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CONSUMER AWARENESS OF GREENWASHING AND THE RELIABILITY OF ECO-LABELS

Bachelor's thesis
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I hereby declare that I have compiled the thesis independently
and all works, important standpoints and data by other authors
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has not been previously presented for grading.
The document length is 9228 words from the introduction to the end of conclusion.

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ABSTRACT

The market for green goods has grown substantially in response to rising consumer concern about environmental issues. Consumption and its effects are becoming more widely recognized.

Eco-labels have existed for nearly 30 years, assisting consumers in their quest for environmentally friendly goods. However, given the wide range of labels and other variables, it may be difficult for the user to determine the true meaning. At the same time greenwashing is becoming more common in parallel with the rise of green products.

Hence the aim of this bachelor's thesis was to find out the consumer awareness of greenwashing and eco-labels. In addition, the author wanted to know if greenwashing affects the reliability of eco-labels and what other factors, if any, play a role.

The study was performed using quantitative methods and was analysed using an inductive approach. To collect the data a web-based questionnaire was conducted, which was answered by 120 people.

The study revealed that consumers are more or less aware of greenwashing and eco-labelling. Consumers know the main idea behind labelling but feel that that it is necessary for marketers to provide more information on eco-labels. The reliability of eco-labels is affected by greenwashing and other factors such as marketing, knowledge of labels and ownership. Greenwashing tends to have a negative effect on the consumers perception and purchasing behaviours.

Keywords: **Green marketing, eco-label, greenwashing, consumer awareness, reliability**

INTRODUCTION

Looking at today's consumer society, there is a rising tendency for green production. As consumers have become more aware of the environmental problems posed by mass production the demand for green products has increased. As a result, green products have gained popularity among consumers who are conscious of their purchasing actions and feel the need to decrease their ecological footprint.

For more than 30 years eco-labels have been used to distinguish green products, giving the consumer an idea of the product's characteristics. But with the broad variety of eco-labels, the true meaning behind them might be left unclear or rather confusing to consumers, which is why it is important to educate consumers about this topic.

Manufacturers and producers are also trying to use greener ways for production and materials. However, with the growing demand for green products a phenomenon known as greenwashing has emerged. Scholars (Polonsky, Grau& Garma, 2010) have defined the phenomenon as: „Greenwashing corresponds to advertisement or promotion which is cheating on customers about goods' environmental attributes ". Meaning that producers try to reap benefits of green production, but in fact are misleading consumers with this marketing technique. Consumers who have little or no knowledge of greenwashing can easily fall into this marketing trick and their pure intentions to buy green products might be taken advantage of. Thus it is necessary to inform consumers about this marketing technique.

The research problem of this study is that there lacks information about whether the Estonian consumer has sufficient knowledge about eco-labels and whether they can determine greenwashing.

The findings of this study could have beneficial impact on social change by educating the consumer about eco-labelling and greenwashing, which would help consumers to orientate more

efficiently in environmentally friendly products and spot deception. Moreover the results could provide beneficial information for eco-friendly companies when planning out marketing strategies.

The aim of this bachelor's thesis is to find out the Estonian consumers awareness on eco-labels and greenwashing, furthermore the author would like to know if awareness of greenwashing affects the reliability of eco-labels and/ if there are other factors that have a role. The three research questions that determined the focus of this study were as follows:

RQ1: To what extent are consumers aware of eco- labels and greenwashing?
RQ2: To what extent does the awareness of greenwashing affect reliability towards eco-labels?
RQ3: Which (other) factors affect the reliability of eco-labels?

The author used two types of methods in this study, literature review and quantitative research. The research required a literature review in order to gain a deeper understanding of green marketing. To learn how consumer awareness influences their buying decisions and to understand the theory of greenwashing and the value of eco-labelling. It also provided an opportunity to investigate the links between empirical research and theoretical framework.

The thesis itself consists of three chapters. The first chapter of the paper provides a theoretical overview of green marketing, opens the meaning of eco- labels and greenwashing, how awareness affects purchasing decisions. The second chapter outlines the research methodology. The third chapter is focused on analysing the data and interpreting the results, provides conclusions and proposals.

The author would like to thank her supervisor Merle Ojasoo, for her clear guidance and sincere feedback during the writing process. The author also would like to express gratitude towards the 120 people who made it possible to compile the research.

1. THEORETICAL PART

In this part, the author will define the meaning of green marketing. What implies that a product is green or environmentally friendly. Then the author opens the meaning behind eco-labelling and introduces the principles of use. Outlines some of the main eco-labels used for convenience goods and discuss factors that affect the reliability of eco-labels. The author will then discuss how consumer awareness and knowledge affects their purchasing decisions. Lastly the author discusses the phenomenon of greenwashing. How to spot when being greenwashed and brings out the awareness and perceptions of greenwashing based on different studies.

1.1. Green Marketing

According to American Marketing Association (AMA) green marketing refers to the development and marketing of products which are presumed to be environmentally safe and friendly. It constitutes an extensive range of activities, such as product and advertisement modifications, changes in packaging and production process as well as minimizing the negative effects on environment.

The idea of green marketing emerged rather in the late 1980s, despite being given some attention in the 70s (Peattie and Crane, 2005, 358). Narula and Desore (2016) made a study where they examined an array of definitions available for green marketing ranged from the period of 1976 to 2013. During their analysation of different author's definitions, they came across various keywords used to define green marketing, which have been found to be belonging to six dimensions of sustainability, .i.e. environment, economy, society, market, customer and stakeholder. Findings of the study suggested that the earliest definitions of green marketing were focused on the environmental dimension. Focusing of the positive and negative aspects of marketing activities on pollution, use of energy and environmental harm.

Over time the focus of green marketing has shifted into another direction, focusing rather on production, legislation, sales and marketing while leaving the consumer of secondary interest.

Companies have been more focused on distributing green marketing and have neglected developing a holistic perspective that covers all aspects of the company, the product and its life-cycle. (Peattie and Crane, 2005, 367)

Environmentally products or green products are labelled with different eco-labels or certificates, which should imply the consumers about the product's characteristics. Unfortunately most environmental qualifications are not detectable by consumer, and companies can use eco-labels to reveal these hidden properties or greenwash their products (Grolleau et al. 2016, 793).

The term "green marketing" emerged in late 1980s and has since been defined in a variety of ways. Over time the focus of green marketing has shifted to another direction. Companies are concentrating their efforts on sales and promotions, rather than focusing on the consumers' best interest.

1.2. Eco- labels

An eco-label refers to products or services that have proven to be more environmentally friendly in a certain category (Introduction…). Manufacturers use eco-labels on products to indicate their environmentally responsible behaviour and that they contribute to better the environment opposed to other conventional products. (Shahrin et al. 2017, 2). Eco-labels make it easier for the consumer to identify environmentally friendly products and navigate in the green market.

Eco-labelling schemes first emerged in 1977 and have grown in number and scope (Grolleau et al. 2016, 793). There are different reasons for the growth of eco-labelling programmes. Starting with growing consumer concern, globalization (Cashore et al. 2003 referenced in Groellau et al. 2016), lack of regulatory will (Horne, 2009), improved supply-chain management (Delmas and Pekovic, 2013) and increased industry consolidation (Orsato, 2006). The growing consumer concern about the environmental impact of goods and services they buy has been reflected in eco-labelling as a key tool for making sustainable purchasing decisions (ISO, 2019). The aim of eco-labelling is to use the power of markets to achieve environmental goals (Grolleau et al. 2016, 792).

Product environmental labels can be classified in different ways, but the main differentiation point is whether the scheme is mandatory or voluntary and if certification is carried out independently or not. Mandatory eco-labelling is generally required by law and is more common for specific

performance problems, such as water or energy consumption. The International Organization for Standardization (ISO) uses three categories for voluntary eco-labelling, namely Type I, II and III, while other literature (Horne, 2009, 176) includes a fourth category of "Type I likes".

Type I (ISO 14204 standard) is the strongest and most commonly referred to as "eco-label", these schemes award a mark or logo to products or services upon fulfilling a set of criteria.
Type II labels (ISO 14201) are self-declared labels by manufactures or distributers and type III labels focus on providing quantitative life-cycle environmental information in a comprehensive reporting format. (Horne, 2009, 176). Figure 1. (Horne 2009,177) illustrates the division of eco-labels by type for a better understanding of the schematic.

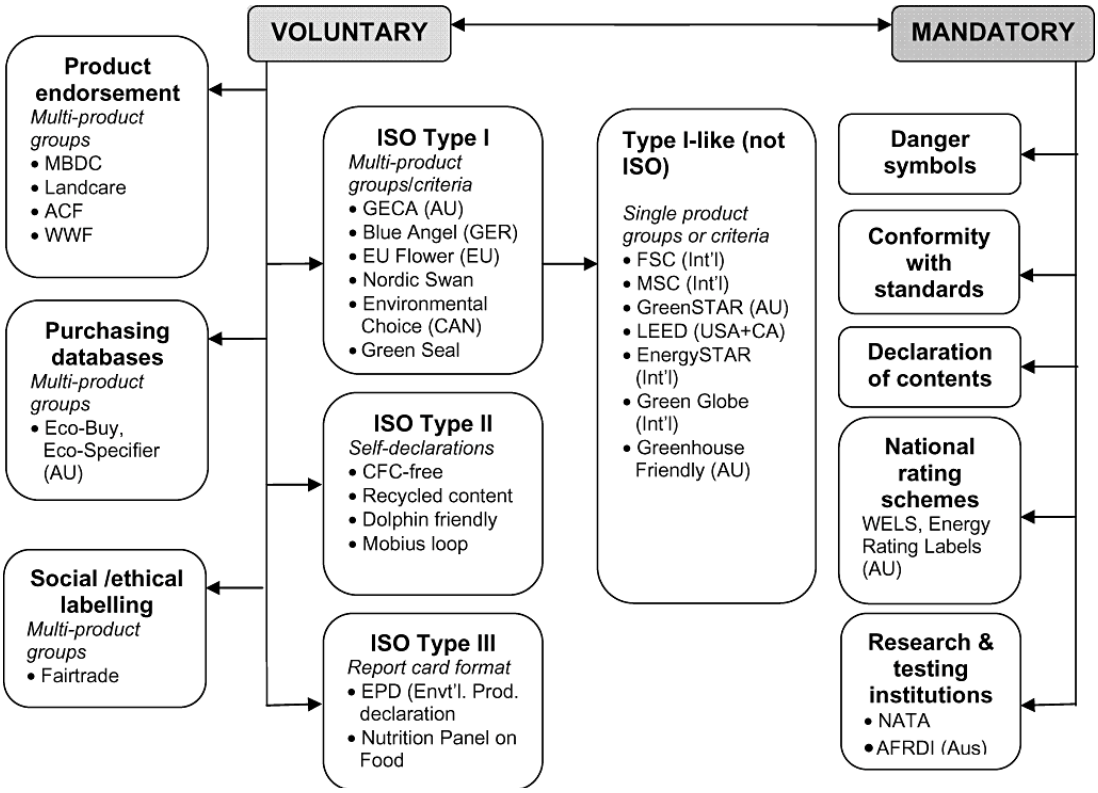

Figure 1. Classification of product environmental labels by type
Source: Horne (2009, 177)

The Global Ecolabelling Network (GEN) members provide trusted third- party certified labels for products or services that are independently identified to meet transparent life-cycle environmental management criteria. (Introduction...). GEN member labels have attained the status of Type I according to ISO 14024. (*ibid.*)

As of March 2021, the global directory of eco-labels, the Ecolabel index listed 456 eco-labels operating in 199 countries and 25 industry sectors (Ecolabel Index…).

Eco-labels have an informative purpose and make it easier for the consumer to identify eco-friendly products. Labels for products may be categorized in a variety of ways, but the most important distinctions are whether the scheme is obligatory or optional, and whether certification is done independently or not. ISO uses three categories for voluntary labelling: Type I, II and III.

1.2.1. Labels in convenience goods

The author chose to focus studying labels, that can be found on convenience goods. Convenience goods are a category of consumer goods which are widely available, bought frequently and with minimum effort. These are goods that consumers use in their everyday life; such as food, newspapers, clothes or personal hygiene products. The author has chosen 5 most commonly used eco-labels in convenience goods category, based on the information from the ministry of the environment.

Established in 1992 the EU eco-label or EU flower has been around for almost 30 years. The label has recognition throughout Europe and around the world, it belongs under type I labels. The EU eco-label is awarded to products which meet high environmental standards throughout their life-cycle: from the extraction of raw materials till the disposal. The label covers a wide range of product group from areas of manufacturing to tourist accommodation services. (EU ecolabel…)

Figure 2. EU Ecolabel or EU Flower
Source: Ecolabel index

Ecocert was the first ever certification body to develop standards for natural and organic cosmetics. Since its establishment in 1991 in France, it has specialized in the certification of organic products and has contributed to the growth of organic farming (Ecocert...)

It lays down the requirements for the preparation of products containing natural ingredients the quality of plant raw materials. The use of animal ingredients and testing are prohibited. (NaturaSiberica…)

Ecocert has requirements for organic ingredients used in cosmetics (NaturaSiberica...):

- Plant seeds are not genetically modified (no use of GMOs)
- Chemical fertilizers are not used
- Pesticides are not used. Pest control is carried out using natural enemies or non-toxic alternatives approved by Ecocert.

Figure 3. Ecocert
Source: Ecolabel Index

Established in 1997, Fairtrade label is a registered certification mark for products procured from manufacturers in developing countries. The label is only used on Fairtrade- certified products and promotional materials (Fairtrade...).

Figure 4. Fairtrade
Source: Ecolabel Index

Fair trade offers farmers and and workers in developing countries a better deal and an opportunity to improve their lives and invest in the future.It gives consumers the opportunity to help reduce poverty and encourage change through everyday shopping. (Ecolabel…). Product categories with this ecolabel apply to: cosmetics/ personal care, food, textiles and others.

Established in 1989 by the Nordic council of ministers as a voluntary eco-labelling scheme for the Nordic countries. The Nordic Swan Ecolabel helps reduce the environmental impact of the production and consumption of goods and makes it easier for consumers to choose the best goods and services for the environment (Nordic- ecolabel…)

The Nordic Swan:

- Sets strict environmental requirements at all relevant stages of the product life-cycle
- Strict requirements are set for chemicals used in eco-labelled products in order to achieve sustainable development
- The requirements for goods and services are constantly tightened
- Certifies and verifies compliance with all requirements before approving the product

Figure 5. Nordic Swan
Source: Ecolabel index

EU organic products label established in 1991. The label shows that the product has been grown in sustainable farming systems. At least 95% of the agricultural ingredients have to be organic in order to get labelled as “organic”. (Ecolabel index...)

Figure 6. EU organic products label
Source: European Comission

The logo is mandatory for most organic products and must be displayed according to specific rules. It aims to avoid confusion for consumers, to help maintain confidence in organic food and to support the authorities in their control regimes. (European Commission...)

The logo must be used for all packaged EU food produced and sold organically in the EU.

1.2.2. Reliability of eco-labels

Since the vast proliferation of ecolabelling it is easy to cause confusion in the consumer mind. Uncertainty about the reliability of a claim can cause confusion within the consumers mind and hamper the effectiveness of ecological claims. (Testa et al. 2015, 253). Such uncertainty should be dispelled by increased trust in the eco-label, which will be achieved through greater consumer knowledge of its accreditation (*ibid*.)

Identifying real certified eco-labels can be rather difficult since the usage of false labelling which are made up for profitable reasons. According to the Greenwashing report by Terrachoice (2010), the eco-label is an important solution to the greenwashing problem but can also be the source (root) of problems. Proper ISO compliant eco-labelling helps prevent greenwashing, but does not rule it out, since the usage of fake labelling has increased dramatically.

Consumers, businesses and non-governmental organizations (NGOs) have different incentives and interests regarding the existence of eco-labels (Yokessa and Marette, 2019, 2). The ownership of eco-labels may also sway the credibility of eco-labels (*ibid*.). Studies have shown that consumers have less confidence in eco-labels than independent third parties due to the interest acquired by companies (Oates et al. 2008, referenced in Taufique et al. 2017, 515). Gertz (2005) found that consumers trust more likely eco-labels from environmental groups, followed by independent and government bodies (*ibid*.)

There are a number of factors that influence the reliability of eco-labels. Consumer knowledge or awareness is the most important base factor in determining whether or not anything is trustworthy. The more knowledge a consumer has the easier it is to make a decision, familiarity draws the consumers in.

1.3. Consumer awareness

Awareness manifests as an element in the human automatic process. Automation can involve in conscious or unconscious course of action. The process consists of environmental properties , an automated process and outcome. (Chartrand, 2005, 108). Figure 7. illustrates the automation process.

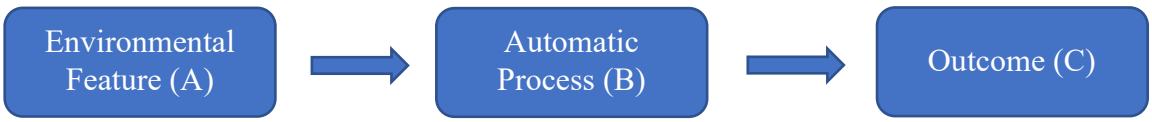

Figure 7. Model of automatic process
Source: Chartrand (2005, 109), modified by the author

Environmental features (A) can include a situation, an event, people and other reasons that could trigger an automatic process. The automated process (B) includes processes such as activation of attitude, automatic evaluation, non- conscious mimicry and stereotyping. Outcome (C) can include items such as behaviours, motivations, judgements, decisions and emotions. (ibid.) For example a new green product is promoted by an influencer on social media. This may trigger the automatic process of rejecting or accepting the product consciously or unconsciously. Which leads to the consumer forming attitudes and which lead to a behavioural changes, whether consumer is interested in the product and might have further purchasing intentions.

According to Chartand (2005, 109), controlling, changing, eliminating and changing human behaviour and decisions is preceded by consumer awareness (whether knowingly or unknowingly). Meaning that effective consumer behaviour can only be achieved through awareness. Knowledge can affect the decisions and actions of consumers.

The theory of Planned Behaviour (TPB) by Ajzen (1991) suggests that consumer awareness and behaviour are linked. Based on TPB individual attitudes and beliefs are shaped by knowledge.

Consumer knowledge is only one part of the purchase decision process. Consumers go through a five-stage decision process in any purchase/ post-purchase. (Panwar et. al 2019, 42). Figure 8. illustrates the consumers purchasing decision process.

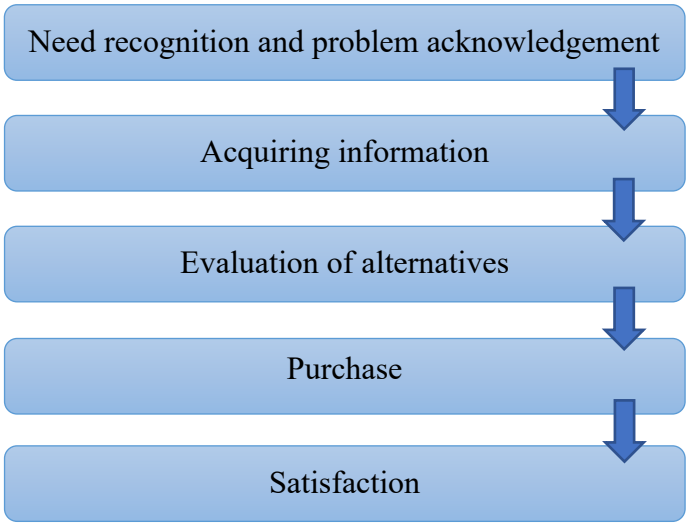

Figure 8. Five Stage Decision Making Model
Source: Panwar et. al 2019, modified by the author

This model proposed by Panwar (2019) forces the marketer to consider the whole buying process and not just the buying decision. The model implies that consumers pass through every stage of the decision making process, when in reality consumers often skip or reverse some stages. For example, a person buying their favourite organic cream would recognize firstly the problem (lack of product) and go directly purchasing, skipping the middle stages.

The identification of a need is the first step in purchasing process. The consumer has defined an issue or need at this stage. The consumer must then determine the need for information (if any) is necessary. If there is a clear need and a product or service that suits it is nearby, a buying decision is likely to be made right away. If not, then begins the method of seeking information. Consumers may obtain information from a variety of sources, including personal, public and experimental sources. The value and effect of these sources of data can differ depending on the product and consumer. According to studies consumers trust and appreciate personal sources rather than commercial (ibid.).

Zhang and Dong (2020) based on their research found that there are many factors influencing consumer green purchase behaviour. The results were divided into three dimensions: Individual factor, product attributes with marketing, social influence. (see Figure 9.)

Figure 9. Classification of determinants of green purchase
Source: Zang and Dong (2020, 12), modified by the author

Individual factors are divided into three aspects: psychological factors, habits and lifestyle and socio-demographics. The psychological factors consist of attitude, environmental consciousness and values. Habits and lifestyle are connected to health. Socio-demographics refer to age, gender, education etc. The second dimension involves around product quality, price, risks, ecolabelling and advertisement. Social influence is split into two sub-divisions: social norms which are measured from peers, organization and cultural value and social capital measures norms from social media.

1.4. Greenwashing

Greenwashing or also known as green sheen has been around for a few decades now. Greenwashing as a phenomenon has been gathering a broader acceptance and recognition since the mid- 1980s (Manvi et al. 2019).

The term originated from „whitewashing“, which meant to hide or camouflage. It was first used in 1986 by an American environmentalist Jay Westerfield, who claimed that hotels were using greenwashing by telling customers to reuse their towels for the sake environment. When in reality the hotel was only trying to make profit off of that action. (Akturan, 2018, 810).

Greenwashing is a term used when companies try to boost their profits and capture a bigger market share by claiming that their products are eco-friendly and sustainable, when in reality it may not be the truth. Scholars (Polonsky et al. 2010, 452) have said that: „Greenwashing corresponds to advertisement or promotion which is cheating on customers about goods'environmental attributes“. Another from (Concise Oxford English Dictionary) defines greenwashing as „ disinformation disseminated by an organization so as to present an environmentally responsible

public image". It can be a serious problem for other organizations that provide genuine environmental friendly products on the market, as they will be competing among greenwasher companies (Shahrin et al. 2017)

The best ways to execute greenwashing is through communication media, mainly using advertisements. Thanks to the rapid evolution of technology it is fairly easy to reach a wide audience, through different social media platforms. Companies can promote their service or product via Instagram/ Facebook or other major platforms in use.

There are different types for environmental advertising claims, Carlson et al 1993 divides them into 5 types:

1) Product-oriented: focuses on the characteristics of a product.
2) Process oriented: focuses which methods are used for core production and disposal of waste.
3) Image orientated: the company is associated with a green cause
4) Environmental fact: describing the environment or its state with an independent statement.
5) Combination of claims above.

For product- oriented advertisements, companies claim that the product itself is biodegradable or can be reused. The second type is related to production techniques or disposal methods that yield the environmental benefits, such as „ the company uses recycled materials for the production". Image oriented advertisements usually claim that their company is associated with a green cause, for instance „ By supporting us you support the bogs". Another type brought out by Carlson is the one where environmental facts are used. Companies can state a simple fact like „ the glaciers are melting 3acres per year" or „ forests are being demolished" to grab the consumers attention. The last type is described as the combination of many claims, this advertisement uses combination of the types 1-5.
Carlson et al 1993 divides greenwashed environmental advertising claims into four categories:

1) vague/ambigious: the claim is too vague; may contain a statement that is too broad for a clear meaning
2) omission: the claim omits important information to evaluate its truthfulness
3) false/outright lie: the claim is inaccurate or fabricated
4) combination: the claim contains more than one deceptive element

In 2010 the TerraChoice Group conducted a study about greenwashing, they created a list of the seven most common greenwashing practices. Table 1. introduces the seven sins of greenwashing by Terrachoice (2010).

Table 1. The seven sins of greenwashing

	The seven sins of greenwashing
Sin of the Hidden Trade-Off	A claim which implies that the product is green and excluding other important environmental issues.
Sin of No Proof	Environmental claims which lack the support of real data or cannot be backed up by third- party certifications.
Sin of Vagueness	Environmental claims that confuse the consumer because they have no specificity or are too broad.
Sin of Worshipping False Labels	Misleading the consumers by creating fake certifications or labels. Creating fake labels in order to make the consumer believe that the product went through legitimate green screening process
Sin of Irrelevance	Emphasizing real environmental issues, which are unrelated to the product marketed and have non-significant for consumers looking for eco-friendly products.
Sin of Lesser of Two Evils	Environmental claims which may be true within a specific product category but are made to mislead the consumer about the real harmful effects of the whole category
Sin of Fibbing	Environmental claims that are impudently false.

Source: Terrachoice (2010), modified by the author

The seven sins of greenwashing make it easier for the consumer to spot deceptive advertisements and notice when these marketing strategies are used. Many companies use one or many of these sins in their advertisements for marketing purposes.

Greenwashing has been around for a few decades now. Companies mostly use this marketing strategy to increase revenues and market share by claiming that their goods are environmentally friendly and safe, although it may not be truthful. Best ways to execute greenwashing is through communication media. Terrachoice (2010) made a list of the seven most common greenwashing practices, which makes it easier for the consumer to spot deception.

Greenwashing is a problem because it undermines the true value of genuine environmental efforts. (Peattie and Crane, 2005). The consequences of greenwashing affects both companies and the consumers. Empirical evidence suggests that perceived greenwashing can lead to negative

attitudes towards advertiser credibility (Newell et al. 1998, referenced in Fernandes et al. 2020, 4), impact negatively consumer loyalty (Gillespie, 2008) and green brand image (Chen et al. 2016). Chen and Chang (2013) suggest that greenwashing could lead to negative perceptions about the risks and confidence of green products. Greenwashing may cause skepticism and distrust towards green products and services which affects consumers environmental attitudes and purchasing intentions (Nyilasy, Gangadharbatla, and Paladino, 2013, 696). Furthermore scholars have found that greenwashing by businesses can result in negative green WOM (word-of-mouth), which influences consumer buying decisions (Zhang et al. 2018) . Walker and Wan (2012) suggest that greenwashing has a negative impact on the company's image and financial results. Greenwashing can impact negatively also the interests of consumers, shareholders, investors, environmental protection agencies and even the whole society (Zhang et al. 2018).

Greenwashing is mainly linked to negative consequences. It affects both consumers and companies. It could lead to negative perceptions which may affect the consumers purchasing behaviours and affect the companies financial results.

2. METHODS

This chapter reviews the research methodology used in the paper to answer the three main research questions. This chapter will include the research objectives, methods, design and data analysis.

2.1. Research method

Two types of methods were used in this study, literature review and quantitative research. The literature review was essential for this study in order to obtain a better understanding of green marketing. Understand how awareness affects consumers purchasing decisions. The importance of eco-labelling and to understand the principle of greenwashing. It also offered an opportunity to look into the connections between the empirical analysis and the theoretical framework.

A questionnaire with 25 semi-structured questions were used as the main data collecting instrument. The questionnaire consisted of a total of 25 questions: 13 multiple-choice questions, 7 likert scale questions and 5 (7) open-ended questions.
The survey questions were taken from the key research questions in order to ensure that responses were applicable to the sample. The survey's main goals were to collect data and learn more about consumer's understanding of eco-labels and greenwashing.

2.2. Research design

The questionnaire consists of 25 questions including multiple-choice questions with single and multiple responses, likert-scale questions and open-ended questions (see Appendix 1.). The questionnaire's questions were divided into four main categories in order to provide a comprehensive picture of consumers awareness of eco-labels and greenwashing.

The first section of the survey asks about the respondent's environmental knowledge. Questions one and two were designed to determine whether or not the respondent considers themselves to be

environmentally conscious, as well as how important environmental friendliness is to them. The aim of questions three and four was to learn about the consumers preferences and to what extent does marketing influence their purchase decisions. The response to the fourth question led to the following supplementary question of determining why consumers prefer/ don't prefer green products over non-green products.

The second section of the questionnaire focuses on eco-labelling. Questions five to ten were derived from the first main research question. Question five was a multiple-choice question with a single response, which was to determine the consumers knowledge on eco-labelling. The response led to an open-ended supplementary question, whether the consumer can define an eco-label or what is the reason if not. Questions six to ten were likert-scale questions, which were used to determine consumer's awareness of specific eco-labels as well as their reliability. Question 11 focused on finding out whether the consumers think it is necessary to for marketers to provide more information on eco-labelling. The third key research question motivated the following questions 12 and 13. Question 12 was an open-ended question, in which the consumer was asked what factors influence the trustworthiness of an eco-label. The following question 13 was a multiple-choice with multiple response options, to identify the factors which affect reliability based on the literature.

The third section of the questionnaire focused on greenwashing. In this part the term is introduced to the respondents. Question 14 looked into how consumers made purchases after learning that a business had used unethical practices. The next issue is related to the first key research question and seeks to determine if consumers are aware of greenwashing. Question 16 seeks to determine whether or not consumers have been subjected to greenwashing. The following question asks about the feelings towards greenwashing. Question 18 was a multiple-choice question with multiple responses, to determine which variables are negatively impacted by greenwashing. The following question wanted to find out if consumers would still use a company's products if they were engaged with greenwashing. The section's final question was related to the second main research question and it wanted to find out to what extent does greenwashing affect the reliability of eco-labels.

The fourth part of the questionnaire was about socio-demographics. To find out the gender of respondents, age and their level of education.

2.3. Data collection and analysis

The questionnaire was mainly shared via social media. The main sharing platforms were Facebook and LinkedIn. Other methods such as direct e-mails and messages were used as well.
The survey did not target any specific group, hence the target group were all consumers. The main idea of this study was to find out if consumers are aware of eco-labelling schemes and greenwashing and the reliability of labels. The questionnaire was open from 30.03-06.04 and had a total of 120 respondents.

The open-questions of the study were analyzed using an inductive method. The inductive approach describes how material data are used to draw generalizations and conclusions. Since the responses to the questionnaire are made up of respondents' feelings and thoughts, the inductive approach works well in this case. The answers were compared to each other in the data analysation, allowing for the discovery of relations between them. It was possible to construct a generalized result based on the consistent facts contained in theses responses. The author used regression analysis for determining how strongly are linked consumers awareness and reliability. Regression analysis is a great statistical method to estimate the relationship between a dependent variable and one or more independent variables.

3. EMPIRICAL PART

3.1 Results

In total there were 120 people who participated in the research. For a better understanding of the participants the author will firstly examine the socio-demographical factors. Respondents were almost evenly split by gender. The majority were aged from 18 to 35, which indicates to the author's own age group and connections.The third demographic factor measured in the questionnaire was the level of education, which indicated that the majority of the respondents were highly educated people. Table 2. shows the socio-demographical factors of the respondents and gives a comprehensive and clear picture of the participants and the distribution of demographic information.

Table 2. Socio-demographic factors

Socio-demographic factors		
Gender	Respondents	Percentages
Female	58	48.3%
Male	51	42.5%
Prefer not to say	11	9.2%
Total respondents	120	
Age		
18-25	52	43.3%
26-35	49	40.8%
36-45	14	11.7%
46-55	4	3.3%
56 or older	1	0.8%
Level of education		
Less than highschool	-	
High school	16	13.3%
College or equivalent	19	15.8%
Bachelor's degree	58	48.3%
Master's degree	26	21.7%
Doctoral degree	1	0.8%

Source: Composed by the author

The first section of the questionnaire focuses on the respondents environmental knowledge and awareness. Questions one and two were designed to determine whether or not the respondent considers themselves to be environmentally conscious, as well as how important environmental friendliness is to them. Figure 9. Shows the results of the first question of the questionnaire. It states that 46.7% (56) of the respondents consider themselves to be more or less aware and 41.7% (50) are fully aware of environmental issues, where as 11.7% (14) people do not consider to be environmentally aware.

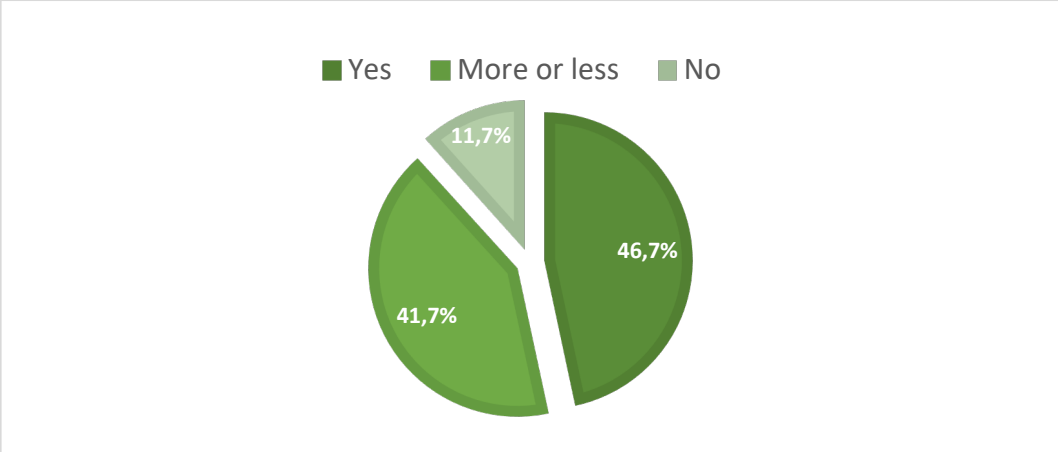

Figure 9. Environmental awareness of respondents n=120
Source: Composed by the author

The following question asked the respondents to rate their importance of environmental friendliness from one to five, with five being the highest. Figure 10. Shows that the majority of respondents rank the importance rather high. Out 120 respondents 45 (37.5%) chose four, 31 (25.8%) people chose three which is right in the middle and 28 (23.3%) people state that environmental friendliness is very important to them. To some of the participants environmental friendliness is not crucial, 11 (9.2%) chose two and 5 (4.2%) people chose one on the scale.

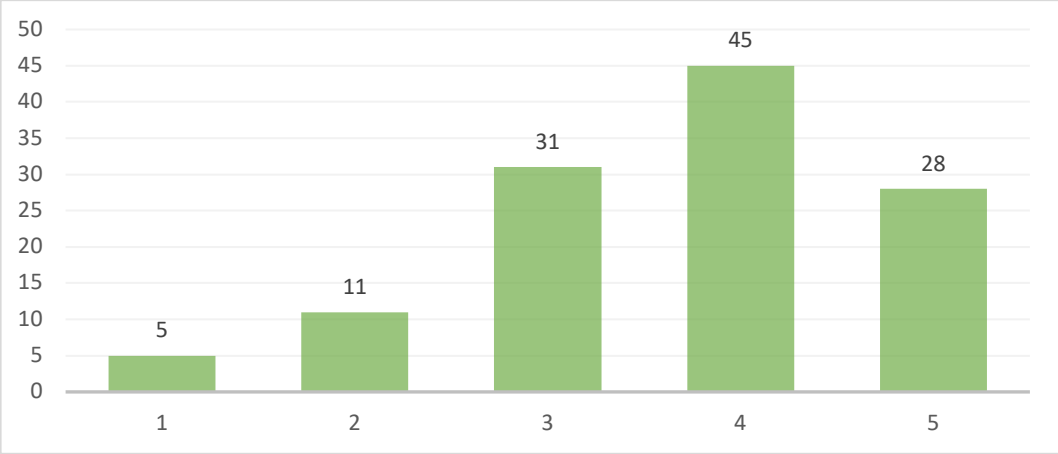

Figure 10. Importance of environmental friendliness n=120
Source: Composed by the author

The aim of questions three and four was to learn more about the preferences of consumers and how marketing influences their purchasing decisions. The answer to the fourth question led to a follow- up question about why consumers prefer or don't prefer green products over non-green products.

Figure 11. illustrates the data about to what extent marketing affects purchasing decisions. Out of the 120 respondents 33 (27.5%) chose three, 29 (24.2%) chose four and 22 (18.3%) people chose five. The data suggest that marketing affects more people when making their purchasing decisions. 21(17.5%) chose two and 15(12.5%) chose one, which would imply that advertisements, packaging and eco-labels do not play a significant role for these respondents.

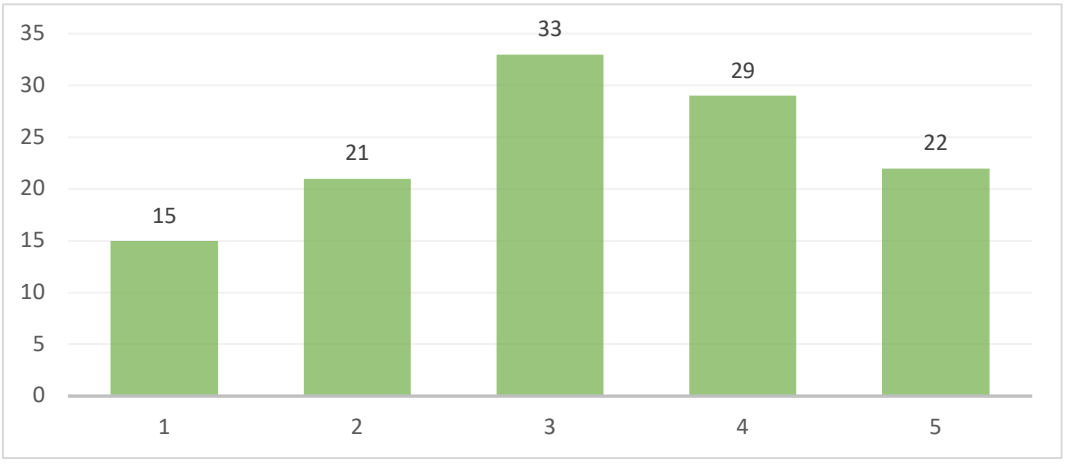

Figure 11. How marketing affect purchasing decisions n=120
Source: Composed by the author

Further, the author looked into the preferences of consumers, specifically whether they prefer green products to non-green alternatives, and then followed up with an open question based on the response. Out of the 120 respondents 55 (45.8%) chose that they sometimes prefer green products over non-green alternatives and 33 (27.5%) prefers green products over the alternatives. 32 (26.7%) respondents prefers non-green alternatives. The follow up questions were raised in order to learn more about the explanations for these responses. The author analysed 82 responses on why consumers prefer green products over non-green alternatives and 32 responses for why consumers prefer the alternatives opposed to green products.

The author found similarities in the respondent's answers and derived different factors that affect the preference of green products over non-green alternatives. The main reasons for buying green products is environmental friendliness and health reasons. Consumers believe that this behaviour can combat climate change and reduce carbon footprint. Many consumers assume that green products perceived with higher quality. Respondents believe that green products may contain less added chemicals. Some respondents feel that by consuming green products over non-green alternatives can support smaller businesses.

There were similarities between the 32 responses for why people prefer non-green alternatives opposed to green products. The author found that the main two reasons for buying non-green alternatives is linked to the fact that they have a wider product range and the larger availability of products. Price is also an important factor when making purchasing decisions, respondents feel that non-green alternatives are less costly than green products. Many stated that personal reasons affect their choice and also the awareness of products.

The second part of the questionnaire focused on finding out consumers awareness on eco-labelling and which factors affect the reliability. Question five was a single-answer multiple-choice question aimed at determining the consumer's awareness of eco-labelling. The response prompted an open-ended follow-up question about whether consumers would identify an eco-label and, if not, then why. The responses suggest that consumers are more or less aware of eco-labelling. Figure 12. Shows that 54 (45%) respondents are more or less aware of the main idea behind labelling, 40 (33.3%) are not aware of eco-label usage and 26 (21.7%) are confident they know the main idea of eco-labelling. For the follow up question the author asked respondents to define what is an eco-label or what is the reason they don't know the main idea. The author analysed 72 responses of

different definitions for eco-labels and 38 responses why people cannot define main reason of eco-labelling.

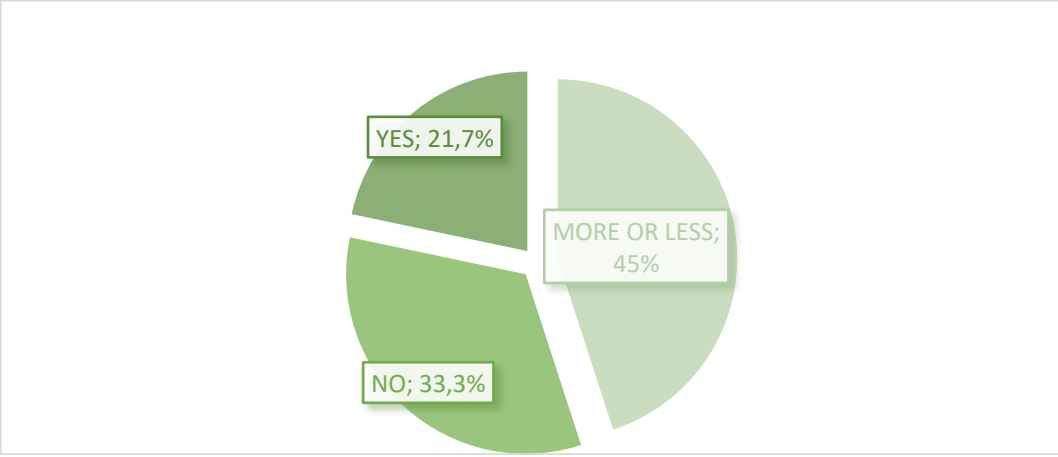

Figure 12. Awareness of eco-labelling n=120
Source: Composed by the author

The author was able to find parallels and common concepts after analysing the various meanings given for eco-labels. The majority of respondents believe that eco-labels are specifically related to environmental friendliness, as shown by the vast amount of responses.
Eco-labelling was also linked to less harmful production (less chemicals, toxins) and sustainability. Many respondents saw eco-labels as informative labels, which give information about products characteristics. It was also indicated by some of the respondents that it states whether a product complies with the environmental standards set by the EU. Some defined it as a labelling-system which shows higher quality of products.
The explanations why respondents could not describe an eco-label shared several similarities.
The main reason was the lack of knowledge and awareness of labels. Some of the respondents expressed their disinterest in the topic. A few of the respondents had never heard of the term "eco-label" before.

Questions six to ten were likert scale questions, which were used to determine consumer's awareness of specific eco-labels as well as their reliability.
These eco-labels were chosen based on their widespread use and information obtained from the Ministry of the Environments website.
The respondents were presented with three claims:

1) I am aware of the use of this eco-label
2) I am aware of the meaning of this eco-label
3) It is reliable in my opinion

The rating scale was from 1 to 5 (1- do not agree; 5- totally agree).

The first label investigated was the EU eco-label. The majority of the respondents with 38% chose that they are aware with the use of this label, 28% with choosing the middle option 3, were more or less aware of the meaning and 28% chose that they totally agree that the label is reliable (see Appendix 3). Figure 13. illustrates the consumers knowledge and feelings towards the EU ecolabel.

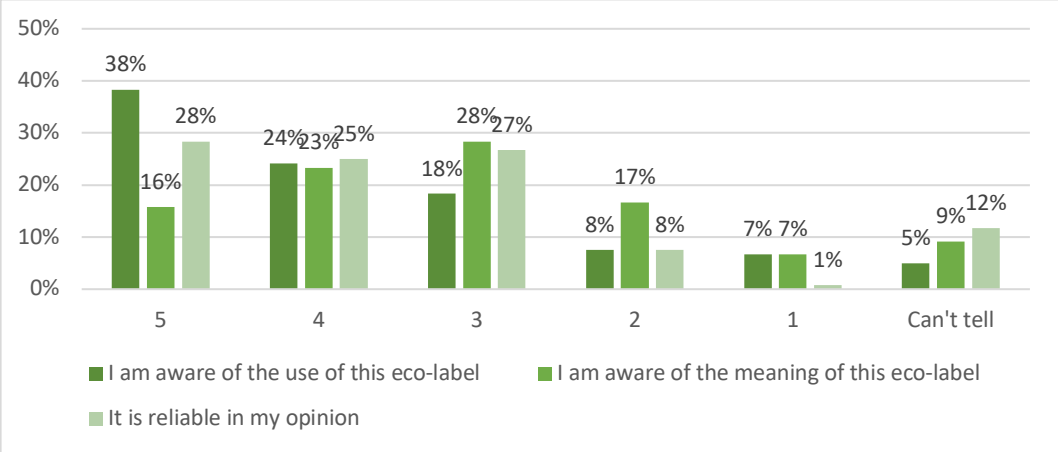

Figure 13. Awareness and reliability of the EU ecolabel n=120
Source: Composed by the author

The second label was ECOCERT, the answers were skewed to the lower side of awareness, knowledge and reliability. The most chosen rating for each claim was 3, 29% for each claim about the label. This label had the highest numbers in the option "Can't tell", 13% of the respondents couldn't tell if they were aware of this label, 18% for the meaning of the label and 20% for the reliability (see Appendix 4). Figure 14. illustrates what consumers think and feel towards Ecocert ecolabel.

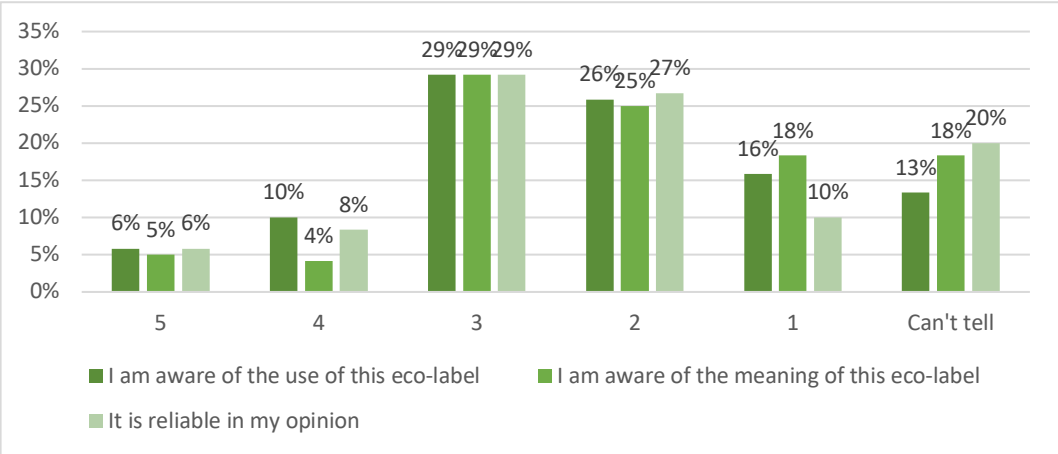

Figure 14. Awareness and reliability of ECOCERT ecolabel n=120
Source: Composed by the author

Third label was Fairtrade. The most common assessment for each claim was 4, 42% of the respondents are aware of this label, 30% for the meaning and 37% believe it to be reliable. This label had the lowest ratings for the option "Can't tell", 2% for the awareness of usage, 3% for the meaning and 6% for the reliability (see Appendix 5). Figure 15. illustrates the consumers knowledge towards Fairtrade label.

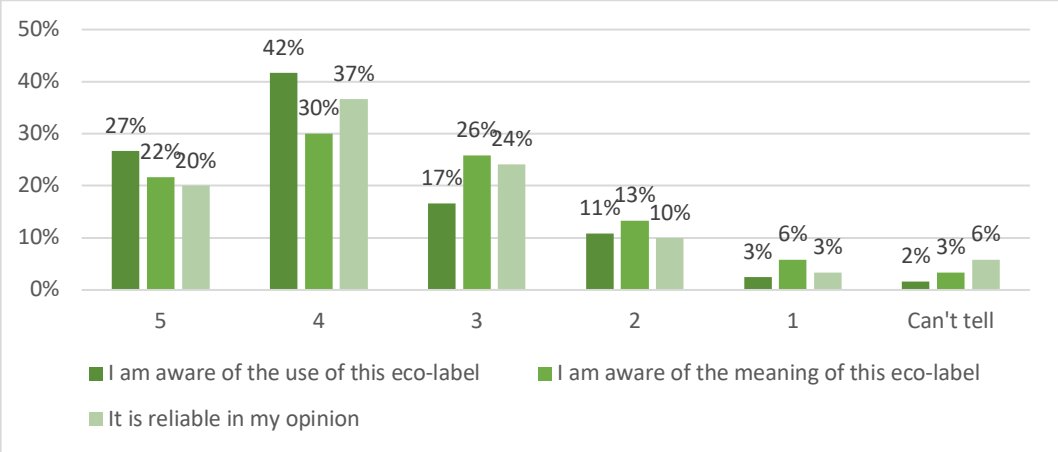

Figure 15. Awareness and reliability of Fairtrade ecolabel n=120
Source: Composed by the author

Fourth label was Nordic Swan. 39% of the respondents were fully aware of the usage of this label, 26% chose 4 to evaluate their knowledge of the meaning and 4 was also the most popular rating for the reliability with 28%. This label had also higher numbers for the "Can't tell" option, which could imply that consumers have not been exposed to that label (see Appendix 6). Figure 16. illustrates the consumers responses for the awareness and reliability towards Nordic-Swan ecolabel.

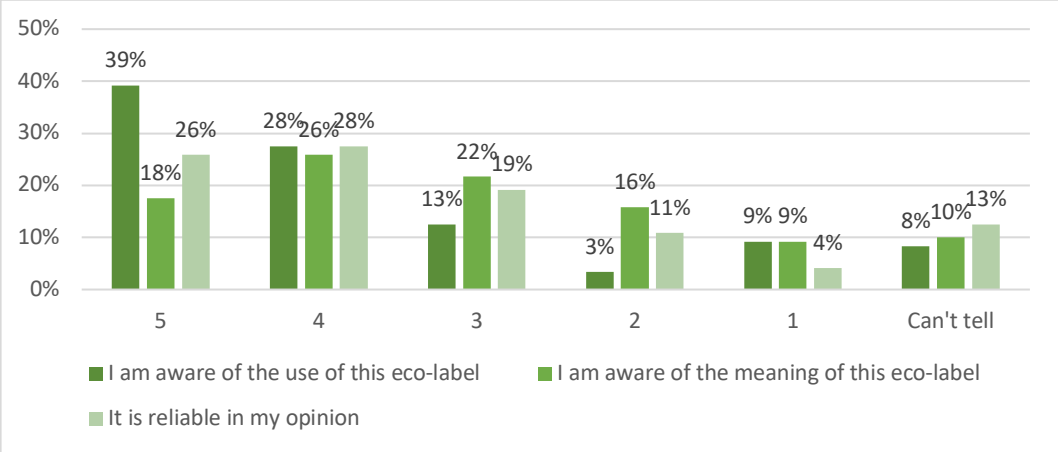

Figure 16. Awareness and reliability of the Nordic Swan ecolabel n=120
Source: Composed by the author

Lastly the EU organic products label was questioned. The numbers were skewed to the higher side awareness, knowledge and reliability. 38% of the respondents were fully aware of the usage of the label, the majority 28% chose the middle option to assess their knowledge of the label and 28% felt that is totally reliable (see Appendix 7). Figure 17. illustrates the answers of consumers choices towards EU organic products label.

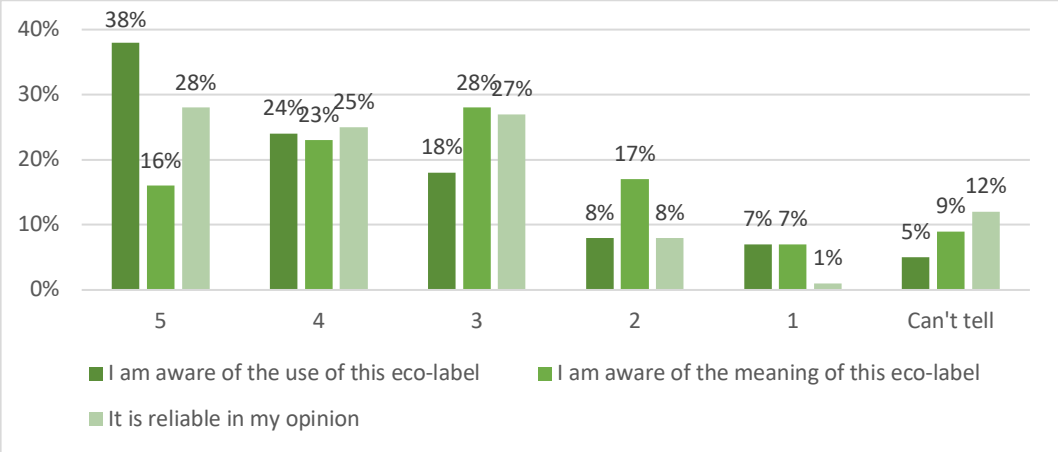

Figure 17. Awareness and reliability of the EU organic products label n=120
Source: Composed by the author

Question 11 focused on finding out whether the consumers think it is necessary to for marketers to provide more information on eco-labelling. The majority of the participants 86 (71.7%) responded with a yes, 28 (23.3%) responded with a maybe and six people (5%) thought that it is not necessary for marketers to provide more information on eco-labelling. The following questions 12 and 13 were inspired by the third main research question. Question 12 was an open-ended question that asked the consumer what factors affect the reliability of eco-labels and the following question, based on the literature, was a multiple-choice with multiple answers to classify the factors that influence eco-labels reliability. The author analysed 110 responses on what makes an eco-label reliable. Two main factors which arose in the analysis were the knowledge of labels and ownership of labels. Respondents felt that if they have more knowledge and are aware of a label that makes it more reliable in their eyes. Other factors included transparency of the label, which is linked to the ownership, whether there is a conflict of interest. Some respondents felt that marketing affects the reliability, whether there is a story behind the label, how it is designed (logo) and even the fact if the logo is on a known brand. Which leads to the next similarity which was popularity, respondents trust popular brands and other people's opinions, WOM can play a significant role in the reliability of a label. Some respondents brought up price and perceived quality.

Respondents thought knowledge of labels affects the most eco-label reliability, which can be seen in Figure 15. Out of 120 people 96 (80%) chose it as the main factor, 84 (70%) people chose greenwashing as factor that affects reliability, 68 (56.7%) respondents chose the ownership of eco-labels and the least was chosen uncertainty of a claim by 36 (30%).

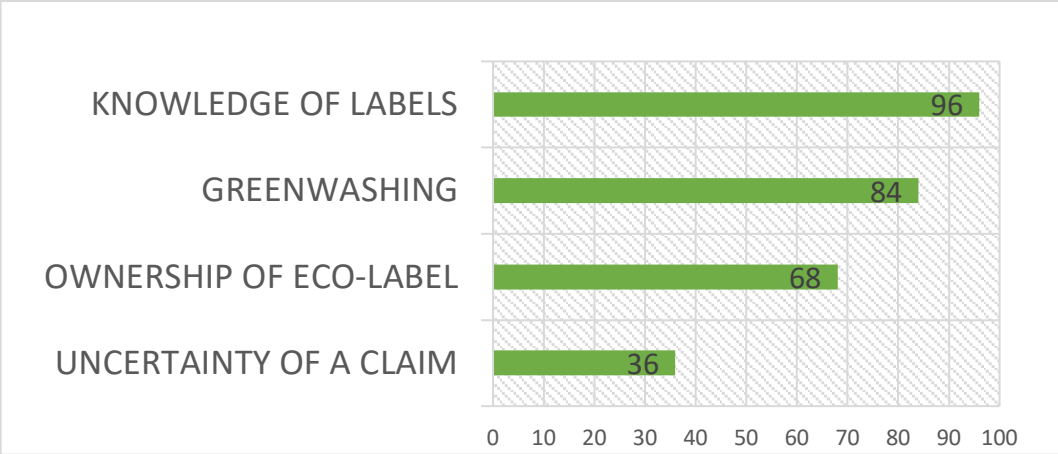

Figure 18. Factors affecting reliability of eco-labels n=120
Source: Composed by the author

The third section of the questionnaire focused on greenwashing. In this part the term is introduced to the respondents. Question 14 investigated how consumers made purchases after finding out that a company had engaged in unethical behaviour. The study indicates that 77 (64%) people stopped purchasing products after finding out the business had used unethical procedures and 43 (36%) people continued to support the company. The next issue is related to the first key research question and seeks to determine if consumers are aware of greenwashing. Out of 120 people 70 (58.3%) answered that they more or less knew the definition before the questionnaire, 27 (22.5%) respondents were familiar with the term and 23 (19.2%) were not aware of the term. Question 16 asks whether consumers have been exposed to greenwashing. 69 (57.5%) respondents have found out after purchasing a product that it was not environmentally friendly, 14 (11.7%) were not sure, they answered with maybe and 37 (30.8%) people have never had such a situation on their hands.

The author then asked about what feelings does greenwashing evoke in respondents, this was an open-ended question. The author analysed 108 responses and draw similarities between them. According to the findings, greenwashing elicits mostly negative reactions from respondents. It generates distrust of marketers and their goods, as well as skepticism towards the intentions. The majority of respondents expressed feelings of anger and deception. A few of the respondents expressed that they have feel neutral towards greenwashing, since it does not affect them.

Question 18 was a multiple-choice question with multiple responses, to determine which variables are negatively impacted by greenwashing. Figure 16. Illustrates which factors does the knowledge of greenwashing affect negatively. Out of 120 people 87 (72.5%) chose that greenwashing affects negatively green brand image, 81(67.5%) felt that it affects confidence in green products. 75 (62.5%) respondents felt that it harms consumer loyalty, where as 72 people (60%) feel that it harms negatively the attitude towards advertises credibility. Out of 120 another 62 (51%) felt that greenwashing has a negative effect on purchasing decisions and only 26(21%) felt that it has a negative effect on environmental attitudes.

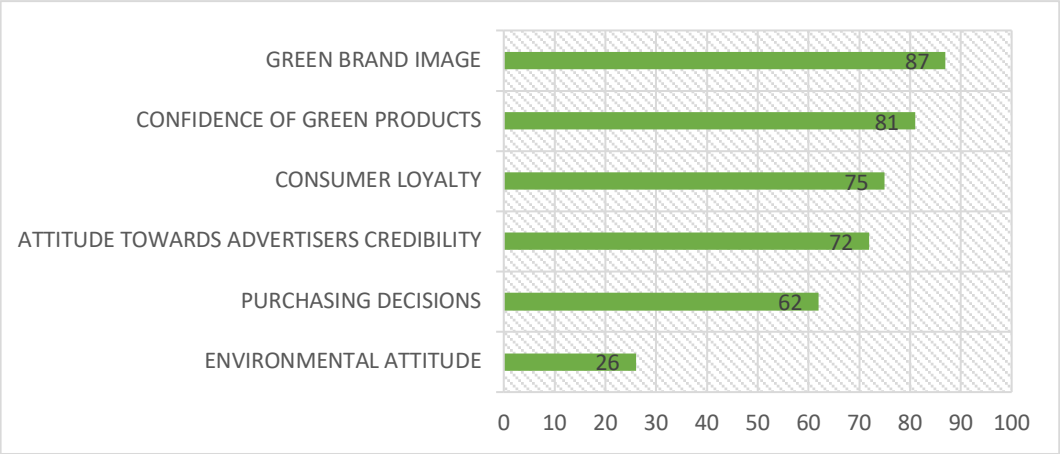

Figure 19. Knowledge of greenwashing affects negatively following factors n=120
Source: Composed by the author

The following question wanted to find out if consumers would still use a company's products if they were engaged with greenwashing. The study revealed that 47 (39.2%) would not use a companies' products if they were engaged with greenwashing, 45 (37.5%) would maybe continue to use products that are associated with greenwashing and 28 (23.3%) would continue to use a companies' products. The section's final question was related to the second main research question and it aimed to find out to what extent does greenwashing affect the reliability of eco-labels. 69 (57.5%) respondents feel that greenwashing affects the reliability of eco-labels, 42 (35%) feel that maybe greenwashing affects the reliability and 9 (7.5%) feel that there is no link between them.

3.2. Discussion

The main focus of the survey was to find out the consumer's awareness of eco-labelling and greenwashing. What factors influence the trustworthiness of eco-labels.

The study showed that most of the respondents considered themselves to be environmentally aware and care for environmental friendliness. This might be directly linked to the sample who were young and educated people, most of the respondents were aged between 18 to 35 and had a degree.

Many of the respondents preferred green products over non-green alternatives and almost half prefer them sometimes. The main factors that affect the consumer's buying preferences were environmental friendliness, health reasons, reducing climate change and quality. For the preference of non-green alternative products, respondents brought out the availability and wider product range as well as price being a key factor. These results are comparable with the literature review done before. Zang and Dong (2020) brought out different factors why consumers prefer green products, which can be seen in Figure 8.

The study reveals that almost half of the respondents consider themselves to be more or less aware about eco-labelling. But only 21.5% are certain they know the meaning and 33.1% do not know the idea behind eco-labelling. These results are a direct answer to the first research question which intended to find out to what extent are consumers aware of eco-labels. The key factors that consumers brought out about eco-labelling, shows that they know the basic information behind labelling. But the respondents who were not able to define an eco-label, hinted that they either do not care for the topic or do not have enough knowledge on it. The vast majority of respondents felt that it is necessary for marketers to provide more information on this topic. The analysation of eco-labels from the study suggested that the consumers are more or less aware of the given labels.

The author conducted a regression analysis based on questions six to ten, which investigated the consumers awareness and reliability of eco-labels. Reliability was chosen as a dependent variable for all eco-labels and awareness of the meaning and use of the eco-label as independent variables. A separate model was developed for each eco-label examined to perform the analysis. Model 1 describes how awareness of the EU Ecolabel affects its credibility. Model 2 examines the same relationship for Ecocert, Model 3 for the Fairtrade label, Model 4 for the Nordic-Swan Eco-label and the fifth model for the EU organic products label. (See appendix 8.) Table 3. shows the more significant figures which came up from the regression analysis.

Table 3. Regression analysis results

	Model 1	Model 2	Model 3	Model 4	Model 5
R square	0.899	0.859	0.953	0.922	0.804
Significance F	0.036	0.052	0.010	0.021	0.086
Multiple R	0.943	0.926	0.976	0.96	0.896

Source: Made by the author, based on the data provided in Appendix 8.

To determine the models' statistical reliability (Significance F) the coefficient needs to be smaller than 0.05. In this case almost all of the models are highly reliable, except for EU organic products label with a higher coefficient 0.867. In all models there is a positive relationship between awareness and reliability. There is a strong link between awareness and reliability of all of the labels. Fairtrade and Nordic-Swan eco-label have the highest multiple correlation coefficients (Multiple R) between awareness and reliability, 0,976 and 0,943. The closer the coefficient of determination (R square) is to zero, the smaller the effect of the independent variables have on reliability. The closer the Significance F is to zero, the more reliable is the R square. According to the regression table, the probability of significance of all models is 0, making them reliable. The impact of awareness of the use of the label and its significance for credibility is highest for Fairtrade 95,3% and for Nordic-Swan 92,2%. Based on the analysis the author can conclude that there is a high correlation between awareness and reliability. This corresponds to the theory that awareness affects the reliability.

The study suggested that knowledge of labels affects the most the reliability, which corresponds to the theory stated by Testa (2015) that the increased trust in the label will be achieved through greater consumer knowledge. Greenwashing, according to Terrachoice (2010), may be a challenge for eco-label authenticity because of the widespread use of false labels. Another factor may be the ownership of labels, which can sway the legitimacy of labels (Yokessa and Marette, 2019, 2; Oates et al. 2008, referenced in Taufique et al. 2017, 515). The results of the study correspond to the theory review, 70.2% of the respondents of the study agree that greenwashing affects the reliability and 57% feel that the ownership affects reliability. Other factors mentioned in the study were transparency of the label, marketing (WOM) and popularity. Consumers have a higher level of trust in labels that are transparent and free of ownership disputes. When it comes to determining a label's reliability, marketing plays a significant role; consumers often base their buying decisions on the perceptions and feedback of other consumers.

The knowledge of greenwashing also made 57% of the respondents doubt and 35.5% more skeptical about the reliability of eco-labels. This section gives an answer to the second and third research question.

The study showed that more than half (58.7%) were more or less aware of the term greenwashing beforehand and 22.3% knew it certainly. The high awareness can be explained with the sample, which consisted of mainly highly educated young adults.

As the theory stated that greenwashing can have negative implications on the consumers perception and buying behaviour. The study revealed that most (63.6%) of the respondents would stop purchasing products if a company was tied with unethical procedures. Most of the respondents said that greenwashing arose negative feelings in them, including anger, distrust, skepiticism and deception. 38.8% of the respondents would stop purchasing products if the company was linked with greenwashing and 38% are not sure. Empirical evidence suggest that it leads to negative attitudes towards advertisers' credibility (Newell et al. 1998, referenced in Fernandes et al. 2020, 4), impact negatively consumer loyalty (Gillespie, 2008) and green brand image (Chen et al. 2016). Chen and Chang (2013) suggest that greenwashing could lead to negative perceptions about the risks and confidence of green products. The questionnaire revealed that 88% of respondents feel that greenwashing affects negatively the green brand image. 82% feel that it affects the confidence of green products and 76% for consumer loyalty.

CONCLUSION

The aim of this bachelor's thesis was to examine the Estonian consumer awareness on eco-labels and greenwashing, furthermore the author wanted to find out if awareness of greenwashing affects the reliability of eco-labels and whether there are any other factors that have a role.

One of the limitations of this study was the fact that there was no specific target group. The sample consisted mainly of the author's own acquaintance circle, where the majority fell between the ages 18 and 35. A larger variance in the socio-demographic factors would give an even better understanding about the consumers awareness and knowledge on eco-labelling and greenwashing.

To obtain the results, a quantitative study was conducted, for which data were collected using an online questionnaire. The questionnaire was open from 31.03.21-06.04.21 and a total of 120 people responded to the questionnaire, all of whom were included in the sample.

The study concludes that most of the respondents consider themselves to be environmentally aware and respondents rather care for environmental friendliness. Almost half 46.3% of the respondents occasionally prefer green products over non-green alternatives and 27.3% choose them always. The consumers buying preference is affected by different factors such as environmental friendliness, health reasons, quality and environmental awareness. Non-green alternatives are preferred because of the wider product range, availability as well as price.

The study reveals that 45.5% of the consumers consider to be more or less aware behind the meaning of eco-labelling, 21.5% are confident they know the meaning and 33.1% do not have sufficient knowledge, this answers the first research question which measures to what extent are consumers aware of eco-labels. The main reasons for not being able to define eco-labelling was the lack of information and lack of interest in the topic. The most known label was the EU organic products label. The impact of awareness of the use of the label and its significance for credibility is highest for Fairtrade 95,3% and for Nordic-Swan 92,2%. The study suggests that consumer awareness and reliability are correlated, higher awareness can be linked with higher reliability.

71.9% of the respondents feel that it is necessary for marketers to provide more information on eco-labelling.

The awareness of greenwashing is rather high, 58.7% knew more of less of the term and 22.3% were sure only 19% had not heard from it, this answers the first research question which was focused on finding out to what extent are consumers aware of greenwashing. More than half (63.6%) respondents have stopped using a companies' products after finding out they were using unethical practices. Only 23.1% would continue to use a firm's products which were linked to greenwashing. The study revealed that greenwashing mainly arose negative feelings in respondents such as distrust, skepticism, sadness and feeling of deception. Greenwashing affects mostly green brand image, the confidence of green products and consumer loyalty.

The second research question focused on finding out whether greenwashing affects the reliability of eco-labels and the study revealed that 70% of the respondents feel that greenwashing affects negatively the reliability of eco-labels. Respondents feel that the most affects knowledge of labels.

The third research question was focused on finding out which factors affect the reliability of eco-labels beside greenwashing and the study revealed that those factors are as follows: knowledge of the labels, ownership of eco-label, uncertainty of a claim, greenwashing, logo, transparency, popularity, marketing (WOM).

The author has made recommendations for marketers based on the study's findings in order to raise awareness about eco-labelling. This study may be useful to other researchers as a starting point for more in-depth studies.

Proposals:

- Marketers could pay more attention to the promotion of eco-labels in advertisements to raise awareness on this topic;
- Eco- labels could be more prominent on product packaging for the consumer to notice them;
- In order to improve the accessibility of green products it would be advised to sell more widely in other stores in addition to organic markets;
- Marketers should avoid greenwashing since it affects negatively the whole green brand image and causes advertisers to lose credibility;

- Additional research could be carried out with a specific target group to get more in depth results;
- Additional research could be done with a narrower focus;

To conclude the study the author can say that the majority of respondents were rather environmentally aware and cared for environmental friendliness. The respondents were quite aware of the main idea behind eco-labelling and were familiar with the phenomenon of greenwashing. The study concludes that greenwashing has negative implications to the consumers perceptions and buying behaviour as indicated in the theoretical part as well. Greenwashing and other factors such as knowledge of the labels, ownership, transparency and marketing can affect the reliability of eco-labels. The goals set for this bachelor's thesis were achieved and all the questions were answered.

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APPENDICES

Appendix 1. Questionnaire

Consumer awareness of greenwashing and the reliability of eco-labels

My name is Sandra Aasmäe and I am a marketing student of the International business administration programme.

You are invited to contribute to a study that explores consumers awareness of greenwashing and eco-labels reliability. Your participation in this research is completely voluntary and responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total.
It takes approximately 10-15 minutes to complete the questionnaire.

Thank you for your contribution!

* Required

Would you consider yourself environmentally aware? *

- ◯ Yes
- ◯ No
- ◯ More or less

How important is environmental friendliness to you? *

	1	2	3	4	5	
Not important	○	○	○	○	○	Highly important

To what extent does marketing affect your purchasing decision towards green products? (advertisements, eco-labels, packaging) *

	1	2	3	4	5	
Not at all	○	○	○	○	○	Extremely

Do you prefer green products over non-green alternatives? *

- ○ Yes
- ○ No
- ○ Sometimes

Next

Consumer awareness of greenwashing and the reliability of eco-labels

Why do you prefer green products over non-green products?

Your answer

Back Next

Why do you prefer non-green alternatives over green products?

Your answer

Back Next

Eco-Labelling

Do you know the main idea behind eco-labelling? *

- ◯ Yes
- ◯ No
- ◯ More or less

Back Next

Can you shortly define what is an eco-label?

Your answer

Back Next

Why not?

Your answer

Back Next

Consumer awareness and reliability of labels

Evaluate your agreement with the following claims about EU eco-label (5- totally agree; 1- don't agree) *

	5	4	3	2	1	Can't tell
I am aware of the use of this eco-label	○	○	○	○	○	○
I am aware of the meaning of this eco-label	○	○	○	○	○	○
It is reliable in my opinion	○	○	○	○	○	○

Evaluate your agreement with the following claims about EU eco-label (5- totally agree; 1- don't agree) *

	5	4	3	2	1	Can't tell
I am aware of the use of this eco-label	○	○	○	○	○	○
I am aware of the meaning of this eco-label	○	○	○	○	○	○
It is reliable in my opinion	○	○	○	○	○	○

Evaluate your agreement with the following claims about EU eco-label (5- totally agree; 1- don't agree) *

	5	4	3	2	1	Can't tell
I am aware of the use of this eco-label	○	○	○	○	○	○
I am aware of the meaning of this eco-label	○	○	○	○	○	○
It is reliable in my opinion	○	○	○	○	○	○

Evaluate your agreement with the following claims about EU eco-label (5- totally agree; 1- don't agree) *

	5	4	3	2	1	Can't tell
I am aware of the use of this eco-label	○	○	○	○	○	○
I am aware of the meaning of this eco-label	○	○	○	○	○	○
It is reliable in my opinion	○	○	○	○	○	○

Evaluate your agreement with the following claims about EU eco-label (5- totally agree; 1- don't agree) *

	5	4	3	2	1	Can't tell
I am aware of the use of this eco-label	○	○	○	○	○	○
I am aware of the meaning of this eco-label	○	○	○	○	○	○
It is reliable in my opinion	○	○	○	○	○	○

Do you consider it necessary for marketers to provide more information on eco-labelling? *

- ◯ Yes
- ◯ No
- ◯ Maybe

What makes an eco-label reliable?

Your answer

What factors affect the reliability of eco-labels? *

- ☐ Uncertainty of a claim
- ☐ Knowledge of labels
- ☐ Greenwashing
- ☐ Ownership of eco-label
- ☐ Other:

Back Next

Greenwashing

... is the practice of using deceptive marketing techniques to persuade consumers that a company's products and vision are environmentally-friendly. Greenwashing can be done using deceptive claims about products characteristics or even creating fake eco-labels.

Have you ever stopped purchasing products after discovering unethical procedures by a company? *

- ◯ Yes
- ◯ No
- ◯ Other: _____

Did you know what is meant by "greenwashing", before this survey? *

- ◯ Yes
- ◯ More or less
- ◯ No

Have you ever found out after purchasing a product that it was not environmentally friendly? *

- ◯ Yes
- ◯ No
- ◯ Maybe

What feelings does greenwashing evoke in you?

Your answer

Does the knowledge of greenwashing affect negatively the following ? *

- ☐ Consumer loyalty
- ☐ Green brand image
- ☐ Attitude towards advertisers credibility
- ☐ Confidence of green products
- ☐ Purchasing decisions
- ☐ Environmental attitude
- ☐ Other: _____

Would you still use a company's products if they were engaged with greenwashing? *

- ◯ Yes
- ◯ No
- ◯ Maybe

Does the knowledge of greenwashing make you doubt about eco-labels authenticity? *

- ◯ Yes
- ◯ No
- ◯ Maybe

Back Next

Socio-demographics

Gender? *

- ◯ Female
- ◯ Male
- ◯ Prefer not to say
- ◯ Other: _____

Age? *

Your answer

Level of education ? *

- ◯ Less than high school
- ◯ High school
- ◯ College or equivalent
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Doctoral Degree
- ◯ Other: _____

Appendix 2. Results of questionnaire

Would you consider yourself environmentally aware?

	Responses	Percentages
Yes	56	46.7%
No	14	11.7%
Maybe	50	41.7%
Total	120	

How important is environmental friendliness to you?

	Responses	Percentages
5	28	23.3%
4	45	37.5%
3	31	25.8%
2	11	9.2%
1	5	4.2%

To what extent does marketing affect your purchasing decisions towards green products?

	Responses	Percentages
5	22	18.3%
4	29	24.2%
3	33	27.5%
2	21	17.5%
1	15	12.5%

Do you prefer green products over non-green alternatives?

	Responses	Percentages
Respondents prefer green products over non-green alternatives	33	27.5%
Respondents prefer non-green alternatives over green products	32	26.7%
Respondents sometimes prefer green products over non-green alternatives	55	45.8%
Total	120	

Why do you prefer green products over non-green products?

	Times mentioned
Environmentally friendly	33
Healthier	23
Combat climate change	15
Higher quality	9
Less added chemicals	9

Personal reasons	7
Support smaller businesses	4

Why do you prefer non-green alternatives over green products?

	Times mentioned
Wider product range	15
Availability	14
Price/ Less costly	8
Awareness	5
Personal reasons	4

Do you know the main idea behind eco-labelling?

	Responses	Percentages
Yes	26	21.7%
No	40	33.3%
More or less	54	45%

Can you shortly define an eco-label?

Common keywords from answers
Eco-friendly
Characteristics
Product info
Less harmful production
Sustainability
Quality
Product complies with environmental standards
Labelling system

Why not?

Common keywords from answers
Lack of interest
Personal opinion

Lack of knowledge
Have not heard of ecolabels

Do you consider it necessary for marketers to provide more information on eco-labelling?

	Responses	Percentages
Yes	86	71.7%
No	28	23.3%
Maybe	6	5%

What makes an eco-label reliable?

Common keywords from answers
Ownership of labels
Transparency
Known brand
Design of logo
Knowledge
Awareness
Quality
Marketing
Popularity
Price
Regulating laws for labels

What factors affect the reliability of eco-labels

	Responses	Percentages
Uncertainty of a claim	36	30%
Knowledge of labels	96	80%
Greenwashing	84	70%
Ownership of eco-label	68	56.7%

Have you ever stopped purchasing products after discovering unethical procedures by a company?

	Responses	Percentages
Yes	77	64%
No	43	36%

Did you know what is meant by „greenwashing“ before this survey?

	Responses	Percentages
Yes	27	22.5%
No	23	19.2%
More or less	70	58.3%
Total	120	

Have you ever found out after purchasing a product that it was not environmentally friendly?

	Responses	Percentages
Yes	69	57.5%
No	14	11.7%
Maybe	37	30.8%
Total	120	

What feelings does greenwashing evoke in you?

Common keywords from answers
Sadness
Distrust
Deceipt
Skepticism
Unfairness
Disappointment
Anger
Neutral

Does the knowledge of greenwashing affect negatively the following?

	Responses	Percentages
Consumer loyalty	75	62.5%
Green brand image	87	72.5%
Attitude towards advertisers credibility	75	60%
Confidence of green products	81	67.5%
Purchasing decisions	62	51%
Environmental attitude	26	21%
Other	-	-

Would you still use a company's products if they were engaged with greenwashing?

	Responses	Percentages
Yes	28	23.3%
No	47	39.2%
Maybe	45	37.5%
Total	120	

Does the knowledge of greenwashing make you doubt abut eco-labels authenticity?

	Responses	Percentages
Yes	69	57.5%
No	42	35.5%
Maybe	9	7.5%
Total	120	

Appendix 3. EU Eco-label

	I am aware of the use of this eco-label	I am aware of the meaning of this eco-label	It is reliable in my opinion
5	46	19	34
4	29	28	30
3	22	34	32
2	9	20	9
1	8	8	1
Can't tell	6	11	14
Total	120	120	120
	100%	100%	100%
5	38%	16%	28%
4	24%	23%	25%
3	18%	28%	27%
2	8%	17%	8%
1	7%	7%	1%
Can't tell	5%	9%	12%

Appendix 4. Ecocert

	I am aware of the use of this eco-label	I am aware of the meaning of this eco-label	It is reliable in my opinion
5	7	6	7
4	12	5	10
3	35	35	35
2	31	30	32
1	19	22	12
Can't tell	16	22	24
Total	120	120	120
	100%	100%	100%
5	6%	5%	6%
4	10%	4%	8%
3	29%	29%	29%
2	26%	25%	27%
1	16%	18%	10%
Can't tell	13%	18%	20%

Appendix 5. Fairtrade

	I am aware of the use of this eco-label	I am aware of the meaning of this eco-label	It is reliable in my opinion
5	32	26	24
4	50	36	44
3	20	31	29
2	13	16	12
1	3	7	4
Can't tell	2	4	7
Total	120	120	120
	100%	100%	100%
5	27%	22%	20%
4	42%	30%	37%
3	17%	26%	24%
2	11%	13%	10%
1	3%	6%	3%
Can't tell	2%	3%	6%

Appendix 6. Nordic Swan

	I am aware of the use of this eco-label	I am aware of the meaning of this eco-label	It is reliable in my opinion
5	47	21	31
4	33	31	33
3	15	26	23
2	4	19	13
1	11	11	5
Can't tell	10	12	15
Total	120	120	120
	100%	100%	100%
5	39%	18%	26%
4	28%	26%	28%
3	13%	22%	19%
2	3%	16%	11%
1	9%	9%	4%
Can't tell	8%	10%	13%

Appendix 7. EU organic products label

	I am aware of the use of this eco-label	I am aware of the meaning of this eco-label	It is reliable in my opinion
5	50	34	31
4	36	26	31
3	15	26	26
2	6	15	12
1	8	13	4
Can't tell	5	6	11
Total	120	120	120
	100%	100%	100%
5	38%	16%	28%
4	24%	23%	25%
3	18%	28%	27%
2	8%	17%	8%
1	7%	7%	1%
Can't tell	5%	9%	12%

Appendix 8. Regression analysis of awareness and reliability

Model 1 regression analysis

Regression Statistics								
Multiple R	0,943195197							
R Square	0,889617179							
Adjusted R Square	0,816028631							
Standard Error	5,937079606							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	852,2532572	426,126629	12,089071	0,036673489			
Residual	3	105,7467428	35,2489143					
Total	5	958						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-4,493855613	6,009690727	-0,7477682	0,5088791	-23,61937366	14,6316624	-23,619374	14,6316624
I am aware of the use of this eco-label	0,557751348	0,189797363	2,93866753	0,06057526	-0,046268569	1,16177126	-0,0462686	1,16177126
I am aware of the meaning of this eco-label	0,666941433	0,300959213	2,21605256	0,11345957	-0,290845102	1,62472797	-0,2908451	1,62472797

Figure 20. The impact of awareness on reliability
Source: Made by the author

Model 2 regression analysis

Regression Statistics								
Multiple R	0,926903701							
R Square	0,859150471							
Adjusted R Square	0,765250785							
Standard Error	5,80603025							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	616,8700382	308,435019	9,14966288	0,052860723			
Residual	3	101,1299618	33,7099873					
Total	5	718						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	0,372589103	5,350604681	0,06963495	0,94886606	-16,655423	17,4006012	-16,655423	17,4006012
I am aware of the use of this eco-label	0,558688117	0,672178168	0,83116076	0,46685232	-1,58048281	2,69785904	-1,5804828	2,69785904
I am aware of the meaning of this eco-label	0,422682428	0,597615509	0,70728156	0,53038338	-1,47919684	2,3245617	-1,4791968	2,3245617

Figure 21. The impact of awareness on reliability based on ECOCERT
Source: Made by the author

Model 3 regression analysis

Regression Statistics								
Multiple R	0,976320662							
R Square	0,953202035							
Adjusted R Square	0,922003391							
Standard Error	4,257512406							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	1107,620764	553,810382	30,5526756	0,010123728			
Residual	3	54,37923565	18,1264119					
Total	5	1162						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-0,419331151	3,638860918	-0,1152369	0,91553773	-11,99981063	11,1611483	-11,999811	11,1611483
I am aware of the use of this eco-label	0,353593872	0,238999949	1,47947258	0,23556936	-0,407010633	1,11419838	-0,4070106	1,11419838
I am aware of the meaning of this eco-label	0,667372686	0,337799021	1,97565015	0,14265987	-0,40765456	1,74239993	-0,4076546	1,74239993

Figure 22. The impact of awareness on reliability based on Fairtrade
Source: Made by the author

Model 4 regression analysis

Regression Statistics								
Multiple R	0,960468258							
R Square	0,922499274							
Adjusted R Square	0,870832123							
Standard Error	3,930455201							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	551,6545657	275,827283	17,8546573	0,02157539			
Residual	3	46,34543427	15,4484781					
Total	5	598						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-2,974714891	4,786717892	-0,6214519	0,57832665	-18,208188	12,2587578	-18,208188	12,2587578
I am aware of the use of this eco-label	0,368025665	0,122501518	3,00425392	0,05747386	-0,0218288	0,75788017	-0,0218288	0,75788017
I am aware of the meaning of this eco-label	0,780710079	0,259104009	3,01311462	0,05707028	-0,0438745	1,60529468	-0,0438745	1,60529468

Figure 22. The impact of awareness on reliability based on Nordic-Swan
Source: Made by the author

Model 5 regression analysis

Regression Statistics								
Multiple R	0,896729341							
R Square	0,80412351							
Adjusted R Square	0,673539184							
Standard Error	6,637870755							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	542,6493489	271,3246744	6,157886876	0,086690891			
Residual	3	132,1839845	44,06132816					
Total	5	674,8333333						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	1,367655378	7,403291189	0,184736132	0,865218973	-22,19292131	24,9282321	-22,192921	24,9282321
I am aware of the use of this eco-label	0,176944219	0,330629971	0,535172956	0,6296583	-0,875267912	1,22915635	-0,8752679	1,22915635
I am aware of the meaning of this eco-label	0,713006345	0,595625389	1,197071782	0,31724639	-1,182539472	2,60855216	-1,1825395	2,60855216

Figure 23. The impact of awareness on reliability based on EU organic products label
Source: Made by the author

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