

**UNIVERSITY OF VAASA**  
**SCHOOL OF MARKETING AND COMMUNICATION**

Alessandra Ricci

**DO ECO LABELS INFLUENCE CONSUMERS?**

**A comparison of Finnish and Italian consumers' response to organic labels**

Master's Programme in  
International business

**VAASA 2019**



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<b>Author:</b>	Alessandra Ricci
<b>Topic of the thesis:</b>	Do Eco labels influence consumers? A comparison of Finnish and Italian consumers' response to organic labels.
<b>Degree:</b>	Master of Science in Economics and Business Administration
<b>Master's Programme:</b>	International Business
<b>Name of the Supervisor:</b>	Jorma Larimo
<b>Year of entering the University:</b>	2017
<b>Year of completing the thesis:</b>	2019
<b>Number of pages:</b>	102

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**ABSTRACT:**

The overconsumption worldwide has caused harms to the environment and its natural resources, creating critical problems to which modern consumers respond in a more sensible way rethinking about their habits and behaviours. Most of the people that express a high concern for environmental issues, channel them towards green purchases, such as organic food. The increased environmental awareness has brought many changes among European consumers and over the past decades there has been a shift in the way consumers think and act towards organic and eco labelled products. Despite the increasing number of eco labels available for consumer nowadays, there are still doubts about how well the labels are understood, perceived and used by consumers.

The main goal of this study is to analyse consumers' perception of organic labels through different factors and investigate whether a positive perception of the label would lead the consumer to buy organic products. The factors chosen as drivers of consumers' perception are consumers awareness, consumers knowledge, consumers trust, the clarity of the label, the persuasiveness and the private benefits connected with the label. The study focuses on consumers in two European countries, Finland and Italy, both pertaining to the same economical area but with differences in culture and traditions.

Based on the review of previous literature and empirical studies on the topic of eco labels and their influence on consumers, seven hypotheses were developed on the relationship between the chosen factors and consumers' perception of organic labels. Additionally, to test the actual purchase behaviour of consumers, consumers' perception was tested as a predictor of green purchasing behaviour. The findings of the study show that there are substantial differences among Finnish and Italian consumers. Differences were found related to age, gender, occupation and educational level. Eventually the study proves that there is a positive influence of consumers' perception of organic labels and consumers purchasing behaviour.

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**Key words:** Eco labels, Green marketing, Organic Label, Consumers' perception, Finnish consumers, Italian consumers, Consumer purchase behaviour.

## 1. INTRODCUTION

The following chapter will present the topic of this study. First, the background of the research will be introduced leading to a research problem and gap. Then, the research question and the objectives will be presented followed by the definitions of the key concepts according to the literature. Finally, the structure of the study will be presented graphically.

### 1.1. Background of the study

In the past decades, globalization has advanced on a full speed, increasing also the culture of consumption, resulting both in positive and negative outcomes (Boztepe, 2012). Without any doubts, globalization has brought people closer, overtaking cultural and economic barriers and increasing the interdependency among markets, creating a general rapid economic growth. However, at the same time, it has created an alarming situation for our planet. The overconsumption worldwide has brought harm to the environment and its natural resources, creating critical problems such as pollution, global warming and acid rains to which modern consumers respond in a more sensible way rethinking about their habits and behaviours. (Cherian & Jacob, 2012)

Multiple issues concerning the health of our planet are looming up year after year, and people worldwide are facing the bitter truth about environmental issues. Both firms and consumers have responsibilities towards the environment, and their actions can either improve or worsen the situation. Indeed, as consumers are directly affected by the over consumption and its negative effects, environmental issues have become a public concern, to which companies, governments and consumers are determined to find a solution. (Polonsky & Rosenberger, 2001; Chen & Chai, 2010)

The increased environmental awareness has brought many changes among European consumers and over the past decades there has been a shift in the way consumers think

and act towards organic and eco labelled products. As pointed out in the Eurobarometer 468 survey (2017), most European consumers think that protecting the environment is very important and they feel that they personally have a role in tackling environment issues. (Eurobarometer, 2017)

Most of the people that express a high concern for environmental issues, channel them towards green purchases, such as organic food (D'Souza, Taghian & Lamb, 2006). Indeed, the market of green and sustainable products is expanding more and more, strengthened by awareness and the desire of consumers to take active action and protect the environment. (Papadopoulos, Karagouni, Trigkas & Platogianni, 2010).

The organic food market in Europe has grown exponentially during the past decade, reaching in 2016 nearly 33.5 billion of euro in sales of organic products making Europe the second largest organic market after United States. In the time frame 2006-2016 the money spent on organic food per capita has doubled, with an average of 61 euro per person per year (Research Institute of Organic Agriculture, 2016). Indeed, the pro-environmental concern of modern consumers has a strong impact on their green buying behaviour because through their purchasing decisions people can reduce their footprint and make a positive difference (Taufique, Siwar, Talib, Sarah & Chamhuri, 2014).

As argued by D'Souza et al. (2006) the majority of consumers create their initial perception about green products available in common stores mostly through the information provided by the product's label. For this reason, voluntary eco labels are important tools to educate consumers on environmental protection and guide them at the point of purchase making the products more visible on the store's shelves. Eco labels are one way to promote pro environmental behaviour and their effectiveness as such, is influenced by how well the consumer understand and perceive the information provided by the label. Therefore, companies should use accurately eco and organic labels and provide complete information in order to help consumers identify environmental goods.

The rise of green consumerism is one of the reasons why extensive research has been done on environmental labelling. Although differences in consumption pattern vary among different countries and regions, and even among different generations. As

discussed by Milovanov (2015) the motives of consumers' behaviour are a very delicate area and consumers themselves find sometimes hard to explain the motives for their choices, thus making the profile of green consumers even harder to identify. Hence is important to establish which factors affect consumer's perception and understanding of eco labels and how effective eco labels are in guiding consumers in their purchasing decisions. (Taufique, Siwar & Chamhuri, 2016).

## 1.2 Research problem and research question

Eco labels work like a certification that hint customers about the environmental attribute of the product while reassuring the trustworthiness of the green claims. Despite the increasing number of eco labels available for consumer nowadays, there are still doubts about how well the labels are understood, interpreted and used by consumers. (Atkinson & Rosenthal, 2014) As argued by Thøgersen, Haugaard & Olesen (2010) there are different eco labels schemes which differ widely in how consumers adopt them, or even in how well consumers know their meaning (Thøgersen et al. 2010).

According to Delmas (2010), in a survey carried out in 2009 about organic coffee, only 20 percent of the consumers interviewed could understand the difference among organic labelled coffee and conventional brands, and even a lower percentage had knowledge of the different eco label schemes including Rainforest Alliance, Fair Trade and UTZ certification (Delmas, 2010). Thus, in order to reach the full potential of eco labels function, there is a need to clarify how well eco labels are perceived by consumers and how well labels can be effective tools in influencing their purchasing behaviour. (Taufique et al. 2014; Testa, Iraldo, Vaccari & Ferrari, 2015)

The aim of this study is to get a better understanding how selected factors influence consumers' perception of organic labels available for food products in two European countries and what role this perception plays in their final decision of purchase. It is important for businesses to understand how consumers react to organic labels in different countries and how these labels influence consumers in choosing green products. As such, this study will consider organic food products that are available in common grocery stores

and will explore the factors affecting consumers' perception of organic labels and analyse whether a positive perception will influence consumer buying behaviour among Finnish and Italian consumers.

As an outcome of the research purpose, the main research question for this study will be:

*“Which factors influence consumers' perception of organic labels in Finland and Italy and what role perception plays in green purchasing decision?”.*

In order to explore the major factors for the evaluation of consumers' comprehension of organic labels, it is necessary to break down the research question into smaller objectives, which are also necessary for the clarity and structure of the whole paper.

The objectives of the study will be divided in theoretical and empirical goals. The theoretical goals will be:

- To review existing literature, studies and concepts about eco and organic labels and their influence on consumers' perception and purchasing behaviour.
- To review previous studies and statistics about organic food production and consumption in Europe.
- To develop hypotheses for evaluating consumers' perception of and reaction to different organic labels among food products based on the review of previous studies.

The empirical objectives will be:

- To investigate how demographical factors such as age, gender, occupation and educational background affect perception and behaviour of consumers in Finland and Italy.
- To analyse quantitative data through a survey concerning perception of and behaviour towards organic labels among food products from Finnish and Italian respondents.
- Develop managerial implications for companies that uses or are planning to use eco labels and particularly organic ones.

As mentioned by D'Souza (2004) and Leire & Thidell (2005), consumers create their first perception of organic products mostly through the label presented on the package and according to how well they perceive the information on it. Nevertheless, other studies have reported that consumers feel confused by the multitude of labels and often complain about the ambiguous and unclear messages on them (D'Souza et al. 2006; Testa et al. 2015; Brecard, 2014). The cases of greenwashing have undermined the trust in green claims and the variety of labels that sometimes create confusion in consumers mind, can be considered the main hurdles for the effectiveness of eco labels.

The increased amount of people who prefer organic food and who are willing to buy environmentally friendly products has created an opportunity for companies that are using eco labels to show their commitment to environmental issues. As firms are affected by the introduction of new trends in the market and changes in the consumption patterns, marketers need to continuously research how to fulfil the new appeals and how these affect consumers behaviour. (Ranbar & Wahid, 2011)

Hence, as the consumers shift in behaviour is affecting firms worldwide, it is important from a marketing perspective to research how European consumers make their choices about organic labelled food products and how informed consumers are. The topic of eco labels and sustainability is a serious issue among political and environmental organizations in Europe and, since eco labels are a tool to improve such problems of sustainability, more research should be done on their influence on buying decision and consumers intrinsic relationship. (D'Souza, Taghian, Lamb & Peretiatko 2007; Tzilivakis, Green, Warner, McGeevor & Lewis, 2012)

In the academic context, the purpose of this study is to improve the knowledge of eco labels and consumers' response to them, in particular the connection between consumers' perception of organic labels and the influence on their buying decisions. Up to date, there are several researches on green marketing and consumer behaviour however not many studies addresses the thematic of consumer's perception nor organic labels on food products, and even fewer that undertake a cultural comparison on these labels. Hence, this research will focus on the aspects that did not receive much attention in previous literature. Furthermore, most of the researches on eco labels, focus only on one or few of the factors that influence consumers, however this research will look at multiple

influencing factors simultaneously. All the mentioned research choices prove the novelty of the work.

### 1.3 Key concepts of the study

In this subchapter the main key words and concepts of the study will be explained and clearly defined in order to provide a better understanding of the topic.

**Eco labels** have many definitions but overall can be defined as certifications of environmental quality of a product or service. Different dictionaries define it as follow:

*“Ecolabelling is a voluntary method of environmental performance certification and labelling that is practised around the world. An eco label identifies products or services proven environmentally preferable overall”.* (Global ecolabelling network, 2014)

*“An official symbol that shows that a product has been designed to do less harm to the environment than similar products”.* (Dictionary.cambridge.org, 2019)

*“Ecolabelling is the practice of marking products with a distinctive label so that consumers know that their manufacture conforms to recognized environmental standards.”* (Oxford Lexico Dictionaries | English, 2019)

**Organic labels** are considered part of the eco labels group and are applicable mostly for food and textile products. Organic certifications are awarded to food products that uses the best environmental practices, high standards for animal welfare, protection of biodiversity and preservation of the natural resources. In other words, an organic label certifies to the final consumer that the product was produced without the use of chemicals and pesticides. (Council Regulation No 834/2007)

While the regulations for the practices are commonly agreed thorough Europe, the concept of “organic food” is defined in different ways depending on the country. For instance, in Germany organic food is considered as “alternative” or “produced

alternatively” whereas in Sweden the most used word is “ecological food” in order to emphasize the sustainability feature of organic food. In Italy, the most used word to define this type of environmentally friendly food is indeed “organic”. As a result, throughout the research the term organic food, organic label or eco label will be used. (Thøgersen, 2010) In this study, the terms eco and organic label will be used to indicate the labels that are presented on food products with better environmental performance.

**Consumer behaviour** is a central topic and among the most researched in marketing studies. Kotler, Keller, Brady, Goodman & Hansen (2012: 244-260) defined it as:

*“Consumer behaviour is the study of how individuals, groups, and organizations select, buy, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and wants. A consumer’s buying behaviour is influenced by cultural, social, and personal factors. Of these, cultural factors exert the broadest and deepest influence.”* Kotler et al. (2012: 244-283)

According to Kotler et al. (2012: 259-283) the role of a marketer is to understand the intrinsic mechanisms happening in the consumer’s mind between the input of marketing stimuli processing of it and the final decision of purchase. Among the main psychological processes that influence consumer response is perception.

### **Consumer perception**

*“Perception is the process by which we select, organize, and interpret information inputs to create a meaningful picture of the world.”* Kotler et al. (2012: 259-283)

The information inputs can also be defined as sensations, which are the response of our sensory receptors to stimulus such as colour, smells, sights, etc. Since there are plenty of stimulus that individuals are exposed to everyday, only a small part of them are truly noticed and processed in our mind. The most important phase of the perceptual process is what each consumer adds to sensations in order to give them a meaning and consequently create perceptions. (Askegarard, Bamossy, Hogg & Solomon, 2016).

Perceptions are very important in marketing because they affect consumer's behaviour. Information are processed through human senses and translated into perceptions which indeed can vary from one person to another depending on how the stimuli is perceived by the subject. Perception is the reaction to internal or also called "personal" stimuli and external ones. Indeed, each individual will perceive things differently from others and in turn will respond differently to the same stimuli. Kotler et al. (2012: 259-283)

#### 1.4 Delimitations

According to Ottman (1994) "green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising". As the concept of green marketing is broad and embed several activities it is necessary to narrow it down in order to give the study clear delimitations.

Indeed, this study will focus only on eco labels excluding in this way green advertisement and specific green brands. By leaving other marketing tools and activities out of this study, the research can result limited although focused on the chosen factor. Furthermore, amid the vastity of eco labels available in the market nowadays, this study will narrow down the selection by considering only organic labels that are third party certified and pertain to the ISO I category.

In order to answer the research question and subobjectives, this study will analyse consumers' perception of organic labels available in the market and whether diverse cultures react differently towards green food purchase. The scope of this study will be to analyse consumers in two different European countries, leaving aside other cultures such as Asian, American and African. Indeed, the two cultures that will be considered, Finnish and Italian, are both pertaining to the same economical area, although with differences in culture and traditions.

Moreover, this paper will study only organic products available on stores leaving outside of the scope green services, such as environmental energy companies and tourism providers. This research will take in consideration only one category of green products, namely food product available in most common stores.

After reviewing the eco labels present in the chosen countries, the result has revealed that Italy does not have a national organic label but uses the European flower, whereas Finland has two organic labels established in the market besides the European one. As a result of the above statement, European flower, the Ladybird label and the Luomu Sun Sign will be the labels considered in the study.

Regarding the type of consumers, the target group will be set on people with age range between 18 and 65, thus including young, middle-age and older consumers. The reason for choosing such wide category lies on several motives: first, middle-age consumers have been reported to be the most sensible to environmental issues as this is threatening the quality of their children life. Nevertheless, young consumer aged between 18 and 29 have also been indicated as a target category in previous studies, since sustainability issues are becoming more and more spoken of nowadays. (Eurobarometer 2017)

Second, as shown in the Eurobarometer 468 survey (2017), consumer awareness of eco labels was found to be higher in the age range 15-24 and 25-39 compared to older generations. Indeed, young and middle age respondent answered more positively to the question “have you seen or heard about the EU ecolabel?” than old consumer aged 55 and over. The same report has shown that the two age categories were also more eager in using eco labels as a guide in their purchasing decisions. Despite this, it is relevant to include older consumer as trends towards organic products are changing and a wider proportion of the population is increasingly becoming aware of them.

Further, previous studies have found that income level is an influencing variable in purchasing behaviour and one of the greatest barriers to green consumerism is indeed the higher price of products (Testa et al., 2015; Dsouza et al., 2007; Atkinson et al. 2014). Usually older consumers have a higher income than younger people therefore it feels

logical to include them in this study. Accordingly, this study will focus on consumers aged between 18 and 65.

### 1.5 Previous studies

The literature reviewed for this study is collected from electronic databases available at EBSCO, Emerald, SAGE, Wiley and other sources. The studies have been identified using keywords such as *green marketing, eco labels, organic logo, consumer's response, consumer's green buying behaviour and consumer's perception*. According to the search words, many articles were identified and the most important were reviewed and included as a theoretical base in this study. Below are the summaries of the main articles reviewed and used in this study which are also graphically listed in Table 1.

**Table 1.** Previous studies on eco labels.

Authors	Year	Country	Key findings
Heiskanen & Timonen	1995	Finland	Consumer awareness
Vanninen & Viinikainen	1995	Finland	Consumers awareness and knowledge
Leire & Thidell	2005	Nordic countries	Consumers awareness, trust and knowledge although still weak.
D'Souza, Taghian & Lamb	2006	Australia	Clarity of the eco label is crucial
Perrini, Castaldo, Misani, & Tencati	2010	Italy	Consumer awareness, knowledge and trust.
Delmas	2010	U.S.	Consumer awareness and private benefits
Thøgersen, Haugaard & Olesen	2010	Denmark	Consumer awareness, knowledge and involvement in green choices
Taufique, Siwar, Talib, Sarah & Chamhuri;	2014 2019	Malaysia	Consumer awareness and involvement, consumer knowledge, consumer trust, design and visibility of the label, credibility of

			environmental quality, persuasiveness, information clarity and personal benefits
Atkinson & Rosenthal	2014	U.S.	Consumer trust enhanced by third part certified labels, persuasiveness of the eco label.
Testa, Iraldo, Vaccari & Ferrari	2015	Italy	Consumer awareness, knowledge and clarity of the eco label

Heiskanen & Timonen (1995), with their study on Finnish consumers, introduce the topic of consumer knowledge concerning the environmental information reported on different products. The study shows how Finnish consumers are aware of the availability of such green products however they experience still problems to understand the environmental properties of the products and do not regard the information stated on the label as reliable. The findings of the study bring to light how Finnish consumers, despite being aware of eco label and eco options, still have problems during the decision-making process.

In the same way Vanninen & Viinikainen (1995), in their study introduce the topic of Finnish consumers' environmental awareness and knowledge of eco labels, focusing on the well-known Nordic Swan label and its influence on purchasing decisions. The study is executed in Mikkeli, where about 75% of the respondents knows the label however price, availability and appearance of the products are all ranked as more important factors for purchasing decisions than environmental friendliness.

Leire & Thidell (2005) in their study focus on perceptions, understanding and use of eco labels among Nordic consumers. Their findings show that local eco labels such as, for instance the Swan label, are well known in the Nordic market and consumers generally perceive the label as trustworthy. However, the authors suggest that the actual knowledge of environmental attribute is still weak, and this lack of knowledge could be the reason why consumers are not motivated in buying greener products.

D'Souza et al. (2006) in their study on the influence of eco labels on consumers, demonstrate that despite the extensive amount of research there are still doubts on how

labels influence consumers. In their research based on an Australian sample of respondents, the authors investigate how different consumers, in terms of their environmental involvement, respond to eco labels. The findings of their study prove that most of the respondents always read labels on the products they are purchasing and are willing to buy eco labelled products despite the higher price. The authors also find a significant link between being satisfied with an eco label and perceiving the label as understandable and clear.

Perrini, Castaldo, Misani, & Tencati (2010), in their study investigates the attitude of Italian consumers towards organic products. The study concerns products sold by mainstreams Italian retailers. The study focuses particularly on the trust that consumers have toward organic labels and organic products. The authors report that awareness and knowledge of organic labels is a prerequisite for consumers to start noticing the labels in the store, however trust is also an important factor for consumer green purchasing behaviour.

Delmas (2010) in her study investigates how organic labels are perceived by consumers and which factors influence their perception. The study was conducted on 400 American respondents and the author has proven how the lack of knowledge and understanding of eco labels leads to a negative perception and reaction towards them. Hence, the perception was more positive on consumers familiar with eco labels. Furthermore, the author has proven that consumers are more likely to have a positive perception of the product carrying an organic label if the label introduce additional benefits for the consumer, such as “tasting better” and “being healthier”.

Thøgersen et al. (2010) in their study on consumer responses to eco labels have shed light on the understanding of consumer’s decision-making process towards eco labels products. The study is executed for the MSC and other organic labels and is based on Danish consumers. The authors suggest that the consumers decision to buy eco labelled products relies mostly on their motivation and on factors such as knowledge and awareness of labels.

Taufique et al. (2014) and in their study examine consumers' perception of eco labels and how these labels are understood and used in everyday consumers' life. After reviewing previous studies, the authors have identified the key elements to measure consumers' perception and understanding of eco labels and tested the factors on Malaysian consumers. The findings of their study show that consumer perception can be measured by eight factors such as consumer awareness, consumer knowledge, consumer trust, design and visibility of the label, credibility of environmental quality, persuasiveness, clarity of information and personal benefits associated with the eco labels. Following this study, another research with similar goals was carried out by Taufique, Polonsky, Vocino & Siwar (2019), where the authors created a scale of measurement with 27 items to gauge consumers' perception of eco labels. The aim of the study was to develop an official scale to be used for assessing the 8 dimensions of consumers' perception identified in the previous study.

Atkinson & Rosenthal (2014) in their study carried out on American university students, examine the influence of the eco label's source (governmental vs. private), product involvement (high vs. low), and consumer trust in yielding more favourable consumers' purchasing behaviour. The results show the claims reported on governmental eco labels are more credible and more persuasive than private companies' labels. Hence the findings support how consumers prefer meaningful claims with persuasive information about the green attribute of the product. Moreover, the study found consumer trust to be a key factor for a positive consumer purchasing behaviour.

Testa et al. (2015) in their study focus on Italian consumers and the effectiveness of eco labels as a marketing tool. The authors suggest that awareness and knowledge of eco labels have a determining role in green purchasing behaviour. Particularly, the higher the consumers' awareness the bigger the chance that they will buy ecological products. In their study, they emphasize the role of eco labels as a stimulus for green consumption but only if the labels are well designed and give the consumer a clear message.

Several studies undertaken on eco labels have sought to clarify their role in influencing consumer's purchasing behaviour, however most of the researches done till recent date have studied the phenomena only focusing on one or few dimensions at the time. The

tendency of including only on single dimension of consumers' intrinsic relationship with eco labels has failed to assess the complexity of consumers decision-making process and how multiple factors interact simultaneously when it comes to human decisions. To date, only the studies carried out by Taufique et al. (2014:2019) have sought to assess the complexity of consumer's behaviour including several dimensions of consumer's perception and understanding of eco labels. Because of the authors' multidimensional scale of measurement, their studies will have a key role in this research and most of the factors will be used in this study to analyse consumers perception of eco label for Finnish and Italian consumers. Nevertheless, the other key studies will also be used as supporting evidence of the chosen factors.

#### 1.6 Structure of the study

This study will be divided in different chapters. In the first chapter of the thesis the background of the topic will be provided, explaining the need for the study and the research gap, followed by research question and objectives. The definition of key words and delimitations of the study will also be given in the first chapter.

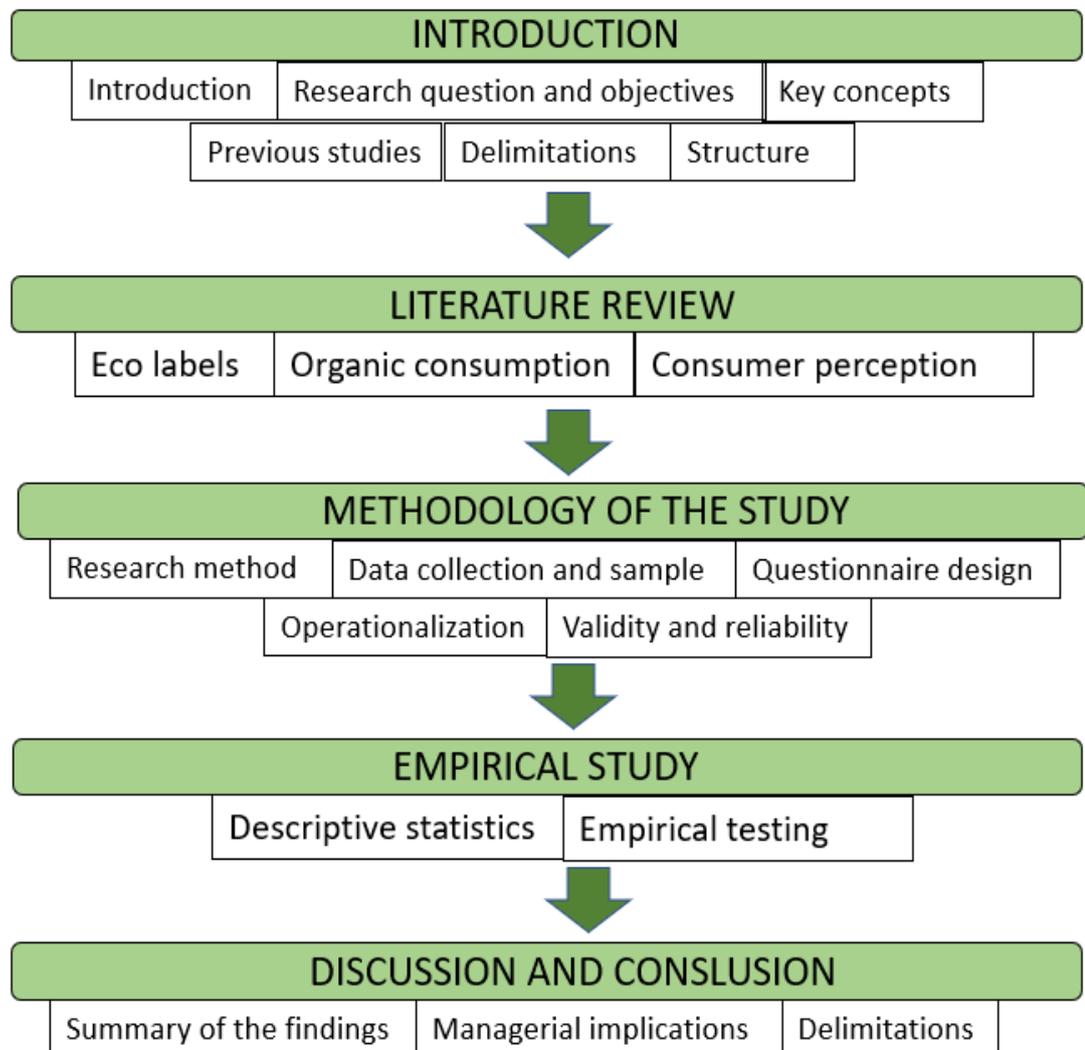
The second chapter will include an overall review of the literature concerning eco labels and their classification, followed by a description of the organic labels chosen in the study. Lastly, the chapter will introduce the organic food consumption data in Europe and specifically for Finland and Italy.

The third chapter begins with a review of eco labels and their role on sustainable consumption. Following the factors that influence consumers' perception of eco labels will be presented and the selected elements will then create the hypotheses of this study that will be tested in the empirical part.

The fourth chapter presents the research methods used in this study, followed by the description of the sample, the data collected and the operationalization of the variables of the study. The chapter will conclude with a discussion of validity and reliability.

The fifth chapter starts with the empirical testing and statistical analysis of the hypotheses. The descriptive statistics of the two population samples will be reviewed. Following an empirical testing of the descriptive will be provided and the chapter will end with the empirical testing of the hypotheses.

The sixth chapter introduce the summary of the findings and its discussion. Following the managerial implication and the limitation of the study will be given. The chapter ends with suggestions for future research. The structure of the study is illustrated in below Figure 1.



**Figure 1.** Structure of the study.

## 2. ECO LABELS AND SUSTAINABLE CONSUMPTION

This chapter aims to conceptualize two key elements in this study: eco/ organic labels and organic food consumption. First, the background information about green marketing will be provided, followed by the definition and functionality of eco labels. The role of eco labels in sustainable consumption will be reviewed and an overview of the selected organic labels will be provided. Second the concepts and data about the organic food production and consumption will be presented with a special focus on Finland and Italy.

### 2.1 Eco labels and green marketing

Eco labels are one of the green marketing tools that has become a growing element in helping consumers choosing sustainable products. The concept of green marketing was elaborated for the first time in a workshop held by the American Marketing Association in 1975 and it was the first workshop that aimed at understanding the positive and negative aspects of marketing activities on the environment and resources depletion. (Delafrooz, Taleghani & Nouri, 2014) After several phases and transformation, nowadays green marketing can be defined as more than just promotion of green products but rather as the effort of companies to create, produce, price and promote products that respect the environment and have minimal impact on it. (Polonsky et al., 2001).

According to Peattie (1992), green marketing can be defined as a particular shade of marketing which was born as a response to the increasing concerns for the environment and its implication for human life. Green marketing has an important function in nowadays businesses due to the increasing green consumerism trend in the world. Notably, there is a growing interest in Europe about sustainability practices using green strategies and eco labels. (Peattie, 1992)

As previously mentioned, green marketing has had different stages and three major phases have been identified for its evolution. The first phase, also known as ecological marketing, was the first period in which firms understood that marketing can have an

impact on the environment, hence it was the first time that marketers focused on environmental problem such as air pollution caused by industries. The second phase, called environmental marketing, introduced for the first time the concept of sustainability and clean technologies among all the sectors, including services. Eventually, in the last phase, which is still an ongoing process, companies started talking more and more about sustainable development. This concept is the outcome of increased public concern for our planet from both consumers and governments. (Delafrooz et al., 2014)

The most common tools used by companies pursuing green marketing strategies are eco labels, eco brands and environmental advertisements. Green marketing tools aims at increasing green consumerism, by informing the customers about the sustainable commitment of the company and persuading them to buy green products. These tools are used to help worldwide consumers to differentiate green products from “normal” ones and enhance their knowledge of environmentally friendly items. (Rahbar & Wahid, 2011).

#### 2.1.1. Eco labels meaning, functionality and objectives

Eco labels are one of the most significant tools for advertising environmentally friendly products to consumers and improve green consumption patterns. Eco labels help to recognize green products among many others allowing in this way green consumers to easily spot the product on the shelf of a store. (Taufique et al., 2014) Eco labels are an effective way to promote green consumerism because they assist consumers in making informed choices. The use of environmental labels in Europe is increasing due to their attractiveness for customers (D'Souza et al., 2006).

Ecolabels provide consumers at the point of purchase, with information regarding the environmental quality of each products, enabling them to choose the products on the base of their environmental characteristics and acceptable green standards. In this way eco labels give the customer relevant information which should improve the transparency of the product and enhance the trust in green claims. As such, eco labelling schemes tries to promote sustainability among consumers, without compromising their freedom of

choice, but rather providing them an easier and quicker access to information that would not otherwise be considered. (Thøgersen et al., 2010)

Furthermore Horne (2009) argues that eco labels can represent an opportunity for companies to increase sales of green products by differentiating them from other conventional items in the store. As the market of green consumers is growing, the new green buyers will appreciate the easiness on recognizing environmentally friendly products as well as a label that enables them to check what the goods are made of. (Horne, 2009)

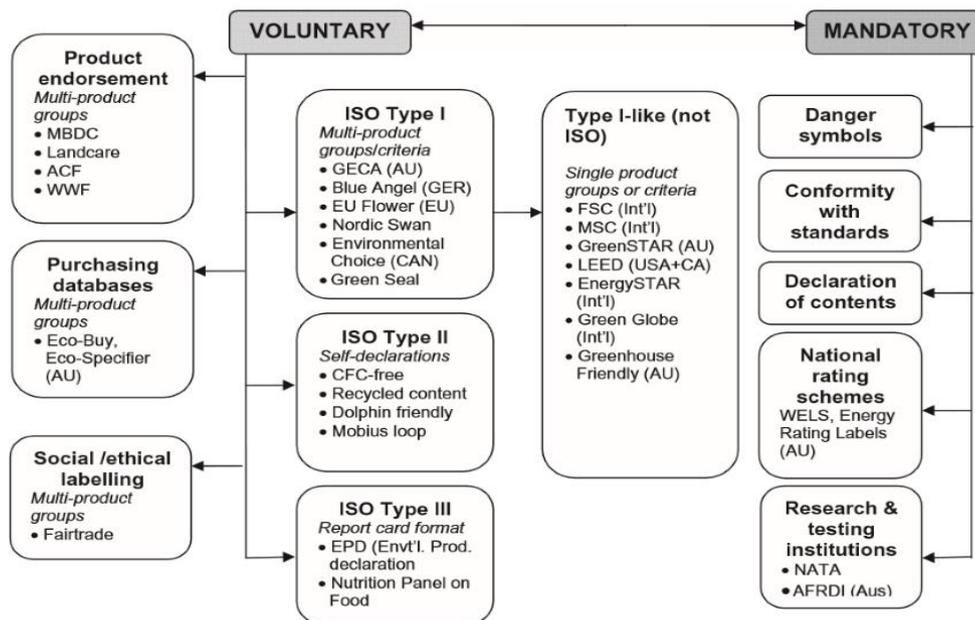
Although eco label enhance the visibility of green products in stores, their credibility has also been challenged in the past few years with increasing cases of greenwashing (Tzilivakis et al., 2012). Greenwashing is a phenomenon that in the past year has increased among consumers as cases of false green claims have been discovered. Companies should be careful and not present their products as environmentally friendly when they are not, as they can seriously harm their brand and sales and create scepticism among consumers. (Bukhari, 2011)

### 2.1.2. Eco labels types

There are two kinds of labels that a product might show: mandatory and voluntary. The latter one has been regulated according to the International Standards Organization (ISO), a worldwide entity which takes care of setting international requirements, guidelines and measurements that can be used to make sure that processes, products and materials meet such requirements and thereafter are ideal for their purpose. (ISO 14024)

The ISO has set the voluntary labels into three different certifications namely ISO Type I, II and III as shown in Figure 2. Apart from these there are other types of labels, so called “hybrid”, which cannot be classified as any of the previous and thus cannot be regulated according to ISO standards. The ISO type I labels enclose multi-products and third party verified schemes that grant the permission to use the specific label on products that meet the requested environmental standards according to their life cycle assessment

(LCA). These assessments are based on the environmental quality of each product, considering for example energy consumption, disposal, emission and water waste. The label can be granted to any product or service provided that the requirements are met. The “third party” is an agent, person or entity which is recognized as independent body from the parties involved in the processes. (ISO 14024)



**Figure 2.** Environmental product labels ( Horne, 2009: 177).

The ISO Type II labels are self-declared, single product environmental claim made by the manufacturer of a product or by the company selling it. Indeed, these labels are not verified by third party and for this reason there are several concerns about the trustworthiness of such claims. These labels usually are statement such as “product made from recycled materials” which is a vague and not verified statement that can misleading the consumer at the moment of purchase. Nowadays, with the increased environmental concerns and the cases of greenwashing, most manufacturers are seeking third party awarded labels which provide the customer with more reliable information. (ISO 14024)

The last category, the ISO Type III is a less common label which is product-related only and provide information regarding the quantitative life cycle assessment. This type of label is still under work as the ISO has not yet provided a universal standard for these types. An example of Type III label is a label stating the amount of CO<sub>2</sub> emitted by the raw materials that compose the products and hence the environmental friendliness of the products is left for the final consumer to evaluate. (Taufique et al., 2014) Above Figure 2, illustrate the different type of eco labels according to ISO classification. Among the different type of eco labels available in Europe, below are presented the organic labels chosen for this study:



**Figure 3.** European organic label

**European Organic logo:** this eco label was established by the European Commission in 2010 as they wanted to provide a general symbol to identify organic food across Europe. The logo was created as mandatory requirement for all products that are defined as organic. The regulation (EC) No 834/2007 and 889/2008 has established that all the prepacked food and food products in order to comply with the organic norms must show the European organic logo. The symbol aims to provide consumers with an information tool to make informed and trustworthy choices while shopping and meanwhile help farmers to market their products among EU. (European commission: The organic logo, 2019; IFOAM bio, 2019)

The Organic logo has strict requirements and can only be used by producers that have been verified by third party agency. In other words, products that are classified as organics need to fulfil rigid requirements on how they are produced, processed, transported and stored. The products that can be awarded with such label need to contain at least 95% of organic ingredients and have strict controls for the remaining 5% of the ingredients. The organic logo must be displayed on the package together with the code number of the third-

party certifying body and the geographical indication stating where the raw materials have been cultivated or farmed. (European commission: The organic logo, 2019)



**Figure 4.** Leppäkerttumerkki – Ladybird label

**Ladybird label:** this eco label is one of the two most known label for organic products in the Finnish market. The aim of this label is to ensure consumers about the genuineness of the products, which must contain at least 75% of organic ingredients and 100% in case of raw single product such as vegetables and fruits. The standards of the ladybird label and certified by a third party and in order to display this logo on products, the companies must engage in strict annual controls and revision of their activities. (Luomuliitto 2018)

The ladybird label is applicable to only to Finnish agricultural products, food, seeds and animal feed and is granted to farmers that follow the organic requirements set by the Finnish Organic Products Union. The aim of the union is to reduce the environmental impact of producing and consuming goods and ensure the wellbeing of livestock. (Luomuliitto 2018)



**Figure 5.** Organic Sun Sign logo (Luomu valvottua tuotantoa merkki- Aurinkomerkki)

One of the two most know organic food label in Finland is the Luomu Sun Logo which is owned and certified by the Finnish Food Safety Authority. Products carrying this label are a guarantee for consumers that high standards of organic production have been followed during the production and the products are monitored and certified by the Food authority. In order to carry such label, the farmers need to successfully pass annual inspections. (Finnish Food Safety Authority, 2019)

The label can apply also to imported products, if they met the requirements set by Evira and as a matter of fact the logo does not certify the origin of the food but only the environmental characteristics. The sun logo can indeed be applied on imported products and it does not substitute the Eu organic logo which is a mandatory label. (Finnish Food Safety Authority, 2019)

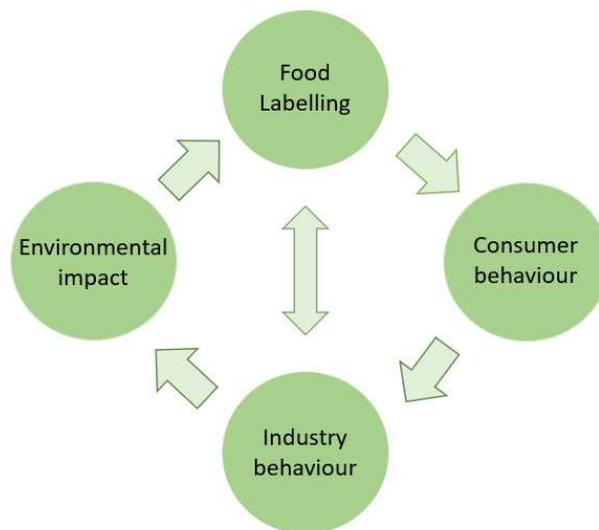
### 2.1.3 The role of eco labels in sustainable food consumption

Government, industries and consumers have all a role to play when it comes to sustainability issues. Given the status quo of the present environmental situation, there is a great pressure on improving both production and consumption processes. This translate into a push for food industry to evolve their production towards greener practices and on consumers towards more sustainable consumption pattern. The reduced impact of these processes involves a great number of parties in the supply chain, such as producers, processor, packaging phase, distributors, retailers and end users. Hence the reduction of the environmental footprint of food production entails many challenges to outmatch. (Tzilivakis et al., 2012)

Nevertheless, one of the drivers that helped in this improvement is the product labels, through which the producers are able to provide the end user with information regarding the product's environmental characteristics. According to Tzilivakis et al. (2012), the model represented in Figure 6 shows an overview of the interaction among consumer, industry and environment and the role that eco labels have in this context. Food labels can influence consumers and the food industry behaviour contributing in this way to create positive changes in the whole supply chain. Industries are both directly and indirectly affected by eco labels, as they need to meet the requested standards to bear the

label and because they are indirectly affected by changes in consumer preferences. These changes in the industry will translate into actual changes in their practice and consequently it is expected to find positive outcomes for the environment. (Tzilivakis, et al. 2012)

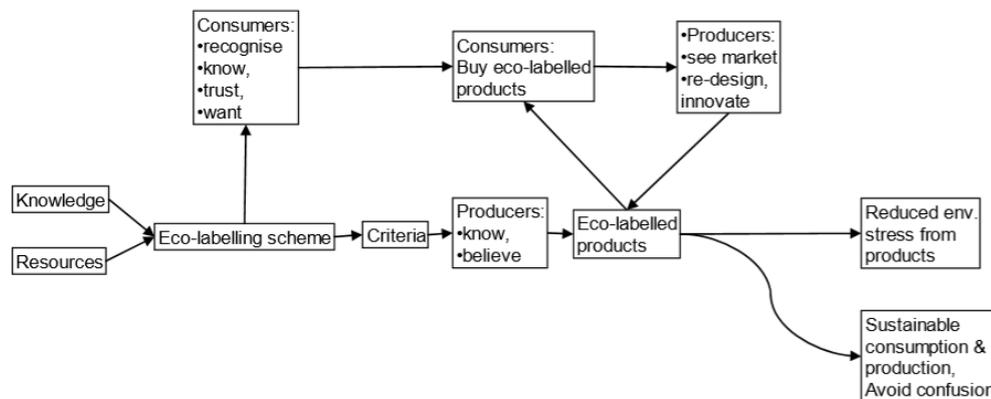
In the chain, consumers bear a great importance as they can be the starting point for responsible consumption and changes. Eventually, the environmental impact of the products will be rigorously reflected on the product environmental label creating in this way a circle of continuous improvement and ideally a progress towards more sustainable practices in food industry.



**Figure 6.** Interaction of key factors of environmental labelling (Tzilivakis et al., 2012: 55).

Moreover, this theory is also verified by Thidell (2009), who proposed a model for the dynamic cause and effect chain created by ecolabelling showed in Figure 7. Defined as dynamic loop of continuous improvement, Thidell (2009) also believe that eco labelled products available in the stores can attract consumers, which after buying green products will send a “signal” to producers. The producers in turn will take actions to fulfil the new demand in the market by re-design and innovate the offers of labelled products. This endless loop should ultimately satisfy the primary goal of eco labelling schemes, namely

reduced environmental impact from production and consumption of products. (Thidell 2009)



**Figure 7.** Dynamic loop created by eco labels (Thidell, 2009: 33)

However, consumers are not all the same and the level of awareness and involvement in eco-friendly choices varies between people. Green consumers are typically willing to pay a premium price for their products, however drawing general simplified assumptions about consumers of organic products, underestimate the complexity of their behaviour. Consumers are not born with a fixed mindset, but their behaviour is influenced by economic, cultural, political and social factors in the society (Kotler, Keller, Brady, Goodman and Hansen, 2012: 244-260). For this reason, is hard to identify a stable market segment of green consumers and the impact of eco labelled products cannot be always predicted. (Pedersen & Neergaard 2006)

## 2.2 Sustainable food consumption

Food consumption is part of human's everyday activities and plays also an important role on environmental sustainability. According to the European Environmental Agency (2005) it was estimated that roughly one third of each household impact on the environment is linked with food and beverage consumption and the number is forecasted

to increase in the near future. The impact of food consumption relates to several factors, among which the amount of meat consumed in the household, the production technique, namely conventional or organic system and whether the food is locally sourced or need extensive transportation to reach the retailing shops. As suggested by Thøgersen, (2010) research shows how improving food consumption will overall increase consumers sustainability, and one of the most effective way to do that is indeed by purchasing more organically produced food rather than conventional products. (Thøgersen, 2010) The perception of eco labels on food products and the influence on consumer buying behaviour in this study will be used to analyse the effectiveness of organic labels as a tool of information and motivator for a more sustainable consumption.

#### 2.2.1. Organic farming in Europe

The European union define organic farming as “sustainable agricultural system” which aims to respect the environment and the animal welfare by adopting the best practices, considering the preservation of natural resources and high standards for animal treatment. Apart from farming activities the organic production of food incorporates all the activities from the supply of raw materials, the processes, the distribution channels until the information provided to consumers. (European Parliament, 2018)

Organic farming relies on solid and ethical principles that aim at minimizing the impact of humans on the environment whilst enabling the agricultural system to operate causing the least damage on the planet. Organic farming in Europe means that no chemical, pesticides or artificial fertilizer are being used on the crops but only natural fertilizer that can be locally sourced. Organic farming also put very strict limitations on the use of antibiotics for livestock, which is limited only to the necessary treatment. Furthermore, organic farmers are committed to raise animals in an open-air and cage free environment. Another pillar of organic farming in EU is the banishment of all kind of genetically modified organisms (GMOs) and utilize a wide crop rotation in order to enable an efficient use of resources. (European Parliament, 2018)

In the past decade, Europe has seen a stunning increase of the organic farmland with a starting point of 5.6 million hectares in 2002 until 11.9 million in 2016. On top of the list for countries with the most organic cultivated land in Europe, is Spain, with two million of hectares of organic lands, followed by Italy and France with respectively 1.8 and 1.5 million hectares of cultivated lands. In 2016 Italy had 14% of organic cultivated land and Finland reached 10.5 % in the same year. With almost fourteen millions of hectares of land cultivated according to organic rules, Europe is almost leading the ranking for the continent with the most organic farmland in the world. (European Parliament, 2018)

The organic market overall has kept growing continuously with a value worth over 33 billion of euro, an increment of 47.7% comparing to 2012 where the organic market sales were closer to 20 million. The attitudinal change towards organic food has been a result of improved governmental campaigns combined with consumers increased interest in more sustainable solutions. Although the amount of organic land is growing, it still represents only 7% of the total cultivable area. (Research Institute of Organic Agriculture, 2016)

In Finland the organic production is controlled by Evira, the Finnish food safety authority which guarantees high standards of quality for organic food. In 2017 Finland had almost 260 000 hectares of organically cultivated land which shows an increase of 8% in comparison to the previous year. The increased demand of organic food has led to an overall growth of the organically cultivated areas with an estimation of 4000 certified organic farms. Finland is also known worldwide for its wild berries' cultivation and it is calculated that the organic picking area reach almost 9 million of hectares. (Research Institute of Organic Agriculture, 2016). In comparison to the other Nordic countries, Finland is falling behind for organic cultivated lands and thus the Finnish Ministry of Agriculture and Forestry has published a strategy to be reached by 2020, based on the enlargement of organic lands up to 20% of the total. The growth should be supported by financial support and training for the farmers. (Research Institute of Organic Agriculture, 2016)

In Italy, the organic production is controlled and certified by the Ministry of Agriculture and Forestry which in turn has empowered national association such as FederBio and

AssoBío to regulate the national organic production and certification. In Italy the increased demand of organic products has pushed the production of organic food and among the most cultivated crops there are vegetables, cereal, grapes and oil. (Bio report, 2017-2018) The Italian organic sector is increasing uninterruptedly since the early 2007, in line with the trend of the other European countries. According to the Bio report published by RRN, in 2017 and 2018 not only the demand of organic product has increased but it was also counterbalanced by the increased offer of organic products, due to the extension of the organic cultivated lands. An important change was also reported on the geographical distribution of the land, which in 2015 was mostly located in the northern and central part of Italy, whereas in the biennium 2017-2018 has seen a relocation to the southern regions. (Bio report, 2017-2018)

#### 2.2.2. Organic consumption in Finland

Finnish consumers have increased year after year the number of organic products in their daily diet, mostly due to the awareness of the benefits associated with organic food. This has led to an overall increase in the organic food industry and market in Finland with estimated 336 million of euro spent on organic groceries in 2018. The Finnish organic food association, hereafter called Pro Luomu, has calculated that this correspond to an increase of 10% of organic sales comparing to 2017 and the continuous growth show how Finnish consumers are increasingly getting aware and interested in organic products. (Pro Luomu, 2018)

Pro Luomu has also calculated an overall increase in sales and consumption of organic food in the time frame 2010-2018 of over 50% as reported in Figure 8. The exponential boost has also been supported by the enlargement of the supply and range of products available in stores. Indeed, new products groups where organic alternatives were not available before, has helped the growth in the market. This support the “positive circle” concept, according to which the increased interest in organic products has encouraged the food industry to create and launch new organic products leading to growth in sales. Thus, the more organic products available, the more consumers will be attracted by them and generating more sales. (Pro Luomu, 2018)



**Figure 8.** Organic sales in Finland 2011 - 2018 (Pro Luomu Annual statistics, 2018)

Although numbers show that the market share of organic products still remains below 3% of the total, there is still a potential growth in the future according to Pro Luomu, which believes the number could be easily tripled if there is enough supply of organic products. Furthermore, as stated by the executive director of Pro Luomu, Maria-Riitta Kottila the organic market is becoming of interest for the young consumers because of the increased environmental concerns and animal welfare, so that the demand of organic food is most likely to grow in the future. (Pro Luomu, 2018)

In 2018, Pro Luomu has calculated that the top selling organic products on the Finnish market were eggs, bananas and vegetal oils, but also root vegetable, fresh milk, flour and tea. Product categories such as juices, brewery products, frozen food and cheeses have had the biggest growth perceptually, being these new organic products on the market. Popular categories such as coffee, tea, dairies and eggs also had a clear growth, with eggs being the most popular organic food sold in Finland. The market share of organic eggs has reached in 2018 18% of the whole supply. On the other hand, organic bakery food, sugar and meat products have decreased their sales comparing to the previous year. (Pro Luomu, 2018)

Overall, green consumerism is steadily growing among the Finnish market and a recent study carried out in 2017 shows that one million Finnish consumers buy at least one

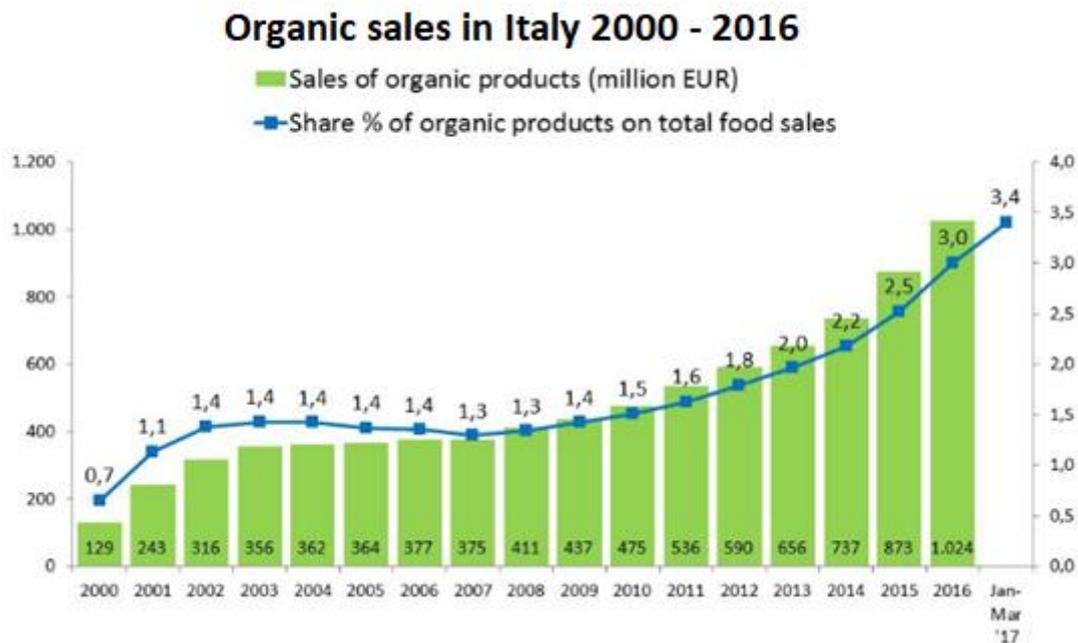
organic product per week with a result of 10% increase among regular organic consumers in the frame 2010-2017. The survey has also highlighted the reasons for Finns to buy organics, which are mostly related to higher quality, purity and safety of food. Sustainability, taste and health were also mentioned as reasons for buying organic food. (Pro Luomu, 2018)

### 2.2.3. Organic consumption in Italy

In 2018, sales of organic food in Italy has grown again with an uninterrupted trend since 2008. According to the Nielsen report, in 2018 six out of ten Italian consumers have bought at least one organic food with the most sold being eggs, bread, jam, milk and dairies, olive oil, pasta, fresh vegetable and fruits. The overall sales of organic products in Italy combined with the exports, has led to 5 billion euros revenues, with an increment of 10,5 % in the first quarter of 2018 comparing to the same period in 2017. (Impresa, 2019)

According to the data in Nielsen report, one on two Italian consumers buy at least one organic product per week, with a bigger percentage if in the family there are children or vegetarian members. Similarly to the Finnish industry, the boom of organic sales has created opportunities for companies that have started launching entire brand and products lines of green products. Many retailers are starting to reserve more space on the shelves for organic food and in 2017 in Italy there are about 1500 stores specialized in sales of organic products. (Impresa, 2019)

As shown in Figure 9, in Italy the share of organic food on the total was 3.4 percent in 2017, with peaks in organic fruits and vegetables, respectively 5.1 and 4.2 percent of the total sales. As reported from AssoBío association in 2017, 23 out of 100 new products introduced in the market were from organic agriculture. (Assobio.it, 2019)



**Figure 9.** Organic sales in Italy 2000 - 2016 (AssoBío, 2019)

For Italian consumers buying and consuming biological food is becoming a real lifestyle rooted mostly on health and safety reasons but also on the increased awareness of food quality and sustainable consumption. According to the statistics from FederBio and IFOAM every 100 euros spent on grocery, 12 are for biological products and the average monthly expense for organic product is 44 euro per capita. Furthermore, the forecasts for organic sales see this amount doubling in 15 years. (FederBio, 2019; IFOAM bio, 2019)

### 3. CONSUMERS' PERCEPTION AND BEHAVIOUR

In this chapter, the focus is to review the factors that affect consumer's perception and behaviour towards organic labels. At first, the chapter discusses about the influence that eco labels have on consumers' behaviour and how they can be effective tools for a sustainable change. Then, a review of the selected influencing factors is carried out together with the formulation of hypotheses. Eventually the chapter closes with a summary of the literature review.

#### 3.1. The influence of eco labels on consumers' behaviour

As per definition, a "green consumer" has interest in the environmental qualities of products and services and buys products that fulfil his/her point of view on environmental standards. Indeed, the main functionality of eco labels is to minimize the information asymmetry amid the producer of organic products and the final consumer by giving them relevant and trustworthy information regarding the environmental performance and benefits of the product in comparison to a conventional one. According to Delmas (2010), the information asymmetry between these two economic agents is greater because organic food is a "credence food" as the consumer cannot verify the environmental claims during the moment of purchase but can only trust the information provided. Thus, eco label should provide adequate and understandable information in order to diminish the gap between producer and consumer. (Delmas, 2010)

Food labels are an important source of information for consumers at the point of purchase because they provide relevant information about the products' quality. In the same way eco labels are a logo that, if understood correctly, will be received by the consumer and in turn translated into a positive or negative green behaviour. As such, eco labels has a direct influence on consumer's purchase decision and it is important that the information is delivered in a clear way. (D'Souza et al., 2006)

As an outcome of this influence on purchasing decision, the improvement in quality of the information provided through labels could also improve the attitude of consumer towards eco products. As mentioned by Leire et al., (2005) the effectiveness of eco labels can be analysed by how well the label fulfils its goal as an information instrument. Indeed, there are specific steps to measure the effectiveness of environmental labelling schemes and these are: consumer awareness, consumer acceptance and consumer behaviour change. Consumer awareness refers to an individual overall awareness of labelling schemes and their specific symbols. Consumer acceptance refers to the credibility of the information and the knowledge of the product's environmental attribute. More in depth, the acceptance underlines the consumer's understanding of the products, the connection between sustainability issues and product choice and what actions can be taken in response to the information. Lastly, consumer behaviour change entails the readiness of consumer in changing their purchasing habits and opt for environmentally friendly products. (Leire et al., 2005)



**Figure 10.** Effectiveness of Labelling Scheme. (Leire et al., 2005)

### 3.2. Factors affecting consumers' perception of eco labels.

The perception of an object, in a generic term, is related to the biological aspect of perceiving something, or more in details, perception encompass the senses that any human applies in gathering relevant information about an object such as vision, taste, hearing touch and smell (Taufique et al., 2014). When talking about consumer behaviour, the role of perception does not only include the biological perspective but is rather a more

intrinsic process which entail the psychological status of the consumer and other stimuli such as past experiences, information gathered before buying a product and their beliefs. (Costell, Tárrega & Bayarri, 2010)

In the past decade there has been a significant amount of studies done on eco labels and their impact on consumers, such as their influence on purchasing intention (D'Souza et al., 2006; Pedersen et al., 2009; Thøgersen et al., 2010) consumer understanding and perception of eco labels (Atkinson et al., 2014; Taufique et al., 2014; Thøgersen, 2000) organic product and consumer willingness to pay a premium price and consumer's confusion about eco label schemes (Brecard et al., 2014; D'Souza et al., 2007). However, as mentioned earlier, most of the studies have analysed consumer's understanding of eco labels focusing only on one dimension of the phenomenon, not considering in this way the complexity of factors affecting consumers' decision-making process. Hence, results could be different if the factors would be analysed simultaneously. (Taufique et al., 2019)

Following the studies done on eco labels and their perception the major finding for assessing the labels effectiveness in terms of consumers perception, understanding and consequently use of it, are the following: consumer awareness, consumer knowledge, consumer trust, clarity of the message, persuasiveness of the label and eventually private benefits connected with the label.

*Consumer awareness*: the awareness of eco labels plays a key role to measure the effectiveness of labels presented on food products (Sammer & Wüstenhagen, 2006). Consumers need to be aware of their existence in order to pay attention to them, and as mentioned by both Delmas (2010) and Taufique et al. (2014), knowing about an eco-label is a prerequisite for using such input in the decision buying process. As further argued by Thøgersen et al. (2010) eco labels are useful from an environmental point of view only if the consumers actually use them during their decision-making process and thus the awareness of such tool is a key factor for the success of any eco label scheme. In this study the factor of consumer awareness is analysed under the meaning of "consumer recognition of the existence of eco labels among food products". (Taufique et al., 2014)

According to the Eurobarometer 2017, 81% of European consumers is concerned about the problem these issues can cause on their lives and 74% of consumers are concerned about the impact on their health of products containing plastics and chemicals. With the greater flow of information about the depletion of natural resources coming from governments, people tend to be worried about the outcomes of this unsustainability. For this reason, the Eurobarometer 2017 has reported that 94% of European consumers think that protecting the environment is important and around 87% of consumers agree that each individual can make a difference in protecting the environment through their actions. (Eurobarometer, 2017)

As further argued by Taufique et al. (2014), consumers who are highly involved are more influenced by marketing stimuli whereas low involved customers are less receptive of marketing messages. Along these lines, eco labels fits within the category of marketing. Previous studies (D'Souza et al., 2007; Atkinson et al., 2014; Thøgersen, 2000; Taufique et al., 2014; Taufique et al., 2019) have focused on both consumer awareness and involvement in eco labels as they have been identified to be prerequisites for the use of this tool in purchasing decisions. As a matter of fact, consumer awareness of eco labels is enhanced by their level of involvement in environmental issues. Highly involved consumers are more likely to be informed and gather information which in turn will lead them in recognizing (or being aware) of eco label. All in all, a consumer who is involved in environmental issues will translate in the person being more receptive of eco labels and integrate the information previously gathered in the purchasing decision. (Taufique et al., 2019) Hence, in this study the factor awareness and involvement will be integrated in one dimension converting in the following:

**Hypothesis 1:** *Consumer awareness has positive influence on consumers' perception of organic labels.*

*Consumer knowledge* is another factor to understand consumers' perception of eco labels. Knowledge can be distinguished among two complementary dimensions, namely subjective knowledge and familiarity of the eco label. The first meaning is more related to consumer's personal impression of how much they know, also defined as total knowledge about the topic, which may or may not be right. The construct of "familiarity

of the eco label” is related to the amount of experiences related to the product that have been gathered by the consumer. For instance, past experiences of purchase or specific information acquired through searches can enhance consumer’s knowledge and in turn consumer green purchase intention.

Knowledge is necessary for individual to process information and as argued by Taufique et al. (2014), people that are more knowledgeable are more likely to use it in understanding products “messages”, such as eco labels. Furthermore, is argued that consumer knowledge about “organic food” and all the verification processes behind certified eco labels, can have a positive impact on consumers’ choice. Hence, it is what consumers think they know that influence how they use different type of information. (Taufique et al., 2014)

As further argued by D’Souza et al. (2006), consumers comprehension of labels scheme is determined by their knowledge of the labels. In the study carried out on Australian consumers the authors found that knowledge of the environmental issues creates awareness and a positive attitude towards green products, and knowledge of the eco labels will assist consumers in identifying the products. Accordingly to the literature reviewed, the construct consumer knowledge has developed the following hypothesis:

**Hypothesis 2:** *Consumer knowledge has a positive influence on perception of organic labels.*

*Consumer trust* in organic labels is perhaps one of the most critical factors for the organic food market. As previously mentioned, consumers are not physically present in every step of organic food production and thus cannot personally verify the claims stated by organic labels. The organic agriculture starts from the way crops are grown and encompasses all the processes from farmer to retailers and often consumers are not able to perceive the difference among organic and conventional food, not even after they have consumed it. Hence, consumer trust is a milestone for effective eco labels. (Delmas, 2010) As mentioned by Atkinson et al. (2014), if the consumers do not trust the claim on the product or suspect the message provided to be greenwashed, they will be less prone in purchasing such product or in believing the eco label.

Moreover, organic food and certified eco labels products often have a premium price comparing to non-organic products. Such difference can be explained by the higher costs of producing and certify food according to European standards, and thus the higher price can often be seen as a hurdle in purchasing decisions. Several studies done on ecological products show that there are cases where consumers are willing to compromise on their choices preferring products with a higher price and lower performance. On the other hand, there are consumers that are not willing to sacrifice the performance of a product or pay a premium price, for ethical issues such as environmental depletion. The same concept can be applied to food products, as some consumer would rather have pesticides free fruit even though the appearance may be worse and the price higher. (Thøgersen et al., 2010)

As mentioned by Thøgersen (2000), the hardest green product to sell, is the one that requires a bigger sacrifice in terms of money and where the consumer's trust in the products to make any environmental difference is low. Credibility of the label plays an important role in consumer trust and eventually on the actual purchase behaviour. Indeed, in this paper the construct "consumer trust" will be considered as credence from the consumers perspective that the claims reported on the organic labels are true and that the purchase of organic foods can actually improve the environmental situation. (Thøgersen, 2000)

The trustworthiness of the labels is connected with the type of the label that is provided on the product. As mentioned before ISO Type I labels are the most reliable in terms of trustworthiness and assurance of their claims. Among the voluntary labels this first type is verified by third party which grant the license to use the label on products only if certain environmental standards are met. Thus, credible organization, such as the European Union, can boost the trustworthiness of consumers and influence them in adopting organic labels in their purchasing decision. (Taufique et al., 2014)

Hence, believing in an eco-label is a key factor that can assist and influence consumer purchasing decisions. For this reason, consumer knowledge of organic labels plays an important role, because certain labels such as the ISO type II, on the contrary of type I are not verified by a third party but they are usually created internally in the firm and can misguide uninformed consumers. Typical claims reported on these labels can sounds like "product made out of recycled materials" where the trustworthiness on this message has

not been assessed by anyone but the company itself. (Taufique et al., 2019) In this study the construct “consumers trust of organic labels” is meant to reflect how trustworthy the labels and the environmental information given are perceived by consumers. Thus, the hypothesis developed for the predictor consumer trust is as follow:

**Hypothesis 3:** *Consumer trust has positive influence on perception of organic labels.*

*Clarity of meaning* refers to the label’s ability to easily communicate its meaning and for the consumer to easily understand the information provided in it. As mentioned by Delmas (2010), for eco labels to be effective they require consumer awareness and understanding of the message. As eco labels’ function is to reduce the information gap between consumers and producers of organic products, the information provided need to be clear and easily understandable. An eco-label with unclear message will fail to fulfil such information asymmetry creating possibly even further confusion in consumer’s mind.

Furthermore, green terminology such as Ecological, Sustainable, Biodegradable and eco-friendly have become popular words in marketing campaigns and more companies are using these claims to attract consumers. Misinterpretations of the terminology used on the messages can mislead consumer during their decision- making process. Accordingly, D’ Souza et al. (2006), in their study concerning the influence of environmental labels on consumers found that one of the influencing factors for consumers, is the clarity of meaning in the label and the accuracy of the information reported. Often, false claims on the labels could results in a negative attitude towards the label and the products itself. (D’Souza et al., 2006)

In his study, Thøgersen et al. (2010) has studied the consumers intrinsic process for adopting a new eco label indicating that this course is influenced by different factors such as personal, environmental and product related characteristics. Indeed, among the latter one, Thøgersen et al. (2010) have identified that the clarity of the message communicated through the label and the visibility of the products on the shelf are key role for consumers to adopt an organic label. Moreover, Testa et al. (2015) in their study on the effectiveness of eco labels in stimulating green behaviour, found supporting results on the need for

well-designed labels and clear labels, in order to avoid misunderstanding and ambiguous messages to consumers. Thus, as a result of the previous studies the hypothesis developed for this study is:

**Hypothesis 4:** *Organic labels with a clear message will positively influence consumers' perception of them.*

*Persuasiveness* reflect how influencing is the information provided on the label, as persuasiveness of the message has a positive impact on consumer overall perception of the product. As argued by Atkinson et al. (2014), labels which contains claims about green performance of the product can be more persuasive especially when these labels are issue by trustworthy organizations.

Bickart and Ruth (2012), in their studies about green eco seals advertising persuasion, have found that persuasion is strictly connected with consumers' environmental concern. For highly concern consumers who cares about sustainability issues, the presence of an eco-label on the product will positively influence their persuasion to buy such product. On the contrary low concerned consumers will be indifferent to eco labels presented on products because their interest in environmental issue is low.

Furthermore Taufique et al. (2014), argue that the persuasiveness of the information presented on eco labels is significantly important for consumers general assessment of the labels. In their study, the authors include this dimension to test the influence on consumers' perception and the results show that persuasiveness is a positive predictor of eco labels perception. Hence in this study the construct persuasiveness relates to the overall assessment that consumers have towards organic label and the hypothesis developed is as follow:

**Hypothesis 5:** *The persuasiveness of an organic label has a positive influence on consumers' perception of it.*

*Private benefits* are the last factor selected in this study that influence consumers' perception of eco labels. Private benefits refer to the advantages that each individual consumer link with choosing organic products. Delmas (2010), has conceptualized that

private benefits are one of the main drivers for buying eco labelled products. Consumer's awareness and trust may not be enough to push consumers towards green products, but they also need to perceive a personal advantage in doing so.

Organic products are a combination of private and public interests because while helping the environmental situation they also fulfil private needs. Indeed, consumers positively perceive organic and eco labelled products and are more likely to purchase them, if the products offer additional advantages such as "taste better" "healthier" and "better quality". (Delmas 2010) As further argued by Taufique et al. (2019), the associated private benefits can enhance consumer attitude towards organic products and in turn increase their purchase intention. Furthermore, if consumers do not associate personal advantages with choosing organic products, they will be less willing to pay a premium price for them. Thereafter, an organic product that provide private benefits will help improve consumer's perception of eco labels. (Taufique et al., 2019)

**Hypothesis 6:** *Private benefits associated with organic products have a positive influence on consumers' perception of organic label.*

*Consumer purchasing behaviour* has been a central topic in green marketing research as questions have risen whether or not green labels have an actual impact on the final purchase decision. Starting from the literature review executed by Galarraga Gallastegui, (2002), the author found that green labels have an influence on consumer behaviour in two different ways. First, eco labels are a result of green marketing strategies that aimed to introduce consumers to the concept of "green products". Second, labels are information tool that guide consumers towards green products in the store. After reviewing recent studies on the topic, the findings have shown that the impact of eco labels on consumer behaviour is still mixed, although there is enough evidence to show how eco labels plays an important role as facilitator of green purchasing behaviour. (Galarraga Gallastegui, 2002)

The findings from European studies executed between 2010 and 2016 have shown both positive and negative influences of the labels on consumers' behaviour. Testa et al. (2015), in their study of the EU label impact on Italian consumers have shown that eco labels can be effective marketing tools provided that consumers are involved,

knowledgeable and have a general positive attitude towards green products. Similarly, Harms & Linton (2015) in their study have focused on Dutch consumers' willingness to pay a premium price for EU eco-labelled products. The results have once again shown that consumer with a positive attitude and knowledge of eco labels are willing to pay more to purchase green products. Further, Thøgersen, Jørgensen & Sandager (2012), have executed a study on the Danish consumers concerning everyday low involvement products such as milk and whether the consumer's behaviour changes when both conventional and a "organic" option are provided in the store. Based on their findings gathered from consumers in grocery stores they ascertained that the availability of a greener option will influence consumers in choosing the organic labelled milk over the conventional one. Finally, Thøgersen at al. (2010), in their study of consumer's response to MSC eco label have found positive behavioural changes from respondents but only when the consumer is motivated, positive past experience and trust in the label. Hence, the results are still fragmented and contradictory. Overall, it is possible to conclude that consumers purchasing decisions are still based on subjective experiences and their perceptions of organic labels and organic food (Thøgersen at al., 2010). That being said, the hypothesis developed for the construct consumer's purchasing behaviour is as follow:

**Hypothesis 7:** *A positive perception of organic labels will have a positive influence on consumers' purchasing behaviour towards organic products.*

### 3.3. Summary of the theoretical framework

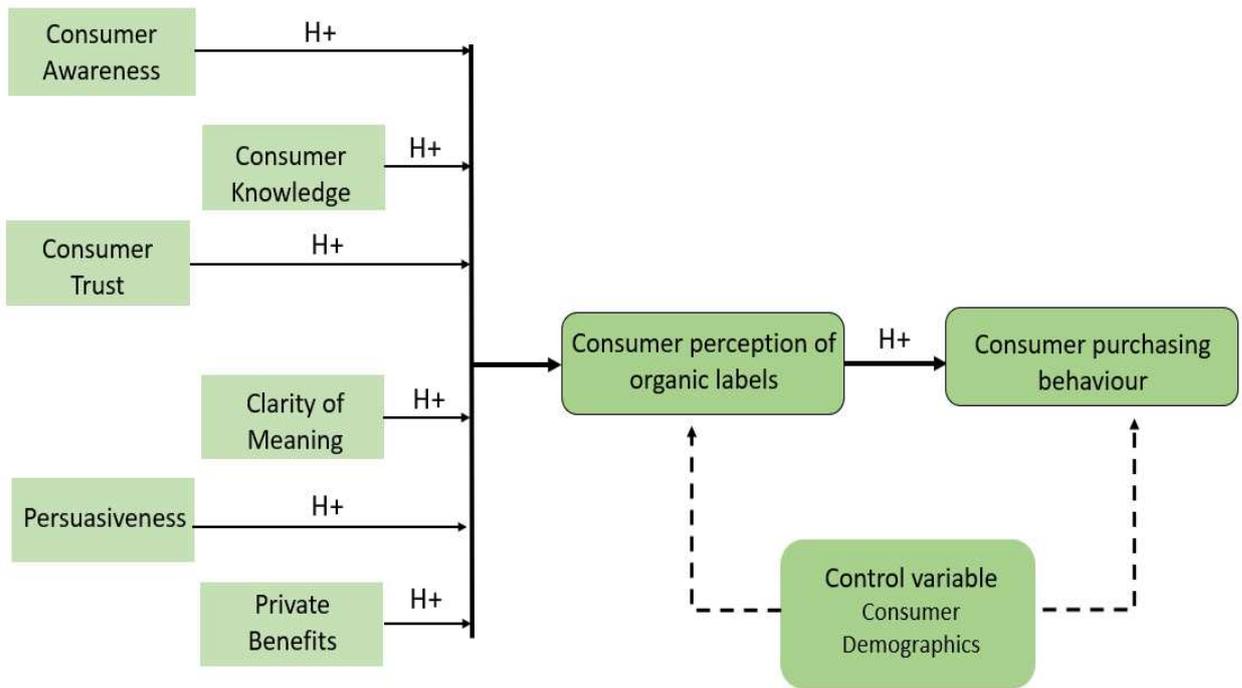
Research on green consumerism has been a central topic in environmental marketing for the past three decades, with many studies done on consumers behaviour, green strategies, green products and green labels. However, there are still doubts in the marketing environment concerning consumers' response to green stimuli and how this translate into actual purchase. Consumer's decision-making is a complex process which is influenced by personal, cultural and situational factors and not always is possible to predict something with absolute certainty. Nevertheless, it is of interest to deepen and further study the topic to provide practical implications for marketers.

All in all, this study reviews the factors that influence consumer's perception of organic labels, and in turn whether this positive or negative perception will influence consumers' purchasing behaviour.

Starting from a review of eco labels as a tool of green marketing, the main functionality, objectives and type of eco and organic labels were reviewed. Following, a review of the literature on organic consumption and factors influencing consumers' perception of organic labels was carried out. The main finding can be summarized as below:

- Eco labels are a marketing tool with the purpose of guiding the consumer at the moment of purchase providing relevant environmental information.
- Voluntary eco labels have been regulated according to the International Organization for Standardization into Type I, II and III.
- Eco labels have an important role in improving sustainable consumption.
- Organic consumption in both Finland and Italy has increased in the past 10 years as people are starting to be more concerned about the quality of their life and the impact that environmental implications can have.
- Six different factors can be used to measure consumers perception of organic labels, namely consumer awareness, consumer knowledge, consumer private benefits, consumer trust, clarity and persuasiveness of the label.
- It is argued that a positive perception of organic label schemes, will forecast a positive influence on consumer's buying behaviour towards organic products.
- Consumer's demographic data such as age, gender, education and occupation will be used as control variable to investigate whether different genders or different generations will show diverse results.

Based on the previous literature, the proposed research model for this study is conceptualized in Figure 11.



**Figure 11.** Proposed research model. (Adapted from Taufique et al., 2014)

Based on the literature review and previous studies, seven hypotheses were developed concerning the relationship between the selected factors and consumers perception of organic labels. The hypotheses are presented in Table 2.

**Table 2.** Hypotheses of the study.

<b>Hypothesis 1</b>	<i>Consumer awareness has positive influence on consumers' perception of organic labels.</i>
<b>Hypothesis 2</b>	<i>Consumer knowledge has a positive influence on perception of organic labels.</i>
<b>Hypothesis 3</b>	<i>Consumer trust has positive influence on perception of organic labels.</i>
<b>Hypothesis 4</b>	<i>Organic labels with a clear message will positively influence consumers' perception of them.</i>
<b>Hypothesis 5</b>	<i>The persuasiveness of an organic label has a positive influence on consumers' perception of it.</i>
<b>Hypothesis 6</b>	<i>Private benefits associated with organic products have a positive influence on consumers' perception of organic label.</i>
<b>Hypothesis 7</b>	<i>A positive perception of organic labels will have a positive influence on consumers' purchasing behaviour towards organic products.</i>

#### **4. METHODOLOGY OF THE STUDY**

This chapter aim to introduce and explain the methodological choices of the study. It will provide an overview of the research method and how the choice is suitable for the study and its findings. The chapter is divided into section, starting with the methodological approach and choice of research method, proceeding to design of the study and the research sample. Furthermore, the sample and data collection will be reviewed.

##### **4.1 Research method and design**

Research studies are usually executed with qualitative or quantitative methods, or in certain cases with a combination of both, accordingly, called multi-methods studies. The methods differ from each other in data collection, research design and analysis. The qualitative method is mostly used in studies where the collection technique or analysis of the data produce a non-numerical output, but rather words and concepts that will be further developed by the author. In contrast, quantitative method is mostly based on data collection and results are expressed in a numerical way. (Saunders, Lewis and Thornhill, 2009)

Qualitative methods often use in depth-interviews, focus group and observation for data collection whereas in quantitative research data are collected mostly through questionnaire, surveys and statistic reports. As argued by Blumberg, Cooper & Schindler (2011) quantitative research is mostly suitable in studies where the knowledge comes from deducting hypotheses and empirically testing them. Moreover, in quantitative research, the collection and analysis of data is usually organized and structured in specific phases (i.e. collection, cleaning, coding, analysis) whereas in qualitative methods the phases can happen simultaneously. Thus, the selection of a suitable method is conditional to the nature of the research problem. (Blumberg et al., 2011)

Previous studies on the topic of eco labels and their influence on consumers' behaviour have used mostly quantitative methods given the nature of the topic, and as a result, this study is also conducted following a quantitative method, where the data collection and analyse will produce a numerical and generalizable result through empirical testing of the hypotheses. Furthermore, the data collection and analysis will be carried out in organized and separated phases (Blumberg et al., 2011)

According to Saunders et al. (2009) the research's purpose can be exploratory, descriptive or explanatory and the choice will be guided by the research questions and the objective of the study. After reviewing the research question of this study and the role of the literature in it, the purpose of this study will be explanatory. The aim of explanatory research is to establish a causal relationship among the variables of the study, seeking an answer on the reasons why a certain phenomenon takes place. Hence this study will aim to explain the causal relationship between the independent variables (consumer awareness, knowledge, trust, clarity of meaning, persuasiveness and private benefits) and the dependent variable (consumer's perception) and consequently the relationship between consumers' perception and their purchasing behaviour.

Among the various research strategies, survey is the most used with deductive approach. Surveys are popular among business studies as they allow the collection of a larger dataset in a fairly economical way. (Saunders et al. 2009) Surveys are also widely used in quantitative studies as the questions are usually standardized, making it easier for the researcher to compare the results and analyse them using both descriptive and inferential statistics. (Blumberg et al., 2011)

Nevertheless, surveys have also some limitations, particularly when it comes to investigate consumers opinion and thoughts. As a matter of fact, it is hard to formulate questions that will be understood and interpreted in the same way by every respondent. The way a question is asked can be interpreted differently and hence can bias the results. Additionally, the respondent may be pressured to answer what he/she thinks should be answering instead of what they really think. (Blumberg et al. 2011)

## 4.2 Research philosophy and research approach

When doing research, one of the steps is to identify the research approach of the study, or in other words the role that the theory will have in it. Every research project involves the use of theory and is important to identify which approach will be used by the author. There are three major research approaches namely deductive, inductive and abductive. The deductive approach can be connected to scientific research, as the approach involves testing the theory through the development of hypotheses. Furthermore, deduction is the most suitable approach to explain causal relationship among variables and giving the nature of this research, pursuing a deductive approach seems the most appropriate approach for the study. (Saunders et al., 2009)

According to Saunders et al. (2009) deductive research progress through five sequential steps:

- First and foremost, the author needs to deduce and formulate hypotheses from the theory. Hypotheses are defined as testable concept of the relationship of two or more variables.
- The second step is to operationalize each hypothesis, or in other words to express how the variables are supposed to be measured.
- Third, testing the hypotheses.
- The fourth step will consist in analysing the outcome of the test, which will either reject, support or suggest modification of the theory where necessary.
- Finally, in light of the finding the author should modify the theory accordingly.

One of the characteristics of deductive research is the impartiality and independency of the author regarding the observations. As the approach resemble a scientific methodology the researcher should be as objective as possible when conducting and testing the hypotheses. Moreover, another characteristic of this approach is the generalization of the findings. In order to statistically generalize the results of social behaviours, the sample analysed should be numerically satisfactory. (Saunders et al. 2009)

### 4.3 Questionnaire design

There are different tools available for executing a quantitative research and among these, a questionnaire is the most suitable technique for this study. Being one of the most used way to execute surveys, a questionnaire allows the researcher to gather data from a larger sample of the population. Saunders et al. (2009) explains different factors that the researcher should follow in order to ensure validity and reliability to the study. First and foremost, the respondents should be able to clearly understand the questions asked and vice versa the researcher should understand the replies given and for this reason, the choice of language has an impact on the reliability of the study. The respondent should feel comfortable with the questions or statements asked hence, the languages chosen for the questionnaire are both English and Italian. Furthermore, because of the large sample target, the questions should be rather close-ended instead of open-ended as it is easier for the researcher to compare the answers and for the respondent to provide a quick answer. (Blumberg et al. 2011)

The questionnaire for this study was adapted and developed based on previous researches on the topic. After reviewing the literature on eco labels and consumers' response to them (Taufique et al., 2019; Thøgersen et al., 2010; Testa et al., 2015; Delmas, 2010), the questions were adapted for the scope of the current study. In order to increase the response rate a cover letter was introduced in the beginning of the questionnaire, where a brief introduction about the topic, the aim of the research, practicalities and confidentiality of the responses were provided. The questionnaire is structured in two different sections, the demographic profile and the hypothesis testing. The first section is about background information of the respondent such as age, gender, nationality, education and occupation. In the second part of the questionnaire, the theoretical hypotheses of the study are computed into questions based on the study's model of independent variables, namely the factors that influence consumer's perception of organic labels.

All the questions are computed in accordance with the study's variables and the answers are rated with a five-points Likert scale. This type of measuring scale was firstly created in 1932 for a study concerning the attitude of people towards certain phenomenon in the society. After that, the scale was spread across different fields of research such as business, medicine and education and nowadays is one of the most used measuring scales

in marketing questionnaires. In a questionnaire using Likert scale, the respondent is asked to express their level of agreement or disagreement with the proposed statement, ranging from “Strongly disagree” to “Strongly agree” (Table 3). Accordingly, the researcher will be able to analyse the attitudes or feeling. (Hair, Black, Babin and Anderson, 2010)

**Table 3.** Five-points Likert scale

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

#### 4.4 Data collection and sample

A questionnaire can be handed out both electronically through digital platform and manually with a written paper version. In case of the first option, popular social medias and blogs are used as well as through common email lists. Saunders et al. (2009) The written version of the questionnaire is usually created in order to reach a bigger number of respondents especially for the sample population between 50 and 65, which cannot always be reached through internet platforms.

The questionnaire was distributed during the period June – July 2019 through Facebook, LinkedIn, WhatsApp and manually for the paper version, using a non-probability sample. According to Saunders et al. (2009), there are different hurdles when doing quantitative research, mostly connected to the access of data, availability of money and time as it is hard to equally represent the whole population of a country or giving equal chances to all the respondents to be chosen. For this reason, using a non- probability sample, where respondents are selected based on convenience and researcher’s judgement, can override such problems.

The sample size is also an important factor in quantitative research and in this study a total of 430 answers were gathered (Hair et al. 2010) Due to time and cost contingencies, the questionnaire could not reach the entire population of both countries but only a smaller sample of it. Of these 430 responses only 400 were considered valid, for a total of 200 completed questionnaires from Italian respondents and 200 from Finnish respondents. The reason for excluding the remaining 30 was the incompleteness of the questionnaires or the respondents being of other nationalities than Italian and Finnish.

#### 4.4.1 Pilot test

When doing a quantitative research, it is important to pre-test the questionnaire in order to identify possible weakness and evaluate the respondent's overall comprehension of the questions asked. The preliminary test of the questionnaire can ensure that the data gathered will enable the researcher to answer the research questions and its objectives (Saunders et al. 2009)

For this reason, a total of 20 pilot questionnaires were handed out and reviewed closely with the respondents. About 10 questionnaires per country were handed out on a paper version and closely reviewed with the respondent. Generally, personal opinions as well as questions concerning the thematic of organic labels and environmentally friendly products arose, but overall the respondents in both countries agreed that the questions were clear and understandable.

Although the questions were clear, the Italian sample was found to be more reluctant on giving out personal information such as occupational status and monthly income, although the privacy and anonymously of the respondents was guaranteed and assured multiple times. For this reason, the question about the income level, as it was originally planned, was removed from the questionnaire for both countries. After gathering enough feedback, the purpose of the pilot test was completed, and the amended questionnaires were distributed in both countries.

#### 4.5 Operationalization of the variables

This study has 6 independent variables and 2 dependent variables which are operationalized in Table 4. Since the aim of this study is to investigate consumers' perception of organic labels, most of the questions were taken and adapted from the measuring scale developed by Taufique et al. (2019). As mentioned earlier, the study incorporates thoroughly and simultaneously the dimensions known for influencing consumer's perception of eco labels and thus are considered suitable for this study, Part of the questions were further integrated and adapted from the study by Thøgersen et al. (2010) and Delmas (2010).

**Table 4.** Operationalization of the independent variables

Constructs	Questions	Source
Consumers awareness	<ul style="list-style-type: none"> <li>- I am familiar with the term Ecolabel</li> <li>- When I shop, I search out for any labels on food and beverages products.</li> <li>- Buying organic food helps reducing environmental problems.</li> </ul>	Taufique et al. (2019)
Consumers knowledge	<ul style="list-style-type: none"> <li>• The meaning of the term organic is familiar to me.</li> <li>• I am familiar with the Leppäkerttumerkki and its meaning.</li> <li>• I am familiar with the Aurinko-merkki and its meaning</li> <li>• I am familiar with the European organic label and its meaning</li> </ul>	Thøgersen et al. (2010) Taufique et al. (2019)
Consumers trust	<ul style="list-style-type: none"> <li>• Organic labels are credible</li> </ul>	Taufique et al. (2019)

	<ul style="list-style-type: none"> <li>• What organic labels claims about a product is always true</li> <li>• Organic labels are genuinely committed to environmental protection.</li> </ul>	
Clarity of meaning	<ul style="list-style-type: none"> <li>• Generally, the information provided by organic labels are understandable</li> <li>• Organic labels provide enough information regarding a product.</li> </ul>	Taufique et al. (2019)
Persuasiveness	<ul style="list-style-type: none"> <li>• Generally, my opinion of a product is more favourable when it displays an organic label</li> <li>• Overall, organic labels influence my buying behaviour</li> </ul>	Taufique et al. (2019)
Private benefits	<ul style="list-style-type: none"> <li>• Organic labels should show more benefits that would make me want to buy the product.</li> <li>• Organic labels should say about extra benefits in buying organic food such as "better quality" and "healthier"</li> </ul>	Delmas (2010) Taufique et al. (2019)
Consumer's perception	<ul style="list-style-type: none"> <li>• Overall, I consider organic labels a good thing.</li> <li>• Organic labels help raise environmental awareness</li> <li>• When shopping, organic labels influence my purchasing decision.</li> </ul>	Taufique et al. (2019)
Consumer purchasing behaviour	<ul style="list-style-type: none"> <li>• I always buy organic food.</li> <li>• When I shop, I always buy products that displays at least one of above organic labels.</li> </ul>	Thøgersen et al. (2010)

#### 4.6 Data analysis

Among the most important steps when conducting research is the analysis of the data gathered and its interpretation, transforming numbers into meaningful and concrete answers for the research question (Hair et al. 2010). Since this study was carried out with a quantitative method the numbers need to be presented in an understandable way, such as through charts, tables and graphs. The data analysis in this study is reviewed in Chapter 5 and it involves different statistical tests to interpret descriptive statistics, reliability, factor analysis, correlation and multiple regression among the variables. The different analyses were chosen based on the research question and the objectives of the study and are carried out through IBM Statistical Project of Social Science software, also known as SPSS, which is widely used in the field of quantitative research.

#### 4.7 Validity and reliability of the research

The credibility of the findings is a crucial topic to consider when doing research. Notwithstanding the researcher's efforts, there is not a certain way to know whether the respondent truthfully carried out the research, reporting right information and giving his/her true opinion about the statements. Indeed, according to Saunders et al. (2009) there is no certainty of the rightfulness of the respondent's answer but one way to improve the credibility of the findings is to reduce the chances of getting the wrong answers. In order to reduce such possibility, the researcher should pay attention to validity and reliability of the study. (Saunders et al. 2009)

The validity of the study can be divided among external and internal validity. The first is concerned with the generalizability of the results or in other words to which extent the findings of one research are applicable to other researches in the same field. This is rather a complex concept as this study was narrowed down to only a specific type of eco labels and only for two specific countries in Europe. In light of this, it seems rightful to state that the empirical findings of this study can be generalized to other similar researches involving organic labels in Europe. (Saunders et al. 2009)

Internal validity refers to the extent of which the measuring instrument, in this case the questionnaire, is able to measure what it is supposed to be measuring. In this study the internal validity principles have been considered by selecting variables that were previously used in other studies on the subject and that have been tested through a Confirmatory Factor Analysis (CFA). Furthermore, having an appropriate sample size is crucial to the validity of the study. Accordingly, for this study a total of 400 valid responses were gathered, which can be considered a sufficient amount. (Saunders et al. 2009)

In order to further increase the validity of this study, the questionnaire created for the Italian sample was translated into the native language to ensure a full comprehension of the statements asked from the respondents. The translation method used was Back translation, a very popular way of translating text into other languages than English. The original questionnaire was translated into Italian first (target questionnaire) and then delivered to a person with knowledge of both Italian and English. The person translated the target text from Italian into English. The next step was to compare the translation and adjust when needed the differences creating a final translated version. (Saunders et al. 2009)

Reliability refers to the ability of the data analysis technique to measure and find consistent findings, on in other word, it tells whether the study could be repeated multiple times leading to the same results. This implies that regardless of the person executing the analysis the results should not vary. Indeed, seeking a high level of reliability is to be preferred when doing research. However not a single study is void of unpredicted errors. In surveys, respondents could misinterpret the meaning of a question or simply not remembering certain things asked. At the same time also, the researcher could make random errors, for instance when transcribing the results or when imputing and saving the data. Hence, a high reliability is to be preferred although some random errors could always occur. (Saunders et al. 2009)

The reliability in this study was considered during different phases. Firstly, when operationalizing the variables, the scale of measurement was selected carefully, opting for a measuring scale that was previously used and tested on consumers. Secondly the statistical analysis chosen, such as multiple regression analysis was also executed in other

studies, as it is the best method to explain causality between two phenomenon and make prediction on them. Third, the reliability of this study was proved by executing a reliability test. This type of analysis is done to measure the internal consistency and it uses the coefficient Cronbach's Alpha which ranges with values within 0 and 1. The closer to 1 the more reliable the test is and vice versa for values closer to 0. The literature is divided between which value is considerable acceptable as some researchers consider 0.5 an acceptable value whereas other would only consider values above 0.8. However, most of the researchers seems to follow the rule of thumb that a Cronbach's Alpha value of 0.7 or above is to be desired when running this type of analysis. The result of the reliability test for this study shows that the variables are reliable both in terms of reliability and of internal consistency since all the variables have value above 0.7. The results of the test are presented below in Table 5. (Hair et al. 2010)

**Table 5.** Reliability test

Reliability test			
Variables	Items	Cronbach's Alpha	
		FI	IT
Consumer Awareness (CA)	3	0.703	0.727
Consumer Knowledge (CK)	4 & 2	0.776	0.754
Consumer Trust (CT)	3	0.821	0.887
Persuasiveness (PER)	2	0.865	0.773
Clarity of Information (CLAR)	2	0.788	0.841
Private Benefits (PR_BEN)	2	0.725	0.914
Consumer's perception (CPER)	3	0.789	0.845
Consumer buying behaviour (CB)	2	0.912	0.901

## 5. ANALYSIS OF THE EMPIRICAL FINDINGS

In this chapter, the empirical analysis of this study will be carried out. First the descriptive statistics or in other words the numerical description of the samples will be presented, followed by analysis of the influence of demographical factors such as age, gender, occupation and educational background on both consumer perception and behaviour. Lastly, the empirical analysis of the factors or predictors' impact on consumer perception and behaviour will be carried out. The chapter ends with an overview of the hypothesis that were supported by empirical test and the ones that were rejected.

### 5.1. Data processing

Once the data is collected, the first step in a quantitative research is to turn the numerical data into understandable information, hence the data need to be coded. The coding process in this study was executed before entering the data in SPSS, categorizing the answers collected through the questionnaires with a specific number (Hair et al. 2010). For instance, the gender information was coded into 1 for "Female" respondents and 2 for "Male". In the same way, the age was coded 1 for respondents between 18 and 29, 2 for respondents with age between 30 and 49 and 3 for respondents between 50 and 65. At the same time, the data was "cleaned" that is, all the incomplete questionnaires and questionnaires from respondents of nationalities other than Italian and Finnish were left aside. As referred earlier in this study, 30 of the 430 questionnaires gathered were excluded because of missing information or the nationality of the respondent.

### 5.2 Descriptive statistics

First, the descriptive analysis was done for a better understanding of the sample population in both countries. As the name suggests, this type of statistical analysis is performed to "describe" the sample and provide the characteristics such as the percentage of male and female in the sample, in a clearer way for the for the readers (Hair et al.

2010). In SPSS this descriptive analysis is done through the frequency distribution and in this study, they were calculated for both the Finnish and Italian sample. Frequencies were calculated to show the occurrence of a certain factor and they are summarized in the table 6.

**Table 6.** Frequencies distribution of the sample

Population characteristics	Finnish	Percentage %	Italian	Percentage %
Gender				
Female	114	57 %	129	64.5%
Male	86	43 %	71	35.5%
Age				
18 - 29	77	38.5 %	65	32.5%
30 - 49	73	36.5 %	66	33%
50 - 65	50	25 %	69	34.5%
Education				
High school diploma	32	16 %	81	40.5 %
Bachelor's degree	87	43.5 %	41	20.5 %
Master's degree	78	39 %	63	31.5 %
Other	3	1.5 %	15	7.5 %
Occupation				
Student	36	18 %	18	9 %

Employed/self-employed	147	73.5 %	115	57.5 %
Unemployed	11	5.5 %	17	8.5%
Other	6	3 %	50	25 %
Total respondents	200		200	

Table 6 presents the characteristics of both populations including gender, age, education and occupation. The Finnish sample has 57% of female respondent and 43% of male respondents whereas the Italian sample has respectively 64.5% and 35.5%. In the Finnish sample 38.5% of the respondents are aged between 18 and 29, 36.5% are between 30 and 49 and only 25% are aged between 50 and 65. The Finnish sample has a smaller gap between genders comparing to the Italian one, however there are less respondents belonging to the third age group whereas in the Italian one the age respondents are homogenously distributed.

The table also shows the frequencies of the populations' educational level, with the Finnish sample having 43.5 % of respondents with a bachelor's degree, 39 % with a master's degree and only 16% of the respondent with a diploma from high school, whereas the Italian sample has respectively 20.5%, 31.5% and 40,5% with a diploma. The increased number of diplomas could also be connected with having more respondents aged 50-65 in the Italian sample. Lastly, the frequency analysis shows the occupation of the respondents. In the Finnish sample 18% are students, 73.5% of the respondents are employed or entrepreneur, about 5.5% are unemployed and only 3% of the respondents have ticked the box "other". Respectively the Italian sample has 9% of students, 57.5% of employed or entrepreneurs, 8.5% of unemployed and 25% of the respondents have ticked the box "other".

### 5.3 Empirical analysis of the demographic characteristics

On the contrary of descriptive statistics, where the main goal is to describe the sample gathered, inferential statistics encompasses all the analysis that help translating the data into generalizable predictions. When conducting research, the random sample gathered can be used to make assumptions and predictions of the whole population, especially when the singular analysis of each respondents is not possible to carry out. For instance, interviewing the whole population in both target countries of this study would result nearly impossible or extremely timely consuming. Hence it is easier to measure the perception of representative sample of the population and use the information gathered to make predictions about future behaviours. (Hair et al. 2010)

In this study the inferential analysis will focus on two main aspects: first, the parameters will be estimated such as means, standard deviation and means' comparison of the two population. Second the hypotheses will be tested using the data collected to verify whether the assumptions are supported or not, and thus answering the research question. The inferential analyses that will be carried out in this research are Independent T-test to measure the differences in means, One-way Anova to measure the variances, Pearson's correlation test in order to measure the connection among the variables and multiple regression analysis to test the hypotheses. Below, Table 7 reports the Independent sample T- test analyses for both Italian and the Finnish sample on consumers' perception and consumers' behaviour.

**Table 7.** Independent sample T-test

Italian Independent sample T-test					
	Gender	Mean	Levene's test for equality of variances		T-test for equality of means
			F	Sig.	Sig.(2-tailed)
CPE	Female	3.3998	.031	.584	.121
	Male	3.1603			
CBE	Female	2.5078	.917	.340	.088
	Male	2.2324			

Finnish Independent sample T-test					
	Gender	Mean	Levene's test for equality of variances		T-test for equality of means
			F	Sig.	Sig.(2-tailed)
CPE	Female	3.8585	3.061	.082	.002
	Male	3.4919			
CBE	Female	2.5921	9.371	.003	.000
	Male	1.8372			

As Table 7 shows, there is a significant difference in gender impact on consumer perception and behaviour between Finnish and Italian consumers. The average for Italian female respondents on perception is 3.3998, which indicates a more positive perception of organic labels in comparison to male respondents which have average 3.1603.

However, both results are lower compared to the Finnish scores where female respondents have an average of 3.8585 which indicate a more favourable perception of organic labels.

According to Levene's Test for equality of the variances there is not a statistically significant difference between the variances of female and male respondent for consumers' perception (CPE) in the Italian group as the significance value (hereafter  $p$ ) is .584. In the same way there is no significant difference in the variances for consumers' behaviour (CBE) as  $p=.340$  is considered not statistically relevant. Moreover, the T-test for the equality of means shows a non-statistically significant difference between female and male Italian respondents for consumers' perception and behaviour as both  $p$ -values are above .05 ( $p = 0.121$ ,  $p = 0.088$ ). Hence there is no gender difference in the Italian sample for the variable consumers' perception and behaviour.

In the Finnish sample, the Levene's test of the variances shows a non-significant difference in the variances of the two groups for the variable consumers' perception. The significant value is above .05 thus the variances are not significantly different. On the contrary, Levene's test has a significant value for the variable consumer behaviour, indicating that there is statistically significant difference between female and male Finnish respondents. The T-test for equality of means shows that the two groups have a statistically significant difference between male and female purchasing behaviour.

In table 8, the results of One-way ANOVA analysis for the different age groups are shown. This analysis is another tool to investigate the relationship between two variables, particularly when one of the variables is a categorical value with three or more categories, in this case the three different age groups. The first part of the table reports the results for the Finnish consumers' perception and the test shows that there is a statistically significant ( $p = 0.008$ ) difference among the groups of the sample population based on age. Furthermore, according to the pairwise Bonferroni comparison there is an extremely significant difference in consumers' perception between consumer aged 30-49 and 50-65. Consumer aged 18-29 do not differ significantly from other age group consumers.

The second part of the table shows that there is extremely significant difference in consumer purchasing behaviour towards organic labels among the three age groups,  $F(2,198) = 21.782$ ,  $p=.000$ . Particularly, according to the Bonferroni comparison, there is

an important difference in consumers' buying behaviour among people aged 18-29 and the other groups, whereas there is not particular difference between the average of consumers between 30-49 and 50-65. Hence, it can be stated that there is a significant difference between the different groups of consumers in terms of their behaviour towards organic labels.

**Table 8.** One-Way ANOVA based on age for Finnish sample

Finnish sample One-way ANOVA (AGE)					
Consumer perception	F	Sig.	Consumer Behaviour	F	Sig.
	4.936	0.008		21.782	0.000
Post Hoc Test – Multiple comparison of Age on perception with Bonferroni test					
(I) AGE		(J) AGE		Sig.	
18-29 N= 77 Mean = 3.693		30-49		0.333	
		50-65		0.256	
30-49 N= 73 Mean = 3.919		18-29		0.333	
		50-65		0.006	
50-65 N=50 Mean = 3.341		18-29		0.256	
		30-49		0.006	
Post Hoc Test – Multiple comparison of Age on behaviour with Bonferroni test					
(I) AGE		(J) AGE		Sig.	
18-29 N= 77 Mean = 1.707		30-49		0.000	
		50-65		0.000	
30-49 N= 73 Mean = 2.541		18-29		0.000	
		50-65		0.858	
50-65 N=50 Mean = 2.730		18-29		0.000	
		30-49		0.858	

In Table 9, the same test was run for the Italian sample, firstly based on consumers' perception and secondly based on consumers' purchasing behaviour. The One-way ANOVA analysis on consumers' perception shows that there is not statistically

significant difference among the three age groups as  $F(2,198) = 1.645$  and the significance level  $p = 1.196$  thus significantly greater than the generally accepted value of  $p = .05$ . Furthermore, the pairwise comparison with Bonferroni test shows that there is not significant difference in perception of organic labels among Italian consumers aged 18-29, 30-49 and 50-65.

The second part of Table 9 shows that there is not significant difference in the Italian sample for consumers' behaviour based on age as the significant level is greater than .05 ( $p = 0.173$ ). Thus, it is possible to conclude that there is no statistically significant difference between the age of consumers and their purchasing behaviour towards organic labels. In the same way, the Bonferroni pairwise comparison confirm that there is not statistically significant difference on the level of consumer behaviour among the different age groups as the values in between the groups are greater than the significant level of .05.

**Table 9.** One-Way ANOVA based on age for Italian sample

Italian sample One-way ANOVA (AGE)					
Consumer perception	F	Sig.	Consumer Behaviour	F	Sig.
		1.645		1.196	
Post Hoc Test – Multiple comparison of Age on perception with Bonferroni test					
(I) AGE		(J) AGE		Sig.	
18-29 N= 65 Mean = 3.433		30-49		0.279	
		50-65		1.000	
30-49 N=66 Mean = 3.126		18-29		0.279	
		50-65		0.468	
50-65 N=69 Mean = 3.381		18-29		1.000	
		30-49		0.468	
Post Hoc Test – Multiple comparison of Age on behaviour with Bonferroni test					
(I) AGE		(J) AGE		Sig.	
18-29 N= 65 Mean = 2.323		30-49		1.000	
		50-65		0.392	
30-49 N=66 Mean = 2.287		18-29		1.000	
		50-65		0.266	
50-65 N=69 Mean = 2.608		18-29		0.392	
		30-49		0.266	

In Table 10 the analysis was run for testing possible differences in consumers' perception and consumers' purchasing behaviour based on educational level, among the Finnish consumers. In this study the respondents were given four option for describing their educational level, namely high school diploma, bachelor's degree, master's degree and "others" in case none of the previously selected options was correct. The One-way ANOVA analysis on consumers' perception shows that there is not statistically significant difference among the four groups as  $F = 2.191$  and the significance level is equal to  $p = 0.090$ . Furthermore, the pairwise comparison with Bonferroni test shows that there is not significant difference in perception of organic labels among Finnish consumers with different educational levels.

Similarly, the second half of Table 10 shows that there is not significant difference in the Finnish sample for consumers behaviour based on education, as the significant level is greater than .05 ( $p = 0.767$ ). Thus, it is possible to conclude that there is no statistically significant difference between the educational level of consumers and their purchasing behaviour towards organic labels. In the same way, the Bonferroni pairwise comparison confirm that there is not statistically significant difference on the level of consumer behaviour among the different educational levels as the values in between the groups are greater than the significant level of .05.

**Table 10.** One-Way ANOVA based on education for Finnish sample

Finnish sample One-way ANOVA (Education)					
Consumer perception	F	Sig.	Consumer behaviour	F	Sig.
	2.191	0.090		2.191	0.767
Post Hoc Test – Multiple comparison of education on perception with Bonferroni test					
(I) EDUCATION		(J) EDUCATION		Sig.	
High school diploma Mean= 3.500 N= 32		Bachelor		1.000	
		Master		0.257	
		Other		0.561	
Bachelor's Degree		Diploma		1.000	

Mean= 3.651 N=87	Master	0.724
	Other	0.946
Master's Degree Mean= 3.850 N=78	Diploma	0.257
	Bachelor	0.724
	Other	1.000
Other Mean= 4.333 N=3	Diploma	0.561
	Bachelor	0.946
	Master	1.000
Post Hoc Test – Multiple comparison of education on behaviour with Bonferroni test		
(I) EDUCATION	(J) EDUCATION	Sig.
High school diploma Mean= 2.315 N= 32	Bachelor	1.000
	Master	0.257
	Other	0.561
Bachelor's Degree Mean= 2.189 N=87	Diploma	1.000
	Master	0.724
	Other	0.946
Master's Degree Mean= 2.346 N=78	Diploma	0.257
	Bachelor	0.724
	Other	1.000
Other Mean= 2.000 N=3	Diploma	0.561
	Bachelor	0.946
	Master	1.000

In Table 11, the same test was run for the Italian sample and similarly to the Finnish sample there are no statistically significant differences among the different groups. The statistics shown in the table denote no significant difference between the consumers' perception and behaviour and their educational level. Although the significant level of consumer perception is close enough to the significant value of  $p = .05$ , the post hoc test based on Bonferroni pairwise, report no significant difference in between the groups. Similarly, for consumer behaviour all the groups have a significance level greater than

.05 and therefore there is not supported evidence of difference in between the groups based on their educational level.

**Table 11.** One-Way ANOVA based on education for Italian sample

Italian sample One-way ANOVA (Education)					
Consumer perception	F	Sig.	Consumer behaviour	F	Sig.
	2.608	0.053		0.886	0.449
Post Hoc Test – Multiple comparison of education on perception with Bonferroni test					
(I) EDUCATION	(J) EDUCATION		Sig.		
High school diploma Mean = 3.259 N=81	Bachelor		0.173		
	Master		1.000		
	Other		1.000		
Bachelor's Degree Mean = 3.695 N=41	Diploma		0.173		
	Master		0.124		
	Other		0.161		
Master's Degree Mean = 3.211 N=63	Diploma		1.000		
	Bachelor		0.124		
	Other		1.000		
Other Mean = 3.000 N=15	Diploma		1.000		
	Bachelor		0.161		
	Master		1.000		
Post Hoc Test – Multiple comparison of education on behaviour with Bonferroni test					
(I) EDUCATION	(J) EDUCATION		Sig.		
High school diploma Mean = 2.395 N=81	Bachelor		1.000		
	Master		1.000		
	Other		1.000		
Bachelor's Degree Mean = 2.609 N=41	Diploma		1.000		
	Master		1.000		
	Other		0.746		
Master's Degree Mean = 2.373 N=63	Diploma		1.000		
	Bachelor		1.000		
	Other		1.000		
Other Mean = 2.100 N=15	Diploma		1.000		
	Bachelor		0.746		
	Master		1.000		

Table 12 shows the results for One-way ANOVA analysis run according to the occupation of the respondents. The options given in the questionnaire were student, employed/self-employed, unemployed and “other”. The majority of the Finnish respondent (147) are employed or self-employed, 36 respondents are students and 11 are unemployed. The results for consumers’ perception show significant difference among the groups as  $F=3.871$  and  $p=.010$ . Confirming the results from the ANOVA test, the pairwise Bonferroni comparison was executed and accordingly is possible to conclude that there is extremely significant difference between unemployed respondents and the one marked as “other” with significance value of  $p=.013$ . Furthermore, the difference between students and unemployed respondents is also significant as  $p=.033$ .

The second part of the tables how the same analysis based on consumers’ purchasing behaviour towards organic labels. The  $F=14.716$  and  $p=.000$  denote an extremely significant difference on consumers’ behaviour as per different professions. The Bonferroni post hoc test confirm such difference in between students and employed/self-employed respondents with  $p=.000$ . Moreover, between students and the category marked as “other” the difference is relevant as  $p=.000$ . Employed/self-employed and “other” have also a significant difference ( $p=.001$ ) similarly to unemployed and “other” ( $p=.001$ ).

**Table 12.** One-Way ANOVA based on occupation for Finnish sample

Finnish sample One-way ANOVA (Occupation)					
Consumer perception	F	Sig.	Consumer behaviour	F	Sig.
	3.871	0.010		14.716	0.000
Post Hoc Test – Multiple comparison of Occupation on perception with Bonferroni test					
(I) OCCUPATION		(J) OCCUPATION		Sig.	
Student Mean= 3.842 N=36		Employed/Self-employed		1.000	
		Unemployed		0.033	
		Other		1.000	
Employed/Self-employed		Student		1.000	

Mean= 3.707 N=147	Unemployed	0.068
	Other	0.388
Unemployed Mean=3.060 N=11	Student	0.033
	Employed/Self-employed	0.068
	Other	0.013
Other Mean= 4.333 N=6	Student	1.000
	Employed/Self-employed	0.388
	Unemployed	0.013
Post Hoc Test – Multiple comparison of Occupation with Bonferroni test		
(I) OCCUPATION	(J) OCCUPATION	Sig.
Student Mean= 1.513 N=36	Employed/Self-employed	0.000
	Unemployed	0.372
	Other	0.000
Employed/Self-employed Mean= 2.391 N=147	Student	0.000
	Unemployed	1.000
	Other	0.001
Unemployed Mean=2.136 N=11	Student	0.372
	Employed/Self-employed	1.000
	Other	0.001
Other Mean= 4.000 N=6	Student	0.000
	Employed/Self-employed	0.001
	Unemployed	0.001

Table 13 reports the results for the One-way ANOVA analysis run on the Italian sample. The majority of the Italian respondent (115) are employed or self-employed, 18 respondents are students, 17 unemployed and 50 did not specify their profession. The results for consumers' perception do not show significant difference among the groups as  $F=1.960$  and  $p=.121$ . Confirming the results from the ANOVA test, the pairwise Bonferroni comparison was executed and accordingly is possible to conclude that there is not significant difference between the different groups based on occupation. The second part of the tables show the same analysis based on consumers' purchasing behaviour

towards organic labels. The  $F=1.253$  and  $p=.292$  denote again no significant difference on consumer behaviour according to the respondents' profession.

**Table 13.** One-Way ANOVA based on occupation for Italian sample

Italian sample One-way ANOVA (Occupation)					
Consumer perception	F	Sig.	Consumer behaviour	F	Sig.
	1.960	0.121		1.253	0.292
Post Hoc – Multiple comparison of Occupation on perception with Bonferroni test					
(I) OCCUPATION	(J) OCCUPATION	Sig.			
Student Mean= 3.166 N= 18	Employed/Self-employed	1.000			
	Unemployed	1.000			
	Other	1.000			
Employed/Self-employed Mean= 3.405 N =115	Student	1.000			
	Unemployed	1.000			
	Other	0.277			
Unemployed Mean=3.617 N=17	Student	1.000			
	Employed/Self-employed	1.000			
	Other	0.324			
Other Mean= 3.053 N=50	Student	1.000			
	Employed/Self-employed	0.277			
	Unemployed	0.324			
Post Hoc – Multiple comparison of Occupation on behaviour with Bonferroni test					
(I) OCCUPATION	(J) OCCUPATION	Sig.			
Student Mean= 1.9722 N= 18	Employed/Self-employed	0.442			
	Unemployed	0.580			
	Other	1.000			
Employed/Self-employed Mean= 2.469 N =115	Student	0.442			
	Unemployed	1.000			
	Other	1.000			
Unemployed Mean=2.588 N=17	Student	0.580			
	Employed/Self-employed	1.000			
	Other	1.000			
Other Mean= 2.370 N=50	Student	1.000			
	Employed/Self-employed	1.000			
	Unemployed	1.000			

#### 5.4. Empirical testing of factors influencing consumers' perception and behaviour

In this subchapter, the aim is to present the empirical findings of this research. The goal is to verify whether the selected factors from the literature review have an impact on consumers' perception of organic labels and whether this perception is correlated with green purchasing behaviour. The first analysis presented in below Table 14 is the Pearson's correlation test, which is one of the most common analysis used to determine the relationship between two variables as well as the linear association amid them. This tool is mostly used in quantitative studies to evaluate how variables are related and how strong this connection is.

There are different types of correlation that can be distinguished by how one variable positively or negatively changes in correlation to the other. The correlation can be positive when one variable increase if the second variable also increases and is called negative when one variable tends to decrease if the second one decreases too. Pearson's correlation coefficient can assume values between -1 and 1 ( $-1 < x < 1$ ). (Hair et al. 2010)

Values greater than 0, thus on positive side denote a positive correlation between the variables, vice versa values less than 0 indicate a negative correlation and values that equal 0 denote no correlation at all. (Hair et al. 2010) In this study the Pearson's correlation test was carried out to verify the linear correlation of the independent variables. As shown in the tables below all the 6 independent variables were included in the analysis and the results are as follow:

**Table 14.** Pearson's Bivariate Correlation results

Finnish Sample	1	2	3	4	5	6
1. Awareness	1	.661	.591	.491	.601	.241
2. Knowledge	.661	1	.574	.502	.528	.341
3. Trust	.591	.574	1	.484	.604	.182
4. Clarity	.491	.502	.484	1	.423	.210
5. Persuasiveness	.601	.366	.604	.423	1	.183
6. Private Benefits	.241	.093	.182	.210	.183	1

Italian Sample	1	2	3	4	5	6
1. Awareness	1	.629	.570	.545	.653	.445
2. Knowledge	.629	1	.485	.509	.528	.341
3. Trust	.570	.485	1	.640	.685	.416
4. Clarity	.545	.509	.640	1	.605	.394
5. Persuasiveness	.653	.528	.685	.605	1	.498
6. Private Benefits	.445	.341	.416	.394	.498	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

As shown in the tables above, in both the Finnish and Italian samples, the correlations between the independent variables are positive as they are above 0.01. Some researchers consider Pearson's coefficient of 0.7 the maximum limit when it comes to correlation, as a coefficient above 0.7 would indicate the relationship among the variables is too "strong"

and thus creating potential multicollinearity problems. The limit is still highly debated among researchers, and some argue that a correlation coefficient of 0.8 still lies within the acceptable range. In this study all the correlation coefficients ranges within 0.01 and 0.7, thus denoting a connection among the variables which should be void of potential collinearity thus increasing the validity of the study. The correlation coefficients are stronger for the Italian sample than the Finnish one with the most correlated variables being consumer trust and persuasiveness with a score of .685. (Hair et al. 2010)

The last analysis performed in this study is the regression analysis, a technique used to predict unknown effects of a variable based on the known factors, also called predictors. In statistics the predictors are usually referred as the independent variables whereas the dependent variable is the variable which effects will be tested. (Hair et al. 2010) The equation of a regression analysis is as follow:

$$Y = a + b_1 * x_1 + b_2 * x_2 + \dots$$

The dependent variable (Y) is defined by the constant (a) plus the regression coefficients (b) time the independent variables (x). Hence, in this study the equation will include the dependent variable (Y) represented by consumers' perception and the independent variables (x) represented by the factors known for influencing consumers' perception, namely awareness, knowledge, trust, clarity of meaning, persuasiveness and private benefits. Furthermore, the second part of the analysis will include consumers' perception as the predictor for the dependent variable, in this case consumers purchasing behaviour. (Hair et al. 2010)

Once the regression analysis' model is determined it is possible to evaluate the goodness or fit of the model through the coefficient of determination also called  $R^2$ . This coefficient measures how close the data analysed are to the regression model, or in other words how much the variance of the dependent variable is predicted by the independent variable. In below Table 15 it is possible to see the results from the regression analysis on the Italian sample. In the first model, the independent variables consumer awareness, knowledge, trust, clarity of meaning, persuasiveness and private benefits were tested on consumers' perception. (Hair et al. 2010)

**Table 15.** Regression analysis on consumers' perception of the Italian sample

Italian Model 1 Summary		
R	R Square	Sig.
.862	.744	.000

Independent variable	Unstandardized coefficient	Standardize coefficient	Sig.
Awareness	.154	.060	.011
Knowledge	-.017	.052	.739
Trust	.138	.062	.027
Clarity	.094	.055	.090
Persuasiveness	.531	.055	.000
Private Benefits	.086	.040	.031

**Table 16.** Regression analysis on consumers' purchasing behaviour of Italian sample

Model 2 summary			
R	R Square	Adjusted R Square	Sig.
.730	.533	.530	.000

Ind. variable	Unstand. coefficient	Stand. coefficient	Sig.
Perception	.764	.730	.000

As shown in Table 15, the significance level is  $p=.000$  which indicate a strong influence from the selected factors and moreover the coefficient of determination has a value of .744 meaning that 74% of the variability of consumers' perception is explained by the regression model. The significance value of the model tells whether the independent

variables are able to explain the dependent variable or not and since in the model  $p=.000$ , it can be concluded that the model is reliable.

Based on the regression model in Table 15 it can be concluded that consumer awareness of organic labels has a positive impact on consumers' perception of organic labels as  $p=.011$  ( $\beta =.060$ ). Hence the first hypothesis of this study is supported, and the null hypothesis rejected.

The relation between consumer knowledge and consumers' perception of organic labels does not receive support based on the regression test executed, where  $p=.739$  and  $\beta =.052$ . Because the significance level is greater than .05 the null hypothesis is accepted, and the alternative hypothesis of this study rejected.

Regarding consumer trust and its impact on consumers' perception of organic labels, there is a significant relationship as the results in Table 15 show that  $p=.027$  and  $\beta =.062$ . Hence, consumer trust has a positive influence on perception of organic labels and the hypothesis three of this study is supported.

The relation between the clarity of meaning in organic labels and the consumers' perception does not receives significant support. The  $\beta$  value is .055 and the significance coefficient is higher than .05 ( $p=.090$ ). Thus, clarity of the label does not have an influence on consumers' perception and since the hypothesis four of this study does not receive support, the null hypothesis is accepted.

Moving on the relation between persuasiveness and consumer perception of organic labels, the analysis show extremely positive results with  $\beta =.055$  and  $p=.000$ . Hence, the persuasiveness of organic labels has a positive impact on consumer's perception and hypothesis five of this study is supported.

Regarding the impact of private benefits on consumer perception of organic label the results show positive values with  $\beta =.040$  and  $p=.031$  lower than .05. Thus, the hypothesis six receives support and the null hypothesis is rejected.

At last, the relationship between consumers' perception and consumers' purchasing behaviour was tested in table 16. The regression model explains 53.3% of the variability

of consumer purchasing behaviour ( $R^2 = .533$ ) and the significance level of the model is .000 which denote a positive impact of the independent variable, consumers' perception, on the dependent variable, consumer purchasing behaviour. Furthermore, the relationship among the variables receives significant support as  $\beta = .730$  and  $p = .000$ , indicating a very strong relationship. Hence the hypothesis seven of this study is supported and the null hypothesis rejected.

**Table 17.** Regression analysis on consumer perception of the Finnish sample

Finnish 1 Model Summary		
R	R <sup>2</sup>	Sig.
.846	.716	.000

Independent variable	Unstandardized coefficient	Standardize coefficient	Sig.
Awareness	.312	.304	.000
Knowledge	-.038	-.038	.505
Trust	.123	.113	.043
Clarity	.040	.050	.998
Persuasiveness	.445	.541	.000
Private Benefits	.081	.084	.038

**Table 18.** Regression analysis on consumer purchasing behaviour of Finnish sample

Finnish Model 2 Summary		
R	R <sup>2</sup>	Sig.
.550	.302	.000

Ind. variable	Unstand. coefficient	Stand. coefficient	Sig.
Perception	.703	.550	.000

As shown in Table 17, the significance level of the model is  $p=.000$  which again indicate a strong influence of the selected factors on the dependent variable. The  $R^2$  has a value of .716 meaning that the regression model explains about 72% of the variability of consumer perception. Moreover, the significance value of the model ( $p=.000$ ) tells that the independent variables are able to explain the changes in the dependent variable.

Based on the regression model executed on the Finnish sample in Table 17 consumer awareness of organic labels has an extremely positive impact on consumers' perception of organic labels as  $p= .000$  ( $\beta =.304$ ). Hence the first hypothesis of this study is supported, and the null hypothesis rejected.

Similarly to the results for the Italian sample, the relation between consumer knowledge and consumers' perception of organic labels does not receive support based on the negative regression coefficient  $\beta = -.038$  and  $p$  value of .505. Because the significance level is greater than .05 and the coefficient negative the null hypothesis is accepted, and the alternative hypothesis is rejected.

Concerning consumer trust and its impact on consumer perception of organic labels, the analysis shows there is a significant relationship among the factors as  $p= .043$  and  $\beta =.113$ . Hence, consumer trust has a positive impact on consumer perception and the hypothesis three of this study is supported.

Similarly to the results for the Italian sample, the relation between the clarity of organic labels and consumers' perception does not receives significant support from the analysis. The  $\beta$  value is .050 and the significance coefficient  $p= .998$  is significantly higher than the acceptable level of .05 and so, the hypothesis four of this study is rejected.

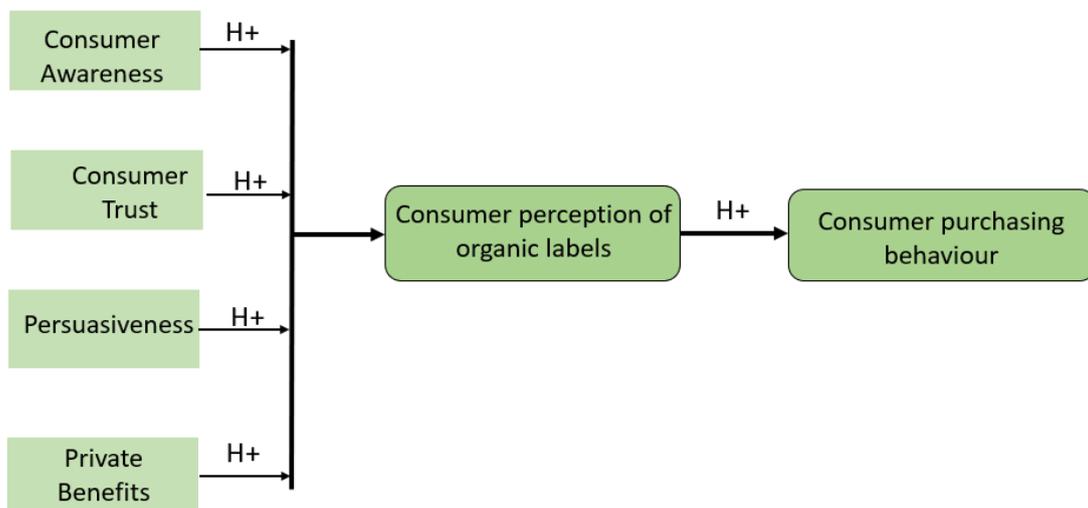
The relation between persuasiveness and consumer perception of organic labels receives support as the analysis show extremely positive results with  $\beta =.541$  and  $p=.000$ . Hence, the persuasiveness of organic labels has a positive impact on consumers' perception supporting the hypothesis five of this study and rejecting the null hypothesis.

Concerning the impact of private benefits on consumer perception of organic label the results shoe positive values with  $\beta =.084$  and  $p= .038$  lower than .05. Thus, private

benefits associated with organic products have a positive impact on consumers' perception and the hypothesis six receives support while the null hypothesis is rejected.

Lastly, the relationship between consumers' perception and consumers' purchasing behaviour was tested in Table 18. The regression model explains 30.2% of the variability of consumer purchasing behaviour ( $R^2 = .302$ ) and the significance level of the model is .000 which denote a positive impact of the independent variable, consumers' perception, on the dependent variable, consumers' purchasing behaviour. Furthermore, the relationship among the variable receives significant support as  $\beta = .550$  and  $p = .000$ , indicating a very strong relationship. Hence a positive perception of organic labels is strongly linked with consumers' purchasing behaviour, supporting in this way the hypothesis seven of this study and rejecting the null hypothesis.

Based on the results of this study, the following revised model as Figure 12 was elaborated from the conceptual model, excluding the hypotheses that were not supported.



**Figure 12.** Revised conceptual model

## 6. DISCUSSION AND CONCLUSION

The focus on this last chapter is to summarize and discuss the findings of the study. Following, the managerial implications of the study are presented and eventually the chapter ends with limitation and suggestions for future research.

### 6.1 Summary of the findings

Organic labels, and more in general eco labels, have been a central topic in the past decades for marketing studies as environmental issues have taken every day a bigger role in companies' agenda and consumers concerns. Given the status quo of the environmental situation governments, companies and consumers should focus more and more in tackling problems concerning the wellbeing of our planet by focusing in developing sustainable production techniques and advertise more sustainable consumption patterns. One way of advertising more eco-friendly options to consumers is indeed through eco labels and organic labels.

The main goal of this study is to analyse the effect of selected factors on consumers' perception of organic labels and whether a positive perception of the label would lead the consumer to buy organic products. The factors chosen were consumers awareness, consumers knowledge, consumers trust, the clarity of the label, the persuasiveness and the private benefits connected with organic labels. Based on the previous literature and empirical studies, seven hypotheses were developed on the relationship between the chosen factors and consumers' perception of organic labels. Eventually, to test the actual purchase behaviour of consumers, consumers' perception was tested as a predictor of green purchasing behaviour.

Consumers' perception is one of the first phase in the process of consumer buying behaviour, and work in reaction to external stimuli such as marketing campaigns and information provided on the products such as labels. The results from previous studies are still mixed with evidence of the impact of eco labels on consumption patterns and

studies which contradict such findings. This research will add to the selection of pre-existing studies, examining organic labels and consumers' perception and behaviour. The hypotheses developed were tested on data collected from a Finnish and Italian sample and analysed in the empirical part of the study. The findings are shown in below Table 19:

**Table 19.** Findings of the study

Hypothesis	FI	IT
Hypothesis 1	Supported	Supported
Hypothesis 2	Not supported	Not supported
Hypothesis 3	Supported	Supported
Hypothesis 4	Not supported	Not supported
Hypothesis 5	Supported	Supported
Hypothesis 6	Supported	Supported
Hypothesis 7	Supported	Supported

The findings of this study support some of the hypotheses and reject others. Starting from the beginning, the first hypothesis receives supports from both the samples and hence consumers awareness has a positive impact on consumers' perception. The findings are similar to the ones from Delmas (2010) which in her study about organic labels, highlighted how a greater consumer awareness leads to a more positive perception of labels. Furthermore, the findings support the result from the study conducted by Testa et al. (2015), which found a significant link between consumer awareness and use of eco labels. The results are also in accordance with Taufique et al. (2014) which with their study have shown how consumers with a greater awareness of eco labels tends to have a

better perception and understanding of labels. Lastly, the results are also similar to the study carried out by Thøgersen (2000), where the empirical testing proved the awareness to be an essential factor for consumers to pay attention to eco labels. The results also support the finding from Vanninen et al. (1995).

The second hypothesis concerning consumers knowledge of organic labels do not receive support in this study for any of the samples. The findings shed a new light on the topic as in previous studies, knowledge of eco labels has been identified as a central factor for a positive perception and a positive purchasing behaviour. Indeed, the results from the empirical testing are contradictory with previous researches such as D'Souza et al. (2006), where the authors found a very positive relationship between consumer knowledge and eco labels. The results of this study also contradict the findings from Taufique et al. (2014), where the authors confirmed how knowledge of eco labels positively influence consumers' perception. Furthermore, the findings contradict the study from Heiskanen et al. (1995).

Consumers trust of organic labels, in the third hypothesis, receives support as a factor influencing positively consumers' perception of organic labels. The results confirm the findings from previous studies by Atkinson et al (2014), Delmas (2010) and Thøgersen (2000), where the authors consider consumer trust in eco labels as an essential factor for the effectiveness of labels. Both Finnish and Italian sample groups support the hypothesis.

The clarity of meaning tested in hypothesis four does not receive support from either Finnish or Italian sample due to the absence of empirical evidence. The results of this study are contradictory with previous research done on the topic. In the study carried out by Testa et al. (2015), the authors emphasize the need for clear labels to avoid confusion and misunderstanding for consumers. In the same way, the results from D'Souza et al. (2006) prove that the accuracy and clear meaning of labels will help in promoting green products. Moreover, other studies from Thøgersen et al. (2010) and Taufique et al. (2019) supports the importance of clarity in eco labels.

According to the findings from this study, the persuasiveness of organic labels has a positive impact on consumers perception for both the Finnish and Italian sample. The

findings support previous researches by Atkinson et al. (2014), Bickart et al. (2012) and Taufique et al. (2019). Atkinson et al. (2014) have found that labels that are considered more appealing are indeed more persuasive for consumers which accordingly react positively to them. The study from Bickart et al. (2012) found that concerned consumers are more likely to get persuaded by labels and Taufique et al. (2019) has found evidence that persuasiveness of eco labels is one of the dimensions to measure consumers perception of eco labels.

The hypothesis six, concerning the private benefits connected with organic labels found supporting evidence from both Italian and Finnish samples. The results are in line with previous findings by Delmas, (2010) and Taufique et al. (2019). According to Delmas (2010) consumers which link more personal benefits into buying organic products will have a more positive perception of organic labels. In the same way, Taufique et al. (2019) prove that eco labels that claims additional benefits such as being healthier, will also improve consumers' overall perception of labels.

The seventh hypothesis has an extremely positive outcome in both samples of population and thus, according to the empirical testing of this study is possible to conclude that a positive perception of organic labels has a positive impact consumers' purchasing behaviour of organic food products. The results are in line with the findings from previous studies by Taufique et al. (2019), Testa et al. (2015), Leire et al. (2005), Delmas (2010), Thøgersen et al. (2012), Harms et al. (2015) in which eco labels have been found positively related to a positive purchasing behaviour towards environmentally friendly products.

Several conclusions can be drawn from the results of this study, which has found many significant differences among Finnish and Italian consumers. First, the demographic analysis has shown significant differences among male and female Finnish consumers. Generally Finnish female consumers are more prone in buying organic food products comparing to Finnish male consumers, however there is not significant difference when comparing to the Italian female consumers. Nevertheless, significant difference was found among Italian and Finnish male consumers concerning their purchasing behaviour, with Finnish consumers being less prone in buying organic

products. Overall in both samples there is a more favourable perception and behaviour towards organic food products in female consumers rather than male ones, as reported in many other studies.

Concerning the age of respondents, significant difference was found for consumer's perception among Finnish consumers aged 30-49 and 50-65. Respondents in their middle-age have a more positive perception of organic labels than older consumers. Overall respondent aged 50-65 tends to have a less positive perception of organic labels probably due to green marketing starting to take shape only in the seventies and becoming increasingly known later in eighties and nineties. No significant difference was found among younger Finnish consumers and the older generations. However, the results show how older Finnish consumers are keener on buying organic products rather than younger consumers. Concerning consumers behaviour, there is a significant difference among the young generation 18-29 in Finland and Italy, with Italian consumers buying relatively more organic food products than Finnish young consumers. Nevertheless, for the Italian sample no significant difference was found in either response to consumer's perception and consumers' purchasing behaviour among young, middle-aged and older consumers.

According to the occupational status of the respondents, significant difference was found between consumers' perception of Finnish students and unemployed respondents. Remarkable difference was also found among Finnish student and Italian students in regard to their perception of organic labels. However, the scores for perception and behaviour were not too different in the Finnish and Italian sample, so perhaps it is not possible to create a generalizable assumption based on the occupation of the respondents.

Lastly, the sum of the factors used in this study proved to explain more than 70% of consumers' perception in both Finnish and Italian sample. Although consumer knowledge was not found a statistically important factor to determine a positive consumer perception, other predictors such as consumer awareness, trust, and private benefits were found to be influencing factors for both samples. Moreover, this study has found relevant evidence that a favourable perception of organic labels is an important predictor of a positive consumer buying behaviour towards organic food products.

## 6.2 Managerial implications

The outcome of the study shows that there are several influencing factors regarding consumers' perception of organic labels and one of the most important factors, for both samples, is consumers awareness. This indicate that people awareness towards organic labels, acts as a driving factor for their perception and consequently their purchasing decision. Hence it can be concluded that marketers could improve their communication and visibility in the market to target consumers in Europe.

Similarly, another important factor that positively influence consumers' perception is the private benefits associated with organic labels. The more benefits are reported on the label the more appealing this will be for consumers in both Finland and Italy. Thus, it can be argued that marketers could improve their labels and messages in order to include more benefits that the consumer will receive by buying organic labels. For instance, providing a clear table with advantage in choosing organic food over conventional could improve the sales of organic products.

Consumers trust proved to be another influencing factor related to consumers' perception of organic labels. This study indicates that respondents from both countries consider transparency behind the label a prerequisite for trusting the label and consequently having a positive perception. Companies could use the concept of trust to develop new marketing strategies that creates a transparent and faithful image of the company while targeting sceptical consumers.

From the demographical analysis of this study it was found that women have more positive perception than men regarding organic labels. Marketers could try to develop marketing strategies and campaign that would target more male consumers in order to get them involved. Moreover, marketers should focus on developing more consumers' awareness, particularly when it comes to older generations, pitching for instance the health benefits that consumers will receive by choosing organic over conventional products.

Overall, this study provides marketers with insight on consumers attitudes towards organic food products and which factors have the most influence on Finnish and Italian

consumers. The market of organic products is still underdeveloped, and marketers should improve their marketing strategies to positively influence consumers to choose a more sustainable consumption.

### 6.3 Limitation and future research

This study contributes to the wide range of researches conducted on eco labels. Since previous studies have focused on different constructs and concepts, this study has a different approach as multiple factors were combined. However, some of the factors influencing consumers' perception were purposely left aside, such as the trust consumers have in the certifying organization and the design and visibility of the label on the package. Hence more research could be done including the missing predicts. Moreover, more research should be conducted on the factors that did not receive much attention in past studies such as private benefits connected with organic labels and persuasiveness of the label.

More research should also be done on consumer knowledge and its connection and correlation with consumers' perception and behaviour. As this study reported no significant meaning was found in the relationship, although other studies have supported the correlation. Therefore, more studies should investigate consumer knowledge and help understanding whether the factor has an impact on consumers' perception.

Furthermore, this study results limited due to the small samples gathered. Although the study entails 400 responses, a bigger sample could shed light on some new factors or argument some of the results achieved in this research. For instance, a bigger Italian sample could have different results regarding the demographical factors and their influence on consumers' perception and behaviour. In this study age, gender, educational background and occupation did not have influence on consumers, however in other studies the demographical characteristic were found to have influence on consumers. In the same way, the Finnish sample of this study was not well balanced in terms of young, middle age and older consumers. Therefore, future research could aim at gathering a bigger sample of population which would represent equally the population in terms of age and gender.

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## Appendix 1: Questionnaire in Italian

### CONSUMATORI ED ETICHETTE BIOLOGICHE

Gentile utente,

grazie per la partecipazione al mio questionario sulle etichette biologiche. Questo questionario farà parte della mia tesi di Laurea magistrale sul comportamento d'acquisto dei consumatori riguardo prodotti alimentari con etichette biologiche.

Il questionario richiede solo 10 minuti per compilarlo e tutte le informazioni fornite saranno trattate con la massima discrezione. I risultati ottenuti non verranno mostrati singolarmente ma utilizzati in un'analisi generale sull'argomento.

#### Informazioni generali

- 1) Genere:  uomo  donna
- 2) Età:  18-29  30 – 49  50-65
- 3) Cittadinanza:  Italiana  altra
- 4) Titolo di studio:
- Diploma scuola superiore  Laurea triennale  Laurea magistrale  Altro
- 5) Occupazione:  Studente  Impiegato/ta o Imprenditore/trice  Disoccupato/a  Altro



**Per favore leggi attentamente le frasi che seguono e scegli il numero che rappresenta meglio il tuo grado di accordo o disaccordo con la frase. Puoi rispondere cerchiando il numero che corrisponde di più alla tua opinione. (Fortemente in disaccordo =1, Non sono d'accordo = 2, Neutrale =3, Sono d'accordo = 4, Sono assolutamente d'accordo = 5)**

- 6) Ho sentito parlare delle etichette biologiche
- 7) Quando faccio la spesa leggo sempre qualsiasi etichetta o simbolo sui prodotti alimentari che compro.
- 8) Sono consapevole che comprando alimenti con etichette bio aiuto l'ambiente.
- 9) Sono a conoscenza del significato del termine biologico.

- 10) Sono a conoscenza dell' etichetta biologica Europea (mostrata sopra) e del suo significato.
- 11) Le etichette bio sono veritiere.
- 12) Quello che le etichette bio dicono di un prodotto è sempre vero.
- 13) I prodotti biologici si impegnano veramente nella protezione ambientale
- 16) In generale ho un'impressione più favorevole di un prodotto se presenta un' etichetta bio.
- 17) Normalmente le etichette bio influenzano la mia scelta d'acquisto.
- 18) In generale le informazioni fornite dalle etichette bio sono comprensibili
- 19) Le etichette bio forniscono sufficienti informazioni sul prodotto
- 20) Le etichette bio dovrebbero illustrare meglio i benefici aggiuntivi nel comprare biologico tanto da farmi acquistare il prodotto.
- 21) Le etichette bio dovrebbero indicare maggiormente i vantaggi nell'acquisto di alimenti biologici come "più salutare" e "miglior qualità".
- 22) In generale, ho un'opinione positiva sulle etichette bio
- 23) Le etichette bio aiutano a sensibilizzare sulle tematiche ambientali
- 24) La presenza di un' etichetta bio influenza la mia scelta nell'acquisto del prodotto.
- 25) Io compro sempre prodotti biologici.
- 26) Quando faccio la spesa, compro sempre prodotti con etichetta biologica Europea (mostrata sopra)



- 10) I am familiar with the Leppäkerttu-merkki (picture 1) and its meaning.
- 11) I am familiar with the Aurinko-merkki (picture 2) and its meaning
- 12) I am familiar with the European organic label (picture 3) and its meaning
- 13) Organic labels are credible
- 14) What organic labels claims about a product is always true
- 15) Organic labels are genuinely committed to environmental protection.
- 16) Generally, my opinion of a product is more favourable when it displays an organic label
- 17) Overall, organic labels influence my buying behaviour
- 18) Generally, the information provided by organic labels are understandable
- 19) Organic labels provide enough information regarding a product.
- 20) Organic labels should show more benefits that would make me want to buy the product.
- 21) Organic labels should say about extra benefits in buying organic food such as "better quality" and "healthier"
- 22) Overall, I consider organic labels a good thing.
- 23) Organic labels help raise environmental awareness
- 24) When shopping, organic labels influence my purchasing decision.
- 25) I always buy organic food.
- 26) When I shop, I always buy products that displays at least one of above organic labels.