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MASTER'S THESIS

AN ANALYSIS OF SOCIAL ECO-INNOVATIONS IN SLOVENIA

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AUTHORSHIP STATEMENT

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TABLE OF CONTENTS

INTRODUCTION	1
1 SOCIAL ECO-INNOVATION	3
1.1 Eco-innovation	3
1.1.1 Defining eco-innovation	3
1.1.2 Drivers of eco-innovation	8
1.1.3 Benefits of eco-innovation.....	9
1.2 Social eco-innovation	10
1.2.1 Defining social eco-innovation.....	10
1.2.2 Social eco-innovation in practice from consumers' perspective.....	15
2 ECO INNOVATION in SLOVENIA.....	21
2.1 Slovenia's performance on eco-innovation in comparison to the EU28	21
2.2 Sharing Economy	24
2.3 Car sharing in Slovenia and Slovenian consumers' view on hybrid cars.....	26
3 EMPIRICAL RESEARCH	32
3.1 Background and Hypotheses	32
3.2 Methodology	35
4 RESULTS.....	37
4.1 Hypotheses 1, 2 and 3	37
4.2 Hypotheses 4 and 5	43
4.3 Hypotheses 6, 7 and 8	45
4.4 Hypotheses 9, 10 and 11	47
5 SUGGESTIONS AND LIMITATIONS.....	49
6 CONCLUSION.....	53
REFERENCES	55

LIST OF TABLES

Table 1: Eco-innovation related research articles	4
Table 2: Types of EI defined by Rennings.....	6
Table 3: Social EI related research articles	10
Table 4: Types of consumers	18
Table 5: Answers to the question “Do you recognize the following label?”	20
Table 6: Eco-innovation index country ranking for 2010 and 2020 for EU28	22
Table 7: Sharing Economy related research.....	26
Table 8: Car sharing models.....	28
Table 9: Collection of main results with regards to research hypotheses	49
Table 10: Main takeaways for businesses and regulatory bodies	51

LIST OF FIGURES

Figure 1: Revenue of Slovenian car sharing market	30
Figure 2: Gender frequencies and percentages of the respondents valid for H1 testing.....	37
Figure 3: Level of education of the respondents valid for H1	38
Figure 4: Bar chart of highest level of education attained by the respondents.	38
Figure 5: Frequency histogram with regards to age.....	39
Figure 6: Cronbach’s Alpha	39
Figure 7: Independent Sample Test for environmental concern	40
Figure 8: Descriptive statistics of the analysed 3 groups of levels of education	41
Figure 9: Test of Normality.....	41
Figure 10: Test of Homogeneity of Variances	42
Figure 11: Welch test one way ANOVA results	42
Figure 12: Regression analysis.....	43
Figure 13: Group Statistics of Hypothesis 4 testing.....	44
Figure 14: T-test for Hypothesis 4	44
Figure 15: Group statistics of Hypothesis 5 testing	45
Figure 16: T-test for Hypothesis 5	45
Figure 17: Descriptive Statistics used in analysis of H6, H7 and H8	45
Figure 18: Model Summary of multiple regression	46
Figure 19: Coefficients from multiple regression	47
Figure 20: Model Summary of Regression Analysis for H9, H10 and H11	48
Figure 21: Regression analysis coefficients	48

LIST OF APPENDICES

Appendix 1: Povzetek (Summary in Slovene language)	1
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LIST OF ABBREVIATIONS

EI – Eco-innovation

EU – The European Union

UNCED - The United Nations Conference on Environment and Development

UNFCCC - The United Nations Framework Convention on Climate Change

UN - The United Nations

CE - Circular Economy

Eco-IS - Eco-Innovation Scoreboard

EFTA - The European Free Trade Association

SE – Sharing Economy

CSR – Corporate Social Responsibility

USA – United States of America

IRT – Innovation Resistance Theory

BGD – Board gender diversity

LCC – Life cycle cost

SME - Small and Mid-size Enterprise

TPB - Theory of Planned Behaviour

NEP – New Ecological Paradigm Scale

DSP - Dominant Social Paradigm

INTRODUCTION

Production processes and characteristics of products and services themselves have a great impact on the environment. Unless one pays attention to consequences of one's way of living and producing for their own needs, there is a high risk for future generations, that they will not be able to meet their needs properly. The solution is sustainable development: meeting the needs of today's generation without endangering the future generations in doing so as well (Stosic & Milutinovic, 2014).

The main research question of my thesis was concerned with various aspects of eco-innovation. The aim of my thesis was to bring more clarity to the entire concept of eco-innovation (EI) and more specifically social EI by analysing its characteristics and benefits. The added value could be seen in comprehensive review and cross-comparison of various research papers in connection to EI and a detailed insight into the product-sharing world, with a specific focus on Slovenian consumers, who were also the target audience of my online questionnaire, by which I researched whether gender, age, level of income or value orientation of Slovenian consumers can predict level of environmental concern. Furthermore, I inspected Slovenian consumers' attitudes towards collaborative consumption and checked the significance of different barriers that inhibit Slovenian consumers' electric or hybrid car purchase intention. Additionally, parallels between Circular Economy and (social) EI were drawn and with that, the many similarities between the two concepts were displayed.

In the face of biodiversity loss, climate change and depletion of natural resources, the world is ever more focused on finding sustainable solutions that will allow this generation of people to maintain, not only a healthy and clean environment, but also a competitive economy, all together resulting in sustaining high-quality life. As this can be, to a great extent, achieved by the adoption of different EI strategies of businesses, among others, one objective of my thesis was to showcase that being eco-innovative can very well serve as a competitive advantage. There is an increasing global demand for different sustainable solutions in the field of cleaner and more efficient way of producing and living. If companies decide to utilize this growth in demand for more sustainable products and services, this can prove to be a source of competitive advantage, possibly resulting in long-term economic benefits for the company.

The European Union (EU) launched several initiatives to try and not only support, but also direct companies towards implementing different eco-innovative strategies in their business models, as a way of ensuring a better future for the EU, not only in terms of cleaner environment, but also in terms of sustainable economic benefits to the entire Union (European Commission, n.d.). This shows that this is a promising field that deserves to be looked further into, not only by researchers but also by companies, as this could be their way of gaining competitive advantage and utilizing the help provided by the EU, for a cleaner environment and at the same time, ensuring company's growth in the years to come.

To do so, it is important to fully understand the concept of EI and attitudes that consumers hold towards it. Since EI has many different definitions, one of the main objectives of this thesis was to understand what EI means and what are its drivers and benefits. Unfortunately, there is no comprehensive study that would fully identify all the important EI drivers in general. There were various studies conducted in different countries, throughout different industries, that identified some of the drivers of EI. I provided a summary of different drivers that are identified as important for EI and can be found described more into detail throughout different papers.

The beginning of Chapter 1 was devoted to providing an overview of different definitions of EI. Then I explained into detail about what are the proven drivers of EI, by examining different studies' findings. Next, I presented and discussed some of the possible benefits of EI adoption in general. After that, I focused mainly on how EI can help companies and go more into detail about the benefit of competitive advantage. In the second part of Chapter 1, one of EI's subcategories - social EI was examined even more closely.

Next, consumer-related topics, such as consumers' values, changing lifestyles and attitudes towards (social) EI, sustainable products in general, consumer cooperation with businesses in product innovation and product sharing, were looked at more closely, by analysing the existing literature, comparing it and deriving important findings, that could potentially have useful business implications. In Chapter 2, EI in Slovenia was looked at more closely in terms of Slovenia's performance in comparison to the EU28.

Social EI in Slovenia is examined on the case of electric and hybrid electric vehicles and car sharing. To understand Slovenian consumers' attitudes towards different aspects of EI and social EI, I conducted an online survey questionnaire, presented in Chapter 3, asking the consumers in Slovenia many different questions that help to paint a clearer picture on how environmentally cautious the consumers are by measuring level of environmental concern in relation to different consumer characteristics.

Thereafter, the results of the survey were carefully analysed, and conclusions were drawn. Out of these comparisons, I drew some important findings that have the potential to be useful to different businesses or regulatory authorities, by suggesting how to make eco-innovative products and services more appealing to the population of Slovenian consumers. In the end, final conclusions were drawn by highlighting the main findings.

1 SOCIAL ECO-INNOVATION

1.1 Eco-innovation

1.1.1 Defining eco-innovation

Innovation in general has been an engine of capitalist-expansion since the industrial revolution onwards. Capitalist-expansion changed how goods and services are produced or delivered. For a long time, sustainability was not discussed in connection to innovation. Then in 1960s a report called *Limits to Growth* awakened the academic world and shun a light on connection between economic growth and environment. It was stated in the Report that due to Earth's limited capacity, economic growth cannot continue forever, suggesting nothing can grow infinitely in a finite environment. The work had its limitations and imperfections that were publicly discussed by many notable economists of the time. Regardless of the criticism the Report received, it created an important conversation in the academic field. The topic of these newly ignited conversations was, that the environment and economy are interconnected and cannot be analysed solely separately, but also need to be looked at together, to discover exactly how they affect each other, if they do at all. EI and sustainable development are very much connected.

One of the first notable public uses of phrase “sustainable development” dates to 1980 to World Conservation Strategy Report of the International Union for the Conservation of Nature and Natural Resources (Pansera, 2011). The concept of sustainable development has gained even more of the world's attention at the United Nations Conference on Environment and Development (UNCED) Earth Summit Conference in Rio de Janeiro in 1992. There, the UNCED members pledged themselves to greater sustainability. Some of the objectives of the summit were: “...to address the issue of lack of scientific research in different areas of sustainable development and in connection to that the importance of collaboration and information sharing amongst the nations» and to discuss “the use of fossil fuels and possible alternative sources of energy that could replace them” (United Nations, n.d.).

The most notable result of the Summit was an international environmental treaty: The United Nations Framework Convention on Climate Change (UNFCCC). Its first renewed version was the Kyoto Protocol, which was signed in 1997, but entered into force eight years later. The UNFCCC addressed the issue of climate change on an international level. This showed that climate change is a serious issue that is directly connected to sustainable development and cannot be organized and encouraged solely separately by different countries, but it needs to be addressed in an organized manner on a global scale (United Nations, n.d.).

To understand even better what EI really means, different definitions of the term need to be considered.

Term EI can be used for “*radical or incremental innovations in products, processes, or organizations with reduced environmental impact*” (Demirel & Kesidou, 2019). European Commission described EI as: “... *all forms of innovation – technological and non-technological – that create business opportunities and benefit the environment by preventing or reducing their impact, or by optimising the use of resources.*” (European Commission, n.d.). Rennings (2000) explained EIs as: “... *all measures of relevant actors (firms, politicians, unions, associations, churches, private households) which develop new ideas, behaviour, products and processes, which contribute to a reduction of environmental burdens or to ecologically specified sustainability targets*” (Rennings, 2000).

Table 1: Eco-innovation related research articles

Eco-innovation			
Reference	Title	Covered topics	Main takeaway points
Pelin Demirel & Effie Kesidou, 2019	Sustainability-oriented Capabilities for Eco-Innovation: Meeting the Regulatory, Technology and Market Demands	Drivers of EI, sources of EI, sustainability-oriented capabilities.	Regulation, Technology push and market pull drive EI. Companies need to constantly reevaluate and adjust their capabilities that need to be formed in such a way, that they are oriented towards sustainability, if they wish to become/remain sources of EI. The survey results showed that this can be done in two ways: by either developing company’s capabilities in the field of voluntary self-regulation or by investing specifically in environmental research and development.
Klaus Rennings, 2000	Redefining innovation — eco-innovation research and the contribution from ecological economics	EI, environmental economics and innovation economics.	Sustainability is a great issue. Under sustainability issues we can count greenhouse effect, depletion of natural resources and so on. EI are innovations of all relevant actors with sustainability as the main objective. EI can be either technological, social, institutional or organizational by its nature. Environmental economics drive EI. Different environmental economics, either market-based instruments or regulatory regimes determined by technical standards, can increase the innovation efficiency of companies. The best course of action, when it comes to environmental economics, is not always the same and should be determined based on a careful examination.

table continues

Table 1: Eco-innovation related research articles (continued)

Eco-innovation			
Reference	Title	Covered Topics	Main takeaway points
Marilia Bonzanini Bossleab, Marcia Dutra de Barcellosa, Luciana Marques Vieirab, Loïc Sauvéc, 2016	The drivers for adoption of eco-innovation	Drivers of EI.	Influential drivers (either external or internal) determine companies' motivation to increase EI adoption.
Anthony Frigona, David Doloreuxb, Richard Shearmurc, 2020	Drivers of eco-innovation and conventional innovation in the Canadian wine industry	Drivers of EI, Drivers of conventional innovation.	Survey of more than 100 Canadian wine companies showed that internal factors are key drivers for both, EI and conventional innovations. The last are less dependent on the external sources of knowledge than eco-innovations are.
Yu Tu & Weiku Wu, 2020	How does green innovation improve enterprises' competitive advantage? The role of organizational learning	Organizational learning, green innovation.	Level of green innovation and companies' competitive advantages are positively related. Organizational learning, boosted by regulations and other stakeholders' pressure, has a mediating effect on the process of green innovation affecting companies' levels of competitive advantages.

Source: Own work.

The existence of different explanations of EI shows, that there is no single definition that is used exclusively by everyone. However, all the definitions provide a similar explanation and have in common the fact, that they all talk about some form of technological and/or non-technological improvements in behaviour, processes, products or services towards decreasing the negative impact they have on the environment. All those definitions state possible improvements that will ultimately result in greater sustainability (United Nations, n.d.). Despite sustainability being the goal of most cases of eco-innovative behaviour, so called “unintended environmental innovations” can occur. They fall into the category of eco-innovations, as the innovation brings some kind of ecological benefit to the environment, despite not originally planning to achieve this kind of result.

In this case the ecological benefits from these kinds of innovations occur as an unintended side effect (Szutowski, 2020). More visible references used in the process of identifying and comparing various definitions of EI and properties of EI are collected and presented in Table 1. There are different typologies of EI, the one I used in my thesis is by Rennings (2000), which consists of four different classes: technological, institutional, organizational, and social eco-innovations. It is important to note, that sometimes the different types of eco-innovations are not easily told apart and can go hand-in-hand by co-evolving (Rennings, 2000). The basic typology of EI and simple explanations of each type are shown in Table 2.

Table 2: Types of EI defined by Rennings

Technological EI	Institutional EI	Organizational EI	Social EI
Changes in technology that enable more efficient use of resources or the use of cleaner resources or enable production with less waste.	Government regulation that limits use of certain substances, waste production or another similar action. Can also be in form of governmental financial incentives such as financial subsidies for cleaner technologies.	Changes in the modes of firm operation, firm structure and management forms with greater sustainability in mind.	Consumer behaviour and consumer lifestyle change as a result of concern for a cleaner environment and a wish for a more sustainable life and development.

Source: Rennings (2000).

There are other possible typologies of EI, but the one by Rennings is most widely used. (Eryigit & Ozcure, 2015). In some cases, the social component of EI is not included in the definition when talking about different EI types. Sometimes, when the social element is not included in the EI typology, term “sustainable innovation” is used to also encompass the social aspect of innovation. In my thesis I used the typology by Rennings, so therefore social component is an integral part of EI. Consequently, I did not make the distinction between EI and sustainable innovation (Szutowski, 2020). The focus on EI in general has been growing in terms of academic attention. More than half of published articles regarding EI have been issued after 2010 (Bonzanini Bossle, Dutra de Barcellos, & Marques Vieira, 2016). However, not a lot of research has been devoted specifically to social eco-innovations. Usually, social EI is just briefly mentioned, and it is not given a lot of weight as an integral part of EI. Another issue, with regards to EI, is that it is often looked at from solely or mainly technological perspective and the social and institutional aspects get ignored. Technological advancements, that provide more energy-efficient solutions, use cleaner sources of energy, produce less waste and so on, need to be incorporated into people’s daily lives, and oust the products, services and processes the consumers have been using until now.

The sole existence of “cleaner” products, processes and services does not solve the whole sustainable development issue. The switch, in what products or services people use and how they consume, can be only achieved through social and institutional EI.

Institutional EI can be implemented in form of different kinds of government financial initiatives to ensure the demand for certain products or services, or regulations that forbid the use of certain products or services due to their potential harmfulness to health and environment. Social EI is anything ranging from consumer behaviour to consumer lifestyle, which ultimately influences consumers’ decision to buy or not to buy a more environmentally friendly product or service. This means technological innovation, without institutional advancements and adjusted lifestyles, consumer behaviour and mobility patterns, cannot ensure sustainable development on its own. All three components are necessary to make a meaningful change towards sustainable development.

To focus the attention solely or largely on technology with regards to sustainability, can lead to a “technology bias”, especially since a lot of problems of sustainability have their roots primarily in social or institutional backgrounds, and therefore cannot be solved solely by technological innovation, but also by a change in society, official institutions, either local or global.

To explain the three types of EI very plainly in a real-life situation, we can look at an example of transportation. The technological innovations bring us cars that use the fuel more efficiently (use less petrol to drive a certain distance than it was possible before), which is good for the environment since the pollution from cars becomes lower. Social EI is for example the decision to go to work on foot rather than by a car, and institutional EI could be that the government decides to launch a campaign with popular celebrities promoting the use of public transport, instead of cars, whenever possible. Another possible institutional EI is when governments lower taxation for vehicles with less emissions and in this way, with an opportunity for financial savings, encourage consumers to opt for nature-friendlier options. The opposite of EI is “non-environmental innovation”, which is the kind of innovation, which does not promote sustainability. An example of social non-environmental innovation is the popular use of low-budget airlines (Rennings, 2000).

The main peculiarity of EI is the double externality issue. The privately-owned businesses, whose main objective is to be profitable, are in many cases not held responsible for environmentally harmful practices they have in place, usually to reduce costs. They make sure they achieve the minimum environmental requirements, but beyond that, there is no great motivation for them to change their practices significantly for the good of the environment. Of course, some companies realize how EI could bring them profit in the long run and pursue this mission to develop products and services that are eco-innovative. Developing new products takes a long time and demands a high financial investment in research and development in the beginning years. This means that in the short run, for companies to develop entirely new technologies, the company will most likely make a loss by developing a completely new product or process.

The economic benefits usually come later. Such decisions to invest in new products and services, that qualify as eco-innovative, are often risky and success is not guaranteed. The danger of fast diffusion rates makes these kinds of investments even riskier.

Therefore, the investors often do not expect a very high return on their money for investing in EI, which reflects in the lack of level of motivation and investments into EI. The only viable solution, which can change the described circumstances to be more favourable, is regulatory involvement, which will drive the privately-owned sector into the right direction (Frigon, Doloreux, & Shearmur, 2020).

1.1.2 Drivers of eco-innovation

To capture the opportunities that EI can potentially provide in financial, environmental or any other way, it is important to truly understand not just the sole definition of EI, but also its dynamics. Understanding what drives EI is helpful for any further actions that a regulatory body, a firm or some other organization wants to make in connection to sustainable development and EI. Once drivers of EI are identified, they can be further on analysed. With the drivers identified, the stakeholders can make informed decisions and develop strategies that target specific factors accordingly to what they are trying to accomplish.

By reviewing different papers on EI drivers, it is clear that studies are mainly focused on a specific industry's EI drivers and do not represent an aggregate picture of EI drivers, which could be applied to every industry in the exact same way (Frigon, Doloreux, & Shearmur, 2020). One of the most common divisions of EI drivers is into external and internal ones (Bonzanini Bossle, Dutra de Barcellos, & Marques Vieira, 2016).

External drivers of EI are further on divided to regulatory requests, market demand, cooperation, and technology. On the other hand, Internal drivers of EI are divided to efficiency, environmental capability, environmental managerial concern, human resources, and environmental strategy. In the paper *The drivers for adoption of eco-innovation*, the authors conclude that the most influential drivers of EI are external ones, more specifically, regulatory requests are the main source of motivation for companies to adopt more environmentally friendly solutions. Another notable external driver with a significant impact on the level of adoption of EI is market demand (Bonzanini Bossle, Dutra de Barcellos, & Marques Vieira, 2016).

This goes to show that since the most effective force that drives EI in companies are regulatory requests and demands, regulatory bodies should consider making stricter rules on environmental issues and adopt new environment-friendly incentives, in order to ignite more EI throughout the companies and by doing so creating an even more favourable environment for sustainable growth. Drivers, both external and internal, are very often presented without acknowledging that they are interconnected.

This means that a certain driver that does not impact EI directly, can still be important in having significant influence on another driver that does impact EI directly. An example of such case are green skills, that have an impact on companies' environmental strategy (internal driver to EI), which later has a direct effect on the level of EI adoption (Keshminder & del Rio, 2019).

1.1.3 Benefits of eco-innovation

Adopting any kind of EI successfully may bring many benefits to the businesses, business sectors or even entire economies. EI is good for the environment since it reduces pollution and resource consumption. Our society is closely connected to the environment. Living in a clean environment increases quality of life. EI can also be a sustainable source of economic growth and bring new jobs that will offer long-term employment to the employees. Having material security in a country or a region has a positive impact on political stability (Stosic & Milutinovic, 2014).

Furthermore, one of the United Nations (UN) human rights is the "Right to Health", which saw the light of day after World War II, when the concept of basic human rights was born. The rights were officially incorporated by the UN in 1940s. While the legal interpretations of "Right to Health" are very broad and various, in its core, it means that the state has a responsibility to create a sufficiently good environment, with regards to politics, socio-economic and ecological conditions, for all its citizens, to have the possibility to live a healthy life. Of course, this does not mean that the state is legally responsible for every sick person, but nevertheless, the basic pre-requirements for a healthy life should be fulfilled (Krennerich, 2017). In connection to this law, it is derived that EI can help assuring all three aspects of a good environment: socio-economic, political and ecological, and therefore ensure that the "Right to Health" is fulfilled.

Another potential benefit companies can benefit from with the adoption of EI, is competitive advantage. This term can explain a situation in which a certain company acquires more benefits than the competitors. These benefits can be in form of increased profits, reduced costs, better management, better brand image or several other things (Yu & Weiku, 2020). There are different ways in which a company can gain a competitive advantage. It can drive their operational costs or production costs down and consequently offer their product or service at a lower price than their competitors.

One of the ways to achieve cost reduction in a company is to introduce EI. This can be done by reducing the time it takes to produce a certain product or by changing the production process (technological EI). Another way to gain a competitive advantage is to change how the consumers view the company's product or service in comparison to similar products or services available on the market.

This can be done firstly by making the chosen products significantly different and then highlighting its characteristics, which make a certain product or service positively different in the eyes of consumers from the rest of the products or services available.

Companies can achieve competitive advantage by being eco-innovative by appearing better to consumers in comparison to other companies, which might not pay as much attention (if any at all) to being environmentally friendly. By doing so, companies can attract consumers who see extra value in a product or service, as a result of learning about how it is more environmentally friendly than the rest of the offered products or services in the market (Doran & Geraldine, 2014). Competitive advantage of companies is also positively influenced by the amount of green intellectual capital present in companies (Yu & Weiku, 2020). This goes to show that EI can increase competitive advantage in many ways.

1.2 Social eco-innovation

1.2.1 Defining social eco-innovation

Initially innovation was viewed as progress solely in the technological field. As people have become more aware of different issues and have developed an increased interest in social responsibility, the term innovation was broadened also to the societal level. This is how the term social innovation emerged. It can be described as newly available solutions that satisfy a certain social need better than the rest of the available solutions and/or more efficient use of resources (Bund, Gerhard, Hoelscher, & Mildenerger, 2015).

Table 3: Social EI related research articles

Social EI			
Reference	Title	Covered Topics	Main takeaway points
Bund Eva, Gerhard, Ulrike, Hoelscher Michael, Mildenerger Georg, 2015	A Methodological Framework for Measuring Social Innovation	Social innovation measurement.	In the paper a proposal of methodological framework for establishing measurement dimensions (on national level) of measuring social innovation capacities is introduced, that ensures that the dimensions are compatible with theory and practice. The dimensions determined by qualitative urban case studies, that apply to urban innovation integration system are: social need structures, financial resources, political anchoring and support, social capital and social networks.

table continues

Table 3: Social EI related research articles (continued)

Social EI			
Reference	Title	Covered Topics	Main takeaway points
Jana Hojnik, 2017	In Pursuit of Eco-innovation Drivers and Consequences of Eco-innovation at Firm Level	EI in general.	Provides an overview of some of the literature on EI. Based on the results of the study, offers a new possible definition of EI. Develops a new measure of EI with product EI, process EI and organizational EI as the main dimensions. The newly suggested measure of EI is meant to be a solid and legitimized way to assess level of EI for a sample of different companies.
Haskell, Bonnedahl, & Stal, 2021	Social innovation related to ecological crises: A systematic literature review and a research agenda for strong sustainability	Social innovation.	Defines what social innovation means and shows its potential to help with the ongoing environmental crisis.
Diego Augusto de Jesus Pacheco, Carla S.ten Caten, Carlos F.JungaJosé, Luis D. Ribeiro, Helena Victorovna G. Navas, Virgílio A. Cruz-Machado, 2017	Eco-innovation determinants in manufacturing SMEs: Systematic review of research directions	Manufacturing SMEs.	Identification of 23 central determinants of EI and relations between them in manufacturing SMEs. Presents some barriers to EI for manufacturing SMEs and possible solutions to tackle them.

Source: Own work.

Social EI is very similar to social innovation, with the addition of having greater sustainability as its main goal. Some references used in the process of identifying and comparing various definitions of social EI and properties of social EI are collected and presented in Table 3.

Social eco-innovations are responsible for the changes in people's values, consumers' buying patterns and consumers' lifestyles as well, all aimed towards sustainability. The focus in social eco-innovations is the human element, which affects the consumption of resources. Social eco-innovation drives green consumption, demand for which rises through more sustainable behaviour and life-style adaptations, which are caused by a shift in values and awareness about different environmental issues (de Jesus Pacheco, et al., 2017). That can be in form of simply consuming less or consuming products and services that use cleaner energy, pollute less or that can be recycled and consequently present less harm to the environment (Severo, Ferro de Guimaraes, & Dorion, 2018).

Despite many technological advancements and regulatory adjustments trying to encourage and enable more sustainable economy and way of living, the environmental crisis is not slowing down. Some other or additional form of innovation is needed to slow down the course of environment's degradation.

One of the possibilities is to tackle the mentioned issues by inducing various societal changes, influencing norms, beliefs and how we process and organize things. Newly combined practices concerned with social action are somehow better than the previously existing ones. This is the essence of social eco-innovation. Local food production and ecosystem safeguarding initiatives are two examples of such social innovations. Many smaller initiatives combined can become very powerful and meaningfully affect societal structures such as cultural patterns, social practice and even institutions. Social eco-innovation for sure has the potential to favourably contribute in the fight against climate change. How big this potential is, is another topic that should be further researched. It is important to realize that not every kind of social eco-innovation can be considered as transformative (Haskell, Bonnedahl, & Stal, 2021).

The difference between social EI and EI is that EI is mainly concerned with innovations in products, processes or organizations (Demirel & Kesidou, 2019), while social EI is concerned with societal change, such as a change in values and norms that results in changed consumer behaviour and in ways how we organize or process things (Haskell, Bonnedahl, & Stal, 2021). Some businesses wish to bring extra value to their products and services by inviting the consumers to participate in product/service development. This way the product or a service does not have any excess features. The field of businesses creating extra value by cooperating with consumers in the creation process of eco-innovations, is still not very developed and would require further research (de Jesus Pacheco, et al., 2017). Companies including consumers to the process of innovating by asking them for their opinion or advice on the product or service features, falls into the category of user-led innovation (Hojnik, 2017).

Another example of social innovation is a concept of product sharing, by which a certain community or group of people benefit from the use of the same product (they all satisfy their needs), but because they share it with others, the cost per product user is lower and material consumption overall is lower than it would be if each consumer bought their own product (Hojnik, 2017).

The owner of a product at certain periods of time uses the product a lot. Then, there may be periods of time, when they do not use it a lot, if at all, so the resource is underutilized. During the times of low self-use value, the owners of products have the possibility to rent their products to others. In addition to product sharing, there also exist service and time sharing, a good example of which would be doing errands. All the above types of sharing fall into the category of collaborative consumption, which has been becoming more common and popular with the rise of communication technologies and existence of online platforms that enable product-sharing (Tian & Jiang, 2017).

Product sharing is not only a good representation of social EI, but also fits perfectly into the larger concept called Circular Economy (CE). The term CE is fairly new, since it was first mentioned in 2007 (Reike, Vermeulen, & Witjes, 2018). The CE's goal is to break the linear pattern of resource consumption, where the resources are easy to source, easily available and their disposal is cheap.

Its linearity shows in the way the resources are firstly taken to make a certain product, then how those products are consumed and seized to use, and in the end disposed of. With this way of producing and consuming, the number of resources available is being reduced and the waste keeps piling up, which results in harmful effects on the environment and is overall not sustainable at all.

CE is a new economic model that aims to make the economy more circular, since the resources are not in fact abundant and cheap to dispose of, especially if we consider not just the actual monetary price of product disposal, but also the toll this way of consuming has on the environment and consequently potentially also on our health. The definition of CE is not yet very broadly recognized and lacks clarity in the academic circles, but its basic concept is clear. Some of the adjectives that can be used to describe the essence of CE are new, innovative and transformative in character.

One of CE's goals is to introduce an economy model that is zero-waste. Implementing CE could be the answer to climate change and shortages of certain raw materials. As much as it is concerned with technical ways of producing and consuming, one of its central parts is also the adoption of a new mindset of the society. CE does not aim solely to maximize positive environmental effect, but also economic and social ones (Reike, Vermeulen, & Witjes, 2018).

All these goals of CE can be also found in the definition of EI. Furthermore, a mindset change described in CE, in the ways we produce and consume, is directly linked to social EI. This shows us that social EI (and EI in general) have many things in common with CE and can be regarded in connection to CE or even as a part of CE. The EU realizes the importance and the need for a new model of economy, which will be sustainable, give more power to consumers and produce less waste. In its striving for a greener economy and a brighter future, the EU has been actively trying to promote EI in many ways on different levels.

The leadership of the EU is very aware that the future economic well-being of the Union largely depends on the state of the natural environment it is surrounded by. Additionally, being eco-innovative on a large scale can ensure future economic growth and provide new jobs. Interestingly, during the 2008 financial crisis, one of the few sectors that was still growing during that otherwise very difficult time for economic prosperity, were Europe's green industries (European Commission, 2021c).

The worldwide market of eco-innovations is estimated to be worth around one trillion EUR and is experiencing rapid growth. So far, the EU has one third of the share of the green technologies' market, which is estimated to be worth two trillion EUR in the next half a decade. The EU describes different types of actions they plan to use to achieve their goal of being an eco-innovative Union. They plan to do so by policy and regulations introductions and adaptations, demonstrations of projects and partnerships, creating standards and performance targets, funding and supporting small-to-medium enterprises, cooperating internationally, helping develop new skills and creating new jobs and introducing European innovation partnerships. (European Commission, 2021c).

One of the EU's Action plans that has been launched in connection to Union's strive for greater level of sustainability, is the Circular Economy Action Plan. The Action Plan introduces initiatives, legislative and non-legislative, which target the entire course of a life cycle of products, from the way a product is designed to the way resources are consumed.

Global CE would be the ideal result of these action plan, but first circularity needs to be introduced on narrower levels; it needs to work for individual countries, regions, and cities or even for individual people, only then a circular economy on a global scale can be achieved (European Commission, 2021a).

One of the more notable proposals on new regulation, in line with the action plan, was proposed in November 2020 (European Commission, 2021a). It was to do with modernisation of the EU legislation on batteries, to ensure that the batteries sold on the EU market are sustainable and adhere to the high standards of circularity. This way the batteries' capabilities, safety and the length of their lifetimes would need to improve. Most importantly, once the consumers stop using the batteries, it would ensure they are correctly disposed of and afterwards, recycled or used for another purpose (European Commission, 2021a).

The social EI aspect of this Action Plan is to encourage the consumers to buy batteries, or devices with batteries only when they really need them. Once they stop using them, make sure they dispose them correctly, so the hazardous components inside of batteries do not harm the environment or that batteries can be recycled, and hereby the valuable rare materials used in components of batteries are used one more time and do not have to be sourced from outside the EU.

1.2.2 Social eco-innovation in practice from consumers' perspective

EI and how people respond to it, has become a common topic of different research articles. Extra attention is devoted to the social aspects of why people are eco-innovative. In one research article (Nadeem, Bahadar, Ali Gull, & Iqbal, 2020), the researchers looked for a connection between gender and likelihood to act in eco-innovative way.

The growing awareness about environmental issues we are faced with today, results in pressures on firms to adopt new policies, which will ensure the firms' sustainable operations and promote corporate environmentalism. The ideal solution is the adoption of EI. It was already established that EI has many benefits but requires a big initial investment and strong corporate commitment, to be successfully implemented. The study focused on top management level of more than 10.000 companies in the USA (Nadeem, Bahadar, Ali Gull, & Iqbal, 2020), since most of the major decision-making, including decisions that affect how eco-innovative a company is, is done at the top of the hierarchy in companies. Different attributes of people in top management affect the likelihood on whether and to what extent they will focus on environmentalism. In this case specifically, they looked for a connection between board gender diversity (BGD) and level of EI that companies adopt, by measuring the level of process and product innovation.

Their findings were, that companies with higher BGD were more likely to adopt eco-innovative actions than companies which have less gender diverse boards. They explained this positive relationship between the level of EI and BGD by gender socialization theories, which suggest that females (on average) are usually brought up in such a way, that they are more caring and poses a greater sensibility for the environment than men. Therefore, presence of more females in the leading positions in companies, resulted in greater product and process innovation of those companies. The study has its limitations, since it did not focus on all types of EI, but just on the previously mentioned two.

Also, there may be some synergetic effects that occurred partially as a result of other kinds of EI but were attributed entirely to the two types of EI that the study focused on. In short, it could be argued that females favour EI more than men and females in top management positions are more likely to promote the adoption of EI in a company.

However, as the authors of the study themselves suggested, these results should be treated with caution, since more studies, that would measure all kinds of EI and not just two kinds of it, are needed (Nadeem, Bahadar, Ali Gull, & Iqbal, 2020).

Social EI can have a big effect on the level of EI that companies adopt. The decision of companies to offer more eco-innovative products can also come from the pressure of customer demand. Therefore, consumers can also, to a certain extent, affect the level of EI companies adopt by buying products and services that are sustainable, so by being eco-innovative themselves.

Therefore, it is important to see what qualities consumers look for in products and what are their attitudes towards eco-innovative products. In another study (Prakash, et al., 2019) an imperial investigation was conducted on how young consumers (aged 18 through 35) in India respond to ecological packaging, as an important product attribute, according to their values, which were categorized as either altruistic or egoistic. Values are essential determinants for ethical behaviour, more importantly altruistic and egoistic consumer values strongly influence attitudes of consumers with regards to ethical buying. Interestingly, both values, altruistic and egoistic, were found to have a positive impact on the intention of purchase of eco-friendly packaged goods, although altruistic values, such as »environmental concern«, had a greater impact on attitude to buy products with eco-friendly packaging in comparison to those with egoistic values (»health concern«) (Prakash, et al., 2019).

This goes to show that companies, which wish to enter the eco-innovative product and service market, do not have to start by big innovations and develop entirely new technologies, which can be costly and timely. Something relatively simple, as changing the packaging, and getting the message across, why their new packaging is eco-friendly, can be enough to greatly contribute to the environment and to capture new segments of customers that are, by buying eco-friendlier products and services, (social) eco-innovators themselves. In addition to product packaging, another important product characteristic that consumers look for in products, is product design, which was the focal point of an article (Paparoidamis, Huong Tran, Leonidou, & Zeriti, 2019) that investigated how different components of eco-innovative product designs, resonate with consumers.

They researched the effects that products' eco-designs had on consumers' cognitive and affective responses, which influence consumers' beliefs and attitudes. These beliefs and positive or negative attitudes results in preference of some products over others and in behavioural intent to buy or not to buy a certain product. By conducting three online experiments on consumers from the USA, they discovered that a higher degree of product innovativeness results in higher consumers' perception of products' level of eco-friendliness and also in higher consumers' intent to adopt such products (Paparoidamis, Huong Tran, Leonidou, & Zeriti, 2019).

The main takeaway from this is, that before introducing eco-innovative products to the market, it is important to research what attributes your targeted consumer segment values the most. This way, the main attributes that consumers want to see in products, are actually part of the products' attributes, without excess features, which are unnecessary, since they are not essential to the consumers' positive attitudes or intent to buy. All consumers do not like and value the same product or service characteristics.

According to consumers' attitudes, norms and characteristics that they consequently look for in the products, businesses can separate consumers into different customer segments and choose which customer segments they would like to target and how they plan to do that. In a study that focused on EI adoption and hindering determinants of consumer behaviour based amongst Swedish vehicles owners, it was established that sociodemographic variables, such as gender and status had no significant influence on whether a consumer adopts or does not adopt the eco-innovative behaviour (in this case: purchase of an alternative fuel vehicle).

Additionally, it showed that adopters of eco-innovations have higher level of personal norms, social norms and novelty seeking. The adopters of eco-innovations perceived the benefits of eco-innovative products to be relatively higher than what benefits eco-innovation non-adopters attributed to the eco-innovative products. The practical implications for businesses out of this study are, that customers do not always opt for eco-innovative products purely for them being environmentally friendly, but also because they are new to the market and therefore perceived to be more advantageous. At the same time, it was found that despite the green adopters wish for the cars to be innovative, new and environmentally friendly, they still held some of the traditional attributes, like safety and reliability, to be of great value. (Jansson, Consumer eco-innovation adoption: assessing attitudinal factors and perceived product characteristics, 2011).

Shelf price is an important component when consumers are making decisions on what products or services to purchase. With eco-innovative products the initial price is often higher in comparison to non-sustainable products and therefore, may not be as appealing to some consumers from the cost point of view. However, often eco-innovative products can result in lower operating costs throughout the product's lifetime. Therefore, deciding purely on the initial investment cost does not make a lot of sense. So rather than looking solely at the initial cost of a product, one must also take into consideration additional operating costs that occur throughout the product's lifetime.

This can be done by life cycle cost (LCC) calculations, which are a common instrument used for estimating the value of intertemporal choices mainly in companies but could also be more widely adopted by individual consumers. Empirical studies have shown that increasing awareness on the importance of LCC and showing information on LCC to consumers, increases the probability of consumers deciding to purchase eco-innovative products and services. There are many ways how companies can show the LCC to consumers so they can start thinking more long-term and make an informed decision.

One of the effective ways to do that is by comparative tables in which cumulative operating costs are presented throughout products' lifetimes, rather than showing costs on a monthly or annual basis. It is also better to compare eco-innovative product to another product, this way the likelihood for a consumer to decide for a sustainable product or service is higher. They found no specific customer segment that is significantly more or less influenced by LCC than other customer segments. This is an important finding not solely for the companies, which offer eco-innovative products and services, but also for regulatory bodies, that are looking for a way to encourage consumers to live more sustainably.

Companies' attempts, focused on their marketing activities to showcase the consumers that certain products and services are a better choice due to their sustainability and other benefits, such as lower LCC, fall into the category of sustainable marketing. Sustainable marketing broadly divides consumers into three main types presented in Table 4. Out of this division it can be derived that one of the most important things for companies and regulatory bodies, who are trying to promote eco-innovation amongst consumers, is to target the light-green consumers and really show them all of the additional, cost related or not, added value eco-innovative products can bring to them. Because if light-green consumers are not presented with enough information about the products and services, they might not opt to go for them due to high costs (Kaenzig & Wüstenhagen, 2010). Another focal point for the companies in the future are also the mainstream consumers, who either need to be educated or require a lower initial cost of buying the eco-innovative products, since they do not have enough money to pay a large sum of LCC at the point of purchase. This could be done by shifting some of the initial cost of the eco-innovative products and services into the operating costs, that occur throughout its lifetime (Kaenzig & Wüstenhagen, 2010).

Table 4: Types of consumers

Dark green consumers	Consumers interested in all types of EI, even in pioneering products and services, that not only have an initially high cost but also have high operating costs, because of how special and highly specific the operating resources are.
Light green consumers	Consumers interested in all types of EI, even if the initial cost is higher. They are willing to purchase also products that have high operating costs if they find other characteristics to be of great importance to them. However, they do not buy pioneering products with very high LCC.
Other (mainstream) consumers	Consumers are either not interested in sustainability issues or do not possess enough capital to be able to afford to buy environmentally friendly products and services. They are more likely to buy products that have a low initial price, but consequently have higher operating costs.

Source: Kaenzig & Wüstenhagen (2010).

A good example of a regulatory effort for consumers to start thinking more forwardly, past the initial price, and to ultimately buy more sustainable products, is the European energy-efficiency labelling system, which has proven to be effective (Kaenzig & Wüstenhagen, 2010). The EU energy label was created with the intention to clearly and in a simple way showcase, how energy-efficient certain household products are, which is an important piece of information for consumers at the time of purchase. It was first introduced in 1994, with several additions in the later years.

Initially, the comparative scale went from G (the least efficient) to A (the most efficient). Due to great advancements in energy-efficiency of the appliances, the scale was adjusted accordingly. Now a lot of products are labelled as A+++ or A++, which looks very similar to the consumer, but is in fact not. Therefore, in 2021 the EU will rescale the old scale. The highest rating possible at the beginning (for the new scale) will be B. Later, with even more energy efficient products, rate A will also become available. To avoid the confusion and misrepresentation, at the beginning both labels (from the old and from the new scale) will be presented on products. This in practice means that for example a certain refrigerator will have two labels, the old one (e.g.: A+++) and the new one (B) (European Commission, 2021b).

By buying products that are more energy-efficient, consumers greatly contribute to the reduction of greenhouse gas emissions and also reduce their future household energy expenses, which with the help of the labelling system, are estimated to be lower on average up to 285 EUR per household per year (in the EU). In connection to previously discussed LCC, the 285 EUR presents an operational cost saving per year (European Commission, 2021b).

With an assumed lifetime of home appliances at for example five years, this results in an operational saving of over 1000 EUR over five years' time, not to mention lower greenhouse emissions. Therefore, paying a higher shelf-price for a more energy-efficient product, is often not just environmentally a friendlier decision, but also a cheaper one in financial terms. This once again portrays the importance of LCC information availability to consumers, so they can make informed purchases. The visibly presented comparative scale of household appliances' efficiencies also encouraged manufacturers to become eco-innovative themselves and present new (more energy-efficient) solutions to the market (European Commission, 2021b). In Figure 3 there is presented the EU Energy label, which was also used in a survey conducted by the EU, in which they tried to see how well-known the label is. Over 25.000 respondents were asked the following question: »Do you recognise the following label? «. The answers to their questions are presented in Table 5.

Table 5: Answers to the question »Do you recognise the following label?«

Countries	Yes, and you know what it stands for (as percentage of total responses)	Yes, but you don't know what it stands for (as percentage of total responses)	No, you have never seen it. (as percentage of total responses)	Don't know. (as percentage of total responses)
Netherlands	94	5	1	0
France	89	8	3	0
Luxembourg	89	9	2	0
Germany	88	9	3	0
Denmark	88	8	4	0
Belgium	84	10	6	0
Slovenia	82	13	5	0
Portugal	81	11	8	0
Hungary	81	14	5	0
Finland	80	15	5	0
EU28	79	14	7	0
Austria	79	14	6	1
Czech Republic	79	14	7	0
United Kingdom	77	16	7	0
Estonia	77	15	8	0
Poland	76	15	8	1
Sweden	75	19	5	1
Croatia	75	16	9	0
Slovakia	74	17	9	0
Spain	71	18	11	0
Malta	71	16	13	0
Bulgaria	70	17	12	1
Ireland	70	19	10	1
Latvia	70	21	9	0
Greece	68	17	15	0
Italy	67	19	13	1
Lithuania	66	19	15	0
Cyprus	63	19	18	0
Romania	60	26	14	0

Source: Special Eurobarometer 492 (2019).

As presented in Table 5, the EU28 most common answer with an EU average of 79% was, that the respondents knew what the label was and what it stood for. This shows us that the energy-efficiency labelling truly is successful in terms of educating and informing as many consumers as possible.

Consumers cannot adopt eco-innovative behaviour, if there are not enough eco-innovative products available and if there is not a reliable system in place, which allows differentiation between eco-innovations from the conventional products and services. Therefore, the companies and regulatory institutions have a responsibility to create favourable environment in which EI can thrive.

Even individual firms, that make effective changes (on a micro-environment level) towards greater sustainability, can ultimately have a visible impact on the macro-environment, by adopting appropriate business strategies. Such business strategies cannot only focus on firms' own goal to be more sustainable, but also need be set in such a way, that they attempt to target activities of other stakeholders.

It is proven that firms with noteworthy brand value can meaningfully impact their customers' buying patterns. An effect of firms on their customers, who as a result purchase more eco-friendly products and services that are eco-friendly due to their high quality and therefore, lesser negative impact on the environment, is considered as extended eco-efficiency (Heikkurinen, Young, & Morgan, 2019).

For a firm to ensure a greater level of sustainability, a decrease of the number of products produced by the company is needed. The amount consumed by consumers needs to become lower as well, with sustainability as a goal. This business strategy can be referred to as extended eco-sufficiency.

Extended eco-sufficiency is only possible with the help of other non-commercial parties. Since lowering a firm's production volumes is considered to be insufficient in economic terms, as it results in lower economic activity, eco-sufficiency and extended eco-sufficiency is not something firms would do in practice, without encouragement from the regulatory bodies (Heikkurinen, Young, & Morgan, 2019).

2 ECO INNOVATION IN SLOVENIA

2.1 Slovenia's performance on eco-innovation in comparison to the EU28

Eco-innovation scoreboard (Eco-IS) and the eco-innovation index serve to showcase how EU members perform when it comes to EI. With the aim of easier analysis, different aspects of EI are divided between five different groups: EI inputs, EI activities, EI outputs, Resource-efficiency and socio-economic outcomes (European Commission, 2021d).

The eco-innovation index shows member countries' performance for different dimensions. It compares the performance amongst all the member countries and the EU28 average. The Eco-IS provides a more holistic review of member countries' performance in the social, economic and environmental field (European Commission, 2021d).

Slovenia has been a member of the EU since 1 May 2004 and is therefore also included in the EU28 comparison on EI performance (European Union, 2021). In the next section, I review Slovenia's performance on EI in comparison to the EU28 for the years 2019 and 2010, across all five dimensions that are included in the eco-innovation index.

Table 6: Eco-innovation index country ranking for 2010 and 2019 for EU28

Eco-innovation index ranking from best scoring to worst scoring for 2010	Eco-innovation index ranking from best scoring to worst scoring for 2019
Denmark	Luxembourg
Sweden	Denmark
Finland	Finland
Germany	Sweden
Austria	Austria
Netherlands	Germany
United Kingdom	United Kingdom
Luxembourg	Italy
Belgium	Netherlands
France	France
Italy	Spain
Spain	EU average
EU average	Portugal
Ireland	Ireland
Slovenia	Czech Republic
Czech Republic	Slovenia
Portugal	Latvia
Hungary	Belgium
Malta	Lithuania
Cyprus	Greece
Latvia	Estonia
Estonia	Malta
Romania	Croatia
Lithuania	Slovakia
Greece	Poland
Slovakia	Romania
Poland	Cyprus
Bulgaria	Hungary
	Bulgaria

Source: European Commission (2021d).

From Table 6 we can see that in 2010 Slovenia was slightly below the EU average, more exactly it scored 87 points European Commission (2021d). However, it was still considered to be one of the Average EI performers. Czech Republic placed just behind Slovenia but was not considered to be one of the average EI performers, but as one of the countries catching up with EI.

Denmark was the most eco-innovative country amongst the group, closely followed by Sweden and Finland. The aggregate scores of member states ranged from 31 (scored by Bulgaria) to 149 (scored by Denmark) European Commission (2021d).

In 2019 Slovenia is still considered to be one of the average EI performers. Its performance in 2019 has improved in comparison to its performance in 2010, which reflects in the score of 94 European Commission (2021d), which is by seven units higher than in 2010. This shows that there is progress in Slovenia with regards to EI. Czech Republic scored higher than Slovenia in 2019. The aggregate range of the countries' scores was from 34 (Bulgaria) to 165 (Luxembourg) European Commission (2021d). Since eco-innovation index considers different dimensions and inside different dimensions, different indicators are considered, I will look at the results of Slovenia for each dimension separately for 2019, to establish where it scored best and where there is still room for improvement. With regards to EI inputs in 2019, the first dimension of EI, Slovenia ranked above the EU28 average, with an equal score of 106 with Estonia, two points behind the United Kingdom and with a visible advantage over Czech Republic that was in overall EI performance one rank ahead of Slovenia European Commission (2021d).

Under EI inputs different indicators were considered. The indicators are government environmental and energy R&D appropriations and outlays, total R&D personnel and researchers and total value of green early-stage investments per capita (European Commission, 2021d).

For the dimension of EI activities of 2019, Slovenia ranked slightly below the EU average, just behind Czech Republic. The indicators included in this dimension were: enterprises that introduced an innovation with environmental benefits obtained within the enterprise, enterprises that introduced an innovation with environmental benefits obtained by the end user and ISO 14001 registered organisations (European Commission, 2021d).

For the third dimension of EI performance evaluation, EI outputs were measured. In this dimension Slovenia ranked just above the EU28 average, 58 points in front of Czech Republic and one point behind Cyprus. Indicators that were taken in account were EI related patents, EI related academic publications and EI related media coverage (European Commission, 2021d). The fourth dimension, resource efficiency outcomes, saw Slovenia fall behind the EU28 average by 27 points, although it was still above Czech Republic by 14 points. The indicators that were measured for this dimension were material productivity, water productivity, energy productivity and GHG emissions intensity (European Commission, 2021d). In the last dimension, Slovenia fell behind the EU average by five points and also behind Czech Republic by 25 points.

The indicators used for countries' performance evaluation of this dimension were exports of products from eco-industries, turnover in eco-industries and employment in eco-industries (European Commission, 2021d).

Out of all of these figures it is derived, that Slovenia's overall performance of EI was somewhat average in comparison to other EU member states and was therefore always positioned close to the middle. Overall, in 2019 Slovenia scored below average in three different dimensions: Socio-economic outcomes, EI resource efficiency outcomes and EI activities. It scores above EU average in EI inputs and EI outputs. These separate dimensions' results bring Slovenia in overall EU performance slightly below the EU average, with Czech Republic two points in front of, and Latvia eight points behind, Slovenia.

According to EI performance of member states, the EU has grouped the member states into three types of countries. Those with the highest ranking are considered to be so called EI leaders, those in the middle (including Slovenia) are considered to be average EI performers and those who ranked lowest were named as countries catching up in EI.

2.2 Sharing Economy

Sharing economy (SE) is an innovative business model that enables distribution or acquisition of various resources, such as machines, space, services or labour.

It is a result of innovation activities that tend to improve the collective material efficiency of under-used resources, by for example lending or selling them to other people and consequently reducing net consumption. SE is often mistakenly considered to be solely about sharing products and services, when in fact it can represent different forms of borrowing, gifting, buying second-hand, renting and so on (Curtis & Mont, 2020). SE is a relevant topic also in connection to EI, as companies which take part in SE, tend to contribute to reducing negative environmental effects.

For companies this also creates an opportunity to showcase their corporate social responsibility (CSR) by becoming eco-innovators (Rong, Li, Peng, Zhou, & Shi, 2021). In SE customers are considered to have a preference in access over ownership. SE can be described as a disruptive phenomenon and its rise has been enabled by the technological advancements, marketing and availability of information (Tarhini & Dabbous, 2021).

The growing popularity amongst customers of SE in the recent years, suggests that people are becoming more aware of various benefits, either personal financial savings or lesser negative impact on the environment, they can gain by being involved in SE. SE can help reduce carbon emissions as well as increasing energy efficiency, which again confirms that SE reduces the negative effects on the environment and can also be a source of sustainable economic development. It could also provide a solution for economies, where accommodation is scarce and people struggle to find appropriate apartments that they can afford to rent for either short or long term (Tarhini & Dabbous, 2021). References used in the process of identifying and comparing various definitions of SE and properties of SE are collected and presented in Table 7.

SE may seem very attractive from various perspectives to SE providers, SE customers and SE platforms, but it also has some downsides connected to different risks to which it is exposed. Some of those risks are changing regulation, taxation issues and nevertheless also the recent Covid-19 pandemic, that has had a very devastating impact on the entire SE. The consequences were so severe, that concerns about the continuance of especially accommodation and transportation SEs have emerged.

As a result of Covid-19 pandemic, major falls in the number of customers, bookings cancellations, negative media coverage and loss of jobs for many employees as a result of a lack of business, could be detected in SE industry. Another negative effect of the described circumstances has been large uncertainty about the future of these businesses in SE sector, which has resulted in devaluation of many SE-related companies' share values.

To those SE businesses that are still operating despite the difficulties in connection to Covid-19, this means dealing with strict rules about health and hygiene, potential exposure to Covid-19 and difficulty keeping up with and adhering to the strict, often-changing government regulations (Hossain, 2021). While SE is often considered to be a way towards sustainable development, it does not necessarily ensure sustainability by default.

The SE business models need to be carefully evaluated and potentially remodelled to be truly sustainable. There is a need for sustainable business model innovation design and its practical implementation, to fill in the so-called design-implementation gap.

In some cases of SE, net consumption can increase, which is the opposite of sustainability. Uber and Lyft, two car sharing services, in addition to their many benefits, are considered to be a source of traffic congestion in cities and have been responsible for increased air pollution, as people now opt more often for Lyft or Uber and not as much for public transport, such as bus or underground. On the other hand, Airbnb has been criticized for displacing local communities and increasing the property prices (Curtis & Mont, 2020).

Table 7: Sharing economy related research articles

Sharing economy			
Reference	Title	Covered Topics	Main takeaway points
Steven Kane Curtis & Oksana Mont, 2020	Sharing economy business models for sustainability	SE, Sustainable Business Models.	SE is not always sustainable. Appropriate business models need to be implemented to achieve sustainability with SE. There is a lack of sustainability-driven business models, therefore, innovation in this field is needed. Solely designing a new sustainability-driven business model is not enough, more attention should be given to their successful implementation in practice.
Amal Dabbous & Abbas Tarhini, 2021	Does sharing economy promote sustainable economic development and energy efficiency? Evidence from OECD countries	SE definition, SE sustainability.	In SE customers favour access over ownership and this way resources are used more efficiently. SE has a positive effect on sustainable economic development and energy efficiency.
Mokter Hossain, 2021	The effect of the Covid-19 on sharing economy activities	SE definition.	Covid-19 has had a significant mainly negative impact on the entire SE, from consumers and service providers to regulatory bodies and SE platforms.

Source: Own work.

2.3 Car sharing in Slovenia and Slovenian consumers' view on hybrid cars

One of the possible social EI indicators, is the level of people that choose to buy cars that require less fuel or an alternative form of fuel, such as electricity, or some kind of a hybrid car. A decision of an individual to opt for a purchase of an electric car is considered to be social EI, because electric cars have a great potential to decrease CO₂ emissions and generally do not decrease air quality as much as diesel/gasoline cars. Battery electric cars accounted for 2,3% (Rotaris, Giansoldati, & Scorrano, 2020) car market share in the EU and European Free Trade Association (EFTA) combined, with Norway leading with slightly more than 42% (Rotaris, Giansoldati, & Scorrano, 2020). Slovenia was one of the countries with the lowest market share of the battery electric cars with 0,7% (Rotaris, Giansoldati, & Scorrano, 2020).

In a survey performed in 2018 on the population of Slovenian consumers, where preferences were analysed, it was determined, that the two main attributes Slovenian consumers look for in cars, are the driving range and purchase price of the car (Rotaris, Giansoldati, & Scorrano, 2020).

This might be the reason why Slovenian people are relatively slow in the adoption of electric cars in comparison to other EU and EFTA countries, since these kinds of cars tend to be more expensive (higher initial investment) and cannot cover ranges as large as petrol/diesel-powered types of cars. An important factor, which had a positive influence on the decision of Slovenian consumers to purchase battery electric cars, was the possibility for free parking of such cars. Another major reason people decide for the purchase of battery electric cars is, that they have less of a negative impact on the environment. The study found no difference in the level of social EI attitudes between different age groups but identified women as more concerned about the environment than men (Rotaris, Giansoldati, & Scorrano, 2020).

The purchase prices of hybrid and electric cars might be higher than petrol-fuelled cars, however in Slovenia there are two good alternatives to tackle the financial issue of such cars. Eco Fund is a Slovenian Environmental Public Fund, and their main objective is promotion and financial assistance for environmentally friendly (or at least friendlier) investment projects. One of the many fields in which they offer their assistance is the field of electric and hybrid vehicles. They give out loans for the purchase of such cars under favourable conditions (such as lower interest rates) or partially subsidize the purchase of hybrid or electric cars (Eko Sklad, 2021).

This way the state tries to encourage purchases of eco-friendly cars in Slovenia and eliminate some of the financial burden that comes with the purchase of such a vehicle. In a study on consumer willingness to participate in green electricity programmes in Slovenia and the actual payment for the green electricity, it was found that the decisive factors for the two decisions were in fact different. The decision to take part in green electricity programme was positively influenced by environmental awareness and the level of education (more educated people will on average be more willing to take part in such a programme in comparison to less educated people). But the actual decision for adoption and decision on the level of adoption of renewable energy, was found to be largely dependent on income. Age was another important factor; however, it had a negative impact on both the decision to take part in and the decision to adopt green electricity (Zorić & Hrovatin, 2012).

On average younger and more educated Slovenian consumers are more aware about environmental issues and value more eco-innovative products and services. Changes in values of consumers ultimately result in adapted lifestyles, which have a positive effect on sustainable behaviour, resulting in an increase of green consumption. The described chain of events is a perfect example of how consumers can become eco-innovators themselves and ignite social EI (de Jesus Pacheco, et al., 2017).

Some people living and working in different cities, despite having access to well-linked and quick public transport, also need or want to occasionally use a car. They can either have their own car or can opt to take part in car sharing. In general, car sharing is a useful tool to tackle transportation issues in larger cities, such as air and noise pollution and traffic jams. It is especially appropriate for people that only occasionally need to use a car and/or want to increase their financial savings by not owning their own vehicle. Car sharing has its origins in Germany and Switzerland and has been around for about 40 years. It is a well-established practice in many European cities (Katzev, 2003).

Adopters of car sharing have reported that they on average drive less kilometres than before when they owned their own cars, which is in favour for the environment’s well-being (Katzev, 2003). The definition of car sharing is quite complex as there are various types of car sharing. Therefore, for greater clarity I present main types of car sharing and their characteristics and definitions in Table 8.

Table 8: Car sharing models

Type	Explanation
Free-floating	<p>Main characteristic is flexibility. People can pick up a car at a set location and return it back to another car-station of the same car sharing company provider. It does not have to be necessarily the same station; usually a radius in which the car needs to be returned is set. It is used largely for one-way drives in urban areas instead of using a taxi. Often the price of renting is calculated based on the time you were using the car, which can be a drawback, since in many cities traffic congestion causes people to be stuck in traffic jams, therefore customers can pay quite a lot of money for an otherwise relatively short distance. The cars offered in the free-floating car fleet are typically of smaller sizes, since they are mainly used in cities, where parking issues are common.</p> <p>Sometimes car sharing providers cooperate with local authorities and ensure reserved parking space particularly for car sharing users. Some providers of car sharing provide the service as part of a strategy to promote a certain brand car and get first-hand customer insights.</p>

table continues

Table 8: Car sharing models (continued)

Type	Explanation
Peer-to-peer	P2P. Owners of cars whenever they are not using them, can privately rent them out to other people by using a platform. Car can only be used for two-way trips, meaning it needs to be returned to the original pick-up location. It is a substitute for car rental or car-pooling.
Stationary B2B and B2C	Traditional car sharing model is used mainly by people who need cars for longer drives and not to cover just short distances. Used mainly instead of renting a car or owning one. Usually provide customers with greater choice of car types, but are not as flexible in terms of stations, which are mainly fixed. Operate also in smaller cities, rural areas and on the outskirts of cities, however, they still need to ensure large networks of stations for example close to other means of public transport such as bus stops or train stations.

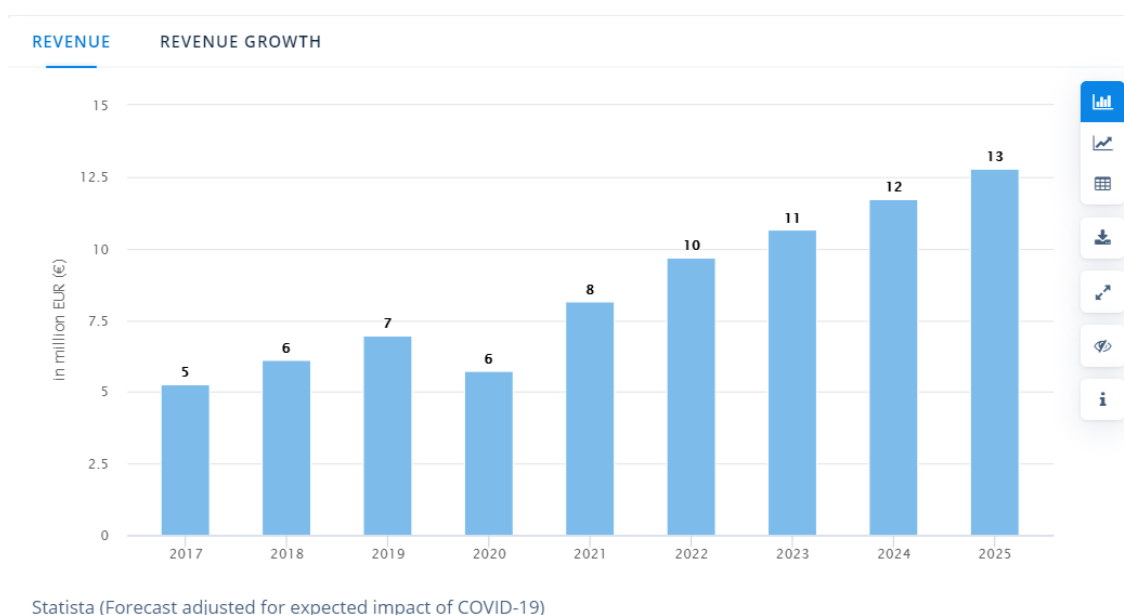
Source: Deloitte (2017).

Cars in the free-floating car sharing scheme can be picked up at car sharing stations located throughout different cities (with a prior registration and membership payment) and dropped off at another car sharing station, after either only a shorter or longer period of time (Katzev, 2003).

Slovenia is no foreigner to car sharing. In Figure 1 revenue projections for car sharing market in Slovenia are presented. In 2021 the revenue of the car sharing market is expected to reach 8 million EUR. By the end of the year 2025 the Slovenian car sharing market revenues are projected to increase by an additional 5 million EUR (Statista, 2021).

User penetration of car sharing in Slovenia is estimated to be at 2,9%. Like revenue, also the user penetration is expected to grow in the years to come (Statista, 2021).

Figure 1: Revenue of Slovenian car sharing market



Source: Statista (2021).

The decision of consumers to use a car sharing platform, rather than owning their own car, is another example of social EI. The motivation for it can originate from financial savings, environmental concern or even from a lack of parking options (there are usually designated parking places exclusively for car sharing users).

One of the largest Slovenian providers of car sharing is a company called Avant car d.o.o., more known with their project name Avant2Go, which was launched in 2016. Their entire fleet consists solely out of electric cars (Avant2Go, 2021). This makes them eco-innovators on different levels; not only they provide an eco-innovative service with regards to enabling consumers to share vehicles, but they provide solely electric cars, which is even better for maintaining low air and noise pollution levels. The same goes for the users, the choice to participate in car sharing, rather than owning a vehicle, is considered to be social EI in itself. The choice to use only electric vehicles car sharing providers is again, another example of social EI.

While searching for potential peer-to-peer car sharing platform active in Slovenia, I found a start-up presentation of a provider called Pipi. According to Pipi the platform had at one point more than 500 users, out of which around a third were car-owners willing to lend their cars to others and earn some money. The other two thirds were potential car users, who would borrow the cars from the owners. They presented themselves on the Start-up Slovenia site in 2017, but no information dated after that can be found, therefore I concluded that the project did not take off successfully (Vabšek, 2017).

In contrast to pro-innovation bias, which assumes that consumers will always want new, innovative products and services since they are always perceived as better than the old ones, different kinds of EI are often not welcomed or accepted by consumers for various different reasons. Sometimes the products that consumers are already using are satisfactory enough for them and they do not feel the need to swap the old product with a new one, since they do not perceive the new product to be of extra value to them.

On occasion, consumers are conflicted with new products since they are not consistent with their beliefs or processes of how they do things. This is considered to be consumer resistance towards innovations. Innovation resistance theory (IRT) explains why consumers might not want to start using new and innovative products and services and explores functional and psychological barriers to adoption of novelties that consumers are faced with (Kushwah, Dhir, & Sagar, 2019). This theory can be used to partially explain a lack of consumer adoption of eco-innovative behaviour.

Functional barriers are further on divided into usage, value and risk barriers. Usage barriers arise when a new product ignites a change in the user behaviour pattern, workflow or habits. This is especially common for radical innovation but can also occur in the case of incremental innovation. Value barrier is present when the new product or service is not considered to be as good as the old product in terms of performance-to-price ratio. If new product is considered to be superior when it comes to performance and monetary value in comparison to the old one, the value barrier to adoption of a new product or service does not exist. Risk barrier depends on consumers' perception of how risky a new product or service is.

Every new product or service comes with some level of uncertainty and always comes with some perceived risk. The risk can be either physical, economic, functional or social. The higher risk assumed by the consumer, the lower the probability of a novelty adoption is or in other words, the higher likelihood of innovation resistance. In addition to functional barrier, two types of psychological barriers are presented in the IRT.

Traditional barrier occurs in cases where new products or services present a potential "danger" to change already established traditions, routines, habits or norms and values of consumers, their family members or society. This barrier is not based on the actual experience of using a new product or service but rather on consumers' already existing values and beliefs. The second type of psychological barrier is the image barrier, which arises through negative connection of the new product or service to its existing heritage (Kushwah, Dhir, & Sagar, 2019).

3 EMPIRICAL RESEARCH

3.1 Background and Hypotheses

There are not a lot of scientific or popular sources that describe, analyse, or only mention social EI (or at least some aspect of it) in Slovenia. In fact, even on a global level, there are little sources that address social EI more specifically. Usually, only EI without specific sub-groups is discussed. Often technological EI is investigated more closely and non-technological one is not in the spotlight. Since social EI is a vitally important part of EI, further research of consumers' attitudes towards EI is needed, if companies and regulation authorities wish to implement right strategies to induce positive changes, in terms of both environmental and economic sustainability.

To contribute to the areas of EI and social EI analyses in Slovenia, I tested some of the Hypotheses that aim to bring more clarity to the understanding of Slovenian consumers' attitudes in connection to EI in general and social EI more specifically. Since there is no generally accepted measure of the level of social EI, different constructs need to be used. For the purpose of my analyses environmental concern was found to be an appropriate measure for the level of social eco innovation.

In one of the studies, it was suggested that company boards, which were more gender-diverse were more likely to adopt eco-innovative actions, shown in form of product and process innovation, than those companies whose boards weren't as gender-diverse (Nadeem, Bahadar, Ali Gull, & Iqbal, 2020). In another study, they recognized women as more concerned about the environment than men (Rotaris, Giansoldati, & Scorrano, 2020). These two studies, among others, sparked a debate on whether gender has a significant impact on the level of environmental concern.

Therefore, with Hypotheses 1, I tested whether women in the population of Slovenian consumers are more concerned about the environment than men.

H1: Women are more concerned about the environment than men.

In a paper titled Climate change awareness: Empirical evidence for the European Union (Baiardi & Morana, 2021) attitudes of European public in connection to climate change were assessed. Level of education was found to be one of the factors that positively impacted environmental attitudes. Moreover, the effect education had on the attitude towards climate change, increased more with each (higher) level of education obtained by the people who responded to the questionnaire (Baiardi & Morana, 2021).

I looked for the possibility of correlation between the two variables also in the population of Slovenian consumers by introducing Hypothesis 2.

H2: People with a higher level of education are more concerned about the environment.

Age was also found to have a positive relation with environmental concern (Baiardi & Morana, 2021). While some studies proved a positive relation between the two variables, in another, they found no correlation between age and environmental concern whatsoever (Rotaris, Giansoldati, & Scorrano, 2020). In another research paper they looked at different generations' views on environmental health. When consumers were demonstrated with hypothetical environmental losses of various severities and given the possibility to choose an adequate response to the natural disasters, neither generation, nor age were found to be correlated to consumers' perception of the magnitude of the disasters, or choosing the level and type of the future measures that should be taken to prevent such environmental losses in the future (Goto Gray, Raimi T., Wilson, & Arvai, 2019). The opposing findings of different studies served as a basis for the Hypothesis 3.

H3: Younger people are less concerned about the environment than older ones.

In Slovenia, car sharing market, despite it being more of a niche market that is mainly restricted to urban areas, has been gaining on popularity. Nevertheless, it is still a relatively small market with a potential to experience high growth rates in the future. Interest of consumers for car sharing is very important when determining the potential the market has for future growth. In the year 2017 there were 1.118.000 registered passenger cars in Slovenia (Gostiša, 2018). As there were 2.066.880 people living in Slovenia at the end of 2017, this means that in Slovenia in 2017, there were on average roughly 0,54 registered passenger cars per one resident of Slovenia (STA, 2018). Therefore, car sharing could serve as a potentially useful model to bring that number down.

In Theory of Planned Behaviour (TPB), attitudes are described as the extent to which a person has a favourable or unfavourable appraisal of a certain thing. Attitudes together with Subjective Norms and Perceived behavioural control result in an intention, and the intention determines if a certain behaviour occurs.

The three main advantages car sharing users see in car sharing are cost saving, reduced environmental impact and convenience (Jain, Rose, & Johnson, 2021).

Out of the TPB, we can derive that consumers' attitudes towards car sharing are one of the main determinants that influence firstly the intention of using car sharing and later also the adoption or non-adoption of car sharing. In previous studies it was determined that the motivation to adopt product-sharing services varies between types of products and socio-demographic groups of consumers. Sharing of more expensive products is normally largely motivated by economic benefits. Interestingly, for car and ride sharing it was found that environmental concern had a significant effect on the adoption of the specific sharing economy (Bocker & Meelen, 2017). In a study of consumers' motivations to adopt car sharing in Dublin, it was concluded that cost saving that occurs as a result of not owning a car, so the economic aspect, was the main motivation of the car sharing users (Caulfield & Kehoe, 2021).

Consumers' attitude towards collaborative consumption is a determining factor whether one would participate in a form of collaborative consumption or not. Consumers' participation in collaborative consumption is a form of social EI. Assuming the adopters of car-sharing have a more positive attitude towards collaborative consumption than non-adopters of car sharing, I created the following hypotheses. With Hypotheses 4 and 5 I tested whether the adoption of car sharing is positively connected to the consumers' view on environmental friendliness of collaborative consumption or the potential to save money by participating in collaborative consumption.

H4: Adopters of car sharing find collaborative consumption to be more environmentally friendly than non-adopters.

H5: Adopters of car sharing find collaborative consumption to offer greater financial benefits than non-adopters.

As IRT suggests (Kushwah, Dhir, & Sagar, 2019), there are various barriers to adoption of new products and services, which in a way is a barrier to social EI itself. Therefore, these barriers are also the potential sources of hinderance of social eco-innovation, which can also be applied to the Slovenian market of hybrid and electric cars. To further on explore the Slovenian consumers' attitudes towards adopting hybrid or electric cars, a deeper look into the barriers to adoption was needed. With Hypothesis 6, 7 and 8 I tested whether the three functional types of barriers are correlated to the hybrid/electric vehicle purchase intention of Slovenian consumers.

H6: The usage barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

H7: The value barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

H8: The risk barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

Within the Value-Belief-Norm Theory a connection between certain consumers' values and green purchasing behaviour has been detected. More specifically, three different value-orientations, social-altruistic, biospheric and egoistic, have been found to be influential in green consumer behavior. Egoistic values were negatively linked to green consumer behavior, whereas social-altruistic and biospheric values have been proven to have a positive effect on green consumer behaviour (Jansson, Marell, & Nordlung, Exploring consumer adoption of a high involvement eco-innovation using value-belief-norm theory, 2011). Consumers with egoistic value orientation will adopt a certain behaviour only when the perceived benefits for them personally will exceed the perceived costs. Consumers with social-altruistic value orientation will make a decision to act a certain way by weighing the benefits and costs to others.

While biospheric value orientation includes consumers who base their decisions for certain behaviours on the perceived level of benefits and costs to ecosystem as a whole (de Groot & Steg, 2008).

With hypotheses 9, 10 and 11 I tested whether different value orientations are connected to the level of environmental concern.

H9: Egoistic value orientation negatively influences level of environmental concern of Slovenian consumers.

H10: Social-altruistic value orientation positively influences level of environmental concern of Slovenian consumers.

H11: Biospheric value orientation positively influences level of environmental concern of Slovenian consumers.

3.2 Methodology

Primary data for this thesis was collected by help of an online survey questionnaire. The questionnaire was aimed at general population of consumers in Slovenia and was distributed on my social media accounts. Consumers were asked to share the questionnaires between their friends, so I could reach as many people as possible in order for the sample to be more representative of a population (Slovenian consumers). The sampling method used was non-probability, since the questionnaire was put online and consumers were able to choose whether to solve it or not.

The questionnaire was in a structured form, meaning it was standardized for everyone. The questions asked were direct and not disguised. I was mostly interested in consumers' values and different attitudes connected to eco-innovations and sustainability, so I needed to reach as many people as possible for the sample to be a good representation of a population.

The online survey was chosen as the appropriate data collection technique because it is cost effective, saves time, and supports the use of visual aids. It can access populations in real time and can reach population segments that are normally difficult to reach. An example of such a segment is home-bound older adults (Remillard, Mazor, Cutrona, Gurwitz, & Tjia, 2014).

The survey was anonymous, and people most likely felt more comfortable to express their true opinions without the fear of being judged by others, consequently the probability for response bias in form of deliberate falsification was lower. Still, the greatest drawback of this technique is sample representativeness, mainly because it did not reach people who do not have access to the Internet (Remillard, Mazor, Cutrona, Gurwitz, & Tjia, 2014).

Online surveys are often completed mainly by younger generations and can therefore result in more liberal views than there actually are in the whole population of consumers (Hocevar & Flanagin, 2017). Another possible error that can occur is systematic error, such as nonresponse error (item nonresponse) or response bias in form of deliberate falsification or unconscious misrepresentation.

With the survey questionnaire and its analysis and interpretation I identified consumers' values and attitudes towards different EI-related concepts. Environmental concern can be defined as *“individual's insight that humans endanger the natural environment combined with the willingness to protect nature”* (Franzen & Vogl, 2013). To measure such a construct as “environmental concern” it is important to look closer at the two main components of the term. The first one is a cognitive one, meaning that people realize that there is an issue and the conative component, which presents itself with people being prepared to act in connection to the issue (Baiardi & Morana, 2021).

Common and valid measure to evaluate level of environmental concern is New Ecological Paradigm Scale (NEP). It consists out of 15 different statements, to which the questionnaire respondents can react by agreeing or disagreeing at different levels (Anderson, 2012). A version of NEP was used in this thesis' questionnaire for testing Hypotheses 1, 2 and 3. The questions asked are often referred to as items. The scale used was a 5-point Likert scale, ranging from 1 - completely disagree to 5 - completely agree. Some of the questions were meant to measure dominant social paradigm (DSP), while others were meant to measure endorsement of the new paradigm – NEP. DSP refers to the prevailing view of the general population from the 1960s and 1970s in the USA, which in that time started to shift in the more environmentally friendly direction (NEP) (Anderson, 2012). To test hypotheses 1 to 3, I used six NEP measuring items and by adding up the answers to these 5-point Likert scale questions, created a latent variable – environmental concern. The higher the score, the higher the level of environmental concern. The level of environmental concern was then assessed in connection to independent variables of gender, age, and level of education.

Hypotheses 4 and 5 were tested by using a 7-point Likert scale used in a paper titled Dataset on the questionnaire-based survey of sharing services users' motivation (Saginova, Kireeva, Saginov, & Zavyalov, 2020).

The previously mentioned scale aims to provide an insight into the motivation for using sharing services. The possible motivations are distributed into four broad categories: enjoyment, reputation, sustainability, and economy section. For each category a few statements are included in the questionnaire.

Hypotheses 6, 7 and 8 were also tested in the survey using methodology from (Kushwah, Dhir, & Sagar, 2019; Giansoldati, Monte, & Scorrano, 2020; Sadiq, Adil, & Paul, 2021; Laukkanen, 2016) by slightly adjusting the survey questions and methodology to fit to the case of Slovenian hybrid and electric car market.

Usage barrier is measured by 4-item, 5-point Likert scale, which was used in similar research of barriers for other products and services. Value barrier was measured by using a 2-item, 5-point Likert scale. For the risk barrier, a 2-item, 5-point Likert scale was used as well.

Hypotheses 9, 10 and 11 were tested by 5-point Likert scale. Survey respondents were asked to rate some values in terms of how important they were to them. 12 values were tested altogether: four for egoistic value orientation, four for social-altruistic value orientation and four for biospheric value orientation. In the results analyses first correlation between the values within each value orientation group was checked. Furthermore, regression analysis was conducted to distinguish between value orientation and level of environmental concern in Slovenian consumers. The analyses of values were conducted on the basis of previous analyses that used a shorter version of Schwarz's value scale (de Groot & Steg, 2008). Level of environmental concern was, like for hypotheses 1, 2 and 3, measured by combining the results of six items from NEP.

4 RESULTS

In this chapter the results of the online survey questionnaire are discussed more into detail. Furthermore, the results of the analyses to confirm or reject the chosen hypotheses are presented.

4.1 Hypotheses 1, 2 and 3

With Hypothesis 1, I was measuring if there is any correlation between concern for environment and gender. For the level of environmental concern measuring, an adjusted version of NEP method was used, as described in chapter 3.2 Methodology. The analysis was performed in SPSS. Some respondents whose responses were otherwise recorded, but they did not provide valid replies, were not included in the dataset of hypothesis testing. After the deletion of incomplete responses, out of 141 recorded respondents, 130 items were valid and included in further analysis for Hypothesis 1.

Figure 2: Gender frequencies and percentages of the respondents valid for H1 testing

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	71	54,6	54,6	54,6
	male	59	45,4	45,4	100,0
Total		130	100,0	100,0	

Source: Own work.

From Figure 2 we can see that 54,6% of the valid respondents for Hypothesis 1 were female and the rest were male.

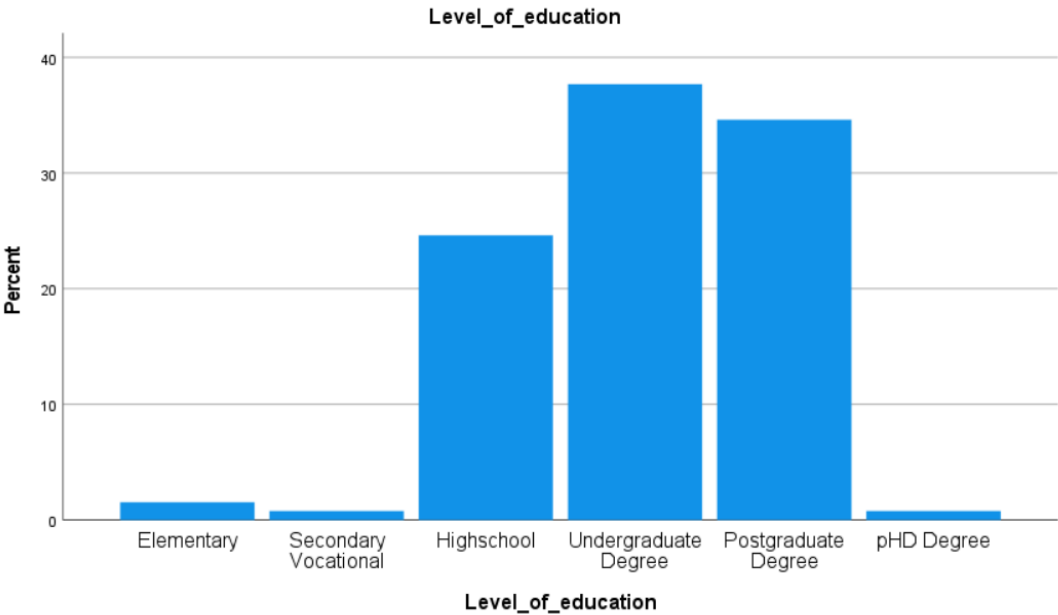
Figure 3: Level of education of the respondents valid for H1

		Level_of_education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elementary	2	1,5	1,5	1,5
	Secondary Vocational	1	,8	,8	2,3
	Highschool	32	24,6	24,6	26,9
	Undergraduate Degree	49	37,7	37,7	64,6
	Postgraduate Degree	45	34,6	34,6	99,2
	pHD Degree	1	,8	,8	100,0
	Total	130	100,0	100,0	

Source: Own work.

In Figure 3 and 4 it is presented that the most common highest attained level of education of our respondents was Undergraduate Degree, with nearly 38% of the respondents. The least represented were Secondary Vocational and PhD Degree, both with 0,8% of the respondents. The second least common answer was Elementary level of education with 1,5%. 24,6% of the respondents' highest attained level of education was Highschool and 45% of respondents have attained a Postgraduate Degree.

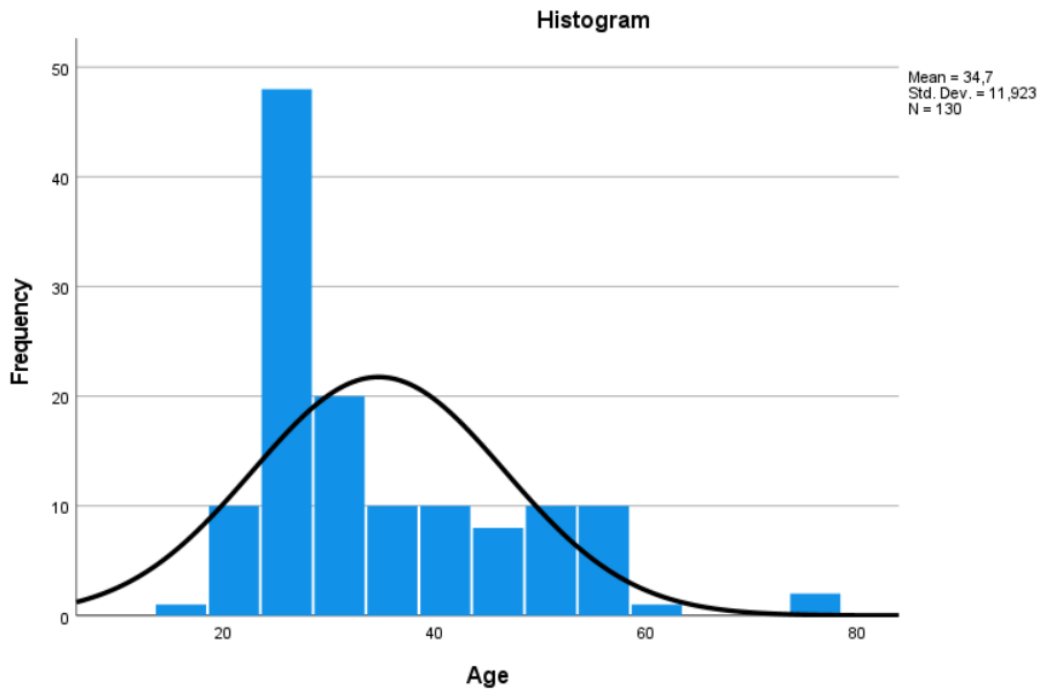
Figure 4: Bar chart of highest level of education attained by the respondents.



Source: Own work.

The average representative member of our sample of 130 respondents was 34,7 years old. The value that appeared most frequently in the dataset was 27 years. The frequencies of responses in relation to age are shown in Figure 5.

Figure 5: Frequency histogram with regards to age



Source: Own work.

For the purpose of testing the level of environmental concern, 7 different statements were initially used to check the level of agreement or disagreement of the respondents. To check whether the items all measure the same latent variable - environmental concern - I ran a Cronbach's Alpha test on the 7 statements. The results suggested one of the questions should be removed from the analyses to improve the value of Cronbach's Alpha, for the questions to showcase greater internal consistency. Therefore, only 6 statements were left for the purpose of further analysis.

Figure 6: Cronbach's Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,592	,594	6

Source: Own work.

Cronbach’s Alpha, displayed in Figure 6, for latent variable environmental concern is 0,592. Usually, it should be at least 0,700 to be considered reliable in terms of internal consistency.

Cronbach’s alpha assumes that the items have equal variances and covariances and can therefore be too restrictive (Bonett & Wright, 2015). In attitude studies, the critical value of Cronbach’s Alpha is often set at 0,5 and not 0,7. This is also common for less than 10 item scales (Fleder & Spurlin, 2005). Therefore, I concluded that the variable is internally reliable enough for the purpose of my analysis, although the value is a bit smaller than ideal.

Hypothesis 1 predicted that women are more concerned about the environment than men are. Therefore, I performed an independent samples t-test on the level of environmental concern in relation to gender.

H1: Women are more concerned about the environment than men.

H0: There is no significant difference between the means of the level of environmental concern between men and women.

Figure 7: Independent Sample Test for environmental concern

		Independent Samples Test							
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference
						One-Sided p	Two-Sided p		
Environmental_concern	Equal variances assumed	,040	,842	1,848	128	,033	,067	,13628	,07373
	Equal variances not assumed			1,840	121,192	,034	,068	,13628	,07408

Source: Own work.

The significance of Levene’s Test for Equality of Variances shown in Figure 7 was at 0,842, which is higher than the chosen 0,05 level of significance. Therefore, the relevant data for this case was the one from the column “equal variances assumed”. Since the two-sided p was 0,067, which is higher than the chosen 0,05 level of significance, this meant I could not reject the H0, and I could not prove that there is a significant correlation between the level of environmental concern and gender. Therefore, I rejected the H1 at 5% significance.

Hypothesis 2 predicted there is a positive significant correlation between the level of education people have attained and the level of concern for the environment.

H2: People with a higher level of education are more concerned about the environment.

H0: There is no significant difference in the means of level of environmental concern of people who are less educated than those who are more educated.

Since robust tests of equality, which were necessary in our case, can only be run if all the groups included in analysis have the sum of case weights larger than one, I excluded Elementary, Secondary Vocational and PhD Degree, since each of those two levels of education were chosen by too few survey respondents.

The three levels of education, Highschool, Undergraduate Degree and Postgraduate Degree, were numbered from 1 to 3, with 1 marking the lowest level of education of the three levels included in the analysis, and 3 marking the highest level of education. The means of the groups of people are presented in Figure 8. I could see that the means are somewhat different, ranging from 1,671 to 1,902. However, I needed to perform further analysis to determine whether the differences were statistically significant or not.

Figure 8: Descriptive statistics of the analysed 3 groups of levels of education

		Levene Statistic	df1	df2	Sig.
Environmental_concern	Based on Mean	1,902	3	124	,133
	Based on Median	1,671	3	124	,177
	Based on Median and with adjusted df	1,671	3	120,648	,177
	Based on trimmed mean	1,877	3	124	,137

Source: Own work.

Figure 9: Test of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Environmental_concern	,102	126	,003	,975	126	,021

a. Lilliefors Significance Correction

Source: Own work.

To check whether the distribution of the score is normal, I ran Shapiro-Wilk test in SPSS and the results are presented in Figure 9. The p-value is just below 0,05, which means that for that group I couldn't assume normal distribution. In Figure 10 results of Levene Statistical test are shown, indicating that since the p-value was larger than 0,05, I could assume homogeneity of variances.

Figure 10: Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Environmental_concern	Based on Mean	1,902	3	124	,133
	Based on Median	1,671	3	124	,177
	Based on Median and with adjusted df	1,671	3	120,648	,177
	Based on trimmed mean	1,877	3	124	,137

Source: Own work.

Because normal distribution cannot be assumed, I ran Welch one-way ANOVA test. Figure 11 shows the results of Welch test one-way ANOVA. With the p-value being larger than the chosen level of significance 0,05 I determined that the differences between means of the three different groups were statistically insignificant. Thereafter, I could not reject the Null Hypothesis.

I found no statistically significant difference between level of environmental concern between people who have attained higher or lower levels of education. Therefore, H2 cannot be confirmed.

Figure 11: Welch test one-way ANOVA results

Robust Tests of Equality of Means				
Environmental_concern				
	Statistic ^a	df1	df2	Sig.
Welch	1,929	2	72,476	,153

a. Asymptotically F distributed.

Source: Own work.

Hypothesis 3 predicted that younger people are less concerned about the environment than older people.

H3: Younger people are less concerned about the environment than older ones.

H0: Age does not significantly contribute to the level of environmental concern.

I tested this hypothesis by running a regression analysis. First, I checked whether there are any outliers in the data since regression is very sensitive to outliers. By getting the minimum and maximum standard residual of -2,639 and 2,022, I concluded that there were no outliers, since the numbers were positioned between -3 and 3. Next, I did Durbin-Watson test to check whether I could assume that the observations were independent.

The result was 1,774, which fell on the interval between 1 and 3, which confirmed that the observations could be assumed to be independent.

I also checked the normality by P-P plot, where dots were positioned generally somewhere along the line, which confirmed the assumption of normal distribution of environmental concern. By confirming the above pre-conditions, I determined that regression analysis can be performed. The results of regression are shown in Figure 12.

Figure 12: Regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,139	,133		31,084	<,001
	Age	-,005	,004	-,111	-1,269	,207

a. Dependent Variable: Environmental_concern

Source: Own work.

The significance level of the results was set at 0,207, which meant that it was not statistically significant, since it was larger than 0,05. Therefore, I concluded age was not statistically significant in predicting the level of environmental concern. Thereafter, H0 could not be rejected and H3 could not be confirmed, meaning there was no statistically significant correlation between age and level of environmental concern.

4.2 Hypotheses 4 and 5

H4: Adopters of car sharing find collaborative consumption to be more environmentally friendly than non-adopters.

H0: Adopters of car sharing and non-adopters of car sharing find collaborative consumption to be equally environmentally friendly.

In the process of analysing Hypothesis 4, I calculated sum value for each respondent to the five Likert scale questions related to sustainability part of motivation to adopt sharing economy. The newly created latent variable was then compared to the answers to the question “Have you ever participated in car sharing?”. Eight respondents’ questions were considered as invalid, as they did not reply to these questions. They were therefore excluded from the further analysis. The sample after the exclusion of invalid respondents was 122 people. The group statistics for H4 are presented in Figure 13.

Figure 13: Group Statistics of Hypothesis 4 testing

Group Statistics					
	Car_sharing	N	Mean	Std. Deviation	Std. Error Mean
Environmental_concern_m otivator	adopters	34	28,56	4,076	,699
	non-adopters	88	26,32	4,346	,463

Source: Own work.

We can see that the average means of finding collaborative consumption to be environmentally friendly between adopters and non-adopters of car sharing, were in fact different. The relation was tested for statistical significance, as shown in Figure 14, assuming equal variances due to p-value of Levene's test for equality of variances being 0,729, which was higher than the chosen level of significance of 0,05. Since the p-value of t-test for equality of means was smaller than 0,05, I could reject the null hypothesis and confirm Hypothesis 4. This means that there was statistically significant evidence that adopters of car sharing find collaborative consumption to be more environmentally friendly than non-adopters of car sharing.

Figure 14: T-test for Hypothesis 4

Independent Samples Test									
		Levene's Test for Equality of Variances				t-test for Equality of Means			
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference
						One-Sided p	Two-Sided p		
Environmental_concern_m otivator	Equal variances assumed	,121	,729	2,597	120	,005	,011	2,241	,863
	Equal variances not assumed			2,672	63,686	,005	,010	2,241	,839

Source: Own work.

H5: Adopters of car sharing find collaborative consumption to offer greater financial benefits than non-adopters.

H0: Adopters and non-adopters of car sharing find collaborative consumption to offer the same level of financial benefits.

In the process of analysing Hypothesis 5, I calculated sum value for each respondent to the three different Likert scale questions related to economic part of motivation to adopt sharing economy. Similarly, to testing Hypothesis 4, newly created latent variable was then compared to answers to the question "Have you ever participated in car sharing?". After the exclusion of 8 invalid responses, there were 122 respondents' answers left. The group statistics for H5 are presented in Figure 15.

Figure 15: Group statistics of Hypothesis 5 testing

Group Statistics					
	Car_sharing	N	Mean	Std. Deviation	Std. Error Mean
Economic_concern_motiva tor	adopters	34	16,09	3,325	,570
	non-adopters	88	15,08	3,253	,347

Source: Own work.

Figure 16: T-test for Hypothesis 5

Independent Samples Test									
		Levene's Test for Equality of Variances				t-test for Equality of Means			
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference
Economic_concern_motiva tor	Equal variances assumed	,087	,768	1,526	120	,065	,130	1,009	,661
	Equal variances not assumed			1,512	58,869	,068	,136	1,009	,667

Source: Own work.

With p-value of Levene's Test for equality of variances being higher than 0,05 I could assume equal variances of the two groups. The t-test for equality of means of adopters and non-adopters, shown in Figure 16, provided a p-value that was larger than 0,05, meaning, that the Null Hypothesis could not be rejected and H5 not confirmed.

Therefore, I concluded that adopters of car sharing do not find collaborative consumption to offer greater financial benefits in comparison to non-adopters.

4.3 Hypotheses 6, 7 and 8

For the purpose of testing Hypotheses 6, 7 and 8, 126 valid responses from the survey were used, as displayed in Figure 17.

Figure 17: Descriptive Statistics used in analysis of H6, H7 and H8

Descriptive Statistics			
	Mean	Std. Deviation	N
Purchase_intention	9,57	2,746	126
Usage_barrier	14,74	2,871	126
Risk_barrier	9,24	2,566	126
Value_barrier	5,38	1,888	126

Source: Own work.

H6: The usage barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

H0: The usage barrier has no significant impact on Slovenian consumers' electric and hybrid car purchase intention.

H7: The value barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

H0: The value barrier has no significant impact on Slovenian consumers' electric and hybrid car purchase intention.

H8: The risk barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

H0: The risk barrier has no significant impact on Slovenian consumers' electric and hybrid car purchase intention.

The three hypotheses were tested using multiple regression analysis. The dependent variable, intention to buy hybrid or electric cars was calculated as a sum of two questions measuring intention to buy hybrid or electric car in the future on a 5-point Likert scale. The independent variables were created as latent variables made of sums of several different questions measuring either risk, usage, or value barrier. The answers to three different questions were recoded, so they were measuring the level of agreement in the correct way.

Figure 18: Model Summary of Multiple Regression

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	,666 ^a	,443	,430	2,074	,443	32,397	3	122	<,001

a. Predictors: (Constant), Value_barrier, Usage_barrier, Risk_barrier
b. Dependent Variable: Purchase_intention

Source: Own work.

As presented in Figure 18, 43% of the variance in purchase intention to buy electric or hybrid car in the future could be explained from the independent variables. Significance level was below 5% significance; therefore, this was a statistically significant finding.

Figure 19: Coefficients from multiple regression

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	16,251	,993		16,366	<,001		
	Usage_barrier	-,119	,075	-,125	-1,586	,115	,736	1,359
	Risk_barrier	-,061	,117	-,057	-,521	,603	,380	2,634
	Value_barrier	-,809	,152	-,556	-5,335	<,001	,420	2,384

Source: Own work.

In Figure 19 we can see that only the value barrier had a statistically significant impact on intention to buy electric or hybrid car. For one unit increase in value barrier, the intention to buy electric or hybrid vehicle would drop by 0,809. This means that I could not reject the Null Hypothesis for value barrier and confirm Hypothesis 7, meaning the value barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.

The other two, H6 and H8, cannot be confirmed.

4.4 Hypotheses 9, 10 and 11

With the last three hypotheses I tested for statistically significant correlation between three different value orientations and the level of environmental concern of Slovenian consumers.

H9: Egoistic value orientation negatively influences level of environmental concern of Slovenian consumers.

H0: Egoistic value orientation has no significant influence on the level of environmental concern of Slovenian consumers.

H10: Social-altruistic value orientation positively influences level of environmental concern of Slovenian consumers.

H0: Social-altruistic value orientation has no significant influence on the level of environmental concern of Slovenian consumers.

H11: Biospheric value orientation positively influences level of environmental concern of Slovenian consumers.

H0: Biospheric value orientation has no significant influence on the level of environmental concern of Slovenian consumers.

The chosen statistical analysis was once again multiple regression performed in SPSS. To measure levels of separate value orientations of respondents, three new latent variables were created that sum the relevant results of Likert scale questions.

Level of environmental concern was measured by creating a latent variable that consists out of scores of responses to 6 different NEP questions. Once again, the invalid answers of respondents were excluded from the analysis. The sample size for the last three hypotheses was 119.

Figure 20: Model Summary of Regression Analysis for H9, H10 and H11

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	,505 ^a	,255	,236	2,59854	,255	13,133	3	115	<,001

a. Predictors: (Constant), Biospheric_value_orient, Egoistic_value_orient, Social_altruristic_value_orient
b. Dependent Variable: Environmental_concern

Source: Own work.

Figure 20 shows the results of regression analysis. Our regression model explains 23,6% of variance in environmental concern, which is statistically significant.

Figure 21: Regression analysis coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	14,878	2,766		5,379	<,001			
	Egoistic_value_orient	-,209	,082	-,212	-2,558	,012	-,308	-,232	-,206
	Social_altruristic_value_orient	,280	,131	,198	2,143	,034	,371	,196	,172
	Biospheric_value_orient	,389	,131	,277	2,961	,004	,421	,266	,238

a. Dependent Variable: Environmental_concern

Source: Own work.

In Figure 21 we can see that all three predictor variables had significant impact on the dependent variable. The “Part” column explains unique contribution of each variable. With more egoistic value orientation, the level of environmental concern significantly decreases. With larger social-altruristic value orientation and biospheric value orientation, level of environmental concern increases significantly. Thereafter, the Null Hypotheses could be rejected and I confirmed H9, H10 and H11, as all three inspected value orientations significantly influenced the level of environmental concern in Slovenian consumers.

For easier overview of the research part of my thesis, in Table 9, a collection of all of my research hypotheses and their results, which are defined as either rejected or confirmed, are presented.

Table 9: Collection of main results with regards to research hypotheses

Hypothesis number	Hypothesis Text	Research Results (Rejected/Declined)
H1	Women are more concerned about the environment than men.	Rejected
H2	People with a higher level of education are more concerned about the environment.	Rejected
H3	Younger people are less concerned about the environment than older ones.	Rejected
H4	Adopters of car sharing find collaborative consumption to be more environmentally friendly than non-adopters.	Confirmed
H5	Adopters of car sharing find collaborative consumption to offer greater financial benefits than non-adopters.	Rejected
H6	The usage barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.	Rejected
H7	The value barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.	Confirmed
H8	The risk barrier significantly inhibits Slovenian consumers' electric and hybrid car purchase intention.	Rejected
H9	Egoistic value orientation negatively influences level of environmental concern of Slovenian consumers.	Confirmed
H10	Social-altruistic value orientation positively influences level of environmental concern of Slovenian consumers.	Confirmed
H11	Biospheric value orientation positively influences level of environmental concern of Slovenian consumers.	Confirmed

Source: Own work.

5 SUGGESTIONS AND LIMITATIONS

Since my research suggests that gender, level of education or age do not significantly impact the level of environmental concern of Slovenian consumers, businesses offering environmentally friendly products or services should consider this when designing their products and services or preparing marketing campaigns. This information could also be beneficial for regulatory bodies trying to promote environmentally friendly products and services. Adopters of car sharing find collaborative consumption to be more environmentally friendly than non-adopters.

Out of this, businesses offering collaborative consumption solutions or various organizations, potentially state-owned, trying to encourage Slovenian citizens to live more sustainably, can see that in order to increase the number of collaborative consumption adopters, they might have to think about putting more effort into making the environmental friendliness of collaborative consumption more apparent to the potential customers, since clearly the adopters of collaborative consumption are more aware of the environmental benefit than the non-adopters.

Out of the three potential barriers to purchase of hybrid/electric vehicles, market in Slovenia is significantly impacted by the value barrier. That means that hybrid/electric vehicles are on average simply not considered to be as good of an alternative as the conventional vehicles in terms of the ratio between their performance and price. This means, that businesses selling such vehicles should consider highlighting more the positive performance and potential money saving possibilities of owning vehicles that are either electric or hybrid, or in a different more effective way, to try and overcome the value barrier. Another option would be to offer such vehicles at lower prices, which is probably harder to implement since larger part of prices of vehicles are normally based on manufacturing prices and not purely on sellers' own estimation or decision. However, a regulatory state-owned department or organization, which wants to decrease the number of conventional vehicles on the road, could update the already in place financial incentives to buy electric or hybrid vehicles or try and create new ones. Then, the sellers of such vehicles could market these novelties to the potential consumers and with the subsidies in place the price-performance ratio could be improved, hopefully enough to overcome the Slovenian consumers' value barrier to buying hybrid or electric vehicles.

Slovenian consumers with biospheric or social-altruistic value orientation display greater level of environmental concern than consumers with egoistic value orientation. This implies, that marketing eco-innovative products and services to people with social-altruistic or biospheric value orientation, by trying to highlight the products' or services' less negative or even positive impact for the environment, will on average be more effective than marketing these products or services as having environmentally beneficial characteristics to people with egoistic value orientation.

Highlighting characteristics - such as potential to save money by buying a certain environmentally friendly product or service - to the latter group of people would be on average more effective than highlighting solely or largely the fact that a product or a service is environmentally friendly. Out of this it can be derived that by a more in-depth look into consumers' value orientations, companies or regulatory bodies can gain valuable insights that can be later on used to appropriately address consumers' needs and wants more effectively. The main takeaways for business and regulatory bodies are shown below in Table 10.

Table 10: Main takeaways for businesses and regulatory bodies

Relevant for	Comment
Business or regulatory body	In the population of Slovenian consumers age, level of education or gender do not statistically significantly affect level of environmental concern.
Business or regulatory body	Collaborative consumption in form of car sharing in the population of Slovenian consumers is considered be more environmentally friendly by those who participate in it than by those who don't. Promotion of the positive influences, among people who don't participate in car sharing already, collaborative consumption can have on the environment might be needed to increase the level of collaborative consumption (which includes car sharing).
Business or regulatory body	Value barrier is a significant barrier for the population of Slovenian consumers to purchase hybrid or electric cars. To overcome it, the price-performance ratio should be improved. This could be done by changing the performance or price (possible also in form of subsidies) of such vehicles or solely the perception the consumers have about such vehicles by promoting certain features more or by breaking down some common misconceptions there are about the hybrid and electric cars.
Business or regulatory body	Slovenian consumers with egoistic value orientation are less concerned about the environment than those with biospheric or social-altruistic value orientation. This means that market segmentation can be done based on value orientation of consumers to adequately address the needs and wants of different subsets of consumers, by offering tailored products.

Source: Own work.

The data used in my research was collected online with the help on an online questionnaire. Online data collection is gaining on popularity, since it comes with various advantages, such as easy and cheap distribution of questionnaires, which makes it more time and cost efficient. It also has the potential to reach vast and varied global populations. An important limitation to solving an online questionnaire is the need for a respondent to have access to a computer or a similar electronic device, such as a tablet or a phone and Internet connection.

There is also a risk for potential fraudulent respondents, as they might pose as different people or answer dishonestly. However, this is not a unique limitation for online data collection, it limits also research that uses other, more traditional, methods of data collection. In the case of my online survey questionnaire, which was distributed via my social media, the population sample was not based on probability sampling, as it was of non random nature (Lefever, Dal, & Matthiasdottir, 2006).

To increase representativeness of a sample in the process of collecting my research data, I tried to reach as many different people as possible, in terms of age, gender, level of education and experience with eco-innovation. However, as seen in research statistics, most respondents were in their mid twenties, which is a factor that needs to be considered in terms of sample representativeness. Often older people do not use electronic devices and more specifically social media as much if at all, which means that fewer of the respondents were from the older age groups. Another potential survey limitation was the time it took to complete, which was about twelve minutes. Respondents could lose concentration after a few questions and reply less accurately or stop solving the questionnaire completely (Lefever, Dal, & Matthiasdottir, 2006).

Future research possibilities for the market of Slovenian consumers in connection to eco-innovation could be in the field of significant motivators for adopting eco-innovation, research based on the supply of various available products and services, that are more environmentally friendly and ultimately help enable eco-innovative behaviour. Since usage barrier was recognized as a significant barrier in the case of hybrid/electric market in Slovenia, further research of what Slovenian consumers deem important when choosing products and services would give valuable insight.

What products or services are actually held in regard by Slovenian consumers as more environmentally friendly and what in their opinion is greenwashing, would give useful insights as well. Another relevant topic of research is a regulatory framework in connection with how it promotes or supports eco-innovative practices in comparison to other countries and find parallels and specific suggestions for further improvement based on good practices from abroad.

6 CONCLUSION

The pillar of this master thesis concerns EI, which has many definitions, but encompasses all kinds of either technological or non-technological innovation, as long as it creates a lesser environmental burden through various ways of new behaviours, processes or even products or services.

Another closely related term to EI is CE, which is a model of production and consumption, as it aims to shift from a linear pattern of consumption and production towards a circular one. Some of the benefits EI can bring to organizations are that EI can be a source of competitive advantage or a sustainable source of long-term future economic growth.

Social EI, in addition to technological, organizational and institutional, is the least explored of the four types of EI that were proposed by Rennings. Social EI concerns consumer behaviour and lifestyle changes towards greater sustainability. It is vastly important since technological EI or any other EI cannot bring effective results on their own.

Examples of social EI include, but are not limited to, consumer participation in product development to avoid excess features in products, product sharing and buying more sustainable products. In Slovenia, car sharing, which is considered as a type of product sharing, is used in urban areas, but not so much in rural ones. However, it has started gaining on popularity and seems to have a lot of potential for further growth.

In the analysis performed by the EU Commission, Slovenia has been positioned near the mean value of all aspects of EI measured (EI inputs, EI activities, EI outputs, resource-efficiency and socio-economic outcomes) in comparison to the EU28 countries. Therefore, we can conclude that we are average performers in all the above-mentioned categories, which leaves a lot of room for improvement. Since knowing consumer attitudes is crucial when companies and institutions wish to implement effective EI strategies, I decided to perform analyses in relation to various hypotheses from the field of social EI, specifically in the population of Slovenian consumers. The results showed that gender, level of education and age do not significantly alter the level of environmental concern of Slovenians. Adopters of car sharing in Slovenia find collaborative consumption in general to be more environmentally friendly than non-adopters of car sharing. But there is no statistically significant difference in how financially beneficial adopter and non-adopter of car sharing find collaborative consumption. The level of electric/hybrid vehicle adoption in Slovenia has been significantly influenced by value barrier.

This could be useful information for further analysis for electric/hybrid vehicles producers and salesmen, as clearly Slovenian consumers in general do not find these kinds of vehicles to bring the extra value, either financial or environmental one. Usage barrier, such as concern about the battery range and risk barrier, an example of which would be the possibility of battery fire, are not significant in the intention to purchase electric/hybrid vehicle.

Different value orientations of Slovenian consumers have proven to be significant in the level of environmental concern consumers showcase. Egoistic value orientation reduces the level of environmental concern, while increased social-altruistic and biospheric value orientation means that those people on average present greater level of environmental concern.

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APPENDICES

Appendix 1: Povzetek (Summary in Slovenian language)

Osrednji del moje magistrske naloge zadeva eko inovacije (EI), ki ima sicer več različnih definicij, le-te pa imajo skupno, da vse kot EI navajajo različne vrste tehnoloških ali netehnoloških inovacij, ki omogočijo manjšo obremenitev okolja skozi nove procese, obnašanja ali pa tudi produkte ter storitve. Ena izmed pogostejših delitev eko inovacij je na socialne, tehnološke, organizacijske in pa na institucionalne. Socialne eko inovacije so slabo raziskane. Pri tej podvrsti eko inovacij gre predvsem za vedenje potrošnikov in pa spremembe stila življenja na bolj trajnostno. Tehnološke eko inovacije same ne morejo prinesiti zelenih sprememb v smeri bolj trajnostno usmerjene družbe, če ne obstajajo tudi socialne eko inovacije, ki omogočijo, da ljudje začnejo uporabljati tehnološke eko inovacije.

Poznavanje odnosov potrošnikov z relevantnega področja je ključno za uspešno implementacijo strategij eko inovacij s strani podjetji ali institucij. Za ta namen sem opravila raziskavo odnosov slovenskih potrošnikov do (socialnih) eko inovacij. Raziskava je bila izvedena s pomočjo spletne ankete, ki sem jo z različnimi statističnimi metodami analizirala v programu SPSS. Hipoteze, ki sem jih testirala so:

H1: Ženske so bolj zaskrbljene glede okolja kot moški.

H2: Ljudje z višjo stopnjo izobrazbe so bolj zaskrbljeni glede okolja kot tisti z nižjo.

H3: Mlajši ljudje so manj zaskrbljeni glede okolja kot starejši.

H4: Tistim, ki sodelujejo v skupni uporabi vozil, se zdi skupna potrošnja bolj okolju prijazna, kot se zdi tistim, ki ne sodelujejo v skupni uporabi vozil.

H5: Tistim, ki sodelujejo v skupni uporabi vozil, se zdi, da skupna potrošnja prinese več finančnih ugodnosti, kot se zdi tistim, ki ne sodelujejo v skupni uporabi vozil.

H6: Uporabnostna ovira pomembno zmanjšuje namen slovenskih potrošnikov, da kupijo električno ali hibridno vozilo.

H7: Ovira z vidika dodane vrednosti pomembno zmanjšuje namen slovenskih potrošnikov, da kupijo električno ali hibridno vozilo.

H8: Ovira z vidika tveganja pomembno zmanjšuje namen slovenskih potrošnikov, da kupijo električno ali hibridno vozilo.

H9: Egoistična vrednostna orientacija negativno vpliva na stopnjo skrbi za okolje Slovencev.

H10: Socialno-altruistična vrednostna orientacija pozitivno vpliva na stopnjo skrbi za okolje Slovencev.

H11: Biosferična vrednostna orientacija pozitivno vpliva na stopnjo skrbi za okolje Slovencev.

Pri raziskavi sem ugotovila, da spol, stopnja izobrazbe in pa starost nimajo statistično pomembnega vpliva na posameznikovo stopnjo skrbi za okolje. Ljudem, ki sodelujejo v skupni uporabi avtomobilov (angl. *car sharing*), se zdi, da je skupna potrošnja (angl. *collaborative consumption*) bolj okolju prijazna, kot se zdi tistim, ki ne sodelujejo v skupni uporabi avtomobilov. Med ljudmi, ki sodelujejo in tistimi, ki ne sodelujejo v skupni uporabi avtomobilov, ni statistično pomembne razlike v tem, kako finančno privlačna se jim zdi skupna potrošnja. Pri nakupu izdelkov oziroma storitev se potrošniki srečajo z različnimi ovirami, ki jih iz takšnega ali drugačnega razloga zavirajo pri nakupu izdelka ali storitve. Ovira z vidika dodane vrednosti statistično pomembno vpliva na to ali se slovenski potrošniki odločijo za nakup električnega ali hibridnega vozila. To je potencialno zanimiv podatek za ponudnike tovrstnih vozil, saj očitno večina Slovencev ne vidi zadostnih finančnih ali okoljskih prednosti, da bi se odločili za nakup tovrstnih vozil. Uporabnostna ovira, v smislu skrbi glede kapacitete baterije in posledično dometa vozila, in pa ovira z vidika tveganja, kot je možnost vžiga avtomobilske baterije, nista statistično pomembni oviri, ki bi vplivali na slovenske potrošnike. Z vprašalnikom so bile analizirane tudi različne vrednostne orientacije (angl. *value orientations*) slovenskih potrošnikov. Od analiziranih vrednostnih orientacij ima egoistična pomemben negativen vpliv na stopnjo skrbi potrošnikov za okolje, medtem ko socialno-altruistična in biosferična orientacija nakazujejo na večjo stopnjo skrbi za okolje potrošnikov.