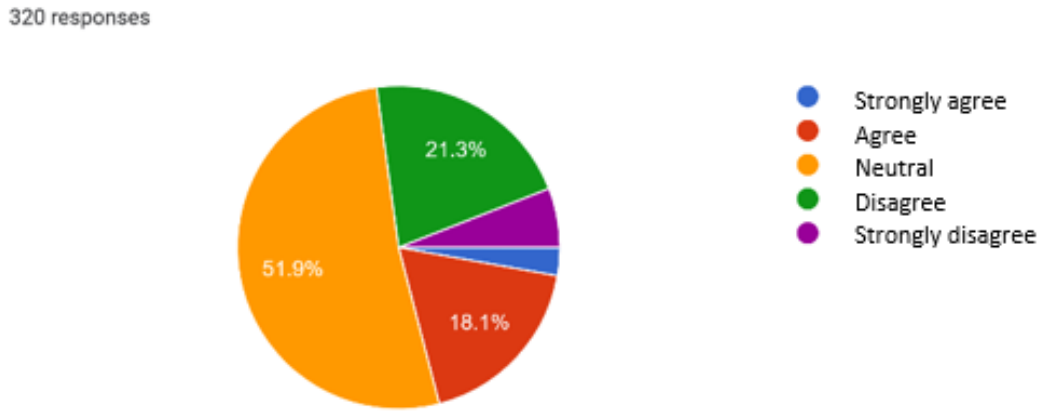
Question 7: Have you ever came across with the term "eco-friendly " product or "eco-label "?



Graph 4 Respondents' knowledge about "eco-friendly" products and "eco-labels" (Source: Author)

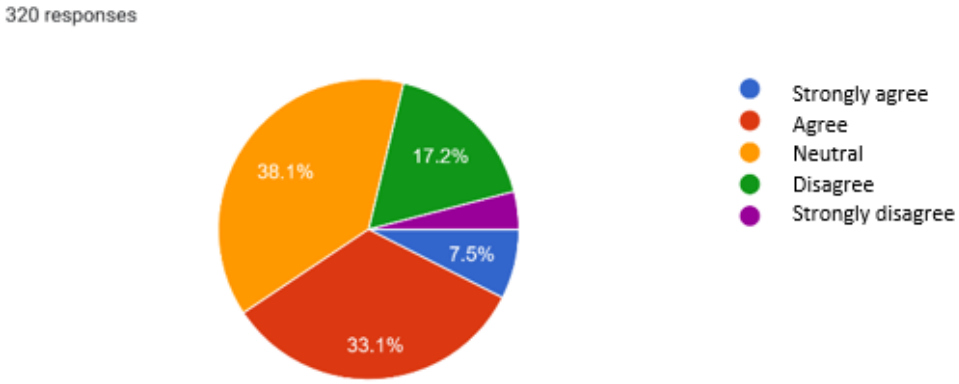
Almost 90 % of respondents came across the term "eco-friendly" product or "eco-label" in their life. Therefore, it could be assumed that people are aware of problems connected to environmental issues and society's well-being.

Question 8: During the purchase, I mostly search for eco-labeled products.



Graph 5 How many people search for eco labeled product during the purchase in % (Source: Author)

Question 9: I prefer to buy eco-friendly products rather than buying other products.



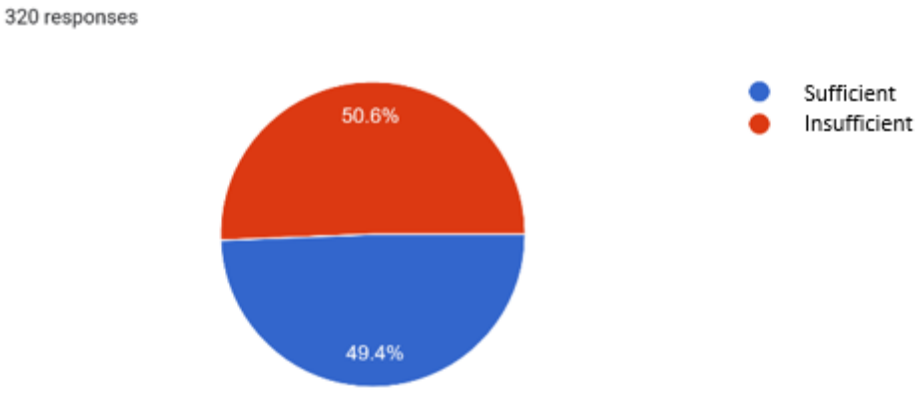
Graph 6 Respondents' preferences (Source:Author)

Questions eight and nine show people have a neutral stance in preferring and searching for eco-labeled products. However, many factors, such as quality, price, product availability, etc., can influence people while purchasing.

According to question nine, the respondents prefer to buy environmentally friendly products (130 respondents) instead of purchasing other products.

Consequently, it can be inferred that eco-friendly labeled products still are not the first and most important thing people take into account while shopping. However, if the quality is high and the price is affordable, people purchase environmentally non-harmful goods rather than other products.

Question 10: What is the offer of eco-friendly products in stores where respondents mostly shop?



Graph 7 Respondents' opinion about offered eco-products in shops (Source:Author)

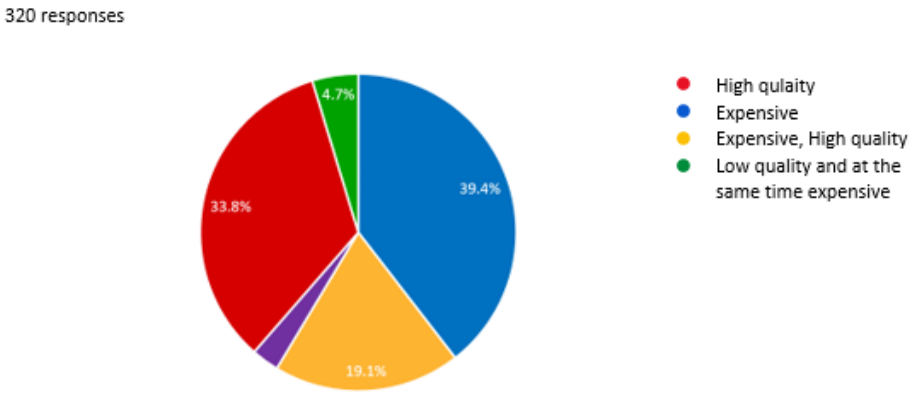
The offer of eco-friendly products in stores where respondents mostly shop depends on where exactly people shop. Regarding answers from Question 6: "Where do the respondents shop?" most of the respondents shop in supermarkets.

Therefore, it can be assumed that supermarkets offer a wide range of products and brands for, in most cases, better deals than local shops. But the range of eco-friendly products offered in supermarkets is not sufficient. In fact, it does not mean local shops are stocked better with non-environment harmful goods than supermarkets. Actually, this may be the opposite as local shops cannot afford exceptional products as there is a high risk that nobody will buy them and they will expire.

Question 11: Which of the following statements reflect your personal attitude or feelings towards eco-friendly products?

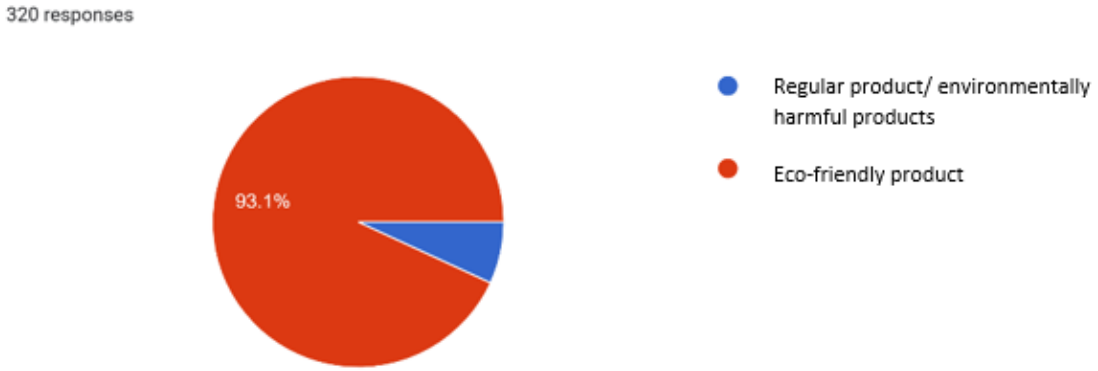
Eco-friendly products are:	Count of resp.	in %
Expensive	126	39.4%
Expensive;High quality	61	19.1%
Expensive;High quality;Low quality and at the same time expensive	1	0.3%
Expensive;Low quality and at the same time expensive	9	2.8%
High quality	108	33.8%
Low quality and at the same time expensive	15	4.7%
Grand Total	**320**	**100%**

Table 9 Respondents' personal attitude or feeling towards eco-friendly products (Source:Author)



Graph 8 Respondents' personal attitude or feeling towards eco-friendly products in graph (Source:Author)

Question 12: If a regular and eco-friendly product had the same price, which one would you choose?

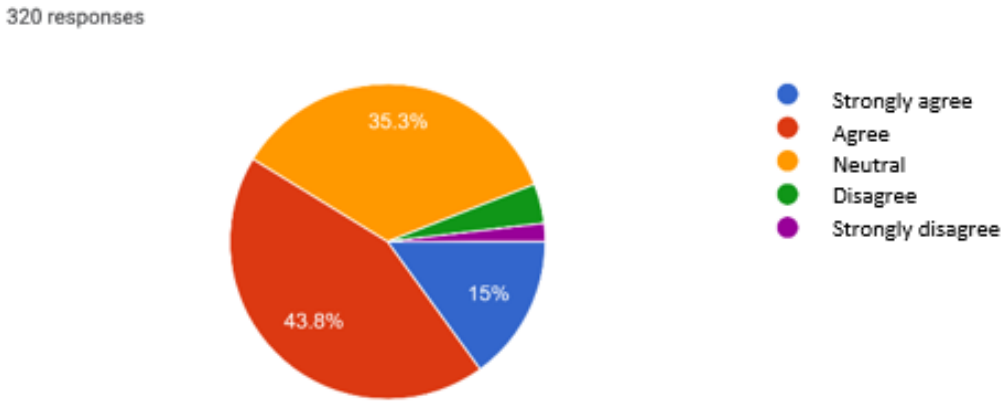


Graph 9 Respondents' preferences at the same price level (Source:Author)

More than 33 % of respondents value eco-friendly products as high-quality products. Almost 40 % think these products are expensive. Both opinions together stand for 19 % of all answers. Consequently, based on the result from question twelve, the main factor affecting consumer decision-making in most cases is price. The vast majority (298 respondents out of 320) would change their decision-making while shopping.

Regarding questions eleven and twelve results, it can be said that people value environmentally friendly products as expensive but high-quality products. They favor eco products, but price still plays a significant role while shopping. If the price of green products is similar to regular (eco-harmful) goods, they will prioritize the non-harmful products.

Question 13: I will buy more eco-friendly products in the future.



Graph 10 Prediction in future personal purchasing (Source: Author)

The last question is related to respondents‘ future decision-making during shopping. In this case, 58.8 % state they will buy more eco-friendly products in the future, and 35 % of answers are neutral.

Regarding M.L. Ashok and Dr. T. Aswathanarayana, people tend to purchase eco-friendly products more, and “the last decade has seen a progressive increase in the environmental consciousness across the globe” (Ashok M.L. & Dr. Aswathanarayana T., 2018).

Similarly, the report An Eco-Weaking, published by The Economist (2021), expresses data showing that people are searching for more information about sustainability than ever before. More precisely, based on findings “the popularity of Google searches relating to sustainable goods has increased by 71 % globally since 2016” (The Economist Intelligence Unit, 2020).

Based on the outcomes, it may be inferred people are aware of their actions and want to change their shopping habits to protect the planet for future generations.

5 Results and Discussion

The results of the practical part, based on secondary data collection (index analysis, descriptive statistics, and regression analysis), show the increasing trend of organic food sales worldwide. The dependent variable (organic food sales) influenced the independent variables (organic farmland and organic producers). No extreme values appeared in the collected data. The high-quality model represents results that create a basis for future prediction of organic food worldwide. Thus, based on the results, the forecast may be the continuous increase of organic sales worldwide for upcoming years, which will result in higher organic food production and consumption. However, many other factors can influence the production of green products, as well as shopping patterns, consumers' decision-making, and final choices.

The Scientific Status Summary report written by Carl Winter and Sarah Davis confirms the increasing trend of the organic food industry. This may be influenced by "increasing consumer confidence in organic foods, " and "the concern about possible health risks and environmental impacts of conventional food production methods " (Winter Carl & Davis Sarah, 2006).

In the review and research agenda called Consumer behaviour and purchase intention for organic food, Rana Jyoti and Paul Justin stated that there is a need "to purchase organic food to improve the quality of life will have huge implications for the retail, distribution, and marketing functions of business " (Jyoti Rana & Justin Paul, 2017). Furthermore, the research results show a growing tendency of organic food purchases.

Lastly, supporting everything mentioned, the research based on Recent Developments in Europe shows the results indicating organic food sales and organic farmland growth. However, there are many challenges the organic sector faces, especially "the growth rates in the organic area " (Willer Helga et al., 2019).

Regarding the primary data collection, the questionnaire results represent the respondents' perception of eco-friendly products. The final number of 320 respondents creates a sample. However, the survey results are not relevant in this case. The proportion of women and men who participated in this survey does not match the real-world proportion of the population. Hence, the questionnaire results can be considered as the participants'

opinions on organic products rather than as something that creates a basis for future predictions.

Based on the survey answers, stated working hypotheses are accepted or rejected:

H_{01}: More than half of the respondents have already encountered the expression eco-friendly products or eco-label.

Regarding answers to Question 7, the majority of respondents (90 %) encountered the term "eco-friendly" product or "eco-label" in their life.

Therefore, ***H_{01} is not rejected.***

H_{02}: More than a third of respondents are actively looking for eco-labels on products.

According to answers to Question 8, people have a neutral or negative stance in active searching for eco-labeled products, creating almost 75 % of them.

H_{02} is rejected.

H_{03}: Most respondents prefer the purchase eco-friendly products before buying other products.

Based on the answers to Question 9, more than 40 % of respondents prefer eco-friendly products instead of purchasing other products. Out of 320 people asked, almost 40 % of them had a neutral opinion on this question.

Therefore, the ***H_{03} hypothesis can be accepted rather than rejected.***

H_{04}: The price of organic products plays a significant role in decision-making.

Concerning the results of Questions 5 and 12, the price is a relevant factor affecting the decision-making during the purchase. Price and quality of the products, or at least one of those factors, play a significant role during shopping for more than 50 % of respondents. If the price of eco products is at least the same as the price of regular products, more than 93 % of people would buy green products.

Hence, ***H_{04} is not rejected.***

6 Conclusion

The principal aim of this bachelor thesis was to understand the consumers' perception of eco-friendly products. As well as to define variables affecting the consumption and overall purchase patterns of environmentally friendly products.

Since the second half of 20 century, the Green revolution and its consequences represent the change from regular consumption to modern consumption patterns. Climate change alerted the most fundamental changes reflecting the number of scarce resources and renewables consumed in history and nowadays. As well as government intervention in activities that lead to more sustainable services and infrastructure, better consumption patterns, and resource-use efficiency.

Enterprises are aware of consumers' needs, behaviours, and purchase intentions, which lead to the re-designing of products to minimize overall environmental impact. Hence, the Green economy extends the Circular economy of focus to human well-being and ecosystem resilience and forms the so-called "New economy". This is reflected mainly in newly created international standards that form a basis for certification schemes and labelling symbols that help purchasers to orientate in the enormous offer of products on the marketplace.

The amount of offered products mostly creates a supply surplus. Thus, consumers have the power to choose from many different products, brands, quality, and price offers. Which leads to new challenges and activities for companies to attract buyers and win the competition. Nowadays, the activities developed by enterprises shifted from the offline to the online world, which brings up another major change representing the omnichannel. In other words, the online world provides the modern consumer with information about offered goods, fast and uninterrupted service, and comfortable purchases.

Price still represents a significant factor influencing the decision-making during the purchase. However, people are aware of the planet's deteriorating condition and tend to minimize the harmful impacts on the environment.

Eventually, sustainable development is perceived as a positive change projected in the increasing demand for eco-friendly products.

7 References

Ahmed Magdi. (2017). Climate Change Effects on Food Security. *Forbes & Fifth*, *10*.

Akdogan, C. (2021). *A Study on The Effect of Price On Consumer Purchase Decision-Making*.

Akenji, L. (2014). Consumer scapegoatism and limits to green consumerism. *Journal of Cleaner Production*, *63*, 13–23. https://doi.org/https://doi.org/10.1016/j.jclepro.2013.05.022

Anthony Webb. (2021, May 27). *Explaining Green, Eco-Friendly, and Environmentally Friendly*.

Archer, T., Cromwell, E., & Fenech, C. (2022). How consumers are embracing sustainability. *Deloitte.*

Ashok M.L., & Dr. Aswathanarayana T. (2018). Consumer awareness and perception towards eco-friendly product - an empirical study. *Journal for Research Analysis*, *7*(1).

Askew Katy. (2020). *Organic food's coronavirus boost: "Health crises have a long-term impact on consumer demand."*

Bastiat, F., & Stirling, P. J. (1873). *Economic Sophisms*. Oliver and Boyd. https://books.google.cz/books?id=MocBAAAAQAAJ

Brewer, J., & Porter, R. (2013). *Consumption and the World of Goods*. Taylor & Francis. https://books.google.cz/books?id=fFKpD0zq62kC

Bruce, C., & Laroiya, A. (2007). The Production of Eco-Labels. *Environmental and Resource Economics*, *36*(3), 275–293. https://doi.org/10.1007/s10640-006-9028-9

Cantwell Guy, Nolan Maggie, & Corser Matt. (2019). *More than Half of Consumers Would Pay More for Sustainable Products Designed to Be Reused or Recycled*.

Cleveland, A. D., & Cleveland, D. B. (2013). *Introduction to Indexing and Abstracting: Fourth Edition*. ABC-CLIO. https://books.google.cz/books?id=JfPXAQAAQBAJ

Committee, G. Britain. Parliament. H. of Commons. E. A. (2009). *Environmental Labelling: Second Report of Session 2008-09 : Report, Together with Formal Minutes, Oral and Written Evidence*. Stationery Office. https://books.google.cz/books?id=n0tahQO_mnYC

Conner, B., & Johnson, E. (2017). Descriptive statistics. *American Nurse Today*, *12*(11), 52–55.

CountryMeters. (2023, January). *World population*.

Danley Sam. (2022, March 15). Few consumers understand healthy food labels, study finds. *Food Business News*.

Earth Negotiations Bulletin (IISDO). (1994). *The Imperative of Sustainable Production and Consumption*.

European Commission. (2022a). *EU Ecolabel*. What Is the EU Ecolabel?

European Commission. (2022b). *Product groups and criteria*.

European Commission. (2022c, November 30). *Circular economy action plan*. Environment- Strategy.

European Environment Agency. (2016). *Circular economy in Europe*. Publications Office of the European Union.

European Parliament. (2022, December 5). *Circular economy: definition, importance and benefits*. Economy.

Fuchs, D., & di Giulio, A. (2014). Sustainable Consumption Corridors: Concept, Objections, and Responses. In *GAIA - Ecological Perspectives for Science and Society* (1st ed., Vol. 23, pp. 184–192). oekom verlag.

Glocal Economist. (2022, June 13). *Static and Dynamic Analysis*.

Holcomb, Z. C. (2016). *Fundamentals of Descriptive Statistics*. Taylor & Francis. https://books.google.cz/books?id=X18PDQAAQBAJ

ISO Central Secretariat. (2019). *Environmental Labels*.

J. Arnould, E., & J. Thompson, C. (2005). Consumer Culture Theory (CCT): Twenty Years of Research. *Journal of Consumer Research*, *31*, 868–882.

Jasanoff, S., & Martello, M. (2004). *Earthly Politics: Local and Global in Environmental Governance*. MIT Press. https://books.google.cz/books?id=9NiC-6zGoX0C

Jevons, W. S. (1965). *Theory of Political Economy*.

Jones, J. S. (2022). *Exploratory and Descriptive Statistics*. SAGE Publications. https://books.google.cz/books?id=TZVREAAAQBAJ

Jyoti Rana, & Justin Paul. (2017). Consumer behavior and purchase intention for organic food: A review and research agenda. *Journal of Retailing and Consumer Services*, *38*, 157–165.

Kotler, P., Keller, K. L., Brady, M., Goodman, M., & Hansen, T. (2016). *Marketing Management* (3rd ed.). Pearson Education Limited.

Kotler, P., Wong, V., Saunders, J., & Armstrong, G. (2005). *Principles of Marketing* (4th ed). Pearson Education Limited. http://library.wbi.ac.id/repository/212.pdf

Lorek, S., & J. Vergragt, P. (2022). *Sustainable consumption as a systemic challenge: inter- and transdisciplinary research and research questions*.

Madichie, N. (2012). *Consumer Perception* (pp. 154–175).

Marshall, A. (1890). *Principles of Economics* (Issue sv. 1). Macmillan and Company. https://books.google.cz/books?id=yK4JAAAAIAAJ

Miryala, D. R. K., & Mennakanti, J. P. (2016). *RESPONSIBLE MARKETING FOR SUSTAINABLE BUSINESS* (1st ed). Zenon Academic Publishing.

NOAA National Centers for Environmental Information. (2023). *Monthly Global Climate Report*.

Novak, M. (2018, August 31). *8 social innovations that created true systemic change*. Social Innovation Academy.

Odjick, D. (2022, October 10). *How To Price a Product in 3 Simple Steps (2023)*.

Office for National Statistic. (2017, July 11). *The changing price of everyday goods and services*. Inflation and Price Indices .

Painter, L. (2022, September 30). *What is omnichannel? Guide to types, trends, and strategies*. Customer Engagement-What Is Omnichannel?

Paul Freudenberg. (2021, May 13). *The 21st Century Customer: Who Is The Modern Consumer?* Customer Experience.

Prag Andrew. (2016). *Environmental labelling and information schemes*.

Princen, T. (2005). *The Logic of Sufficiency*. MIT Press. https://books.google.cz/books?id=hL5NEAAAQBAJ

Roche, D., Roche, P. M. H. D., & Pearce, B. (2000). *A History of Everyday Things: The Birth of Consumption in France, 1600-1800*. Cambridge University Press. https://books.google.cz/books?id=g14uija4vtgC

S. Clark, D. (2012). *Guides for the Use of Environmental Marketing Claims* .

Say, J.-B. (1971). *A Treatise on Political Economy* (5th ed.). Augustus M. Kelley.

Sen, A., & Srivastava, M. (2012). *Regression Analysis: Theory, Methods, and Applications*. Springer New York. https://books.google.cz/books?id=amsmBgAAQBAJ

Smith, A. (1902). *The Wealth of Nations* (1st ed.). P. F. Collier & son.

Statista, & Shahbandeh M. (2022). *Worldwide sales of organic foods 1999-2020*. https://www.statista.com/statistics/273090/worldwide-sales-of-organic-foods-since-1999/

The Economist Intelligence Unit. (2020). *An Eco-wakeing, Measuring global awareness, engagement and action for nature*.

The Waste and Resources Action Programme (Wrap). (2004). *Understanding recycling symbols*. How to Recycle.

Trentmann, F. (2012). *The Oxford Handbook of the History of Consumption*. OUP Oxford. https://books.google.cz/books?id=bnvQDIeIsAUC

Trentmann, F. (2016). *Empire of Things: How We Became a World of Consumers, from the Fifteenth Century to the Twenty-First*. HarperCollins. https://books.google.cz/books?id=4GlqCgAAQBAJ

United States Department of Agriculture. (2022). *Product Categories*. USDA BioPreferred Program.

United States Environmental Protection Agency. (2022a, September 12). *Introduction to Ecolabels and Standards for Greener Products*. Sustainable Marketplace: Greener Products and Services.

United States Environmental Protection Agency. (2022b, September 12). *Sustainable Marketplace: Greener Products and Services*. Introduction to Ecolabels and Standards for Greener Products.

United States Environmental Protection Agency (EPA). (2022, June 23). *Comprehensive Procurement Guideline (CPG) Program*.

United States EPA. (2022, November 15). *Reduce, Reuse, Recycle*. Recycle.

U.S. Department of Energy. (2021, December). *Federal Energy Management Program*. Search for Energy-Efficient Products.

US Environmental Protection Agency. (2022). *Framework for the Assessment of Environmental Performance Standards and Ecolabels for Federal Purchasing*.

U.S. Government office. (2022, August 12). *Significant New Alternatives Policy (SNAP) Program*.

Vergragt, P., Akenji, L., & Dewick, P. (2014a). Sustainable production, consumption, and livelihoods: global and regional research perspectives. *Journal of Cleaner Production, 63*, 1–12. https://doi.org/https://doi.org/10.1016/j.jclepro.2013.09.028

Vergragt, P., Akenji, L., & Dewick, P. (2014b). Sustainable production, consumption, and livelihoods: global and regional research perspectives. *Journal of Cleaner Production 63*, 1–12.

Vermeulen, S., Garside, B., & Weber De Morais, G. (2009). *Shifting the balance: equity and sustainable consumption*.

Willer Helga, Moeskops Bram, Busacca Emanuele, & de La Vega Nicolas. (2019). The World of Organic Agriculture Statistics and Emerging Trends 2019 . In Willer Helga & Lernou Julia (Eds.), *The World of Organic Agriculture 2019* (pp. 208–2016). Die Deutsche Bibliothek .

Winter Carl, & Davis Sarah. (2006). *Organic Foods*.

Yan, X. (2009). *Linear Regression Analysis: Theory and Computing*. World Scientific Publishing Company Pte Limited. https://books.google.cz/books?id=MjNv6rGv8NIC

8 List of figures, tables, graphs, and abbreviations

8.1 List of figures

8.2 List of tables

8.3 List of graphs

8.4 List of abbreviations

ISO	International Organization of Standardization
EU	European Union
CE	Circular economy
B2B	Business to Business
B2C	Business to Customer
EPA	Environmental Protection Agency
US	United States
FEMP	Federal Energy Management Program
EPEAT	Electronic Product Environmental Assessment Tool
SNAP	Significant New Alternatives Policy
S_USD	Sales in USD
OA	Organic area
AP	Organic producers