Eco-labels: A Tool to Enhance Sustainable Consumption

A quantitative study about how consumers knowledge and trust in eco-labels can affect purchase intention

by

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May 2020

Master's Programme in International Marketing and Brand Management

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Abstract

Title: Eco-labels: A Tool to Enhance Sustainable Consumption

Seminar Date: 4th June 2020

Course: BUSN39 Degree Project in Global Marketing

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Keywords: Sustainable Consumption, Theory of Planned Behaviour, Eco-labels, Eco-label Knowledge, Eco-label Trust

Thesis Purpose: The purpose of this study is to examine eco-label knowledge and eco-label trust, and their relationships to planned sustainable behaviour. This will be done by investigating the Swedish market and more specifically eco-labelled food within the FMCG sector.

Methodology: This thesis adopted a deductive research approach which follows a quantitative research method. The data was collected through an online survey and used a non-probability sampling method. The data was later analysed with the means of Confirmatory Factor Analysis and Structural Equation Modelling.

Theoretical Perspective: The main theoretical framework used for this thesis is the Theory of Planned Behaviour. We have expanded the framework with consumer knowledge as well as consumer trust and applied this in the context of eco-labels and its effect on purchase intention.

Empirical Data: The empirical data was primary data retrieved from an online questionnaire which generated 232 valid responses. These responses were the basis of the analysis.

Findings/Conclusions: Eco-label knowledge was found to have an impact on planned sustainable behaviour through the mediator perceived behavioural control. Whereas eco-label trust was found to influence planned sustainable behaviour through the mediators; attitude and subjective norms. Thus, all three dimensions of the TPB framework are of importance to increase purchase intention of eco-labelled food. Furthermore, education level was found to neither moderate the relationship between eco-label knowledge and purchase intention, nor eco-label trust and purchase intention. In other words, regardless of education level, knowledge and trust are of the same importance.

Practical Implications: The main implication for practitioners is to communicate eco-labels to a greater extent. Mentioned communication efforts are of the same importance regardless of education level among consumers. More specifically, we advise managers and authorities to educate consumers regarding eco-labels and thereby increase knowledge as well as build trust; two important factors to enhance the purchase intention of FMCG as well as to reduce the environmental footprint.

Acknowledgements

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1   Introduction

This chapter presents the background and problematisation of the chosen research topic. Further, research purpose and objective will be presented followed by aimed contribution and outline of the thesis.

1.1   Background

> *Imagine you are stood in the grocery store, looking at two rather similar products. You are trying to decide which product to choose when you notice one of the products holds an eco-label. You have seen this label before, but you are not quite sure what it stands for, nor if it is legit. Will this label affect your final purchase decision regardless of the knowledge you hold and the trust you feel towards the label?*

The environmental issues of today are tangible and of utmost importance to counteract. The ices are melting, the ozone layer is depleting (Viglione, 2020) and humankind is currently consuming at a rate of approximately 1,7 earth a year (Global Footprint Network, 2020). These issues have not come recently, and sustainability has been a central global aspect for a long period. The Brundtland Commission was introduced in 1987 and was the start of a society trying to become more sustainable (Hållbarhetsforum, 2020). Since then, environmental awareness has increased significantly and today Sweden is at the forefront when it comes to both environmental awareness and global climate efforts (Swedish Government Offices of Sweden, 2017; UN, 2016).

Consumption is one of the elements aggravating the environment (Bengtsson, Alfredsson, Cohen, Lorek & Schroeder, 2018; European Environmental Agency, 2020). According to the WWF (n.d.), both production of goods and services, as well as consumption patterns must change in order to meet the need of the environment. The fast-moving consumer goods (FMCG) sector is one of the largest sectors in the world (KPMG, 2016) and hence contributes to the consumption. The immense consumption can be explained by the products' low prices (Kenton, 2020). Even if companies within the FMCG sector are increasing their share of sustainable products (Wakeham, 2020), it is evident that this sector has an impact on the way people consume.

Even if consumption patterns are challenging to change (White, Habib & Hardisty, 2019), a growing number of consumers have the intention to consume in a more environmentally

friendly manner (Crawford, 2019). In fact, 80% of Swedish consumers claim to be environmentally conscious (Naturvårdsverket, 2018). Furthermore, consumer education is shown to have an impact on consumer behaviour and increase sustainable consumption even further (Okutoyi, 2019). By changing consumer behaviour, it is possible to address sustainability issues (White, Habib & Hardisty, 2019). However, consumer behaviour is a complex phenomenon and is often addressed by examining different dimensions, such as consumers attitude, the perceived pressure to engage in a behaviour, as well as consumers perceived control towards performing a behaviour (Sun, 2019). Hence, the way we consume needs to be examined more in-depth and need to change to make the consumption more sustainable. In light of this, research regarding what makes consumers more prone to sustainable products are of interest. One way companies and authorities can address the issue of unsustainable and excessive consumption, reduce the environmental footprint as well as foster more sustainable consumption patterns is by the means of eco-labels (Horne, 2009; Iraldo, Griesshammer & Kahlenborn, 2020).

An eco-label is "an official symbol that shows that a product has been designed to do less harm to the environment than similar products" (Cambridge Dictionary, 2020). Hence, the label indicates that a specific product is the least harmful to the environment. These products are most often slightly more expensive than conventional products (OECD, 2016). Many companies with an environmental agenda use eco-labels to claim their environmental efforts and differentiate their products from similar, less sustainable alternatives (Horne, 2009).

The most common eco-labels on the Swedish market today is *Svanen* (The Nordic Swan), *Bra Miljöval* (Good Environmental Choice), *KRAV*, *EU Ecolabel* and *EU Organic Label* (Naturskyddsföreningen, 2020a). Mentioned labels are third-part, independent labels working for a better society in harmony with nature and stand for slightly different things (Naturskyddsföreningen, 2020a). The labels occur in several products categories, including food products within FMCG and requirements differ among product categories (Riksdagen, 2016). Moreover, companies who employ the labels need a certification provided by the eco-label in question (Riksdagen, 2016).

Previous research in the context of sustainable consumption shows that eco-labels work as a claim that a product lives up to a certain standard (de Boer, 2003; Testa, Iraldo, Vacari & Ferrari, 2015). The labels are used to create transparency along the food chain and make consumers more confident in the labels and their claims (Grunert, Hieke & Wills, 2014; Thøgersen, Haugaard & Olesen, 2010). Hence, eco-labels can be seen as a means to bridge the information asymmetry between producers and consumers (Gutierrez & Thornton, 2014). Moreover, eco-labels are used by companies to allow consumers to make informed purchase decisions (Grunert, Hieke & Wills, 2014; Horne, 2009; Nash, 2009; Thøgersen, Haugaard & Olesen, 2010). In other words, eco-labels are supposed to help consumers make the right purchase decisions.

1.2 Research problem

The FMCG sector, especially food products, has a big impact on the environment (Stylianou, Guibourg & Briggs, 2019). At the same time as the consumption rate of FMCG is increasing, sustainable consumption is getting more and more inquired. Thus, it is reasonable to question whether it is possible to consume sustainably while consuming progressively. Given this, and the fact that consumers utilize these products daily (Kenton, 2020), the FMCG sector is a relevant subject for further examination.

One way to significantly make an impact on the environment is through collective action (DV, 2020). However, some argue that people more often prefer short-term oriented rewards instead of long-term rewards (e.g. White, Habib & Hardisty, 2019). Thus, it can be challenging for consumers to observe the long-term effects of sustainable consumption, and therefore may not partake in it. Especially within the FMCG sector where purchases are made frequently and are characterised by low-involvement products (Kenton, 2020), which induces consumers not to evaluate the products in terms of sustainability (Elg & Hultman, 2016). Hence, consumers perception of the actual impact of their consumption is affected.

Moreover, eco-labels are an important tool when it comes to improving consumption patterns and making them sustainable (Sitarz, 1994). This is since the labels communicate important information regarding benefits and environmental characteristics of products (Nagypál, Görög, Harazin & Baranyi, 2015). During the Rio Earth Summit in 1992, eco-labels was pointed out as a means for consumers to engage in sustainable consumption and thereby change their consumption patterns (Horne, 2009). Thus, by purchasing eco-labelled products, one does not necessarily consume less but instead, consume products which have less impact on the environment.

In light of this, research regarding what makes consumers more open to sustainable products are of interest. Previous research present contradicting results regarding the eco-labels impact on purchase intention, where for example Sharma & Kushwaha (2019) found eco-labels to influence purchase intention while Hwang, Park and Kim (2016), as well as Sharaf, Md Isa and Al-Qasa (2015), did not. Consumer knowledge and consumer trust are argued to influence sustainable consumption (e.g. Taufique, Vocino & Polonsky, 2017). Knowledge and understandings are stated as preconditions for adopting sustainable purchase behaviour (Daugbjerg, Smed, Andersen & Schvartzman, 2014), and are further central aspects to comprehend the provided information. While trust is seen as a prerequisite (Daugbjerg et al., 2014; Testa et al., 2015) and lack of trust has been said to be one of the main barriers for sustainable consumption (Carrete, Castaño, Felix, Centento & González, 2012). Therefore, it can be interesting to examine how consumer knowledge and consumer trust influence consumers to purchase eco-labelled food.

As seen from the above reasoning, it is questionable to what extent consumers knowledge about eco-labels and the trust consumers feel towards these labels affect purchase intention. Moreover, due to contradictions in the literature and the proposed importance of knowledge and trust, it seems as it is of interest to examine whether eco-labels function as intended or if there is need of more knowledge and trust in order to increase consumers purchase intention, and thus make consumption of today more sustainable.

1.3   Research Purpose and Objectives

The purpose of this study is to examine eco-label knowledge and eco-label trust, and their relation to planned sustainable behaviour via attitude, subjective norms and perceived behavioural control. More specifically, this is done by investigating to what extent eco-label knowledge and eco-label trust influence consumers purchase intention of eco-labelled food. The aim of this thesis is primarily to develop a deeper understanding of consumer behaviour concerning sustainable consumption as well as consumers knowledge and trust towards eco-labels. This thesis will investigate the scope of literature in the existing research streams on the subject of eco-labels and sustainable consumption to identify and to some extent saturate the gap in the current literature and research. While some research streams claim that knowledge about, and trust towards eco-labels have an impact on sustainable purchase intention, other streams argue that it does not have an impact (e.g. Taufique, Vocino & Polonsky, 2017; Hwang, Park & Kim, 2016). The objective is, therefore, to investigate whether eco-labels work regardless of consumers subjective knowledge and trust level or if consumers need more communication regarding these labels. Moreover, previous research has shown education level to be of importance regarding sustainable consumption (Meyer, 2015), hence the objective is further to examine the role of education level and if consumers purchase intention differ depending on their level of education.

To investigate this phenomenon further, we will examine food products within the FMCG sector in Sweden. This study will explore what impact eco-labels have on purchase intention and whether knowledge about eco-labels and obtained trust towards these labels influence the impact of eco-labels. Additionally, we will explore the impact of education level. Based on the presented background, we have formulated the following research questions:

RQ1: What is the relationship between consumers perception (knowledge and trust) of eco-labels and planned sustainable behaviour?

RQ2: Does education level moderate the relationship between consumers perception (knowledge and trust) of eco-labels and planned sustainable behaviour?

1.4 Aimed Contributions

With our thesis, we aim to contribute to the literature in the field of marketing and sustainable consumption, by investigating elements influencing purchase intention of eco-labelled food. We aim to contribute to past research by clarifying the relationship between eco-labels and purchase intention. As there is no consensus in previous research regarding the impact on knowledge and trust on purchase intention of eco-labelled food, we aim to somewhat saturate this gap by providing a potential explanation for the lack of consensus. Moreover, we aim to investigate whether education level moderates mentioned relationships.

Our thesis will also contribute to current research by providing further insights which will allow managers and authorities within the FMCG sector to improve their sales of eco-labelled food and thus, contribute to more sustainable consumption. Moreover, we aim to provide insights regarding whether the communication of eco-labels will make people more inherent to adapt and become more intentional towards purchasing sustainable products. We will further observe how and if education level moderates the relationship between consumers knowledge and trust in eco-labels and attitude, subjective norm and perceived behavioural control. This will provide possible insights for managers and authorities to potentially direct the communication regarding eco-labels differently towards groups with different education levels. Mentioned contributions will hopefully increase the effect of eco-labels and in the long run, help reduce environmental impact from daily consumption.

We contribute with an original conceptual framework, which focuses on both knowledge and trust in eco-labels. The developed conceptual and theoretical framework are decomposed into eco-label knowledge, trust towards eco-labels and purchase intention. The framework will be used to provide a deeper understanding of consumers' purchase intention and the effect of consumers' knowledge about, and trust towards, eco-labels. This will be examined through the lens of the Theory of Planned Behaviour (TPB). Further, this will enable us to provide a deeper understanding of the relationship between eco-labels and purchase intention as well as the role of TPB as mediating variables. Finally, the use of TPB as mediating variables will hopefully allow us to reduce the gap regarding the lack of consensus in the literature.

1.5   Outline of the Thesis

Following from this introducing chapter, the literature review will provide previous research on the topics in relevance for this thesis: sustainable consumption and eco-labels with focus on knowledge in eco-labels, trust in eco-labels and purchase intention. Following this, the next section will present the theory central for this thesis: The Theory of Planned Behaviour. From this, and the literature review, we formulate hypotheses that propose purchase intention of eco-labelled food being influenced by the level of knowledge in eco-labels, as well as the level of trust towards eco-labels. Moreover, we hypothesise the education level to moderate these relationships. Further, we introduce the methodology which outlines how the hypotheses will be tested. Following, in the next section, we present the results from the study and also the analysis of the findings. This leads to the next section which discusses the findings in relation to the literature review. Finally, these findings are concluded to provide contributions to both theoretical and managerial use. Moreover, we present the limitations of this study and suggestions for future research are proposed.

2   Literature Review

This chapter aims is to provide an overview of existing research and concepts that are relevant for this study. Sustainable consumption and the FMCG sector will be introduced as a base for this thesis. Further, eco-labels with focus on purchase intention, eco-label knowledge and eco-label trust will be reviewed.

2.1   Sustainable Consumption

As environmental issues have become of emerging importance, sustainability and sustainable consumption have gained a lot of attention in the research field in recent years. Sustainable consumption has become a broad and frequently used term, in both organisational goals and policy initiatives (Jackson, 2008). Studies of environmental consumption date back to the late 1960s (D'Souza, Taghian, Lamb & Peretiatko, 2007; Horne, 2009), but the most commonly used definition of sustainable consumption was developed in 1994 at the Oslo Symposium and reads as follows:

> "The use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of further generations". (Norwegian Ministry for the Environment, cited in Lorek & Fuchs (2013) p.37).

It is argued that to understand sustainable consumption, one must take a holistic approach (Jacobsen & Hansen, 2019). This is due to that the concept has evolved from an approach focused on reducing consumption into a broader paradigm, including ecological, fair, just and ethical consumption (Lee, 2017). Lee (2017) also states that the new consensus includes several aspects of sustainable consumption, such as organically grown products, eco-efficiency, and packaging design. Hence, sustainable consumption is no longer solely focused on reducing consumption but also on that produced and consumed goods are fulfilling several aspects connected to sustainability to meet the need of generations today and tomorrow (Phipps, Ozanne, Luchs, Subrahmanyan, Kapitan, Catlin, Gau, Naylor, Rose, Simpson & Weaver, 2013).

According to Jansson, Nordlund and Westin (2017), several factors are driving sustainable consumption. The authors enhance social influence through social norms as one of the most important factors when guiding consumers towards behaviours that can be viewed as pro-

environmental. Moreover, Jansson, Nordlund and Westin (2017) also enhance attitudes towards a specific behaviour as an important driver towards sustainable behaviour. However, depending on country origin, consumers assess factors regarding that influence sustainable behaviour differently (OECD, 2008). More generally, sustainable consumption is viewed as desirable and important by the general mass (Yang, Li & Zhang, 2018). Furthermore, the general mass has adopted a positive attitude toward environmental issues and demonstrated a willingness to incorporate these aspects into their consumption habits (Pedersen & Neergaard, 2006). Moreover, previous research has pointed out differences between genders when it comes to pro-environmental behaviour and sustainable consumption. Studies have shown women to be more environmentally concerned and behave more sustainably than men (Costa Pinto, Nique, Maurer & Borges, 2016; Milfont & Sibley, 2016; Zelezny, Chua & Aldrich, 2000).

Consumers' attitude and understanding of sustainability, as well as consumption patterns and behaviour, varies across sectors (Elg & Hultman, 2016). This is due to in which context the purchase take place (Lehner, 2015), the power of norms in the specific market (McNeill & Moore, 2015), and is also dependent on consumers' relation to a different type of products (Elg & Hultman, 2016). Elg and Hultman (2016) argue that low involvement products are not being evaluated in sustainability terms since it is perceived to be time-consuming and hence, not reasonable to do so. Accordingly, FMCG is often low involvement products (Asghar, Abbasi & Zafarullah, 2015) and are thus not evaluated in the same extent before purchase as high involvement products are (Jain, 2019). Furthermore, research shows that Swedish consumers both claim to care for the impact of the purchased product on the environment and to be aware of its actual impact (Lehner, 2015). This goes in line with the high concern and awareness among Swedish consumers (Naturvårdsverket, 2018).

2.1.1   Sustainable Consumption of FMCG

Fast moving consumer goods (FMCG) refers to non-durable goods and products that are purchased on frequently and are sold at a relatively low cost (Leahy, 2011; Rishi, 2013). The FMCG market is furthermore associated with low engagement and minimal purchasing effort (Leahy, 2011). Products within the FMCG sector play a vital role in the consumer's life since the majority purchase and use the products daily (Kenton, 2020). Moreover, the concept of sustainable consumption promotes both less consumption (Bengtsson, Alfredsson, Lorek & Schroeder, 2018), as well as consumption of more sustainable products (Phipps et al., 2013) while products within FMCG are generally characterised as non-sustainable since they have a short shelf-life and are consumed in a short period (Özer, Kufel, Biggs, Brown & Myers, 2019). However, FMCG does not solely refer to non-sustainable products, since both packaging and products themselves are becoming more sustainable (Lacy, Long & Spindler, 2020). The consumption of sustainable products depends on consumers awareness of sustainability problems, environmental sustainability and concern for the environment as a whole (Singh, Singh & Thakur, 2014).

Previous research has explored different factors influencing consumers' attitude toward purchasing sustainable products within the FMCG sector (e.g. Tandon & Sethi, 2017). Attitude is seen as an essential part of consumer behaviour and marketers often try to adjust consumer's attitude about various products and services (Tandon & Sethi, 2017). Purchase intention depends on consumers attitude toward the specific product (Al-Swidi, Huque, Hafeez & Shariff, 2014) and is also a predictor of behaviour (Krarup & Russell, 2005). This is supported in the scenario of buying sustainable products; a strong attitude toward sustainable products indicates a willingness to purchase (Arcury, 1990; Barber, Taylor & Strick, 2009; Kollmuss & Agyeman, 2002). Purchase intention of sustainable products can also be dependent on, for example, consumers ecological knowledge (Junaedi, 2007) and consumers perceived knowledge regarding the product being consumed (Secapramana & Katargo, 2019). Increased perceived knowledge and actual knowledge in organic food are claimed to influence consumer attitude toward purchase (de Magistris & Gracia, 2008; Secapramana & Katargo, 2019). Moreover, consumer trust is also an important factor (Taufique, Siwar, Talib, Sarah & Chamhuri, 2014). By increasing trust in sustainable products, it is possible to influence purchase intention (Potts & Haward, 2007). Other predictors of purchase intention of sustainable products are pressure from society (Sharaf, Md Isa & Al-Qasa, 2015) and the perceived control consumers feel towards engaging in this behaviour (Godin & Kok, 1996). One way to enhance sustainable consumption is by the means of eco-labels (Horne, 2009; Iraldo, Griesshammer & Kahlenborn, 2020).

2.2   Eco-labels

The first eco-label was initiated in Germany, in 1977, with intention to promote environmental consumerism (Rahbar & Abdul Wahid, 2011; Reisch, 2001). The labels have been said to be a way for producers to govern the segment of green consumers (Blend & Ravenswaay, 1999). Some researchers claim eco-labelling to be a green marketing tool (e.g. D'Souza, Taghian & Lamb, 2006; Rahbar & Abdul Wahid, 2011) while others define it as a means to inform consumer, foster more sustainable consumption patterns and in the long run reduce the environmental footprint (Sitarz, 1994). Further, eco-labels have been said to be an incentive for companies to environmentally adapt their products, as well as production, to fulfil expectations from consumers and other stakeholders (Naturskyddsföreningen, 2020a). Moreover, eco-labels has been studied in relation to many different product categories in the past, including fashion, transport and food (e.g. Folkvord, Veltri, Lupiáñez-Villanueva, Tornese, Codagnone & Gaskell, 2020; Grunert, 2011; Kang, Liu & Kim, 2013). Further, previous research has examined how eco-labels affects consumer behaviour. One of the most studied areas is the role and the effectiveness of eco-labels when it comes to influencing consumption patterns (Testa et al., 2015). It has been claimed that some people use eco-labels as a criterion during purchase decisions and that lack of knowledge about organic products can be a constraint (Klöckner & Ohms, 2009).

Previous studies have also examined the reason as to why consumers would choose eco-labelled products over unlabelled products (Brécard, Hlaimi, Lucas, Perraudeau & Salladarré, 2009; Loureiro, McCluskey & Mittelhammer, 2001; Perrini, Castaldo, Misani & Tencati, 2010), as well as different ways to make eco-labels more effective (Rahbar & Abdul Wahid, 2011). Factors such as consumer knowledge, motivation, expertise, peer influence and norms have been claimed to influence how fast consumers adopt eco-labels (Göçer & Oflaç, 2017). It has further been stated that eco-labels do not guarantee an environmental identity of products, nor is it a guarantee to change attitudes and purchases intention toward more sustainable consumption among consumers (Göçer & Oflaç, 2017).

Moreover, the number of eco-labels that appear on the market today have been said to overwhelm and confuse consumers due to the unclarity in their differences (Baker & Miner, 1993; Brécard, 2017; Eden, 1994; Erskine & Collins, 1997). Further, it has been suggested that markets with free entry, such as the FMCG market, tend to contain too many labels, making the quality of the labels questionable as well as unclear (OECD, 2016). Hence, some consumers find eco-labels hard to understand (D'Souza, Taghian & Lamb, 2006). Similarly, Naturskyddsföreningen (2020a), the largest environmental organisation in Sweden, states that the number of different eco-labels used on the Swedish market can be confusing. The organisation claims, however, that the number of labels is of benefit as the different labels support one another. Simultaneously, 66% of consumers opine the number of eco-labels on the market to be redundant and 71% consider information about the different labels to be insufficient (Riksdagen, 2016). Hence, there seems to be a prevailing information asymmetry on the market today.

There are several eco-labels on the Swedish market today. The Swedish government is responsible for *Svanen* and *EU Ecolabel* (Svanen, 2020a). The labels are non-profit with the mission to achieve a well-functioning consumer market and environmentally, socially and economically sustainable consumption (Svanen, 2020a). *Bra Miljöval* is another non-profit organisation with a similar agenda. The three mentioned labels aim to reduce the overall environmental footprint (Naturskyddsföreningen, 2020b). Moreover, *KRAV* and *EU Organic Label* are two labels for ecological food, which ensures consumers that the food has been produced without chemical pesticides or artificial fertilisers, and with care for animals and nature (Naturskyddsföreningen, 2020a). Indifference from the other mentioned labels, *KRAV* is a profit-making company (Naturskyddsföreningen, 2020a). The profit goes to educating consumers about the eco-label, with the aim of increasing the sales of *KRAV* labelled goods (Naturskyddsföreningen, 2020a).

It has been stated that consumers are the key drivers to change and that consumers need to be informed and engaged in the conversation, as an effective driver in change requires knowledge (Askew, 2018). How and to what extent the eco-labels communicate with consumers varies among the different labels. One of few examples includes *Svanen's* campaign in 2015, with the slogan "Rädda världen lite grann varje dag" which translates to "Save the world a little every day" (Svanen, 2020b). The campaign gained great response among *Svanen* licenced companies as well as among consumers who appreciated the message (Svanen, 2020h). The association of

Svanen as a good choice for the environment increased with 20% (Svanen, 2015) and the campaign increased purchase intention of *Svanen* labelled products among one-quarter of a million Swedish consumers (Sifo, 2015).

Another, maybe more known advertising effort is the annual initiation by the Rainforest Alliance, that goes by the name "Follow the frog" (Askew, 2018). The essence is to inform consumers that they do not have to go to the end of the Earth to save the rainforest, all they have to do is to follow the eco-label (Rainforest Alliance, 2020Y). The objective of the campaign is, according to Rainforest Alliance (2017) to build brand awareness and activate consumers. The campaign has gained great recognition and reached millions of people across the world over the years. In fact, in 2019 the campaign resulted in 1.5 million Instagram impressions and 304 thousand impressions on Facebook (Rainforest Alliance, 2019).

Moreover, it is not only in the interest of NGO's and licenced companies to influence consumers toward a more sustainable lifestyle. It also lies in the interest of authorities to improve consumption patterns in society (Regeringskansliet, 2019). Konsumentverket is the authority for consumer issues in Sweden (Konsumentverket, 2019), which, among other things, provide consumers with independent information about eco-labelling (Riksdagen, 2016). This information is accessible through online platforms (Riksdagen, 2016). In fact, it seems as if consumers on the Swedish market are expected to find information regarding eco-labels themselves to a high degree.

2.2.1   Eco-labels Effect on Green Purchase Intention

In this thesis, we have defined green purchase intention as "the probability and willingness of a person to give preference to products having eco-friendly features over other traditional products in their purchase consideration" (Rashid, 2009, p. 134). This conceptualisation and definition of Rashid (2009) are stated to fully grasp the meaning of purchase intention in the context of eco-labels and sustainable consumption. Moreover, this definition has been used by other researchers when defining green purchase intention (e.g. Kong, Harun, Salong & Lily, 2014; Mei, Ling & Piew, 2012). Thus, the term *purchase intention* will henceforth refer to green purchase intention, in accordance with the above-stated definition.

Some studies claim eco-labels to have a significant influence on purchase intention while others do not (e.g. Kong et al., 2014; Sharaf, Md Isa & Al-Qasa, 2015; Hwang, Park & Kim, 2016). Hence, it seems as if there is no clear consensus established. For example, Sharma and Kushwaha (2019) examined information through eco-labels and reliability in eco-labels. Similarly, Rashid (2009) examined eco-labels in terms of information about the labels as well as consumers awareness, and both studies found that purchase intention of green products is influenced by eco-labels. Thus, purchase intention seems to be dependent on how well informed and aware consumers are about the labels, as well as their reliance towards them. Another important factor when purchase intention is being shaped is consumers understanding of eco-

labels, which is presented by Kong et al. (2014). In other words, when consumers understand eco-labels and their meaning, they are more willing to purchase these products.

Contrary to Rashid (2009), Mei, Ling and Piew (2012) conducted a study within the same context and found awareness and acceptance of eco-labels and green purchase intention not to be significant. Hence, despite consumers awareness and acceptance of eco-labels, the purchase intention may not increase. Moreover, Hwang, Park and Kim (2016) reviewed reliability, usefulness and benefits information regarding eco-labels and state that eco-labels effect on purchase intention is, and remains, unclear. Further, the authors claim that only those who identify themselves as eco-friendly consumers and are highly environmentally aware consider eco-labels in their purchase. The authors also emphasise the need for convincing less aware consumers to purchase eco-labelled products to increase sustainable consumption. Similarly, Sharma and Kushwaha (2019) suggest that eco-labels mainly influence those who are concerned about the environment, since they are more aware of the labels.

One of the factors that influence purchase intention of eco-labels is consumers attitude (e.g. Chang, Tsai & Huang, 2019; Nhu, My & Thun; 2019; Hasnain, Raza & Qureshi, 2020). Other factors influencing purchase intention and environmentally friendly behaviour include subjective norms, pressure from the society (Mei, Ling & Piew, 2012; Sharaf, Md Isa & Al-Qasa, 2015), consumers perceived behavioural control (Godin & Kok, 1996), consumers knowledge in eco-labels (Taufique, Vocino & Polonsky, 2017) and consumers trust in eco-labels (Nhu, My & Thu, 2019).

2.2.2   Consumer's Knowledge in Eco-labels

Knowledge can be defined in several ways and in this thesis, we are referring to eco-label knowledge as the subjective knowledge that a consumer has about eco-labels and its meaning. Park and Lessig (1981) categorised two types of knowledge; what someone thinks he or she knows, and what he or she actually knows. In other studies, these categorisations are called subjective and objective knowledge (Brucks, 1985; Flynn & Goldsmith, 1999; Han & Stoel, 2016). Compared to objective knowledge, subjective knowledge is a stronger motivation for purchase-related behaviour (Selnes & Grønhaug, 1986; Flynn & Goldsmith, 1999). Moreover, it is more positively related to environmentally friendly behaviour (Ellen, 1994), and according to Amyx (1994) a better predictor of purchase intention of ecological products (cited in Barber, Taylor & Strick, 2009). Additionally, subjective knowledge is closely related to the marketing of green products (Barber, Taylor & Strick, 2009).

According to Alba and Hutchinson (1987), subjective knowledge is reflected by purchase confidence. Hence, the more subjective knowledge one has, the more purchase confidence one gains (Chiou, 1998; Jin & Han, 2014). Further, Alba and Hutchinson (1987) claim confidence to generally be an indicator of one's actual knowledge. Similarly, it is shown that an individual's belief of its knowledge reflect, and is positively related to, what they actually know (Forbes, Cohen and Dean, 2008; Pieanak, Aertsens & Verbeke, 2010). Hence, subjective

knowledge can be seen as an indicator of consumer knowledge. Since subjective knowledge is more related to sustainable behaviour and a better predictor of purchase intention for ecological products than objective knowledge (Ellen, 1994; Barber, Taylor & Strick, 2009), this thesis will examine consumers subjective knowledge about eco-labels and not touch upon objective knowledge.

Consumer knowledge of products categories is important in several ways, both for marketing practitioners and when theorising consumer behaviour (Flynn & Goldsmith, 1999). There is extensive research on how knowledge affects sustainable consumption behaviour, and different types of knowledge concerning consumer behaviour have been analysed. Previous research has frequently examined environmental and sustainability knowledge (e.g. Chen, Chen & Tung, 2018; Heeren, Singh, Zwickle, Koontz, Slagle & McCreery, 2016; Kaiser, Ranney, Hartig & Bowler, 1999), knowledge in organic food (Aertsens, Mondelaers, Verberke, Buysse & Van Huylenbroeck, 2011) and production standards (Daugbjerg et al., 2014). Moreover, previous studies on eco-labels have focused on consumers understanding and reliance toward eco-labels in general (Taufique, Vocino & Polonsky, 2017) and how consumers value eco-labelled products and their purchase of them (Steinhart, Ayalon & Puterman, 2013). However, the research on eco-labels and consumer knowledge is scarcer (Taufique, Vocino & Polonsky, 2017) and more research on how and if eco-labels influence and affect consumers to behave more sustainably is therefore needed (Testa et al., 2015).

Previous research of consumer knowledge in eco-labels and purchase intention have shown inconsistent results. Sharma and Kushwaha (2019), states that knowledge in eco-labels is a central aspect regarding the eco-label concept since labels are supposed to help consumers understand the actual purpose of the product. Since consumers understanding of the labels and its meaning are stressed, it is argued that knowledge of eco-label standards is a precondition for adopting a sustainable purchasing behaviour and purchasing green products (Daugbjerg et al., 2014). Similarly, Taufique, Vocino and Polonsky (2017) state that consumers with deeper knowledge are seen to be more inclined to behave more sustainably. In line with this, a survey conducted by Manget, Roche and Münnichat (2009) showed that lack of awareness in products is one of the main barriers when it comes to purchasing environmentally friendly food. McEachern and Warnaby (2008) examines the role of eco-label knowledge in organically labelled meat purchasing and found that knowledge in labels significantly influenced the purchase intention. Further, they state that consumer awareness plays a central role in consumers knowledge about organic labels. In other words, the more environmentally aware consumers are, it is more likely to know the labels.

On the contrary, Göçer and Oflaç (2017) state that environmental knowledge only is a medium-level predictor of consumer behaviour and even if consumers possess a high level of knowledge, they do not necessarily behave and consume thereafter. Subsequently, Rahbar and Abdul Wahid (2011) claim recognition and knowledge about eco-labels not to be sufficient in order to lead to green purchases. They argue that it is not reasonable to claim that knowledge itself makes consumers more prone to engage in specific behaviour.

2.2.3 Consumer's Trust for Eco-labels

As trust is a broad term, it needs to be defined. Trust has been defined several times in previous research (e.g. Garbarino & Johnson, 1999; Taufique et al., 2014; Taufique, Vocino & Polonsky, 2017). A common theme in these definitions is the consumer's expectation on the other party to have integrity and be reliable (Morgan & Hunt, 1994), as well as fulfil their obligations (Dwyer, Schurr & Oh, 2018; Hagen & Choe, 1998; Perrini et al., 2010). In accordance with these definitions, in this thesis, we are referring to eco-label trust as consumers' confidence in the eco-labels reliability and ability to fulfil obligations.

Consumer trust has always been an important factor in marketing and management research (Garbarino & Johnson, 1999; Taufique et al., 2014). Further, consumer trust has a powerful impact on both attitude and behaviour in the marketplace (Atkinson & Rosenthal, 2014). The power lies in the fact that if there is no trust among consumers, they will be less inclined to either adopt a positive attitude towards the product or purchase it (Carrete et al., 2012; Kangun, Carlson & Grove, 1991; Taufique et al., 2014).

There is and has been, a generally low level of trust towards eco-labels (Carrete et al., 2012). Sharma and Kushwaha (2019) state that eco-labels are faced with adversities such as lack of trust and scepticism towards them. Moreover, when adopting environmentally friendly behaviour in general, such as purchasing sustainable products or engaging in typical environmentally friendly behaviour, consumers can feel uncertainty (Carrete et al., 2012). According to Carrete et al. (2012), this can depend on an existing lack of credibility and trust towards the behaviour or to the one claiming one should adopt this behaviour. It is reasonable to question why this mistrust and uncertainty have risen. According to Wong, Turner and Stoneman (1996), it can be due to early misleading marketing activities of environmentally friendly products in the early 1990s, which created a decreasing level of credibility toward these types of products. This type of claim has been supported by several other studies (e.g. Bray, Johns & Kilburn, 2011; D'Souza et al., 2007; Daugbjerg et al., 2014; Peattie, 2001). More recent research also states that some environmentally friendly products are detracted by both unsupported green claims (Wong, Hsu & Chen, 2018) and scandals (Choi & Johnson, 2019). Thus, there is still scepticism among consumers toward products claiming to be environmentally friendly (Nuttavuthisit & Thøgersen, 2017).

The main function of eco-labels is to increase purchase intention (Sharma & Kushwaha, 2019; Taufique et al., 2014), which is achieved by increasing the level of trust for the eco-label (Potts and Haward, 2007). Taufique et al., (2014) claim that consumer trust is particularly important for eco-labelled food since it is hard to prove if the claims the label make are true. Similarly, researchers identify and uphold trust in eco-labels as a prerequisite for eco-labelled food to be successful (Daugbjerg et al., 2014; Sharma & Kushwaha, 2019; Taufique et al., 2014; Testa et al., 2015). Thus, trust is one of the main barriers when purchasing environmentally friendly products (Carrete et al., 2012). Previous research has found trust to be a determinant for green purchase intention (Ajzen, 1995; Giantari, Zain, Rahayu & Solimun, 2013; Terengganga et al, 2013). Terenggana, Supit & Utami (2013) found trust to be a central point and an important

factor in determining purchase intention in the context of environmentally friendly air conditioners. Further, the author states that communication of the products and focus on after-sales relations increase trust which in turn, make consumers more inherent to re-purchase. Similarly, Giantari et al. (2013) found purchase intention to increase among consumers trusting a company. Nevertheless, some studies have found trust not to be significant with purchase intention, and stated trust not to affect purchase intention due to lack of information, understanding and availability of green products, as well as consumers scepticism towards these products (Karatu & Mat, 2015; Rashid, Jusoff & Kassim, 2009). Moreover, it has also been found that the level of trust toward eco-labels differ across countries (Daugbjerg & Sønderskov, 2012; Soyez, Francis & Smirnova, 2012).

Even if the general mistrust toward eco-labels and overall environmentally friendly products still occur, research has found third-party labels and labels certified by public authorities to be more trusted than private held labels (Darnall, Ji & Vázquez-Brust, 2018; Janssen & Hamm, 2011; McCluskey, 2000; Thøgersen, 2000). Another way to increase trust in eco-labels is, according to Teisl, Rubin and Noblet (2008), to educate consumers about the labels and its meanings. This will likely lead to both more recognition and acceptance of the labels (Testa et al., 2015). Besides consumer education about eco-labels, consumers education level can also play a role in trusting labels and have a general impact on environmentally friendly behaviour (Testa et al., 2015; Teisl, Rubin & Noblet, 2008). This is since consumers with higher education are more inclined to trust eco-labels (Tiesl, Rubin & Noblet, 2008).

2.3 Summarising previous research and the novelty of our thesis

Table 2.3.1 Literature Matrix

	Title & Author	Key words	Purpose	Research design & Sample	Key findings
Purchase intention	Why do consumers respond to eco-labels? The case of Korea (Hwang, Park & Kim, 2016)	Eco-labels; Purchase behaviour; Consumer preference; Awareness	To analyse consumer preference of two Korean eco-labels in terms of individual and private values.	Structural equation modelling. E-mail survey with 200 respondents.	Only consumers who identify as environmentally friendly consider eco-labels in their purchase. Eco-labels effect on consumer behaviour remains unclear.
	Eco-labels: A tool for green marketing or just a blind mirror for consumers (Sharma & Kushwaha, 2019)	Eco-labels; Green marketing tool; Communication; Understanding; Green purchase intention	Aims to establish a relation between consumer knowledge, trust and information on purchase intention.	Structural equation modelling. Survey with 506 respondents.	Consumer knowledge is a result of communication about eco-labels, which in turn affect trust and purchase intention.
Eco-label knowledge	Investigation of green marketing tools' effect on consumers' purchase behaviour (Rahbar & Abdul Wahid, 2011)	Eco-labels; Green marketing tools; Purchase behaviour; Environmentally friendly products	To distinguish the effect of green marketing tools on consumer's purchase behaviour.	Factor analysis, multiple regression and Cronbach's alpha. 250 survey respondents from the Penang population.	Consumer knowledge of eco-labels do not influence purchase intention.
	Improving Eco-labelling as an Environmental Policy Instrument: Knowledge, Trust and Organic Consumption (Daugbjerg et al., 2014)	Eco-labelling; Organic food; Trust; Knowledge	To determine whether eco-labels affect consumer regardless if they have knowledge about the label and trust it.	Factor analysis of survey responses and regression of actual food budget of 1475 Danish households.	Higher degree of knowledge and trust in eco-labels will increase intention to purchase organic food.
	The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market (Taufique, Vocino & Polonsky, 2017)	Consumer behaviour; Eco-label; Knowledge; Marketing communication; Pro-environmental; Trust	To combine consumers knowledge and trust to assess how this affect consumers to behave environmentally friendly.	Structural modelling. Qualitative interviews with 14 respondents and a survey with 370 respondents.	Knowledge about the environment is positively related to attitude, which in combination with trust affects consumer behaviour.
Eco-label trust	Eco-Labeling Perspectives amongst Malaysian Consumers (Rashid, Jusoff & Kassim, 2009)	Eco-label; Environmental attitude; Trust; Knowledge of environmental issues	Examines the role of trust in eco-label and its influence of choice of products when at time for purchase.	Regression analysis. Random selection of 526 respondents from employees of organisations that has adopted ISO-standards.	Trust in eco-labels is not enough and need to be supplemented with understanding of the label.
	Effect of Value, Consumer Trust and Attitudes Towards Intention Buy Environmentally Friendly Air Conditioners Product in South Sumatera (Terenggana et al., 2013)	Individualism/collectivism value; Consumer trust; Attitudes; Purchase intention; Environmentally friendly product	To see how purchase intention is affected by consumers trust, attitude and value have on purchase intention.	Structural equation modelling, with a sample size of 167 respondents.	Consumer trust is an important and central component which influence consumers attitude, and purchase intention.
	Why Eco-labels can be Effective Marketing Tools: Evidence from a Study on Italian Consumers (Testa et al., 2015)	Ecological behaviour; Eco-label; Green Consumer; Green marketing	To assess whether consumer knowledge and awareness of eco-labels environmental impact influence sustainable behaviour.	Exploratory factor analysis. 2658 respondents from an online questionnaire.	Perceived behavioural control is significantly influenced by eco-labels. Trust can increase attitudes which creates possibilities for retailers to benefit from this.

The literature matrix above summarises some of the important insights from the literature review and highlight some of the strongest arguments for justifying this study. The literature review regards sustainable consumption within the FMCG sector, and how consumers knowledge and trust in eco-labels can affect purchase intention of eco-labelled food, expose some areas that have not yet been explored. While there is extensive research on eco-labels in general, few have examined how the variables consumer knowledge and consumer trust in eco-labels can affect purchase intention. Further, both Daugbjerg et al. (2014) and Taufique, Vocino and Polonsky (2017) state that there is scarce literature on how trust and knowledge impact purchase behaviour, and Göçer and Oflaç (2017), has claimed that there is need for more research on what impact eco-labels have on consumption.

Moreover, previous research has shown variation in trust in eco-labels across countries (Daugbjerg & Sønderskov, 2012) and even if trust is shown to be important for eco-labels to be successful (Daugbjerg et al., 2014; Sharma & Kushwaha, 2019; Taufique et al., 2014; Testa et al., 2015), there is still a widespread mistrust towards the labels (Carrete et al., 2012). Inconsistent results regarding how knowledge influence purchase intention of environmentally friendly green products has been presented. The lack of consensus can be summated as there is no certainty that knowledge itself is a determinant of purchase intention (e.g. Daugbjerg et al., 2014; Göçer and Oflaç, 2017; Rahbar & Abdul Wahid, 2011; Sharma & Kushwaha, 2019). Given the above mentioned, it is therefore interesting to examine whether consumers need to understand and trust the labels in order for the labels to influence consumers towards more sustainable consumption (Grunert, 2011); Daugbjerg et al., 2014; Sharma & Kushwaha, 2019). Or, if the labels act as information symbols rather than labels with specific meaning and hence, make consumers purchase them despite having a deeper connection to them (Handelns Utvecklingsråd, 2015).

After examining literature regarding the relationship between eco-labels and purchase intention in general, as well as consumers eco-label knowledge and eco-label trust in general it is clear that there is a lack of consensus in the literature. The most prominent inconsistency has been presented to lie in whether eco-label knowledge and eco-label trust influence purchase intention, and whether eco-labels, in general, are related to purchase intention. The lack of consensus in the literature can potentially be due to the complexity of the relationships between eco-labels and purchase intention, and other factors influencing this relationship. Purchase intention is in the scope of consumer behaviour (Ajzen, 1991), which is a complex phenomenon to unravel (Arenas-Gaitán, Sanz-Altamira & Ramírez-Correa, 2019). The complexity lies in the various dimensions of consumer behaviour, such as consumers attitude toward a specific behaviour, the pressure they feel towards engaging in the behaviour, as well as their sense of control towards carrying out this specific behaviour (Sun, 2019). Can it be possible that this complexity in behaviour can explain the lack of consensus in the literature regarding eco-label knowledge, eco-label trust and purchase intention? Further, it has been stated that using eco-labels on products do not act as a guarantee for the product to be perceived as sustainable, green identity nor to automatically change consumers purchase intention towards the product in question (Göçer & Oflaç, 2017). With this in mind, we wonder if this may be due to a lack of trust and knowledge.

Moreover, Sharma and Kushwaha (2019) who researched the role of eco-labels as a green marketing tool by looking at consumer knowledge and trust, suggested examination of the FMCG market for future research. Further, there is no extensive research on knowledge of, and trust in, eco-labels within the Swedish FMCG market, and sustainability issues are generally seen as important in Sweden. Thus, the Swedish market and the context of FMCG was regarded as relevant for further investigation and hence chosen for this thesis.

3 Theoretical framework and hypotheses

This chapter outlines the theoretical framework this thesis builds on. From this and the previous literature review, the hypotheses and conceptual framework for this thesis are developed and presented.

3.1 Theory of Planned Behaviour and green consumption

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991), is a widely used theory to predict behavioural intention (e.g. Chang & Watchravesringkan, 2018; Chekima, Wafa, Igau, Chekima & Sondon Jr, 2016; Fielding, McDonald & Louis, 2008; Genevie, Unkgu, Fatimah, Samuel, Nuzul, New & Son, 2019; Judge, Warren-Myers & Paladino, 2019). The theory is an extension of the Theory of Reasoned Action, developed by Fishbein and Ajzen in 1975 (Ajzen, 1991). TPB explains how an individual's intention to perform a specific behaviour can be predicted from three dimensions; their attitude towards the behaviour, subjective norms connected to the behaviour, and perceived behavioural control towards the specific behaviour (Ajzen, 1991).

Attitude is the first dimension of the TPB-framework, which reflects the consumer's own opinion about a specific behaviour and whether it has a positive or negative impact on themselves (Ajzen, 1991). In other words, an individual's attitude towards a specific behaviour is dependent on the individual's perceived outcome of the behaviour in question. If the perceived outcome is seen valuable, beneficial or a good thing, the individual will form a good attitude and is more likely to engage in the specific behaviour (Hayden, 2013). Further, attitudes are most often formed based on past experiences or other internal factors (Bang, Odio & Reio, 2014). Previous research has proven attitude to be a strong predictor of purchase intention of environmentally friendly products (Al-Swidi et al., 2014; Semeijn, Gelderman, Schijns & van Tiel, 2019).

The second dimension of the theory is subjective norms, which according to Ajzen (1991), are the perceived social pressure whether one should perform a behaviour or not. Moreover, subjective norms are dependent on how much one cares about the approval and opinions of referent individuals and groups (Ajzen, 1991). Even though many cares about the opinions of others, personal considerations tend to have a greater impact than perceived social pressure (Ajzen, 1991). The majority of previous research have shown that subjective norms positively

affect purchase intention when it comes to pro-environmental behaviour (Kun-Shan, Wu & Teng, 2011; Thøgersen & Ölander, 2006; Yadav & Pathak, 2017). However, some studies have proven subjective norms not to be a predictor of green purchase intention (e.g. Paul, Modi & Patel, 2016).

The third dimension of the theory is perceived behavioural control, which refers to one's perceived difficulty or eases to perform a given behaviour (Ajzen, 1991). According to Ajzen (1991), perceived control varies across situations and is highly dependent on past experiences and obstacles. The author claims that to behave in a certain way, one needs to have the opportunity and resources to do so. This has been exemplified with perceived inconvenience, skills, financial cost and cost of time (Barbarossa & De Pelsmacker, 2016; Wang, Liu & Qi, 2014). Furthermore, one's behaviour is influenced by confidence regarding the ability to perform a certain task (Ajzen, 1991). For example, if two individuals are equally concerned about the environment and both want to contribute to a better tomorrow, the person who is confident that sustainable consumption will have an impact on the environment is more likely to engage in sustainable consumption than the person in doubt. Ajzen (1991) claims that the more resources and opportunities we believe we possess, and the fewer obstacles we encounter, the greater the perceived control over a certain behaviour. Furthermore, the author claims perceived behavioural control not to be realistic when scarce information is given. Previous research has presented different results regarding perceived behavioural control affect green purchase intention or not. While some researchers claim the relationship to be positive and significant (Nhu, My & Thu, 2019; Wang, Liu & Qi, 2014), others found perceived behaviour control and purchase intention for green products not to be related (Arvola et al., 2008).

Since TPB is a widely used theory, its successfulness in predicting and explaining behaviour has been widely studied. The strongest predictor has shown to be an individual's perceived behavioural control, whereas subjective norms has shown to be the weakest (Godin & Kok, 1996). Armitage & Conner (2001), propose that TPB can explain 39% of the variance in behavioural intentions. Similarly, Sutton (1998) reviewed TPB and found the model to explain 40-50 % of variance in intentions. According to Ajzen (1991), it is possible that the different factors of the model can differ in importance, depending on what domain is being examined.

Although the TPB model assumes that attitude, subjective norms and perceived behavioural control determine behavioural intention (Ajzen, 1991), several studies have shown that factors outside the model also influence intentions (e.g. Armitage & Conner, 2001; Donald, Cooper & Conchie, 2014). This have led to researchers adding more domain-specific factors to the model in order to measure intention toward a behaviour within specific domains in a more certain way (Yang, Li & Zhang, 2018). In this thesis, we are extending the TPB by adding the concept of eco-label knowledge and eco-label trust to see whether the dimensions of TPB mediates the relationship between the extended variables and purchase intention of eco-labelled food.

TPB has been widely used in previous research aiming at explaining sustainable behaviour (e.g. Blazquez, Henniger, Alexander & Franquesa et al., 2020; Chen & Peng, 2012; Read, Brown, Thorsteinsson, Morgan & Price, 2013) and green consumption (e.g. Chekima et al. 2016; Choi

& Johnson, 2019; Paul, Modi & Patel, 2016). For example, Cheng and Peng (2012) examined how knowledge in green hotels affect behaviour among tourists, and Blazques et al. (2020) examined the role of knowledge in sustainable fashion consumption through the lens of TPB. Further, green product consumption has been studied regarding hedonic motives and purchase intention (Choi & Johnson, 2019), as well as premium price and demographics effects on purchase intention (Chekima et al. 2016). As seen, the TPB framework is widely used and can, therefore, be seen as a suitable choice for analysing how knowledge of, and trust in, eco-labels affect purchase intention of eco-labelled food.

3.2   Hypotheses formulation

3.2.1   Eco-label knowledge

Knowledge has been proved to be a determinant for purchase intention in various research areas (e.g. Daugbjerg et al., 2014; Kanchanapibul, Lacka, Wang & Chan, 2014; McEachern & Warnaby, 2008; Sharma & Kushwaha, 2019; Taufique, Vocino & Polonsky, 2017). At the same time, some other studies have proved the relationship to be insignificant and that knowledge does not necessarily lead to green purchase behaviour (Göçer & Oflaç, 2017; Rahbar & Abdul Wahid, 2009). Hence, there is an inconsistency among the results regarding the relationship between knowledge and purchase intention. Thus, it seems as if something is mediating this relationship.

As far as we are aware, eco-label knowledge and purchase intention have not been researched extensively through the lens of the Theory of Planned Behaviour. Accordingly, the dimensions of TPB will be used as mediators in this thesis which enables us to examine whether attitude, subjective norms and perceived behavioural control mediates the relationship between eco-label knowledge and purchase intention.

Previous research has proved attitude to have a mediating effect on the relationship between ecological knowledge and purchase intention (Chan, 2001; Kang, Liu & Kim, 2013). In line with this, Berger, Ratchford and Haines (1994) as well as Han and Stoel (2016) state that consumers subjective knowledge influence their attitude and hence, a higher level of knowledge will increase their attitude toward the specific behaviour. Put differently, increased knowledge tends to have a positive impact on attitudes (Rapeli, 2014). Further, Al-Swidi et al. (2014), states attitude to be a strong predictor of purchase intention. In other words, and extended to our study, increased knowledge in eco-labels should improve attitude and hence, purchase intention. Accordingly, we hypothesise:

H1a: There is a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food, via attitude towards eco-labels.

Kang, Liu and Kim (2013) found subjective norms to have a mediating effect when examining knowledge in sustainable apparel and purchase intention. Moreover, the authors stated the direct effect between consumer knowledge and subjective norms to be significant. Further, Yadav and Pathak (2017) found that subjective norms positively affect purchase intention in the context of sustainable behaviour. Differently put, increased knowledge in eco-labels should affect subjective norms and hence, purchase intention. Thus, we hypothesise:

H1b: There is a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food, via subjective norms regarding eco-labels.

Previous research has found perceived behavioural control to mediate the relationship between consumer knowledge and purchase intention (Kang, Liu & Kim, 2013). Further, Kang, Liu and Kim (2013) found a direct relationship between consumer knowledge and perceived behavioural control. In line with this, perceived behavioural control has been claimed to be the strongest predictor of purchase intention (Godin & Kok, 1996). Moreover, knowledge is proven to make people more assured regarding their judgement (Berger, Ratchford & Haines, 1994) and thus, absence of knowledge is one of the main barriers toward engaging in the purchase of green products (Manget, Roche & Münnich, 2009). By increasing consumers knowledge in specific products, it is possible to evaluate and predict purchase intention, since known products are not perceived as equally risky (Berger, Ratchford & Haines, 1994). Extended to this study, and put in other words, by increasing consumers knowledge in eco-labels it should be possible to make consumers feel more control towards purchasing eco-labelled food and hence, increase purchase intention. Accordingly, we hypothesise:

H1c: There is a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food, via perceived behavioural control towards eco-labels.

3.2.2   Eco-label trust

Trust has been proven to be a strong determinant of green purchase intention (Ajzen, 1995; Giantari, Zain, Rahayu & Solimun, 2013; Terenggana, Supit & Utami, 2013). Some scholars have contradictory claimed that the relationship between brand trust and purchase intention is insignificant (Karatu & Mat, 2015). However, the majority of the findings of previous research regarding consumer trust support the claim that trust is a strong determinant of purchase intention (e.g. Nhu, My & Thu, 2019; Perrini et al., 2010; Rahbar & Abdul Wahid, 2011). Hence, there is an inconsistency in the results regarding the relationship between trust and purchase intention. Thus, it seems as if something is mediating this relationship.

As far as we are aware, there is no extensive research on eco-label trust and purchase intention through the lens of the Theory of Planned Behaviour. Hence, the theory will be used as a mediator to examine whether attitude, subjective norms and perceived behavioural control mediate the relationship between consumers trust in eco-labels and purchase intention.

Previous studies have proven trust to affect attitude (Amaro & Duarte, 2016; Atkinson & Rosenthal, 2014; Chang, Tsai & Huang, 2019; Ricci, Banterle & Stranieri, 2018). For example, Amaro and Duarte (2016), found attitude to have a mediating effect on trust and purchase intention in the context of purchase travel online. This is also supported by the study of Ricci, Banterle & Stranieri (2018), who found trust to positively affect attitude towards purchase intention of eco-friendly food. These findings imply that consumer trust in a more general context has proved to have a positive effect on attitude, and in turn purchase intention. We argue that it is possible to extend the same reasoning to our study. In other words, increased trust should affect consumers attitude and hence, purchase intention. Therefore, we hypothesise:

H2a: There is a positive indirect relationship between consumer trust and purchase intention of eco-labelled food, via attitude towards eco-labels.

Andorfer and Liebe (2013) found different results for different nationalities when examining the impact of trust and social norms on purchase intention of fair-trade products. Further, the authors concluded that it is not so much about consumers trust in the products, but rather the subjective norms that affect purchase intention of these products. Moreover, Lobb, Mazzocchi and Traill (2007) proved the relationship between trust and subjective norms to be positive and reciprocal. Similarly, Mei, Ling and Piew (2012) and Sharaf, Md Isa and Al-Qasa (2015) found both eco-label trust and subjective norms, as well as subjective norms and purchase intention to be related. Applying the above reasoning to our study, it is possible to assume that increased trust in eco-labels should affect the impact of subjective norms and hence, purchase intention. Thus, we hypothesise:

H2b: There is a positive indirect relationship between consumer trust and purchase intention of eco-labelled food, via subjective norms regarding eco-labels.

Kataru and Mat (2015) found perceived behavioural control to have a mediating effect between trust and green purchase intention in the context of green purchases in Nigeria. This is supported by the study of Hong and Cha (2013), who state trust to reduce risk, which increases perceived behavioural control and in turn, enhance purchase intention. This is since the feeling of trust reduce suspicion and worries regarding whether the claims and promises that the eco-label makes are true (Kee & Knox, 2016) and hence, gives the consumer a sense of control. Put differently and applied to the reasoning of our study; increased trust in eco-labels should affect perceived behavioural control and hence, purchase intention. Based on this, we hypothesise:

H2c: There is a positive indirect relationship between consumer trust and purchase intention of eco-labelled food, via perceived behavioural control towards eco-labels.

3.2.3   The Moderating Effect of Education Level

Previous research has shown contradicting results regarding whether education level impacts consumer behaviour. Some researchers have shown education level not to have any impact at all on consumer behaviour (e.g. Johnston, Wessells, Donath & Asche, 2001; Moon, Florkowski, Brükner & Schonhof, 2002). For example, Oates, Young, Hwang and McDonald (2009) claimed demographics, such as education level, to have inconclusive results, and Testa et al. (2015) did not find education to influence consumer choices towards more green behaviour either.

However, the majority of scholars have proved education to have an impact on environmental behaviour (e.g. Blomquist & Whitehead, 1998; Darnall, Ponting & Vazquez-Brust, 2012; Silva & Pownall, 2014; Torgler & Garcia-Valinas, 2007). Studies have shown a mere one additional year of education to increase environmental behaviour (Meyer, 2015). More specifically, the education level has been found to be correlated with purchase of pro-environmental and organic food **(**Zepeda & Li, 2007**)**. For instance, the probability of buying eco-labelled apples has been found to increase with higher education (Blend & Ravenswaay, 1999). Moreover, Teisl, Rubin and Noblet (2008) found education level, among all other socio-economic variables, to be the most influential and important variable when it comes to having environmentally friendly attitudes and behaviours. Shen and Saijo (2008) also found higher education to be associated with more pro-environmental attitudes. Furthermore, the possibility of trusting eco-labels has been shown to increase with the level of education (Teisl, Rubin and Noblet, 2008). Moreover, the educational background has been found to have a positive correlation with product knowledge (Noviaristanti, Hanafi & Trihanondo, 2020).

Education level has further been said to impact consumer attitude, knowledge and treatment of eco-label information (Brécard et al., 2009). In fact, the level of education has been found to moderate the relationship between perceived trust and behavioural intention (Abu-Shanab, 2011). This as higher education leads to higher concern for the environment among individuals and more sustainable behaviour (Meyer, 2015). Further, a key aspect to determine an individual's attitude to the environment is their knowledge and understanding of environmental issues (Park et al., 2015). It has further been discussed whether education creates control, or if individuals choose to get an education because they feel like they have control (Reich & Infurna, 2017). In light of this, previous studies have suggested that education affect perceived control (e.g. Lachman, Neupert & Agrigoroaei, 2011). In fact, education has been said to shape control over one's life and higher education has been claimed to result in more perceived control (Mirowsky & Ross, 2007).

Thus, based on the above-mentioned findings, we hypothesise that consumers with higher education have more understanding for environmental issues and therefore sees that environmentally friendly behaviour can benefit themselves, and also want others to see them do the right thing. Further, we hypothesise that knowledge obtained through education also contributes to greater perceived control. Hence, we hypothesise consumers to act accordingly:

H3: Education level moderates the relationship between eco-label knowledge and purchase intention via the TPB dimensions (attitude, subjective norms and perceived behavioural control).

H4: Education level moderates the relationship between eco-label trust and purchase intention via the TPB dimensions (attitude, subjective norms and perceived behavioural control).

3.3   Summary of Hypotheses

Table 3.3.1 Summary of hypotheses

Hypotheses	
H1a	There is a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food via attitude towards eco-labels.
H1b	There is a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food via subjective norms regarding eco-labels.
H1c	There is a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food via perceived behavioural control towards eco-labels.
H2a	There is positive indirect relationship between eco-label trust and purchase intention of eco-labelled food via attitude towards eco-labels.
H2b	There is positive indirect relationship between eco-label trust and purchase intention of eco-labelled food via subjective norms regarding eco-labels.
H2c	There is positive indirect relationship between trust in eco-labels and purchase intention of eco-labelled food via perceived behavioural control towards eco-labels.
H3	Education level moderates the relationship between eco-label knowledge and purchase intention via the TPB dimensions (attitude, subjective norms and perceived behavioural control).
H4	Education level moderates the relationship between eco-label trust and purchase intention via the TPB dimensions (attitude, subjective norms and perceived behavioural control).

4   Methodology

In this chapter we explain the choices that have been taken regarding the methodology for this thesis. Firstly, we present the research approach, followed by the research design and data collection of the study. Further, the quality of the data as well as the data analysis will be deliberated. Lastly, ethical considerations will be discussed.

4.1   Research Philosophy and Approach

Research philosophy relates to how the researcher adopts and sees the world, and should support used methods (Saunders, Lewis & Thornhill, 2009). As this thesis is theory-driven, a deductive research approach was applied. According to Burns and Burns (2008), deductive reasoning begins with an existing theory which hypotheses are built upon. Observations are then made to confirm or dismiss the stated hypotheses (Burns & Burns, 2008). Furthermore, as this thesis intends to develop knowledge in the field of sustainable consumption and eco-labels, ontological and epistemological assumptions were made. These assumptions shaped the method, research questions, and how the findings were interpreted (Crotty, 1998).

Ontology concern the nature of reality and existence and raises questions regarding the way that the world operates (Saunders, Lewis & Thornhill, 2009). Epistemology, on the other hand, cover questions regarding how we know what we know, and is the study of theories and the nature of knowledge (Easterby-Smith, Thorpe & Jackson, 2015) The two most common approaches of a quantitative study, according to Bryman & Bell (2012), is objectivism ontology and positivism epistemology. Hence these approaches were employed for this thesis.

According to Bryman and Bell (2012), objectivism refers to concrete, real processes and the ability to see things from an external point of view. We do however realise that a fully objective stance is impossible to achieve, as research involve elements of inevitable subjectivity (Easterby-Smith, Thorpe & Jackson, 2015). Regardless of this, we have done our best to apply as much objectivity as possible and devoid our personal beliefs throughout the study. This was done to allow the findings of the study to be as accurate as possible.

Further, a positivist stance was taken for the issue of this thesis as hypotheses were formulated based on existing theory and evaluated by the means of a quantitative survey (Easterby-Smith, Thorpe, & Jackson, 2015). In positivism, existing theories are tested in order to develop new ones (Easterby-Smith, Thorpe, & Jackson, 2015). Further, positivist epistemology takes on the

position that reality is external and objective. The positivist stance believes that reality possesses an external existence and can be measured through objective methods, such as quantitative ones (Easterby-Smith, Thorpe & Jackson, 2015). Thus, a positivist stance was suitable for this thesis. A disadvantage of the positivist epistemology is that it can be inflexible and that it may measure aspects that were not intended to be measured (Easterby-Smith, Thorpe & Jackson, 2015). However, on the bright side, the positivist stance is characterised as being generalisable and time, as well as cost-effective (Easterby-Smith, Thorpe & Jackson, 2015). Moreover, positivism is closely related to realism in which only one single truth exists (Easterby-Smith, Thorpe & Jackson, 2015). With this thesis, we hope to reveal this truth, however, we do realise that there are two sides to every story.

4.2 Research Design

We have chosen a quantitative research design for this thesis. While qualitative research design tends to provide insights and understanding for a certain problem, quantitative research rather seeks to quantify data and perform statistical analyses (Malhotra, 2010). Thus, qualitative research design emphasises words whereas quantitative research design emphasises numbers. In other words, a quantitative research design looks at whether a phenomenon is occurring or not, rather than why, and provides more generalisable results (Easterby-Smith, Thorpe, & Jackson, 2015). Further, a quantitative method has the ability to reach many participants and to gain a broader view of the topic (Eliasson, 2013; Saunders, Lewis & Thornhill, 2012). As we wanted to gain generalisable results and investigate whether eco-label knowledge and eco-label trust affect purchase intention of eco-labelled food within the FMCG sector, a quantitative research design was chosen.

Moreover, a cross-sectional research design was applied as data was gathered once and observations were made at a single point in time (Burns & Burns, 2008). Limitations when using a cross-sectional research design include difficulties measuring patterns and processes over time (Easterby-Smith, Thorpe & Jackson, 2015). Consequently, changes over time regarding eco-label knowledge and eco-label trust was not taken into account in this study.

4.3 Data Collection

4.3.1 Data Source

The data collected for this thesis was primary, as original data was collected especially for this research (Malhotra & Birks, 2010). Primary data, in the form of surveys, is the most common way of collecting data when conducting quantitative research. Thus, the primary data for this thesis was collected through a self-administered completion online survey. Surveys are

commonly used and useful means for quantitative studies (Burns & Burns, 2008; Easterby-Smith, Thorpe & Jackson, 2015; Malhotra, 2010). The survey was made self-completion in order to increase the spread and at the same time minimise costs. Furthermore, the survey was made online due to, among other reasons, easy accessibility for respondents, the researcher's ability to customise the survey for individual respondents and a dynamic error-checking (Easterby-Smith, Thorpe & Jackson, 2015). Another advantage of surveys is that respondents are not affected by the way an interviewer is asking questions, hence eliminating interviewer bias (Eliasson, 2013). Moreover, this thesis focused on the analysis of primary data, which according to Easterby-Smith, Thorpe and Jackson (2015) easily can be gathered through a survey.

4.3.2   Pilot Study

Preparation before to sending out a survey is important, especially as it is hard to complete material afterwards (Eliasson, 2013). Other limitations regarding the means of a survey include that there is no follow up on respondents' answers and that respondents can misunderstand questions (Eliasson, 2013). To minimise the risk of the latter, a pilot study was conducted before the official data collection was carried out. The pilot study consisted of 4 participants who were given a pre-test of the questionnaire. The pilot study was done in order to exclude errors and ensure the clarity of the survey (Easterby-Smith, Thorpe & Jackson, 2015). In line with Malhora's (2010) recommendations, the pilot study was less structured, contained more open-ended questions and target a smaller sample size than the actual survey. Hence, the conducted pilot study allowed participants to evaluate survey questions and response options. The questionnaire was then adapted and modified concerning aspects mentioned by the participants. Thereafter, the official data collection began.

4.3.3   Sample Selection

As the study examined the Swedish market, the requirement of being Swedish or permanently been living in Sweden for the scope of at least three years was set. Further, the age limit was set to 18. Mentioned exclusions were made to ensure a certain level of familiarity of the Swedish market and to make responses more representative for the population as a whole. Moreover, respondents who answered to the survey in a very rapid speed, as well as responses where patterns were found (e.g. all questions were given the same answer), were also excluded from the final utilised responses.

The data was collected during April 2020 and convenience sampling was the approach. Convenience sampling builds on easy access and convenience and is uncomplicated and low in cost as well as time (Burns & Burns, 2008). The main disadvantage of a convenience sampling is that participants may be biased as well as belong to a homogeneous group of people (Malhotra, 2010). The sampling method is a non-probability sampling method which refers to certain people of the population has a zero chance of being included (Easterby-Smith, Thorpe

& Jackson, 2015). The method of convenience sampling was however chosen, mainly due to the accessibility and the rapidity, since we wanted a large number of participants in a short period.

The survey was posted on social media platforms such as Facebook, Instagram and LinkedIn, and was shared several times. Thus, leading to a snowball effect to a certain degree as subsequent respondents were found through initial participants (Malhotra, 2010). In order to reach a wider age range, the survey was posted in different groups on social media with a different audience in regard to age, gender, education level and so on. The minimum answers aimed for was 200, as a large sample, around this number, provides a more reliable estimation, when performing structural equation modelling (Garson, 2016), which is chosen analysis method for this thesis. Further, a large sampling number also increases the generalisability of a study (Malhotra, 2010). To our delight, a total of 232 valid responses were gathered.

4.3.4 Conceptual Framework

A conceptual framework is the starting point for many quantitative studies (Burns & Burns, 2008). According to Burns and Burns (2008), a conceptual framework links abstract concepts as a first stage when designing a study. Thus, we developed a conceptual framework, consisting of independent, dependent, moderating and mediating variables, to graphically clarify the relationships that would be examined (See figure 4.3.1). An independent variable is a variable that is manipulated and varies (Burns & Burns, 2008). In this study, the independent variables were eco-label knowledge and eco-label trust. These variables were used to predict the dependent variable; purchase intention. A dependent variable is what actually is being measured and depends on changes due to variation in the independent variable (Burns & Burns, 2008). The dimensions of the Theory of Planned Behaviour were further used as intervening variables, to inspect whether attitude, subjective norms and perceived behavioural control would mediate the relationship between the independent variables; knowledge and trust, and the dependent variable purchase intention. An intervening or mediating variable lies between the effect of the independent variable and the dependent variable (Burns & Burns, 2008). Moreover, the moderating variable education level was measured to investigate whether it affects the nature of the relationship between the independent variables and the dependent variable (Burns & Burns, 2008).
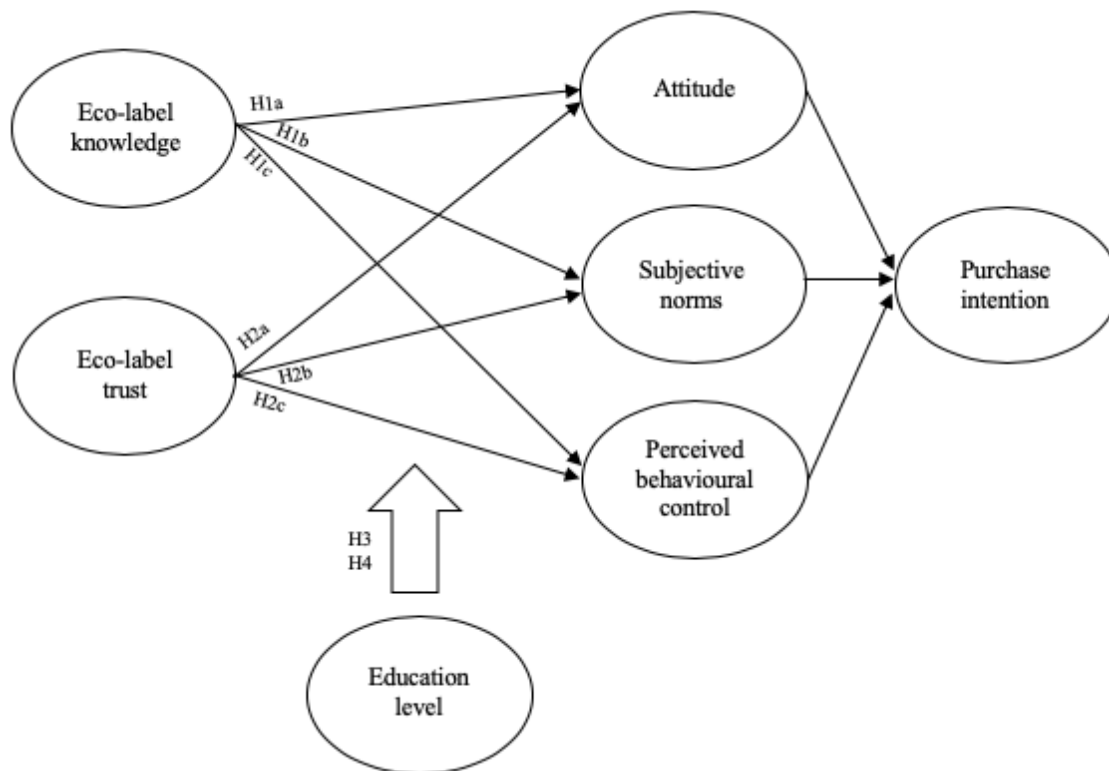
Figure 4.3.1Conceptual framework

4.3.5   Questionnaire Design

The survey was conducted to gain demographic statistics, but mainly to measure the independent, dependent, moderating and mediating variables. The survey began with an introducing letter, including a statement of purpose, explaining how data would be used and ensured respondents that they would be anonymous. Respondents were then asked to answer some descriptive questions such as age, gender, education level, occupation and income, to capture background information about the participants. Further, several statements were presented to participants regarding environmental concerns, environmental awareness, whether they actively look for eco-labels when grocery shopping, and if they perceive information about eco-labels as sufficient. Participants were then presented five eco-labels followed by the question of whether they recognised these labels or not. This followed the question to what extent they felt knowledgeable and had trust in these labels. The chosen eco-labels were chosen for the survey as they are the most commonly used third-party eco-labels in Sweden today according to Naturskyddsföreningen (2020a). Finally, participants of the survey were presented statements in regard to attitude, subjective norms, perceived behavioural control and purchase intention, which were answered on a Likert scale.

4.3.6   Measurement and Scaling Procedure

The level of knowledge and trust, as well as attitude, subjective norms and perceived behavioural control, were then measured on a Likert scale, ranging from 1-7. We saw several potential ways to measure the independent variables knowledge and trust. One way would have been to measure eco-label knowledge and eco-label trust in general. This would, however, have given respondents a lot of room for interpretation and have had the potential to result in varying answers depending on what eco-labels the respondents kept in mind. Therefore, we decided to use one statement for the independent variables' knowledge and trust respectively and apply these statements to five different eco-labels. The utilised statement for the variable knowledge was a modification from a scale used by House, Lusk, Jaeger, Traill & Moore (2004) and was stated: "I am knowledgeable about this eco-label" followed by pictures of the five chosen eco-labels. The same reasoning was applied regarding the variable trust. The statement used for the five eco-labels was influenced by a scale made by Taufique, Vocino and Polonsky (2017) and read as follows "I trust that the claims and promises that this eco-label makes are true".

Moreover, the scales used to measure the dependent variables of the Theory of Planned Behaviour was carefully selected from more than one source. This was done since we did not find one source that used satisfying scales for all variables. The statements used to measure the mediating and dependent variables Attitude, Subjective Norms, Perceived Behavioural Control and Purchase Intention was in line with Wong, Hsu and Chen (2018), Liobikienė, Mandravickaitė and Bernatonienė (2016) and Kim and Han (2010) respectively. Respondents were provided with 4 statements representing attitude and purchase intention separately, and 3 statements representing subjective norms and perceived behavioural control respectively. Examples of statements used to represent attitude and purchase intention are as follows: "I like the idea of buying eco-labelled food" and "I intend to consume eco-labelled food if they are available for purchase". In accordance with Easterby-Smith's, Thorpe's and Jacksons' (2018) principles, no negation nor leading statements were used, and all statements only expressed one single idea. Furthermore, following recommendations of the authors, statements were ordered variable by variable and respondents were asked about facts before opinions. Furthermore, to measure the moderating effect of education level, respondents were given four alternatives as to what educational level they possessed. The alternatives were mandatory education, high school degree, bachelor's degree and master's degree or higher. These groups were later used to measure differences between responses belonging to different education levels. (See Appendix A for the complete survey).

As mentioned, a 7-point Likert scale was used to capture the respondent's answers to mentioned statements. The Likert scale measured from 1-7, where 1 represented "strongly disagree" and 7 "strongly agree". According to Easterby-Smith, Thorpe and Jackson (2015), a Likert scale is appropriate to use when measuring attitudes and opinions. Furthermore, it was used since it is a non-comparative scale that does not compare the object to anything else (Malhotra, 2010). Further, the advantages of using a Likert scale is that it is easy for respondents to understand, and easy for the researchers to construct and administer (Malhotra, 2010). The 7-point Likert scale was chosen as it gives a greater range of answers than a scale with fewer points.

To calculate eco-label knowledge and trust, values were aggregated. For example, if a respondent answered to strongly agree to be knowledgeable about four of the labels and strongly disagreed about being knowledgeable about one label, the aggregated knowledge for this respondent was calculated to 5.7 ((7+7+7+7+1)/5=5.7). Hence, good knowledge about one label did not weight up for poor knowledge about the remaining labels.

Furthermore, to calculate the percentage of respondents that perceived themselves as knowledgeable and to have trust in the different eco-labels. Survey participants who responded with 6 or 7 were considered to be knowledgeable and to have trust in the labels. Respondents answering to not recognised the labels were further excluded from the calculation. In other words, all high numbers were counted and divided by the number of participants that recognised the specific label.

4.4   Research Quality

4.4.1   Confirmatory Factor Analysis

Since this study was based on the previously tested Theory of Planned Behaviour by Azjen (1991), a confirmatory factor analysis (CFA) was conducted. This was done to confirm theoretical predictions (Burns & Burns, 2008). More specifically, CFA tests whether a specific set of constructs are influencing responses in a predicted way, usually in the form of hypothesis testing (Burns & Burns, 2008). As the name implies, CFA is used to confirm the constructs of a study, rather than to explore what constructs there might be (Easterby-Smith, Thorpe & Jackson, 2015). As we knew what constructs we were trying to measure and designed our questionnaire in accordance to this, CFA was used to confirm the chosen factors; eco-label knowledge, eco-label trust, attitude, subjective norms, perceived behavioural control and purchase intention. Further, CFA confirms whether the factor structure is robust enough and whether it is not simply a consequence of one set of data (Burns & Burns, 2008). In other words, CFA examines whether the chosen scales represent the latent variables and validate their robustness. The method attains estimates for each of the factor loadings for both common factors and specific factors and gives an overall test statistic for how well the measurement model fits the data (Easterby-Smith, Thorpe & Jackson, 2015). According to Burns and Burns (2008), CFA has somewhat been overtaken by Structural Equation Modelling (SEM). Thus, SEM was also applied to the gathered data. SEM can be described as a combination of confirmatory factor analysis and a multiple regression (Schreiber, Nora, Stage, Barlow & King, 2006). Both CFA and SEM were conducted in the software SmartPLS, which is a commonly used software when performing such calculations and analyses (Garson, 2016).

Moreover, factor loadings were derived from the CFA, which indicates to what extent each item measured for the independent variables contributes to the axis representing the factors (Garson,

2016). As all factors had positive values, the directions of the correlations were positive (Garson, 2016). Values above 0.70 are preferred (Garson, 2016), and to reach this criterion to the best possible extent, factors with loadings lower than 0.70 were excluded. The excluded factors were knowledge and trust in *EU Organic Label* and *EU Ecolabel*, as well as one of the factors measuring perceived behavioural control (see Table 5.3.1 for all items, where mentioned items have been overlined). Consequently, fewer factors were left to represent knowledge and trust as well as perceived behavioural control. Furthermore, a high factor loading confirms that the independent variables identified are represented by the particular factor (Garson, 2016). Put differently, factor loadings are used to ascribe meanings to the components.

Moreover, to assure the model fit, the Standardized Root Mean Square Residual (SRMR) were computed. The SRMR can be defined as the average magnitude of differences between the observed correlation matrix and the model-implied correlation matrix (Garson, 2016). SRMR values under 0.08 are considered to be a good fit, however, some researchers accept values up to 0.10 (Garson, 2016). Nevertheless, the lower SRMR, the better is the model fit (Garson, 2016). SRMR can be measured through estimated or saturated values, where the former measures the actual relationships and take the structure of the model into account while the latter assess the correlation between all possible relationships of the model (SmartPLS, 2020).

4.4.2   Validity

Validity refers to the accuracy and stability of a measure; to what extent a variable is measuring what it intended to measure (Burns & Burns, 2008). Put differently, the validity tells us how valid the variables are and whether it is measuring a given characteristic or not. For an optimal outcome of a study, there should be external as well as internal validity (Bryman & Bell, 2012).

External validity refers to how transferable the results are to the population and how generalisable these results are (Burns & Burns, 2008). In other words, to what extent the results can be applied to other contexts. As our sample consisted of a diverse group with a wide range of ages, education levels and income levels, it can be argued that the validity is high. However, the distribution between women and men were rather uneven, which is not in favour of this thesis. Furthermore, the fact that we have used a non-probability sampling method is not in favour of the study. As a matter of fact, non-probability sampling has a negative effect on external validity according to Bryman and Bell (2012). Hence, the results of our study cannot be fully generalised. Nevertheless, we decided to use a non-probability sampling as a probability sampling was regarded to be out of reach for this thesis considering the time frame and budget. Our chosen sample method allowed us to attain a quantifiable sample size, large enough to fulfil statistical standards.

Internal validity refers to the extent to which the variables of a study remain controlled, and to what degree the relationships depends on the independent variables, rather than other factors (Burns & Burns, 2008). In other words, the internal validity looks at whether the different factors measure what they intend to measure. Regarding questionnaires, validity is obtained if

it measures the intended concepts (Saunders, Lewis, & Thornhill, 2012). The scales used for the questionnaire in this thesis was well considered and based on scales that been used before in previous literature. Thus, the questionnaire made for this survey can be classified to have validity.

To ensure validity even further, the convergent validity was inspected. Convergent validity determines to what extent a scale correlates positively with other measures of the same construct and can be inspected through the average variance extracted (AVE) (Malhotra, 2010). AVE should not fall below 0.50 as it indicates that error variance exceeds explained variance (Garson, 2016). If AVE instead is higher than 0.50, the latent variable explains more than 50% of its indicator's variance (Hair, Ringle & Sarstedt, 2011). AVE reflects average commonality for each latent factor in a reflective model (Hair, Ringle & Sarstedt, 2011). Moreover, yet another aspect to take into consideration when conducting quantitative studies is reliability.

4.4.3   Reliability

Reliability refers to the consistency, accuracy and stability of measurements, and to what extent findings can be replicated (Burns & Burns, 2010). Reliability is very important when it comes to variables that are developed from summated scales, which according to Santos (1999) refers to scales built from individual items that describe the same phenomenon. Quantitative models most often consist of summated scales and it is important to ensure that the same set of components would extract the same outcome if the questions were to be re-administered (Santos, 1999).

Two ways, among others, to measure reliability is Cronbach's alpha and Composite Reliability. Cronbach's alpha is used to ensure reliability as well as the amount of error that exist within each measurement (Cronbach, 1951). The higher value the better, and values above 0.70 is acceptable as these values implies that the statements measure what they intend to measure (George & Mallery, 2003). Cronbach's alpha is said to be a conservative measure, which easily can underestimate reliability (Garson, 2016). Therefore, Cronbach's alpha as well as composite reliability were examined.

Composite reliability is an alternative to Cronbach's alpha as Cronbach's alpha may overestimate or, more commonly, underestimate scale reliability (Garson, 2016). Composite reliability is a good measure for confirmatory research and values above 0.70 is regarded as acceptable while numbers above 0.80 is preferred (Garson, 2016). However, unlike Cronbach's alpha, greater values are not always preferable. Very high reliability, such as 0.90 and above, may be a sign of constructs being too similar and replicated variants of each other rather than truly representative measures of represented factor constructs (Peterson & Kim, 2013; Garson, 2016). Nevertheless, some researchers claim that values above 0.90 are acceptable, as long as there is no redundancy among the items in the scales (Hair, Ringle, & Sarstedt, 2011).

4.5 Data Analysis

4.5.1 PLS-SEM

After conducting the confirmatory factor analysis (CFA) as well as the reliability and validity tests, partial least square structural equation modelling (PLS-SEM) were used to test our hypotheses and the relationship between the chosen variables. Structural equation modelling (SEM) is often described as a combination of both factor analysis and regression analysis (Hox & Bechger, 1999), and concepts like covariance structure analysis, latent variable analysis, causal modelling (Malhotra, 2010) or path analysis (Ullman & Bentler, 2012) are often used interchangeably with SEM. SEM can be seen as a collection of several statistical techniques (Schreiber et al., 2006; Ullman & Bentler, 2012) and can be used when one wants to examine the relationship between a set of constructs or concepts (Malhotra, 2010). Furthermore, the analysis method allows examination of one or more independent variables with one or more dependent variables (Ullman & Bentler, 2012). Finally, instead of running several multiple regression equations, SEM allows to run one structural equation (Burns & Burns, 2008; Schreiber et al., 2006).

PLS-SEM has various aims; to determine to which extent the hypothesised model is supported by the collected data (Schumacker & Lomax, 2004) and at the same time maximise the variance explained of the dependent variable (Hair, Ringle & Sarstedt, 2011). Hence, to maximise how much of the dependent variable that can be explained by the variance in the other variables. Furthermore, in comparison to CFA, SEM consider interrelations and extends the possibility of interrelations between variables (Schreiber et al., 2006). This consideration of interrelations makes the PLS-SEM suitable for this thesis and our chosen theoretical framework.

When conducting a structural equation model, it is possible to observe three types of effects; direct, indirect and total (Schreiber et al., 2006). The focus of this thesis was the indirect effect of eco-label knowledge and eco-label trust respectively, on purchase intention via the mediating variables attitude, subjective norms and perceived behavioural control. Nonetheless, it is also possible to investigate direct effects, which is the independent variables effect on the dependent variable (Schreiber et al., 2006). Thus, the effect of eco-label knowledge and eco-label trust on the mediating variables were also examined. Lastly, the total effect was observed by examine the effect between the independent variables on purchase intention, through all mediating variables combined (Schreier et al., 2006).

When conducting PLS-SEM it is important to make sure that the solution do not fail due to convergence, as the coefficients in output then are unreliable (Garson, 2016). Thus, our first step after running the PLS algorithm was to check for convergence. As the number of iterations was calculated to 7 and did not exceed 300, we did not have a problem with convergence (Garson, 2016). Moreover, before one carries out assessment of the structural relationship, it is important to first check for multicollinearity. In state of multicollinearity the independent

variables have high correlation with each other (Garson, 2016) and there is a bias in the regression results (Hair, Risher, Sarstedt & Ringle, 2019). Multicollinearity exist when the variance inflation factor (VIF) is higher than 5 (Hair et al., 2019) and when Tolerance Index is lower than 0.25 (Garson, 2016). Some contradictions occur regarding the acceptable level of VIF, where values between 3-5 can be seen as pending towards multicollinearity (Garson, 2016; Hair et al., 2019). To be sure, a VIF value close to 3 or lower is desirable (Hair et al., 2019).

Moreover, other important measures considered was effect size, as well as predictive and explanatory power. The effect size (f^2) illustrates the strength of the effect of the independent variable (Burns & Burns, 2008). Garson (2016) categorise the effect size as small (0.02), medium (0.15) and high (0.35). Q^2 is a measure of cross-validity, in other words, a measure of how and if the results are generalisable to an independent data set (Garson, 2016). Hence, the relevance of the model is predicted by Q^2, which was calculated through Blindfolding in SmartPLS, and gives a Q^2 value for each dependent variable. According to Garson (2016), a value over 0 indicates that the chosen model can be used to predict the specific factor. Moreover, the same effect size as f^2 applies. Our model's explanatory power was measured through R^2 and the adjusted R^2. R^2 explains the proportion of variance for the dependent variable that can be explained by the independent variables or other variables in the regression model (Garson, 2016). The explanatory power can vary from weak (0.19), moderate (0.33), to substantial (0.67) (Garson, 2016). According to Burns and Burns (2008), the adjusted R^2 penalise the statistics for biases as several variables are included, and therefore, the adjusted R^2 is a preferable measure compared to the standard R^2.

To see whether the identified components have a statistically significant influence on purchase intention, their p-values are of interest. According to Burns and Burns (2008), a p-value show if a component is statistically significant or not. Different significance levels, also referred to as alpha levels, can be set at different levels which most often range from 0.01 to 0.10 (Burns & Burns, 2008). In this research, we decided to accept p-values below 0.10. Thus, alpha was set to 0.10 and thereby we were accepting 10% error (Burns & Burns, 2008). Therefore, p-values < 0.10 was interpreted as significant whereas values > 0.10 was interpreted as insignificant. In other words, the null hypothesis with a p-value < 0.10 was rejected, while those > 0.10 was accepted.

4.5.2 Analysing the Moderating Effect of Education Level

To analyse the potential moderating effect of Education level, a parametric multigroup analysis (MGA) was carried out. A MGA is used to determine whether the PLS model significantly differs between different groups (Garson, 2016). In other words, the MGA was used to test for differences between respondents with different education levels. This was done by a comparison of paths between groups, by the use of independent samples t-tests (Garson, 2016). Originally, we had four groups of education; mandatory education, high school, bachelor's degree and master's degree or higher education. However, as only 8 respondents ticked the box for mandatory education, this group could not be analysed. Thus, three groups remained for the

MGA; high school degree, bachelor's degree, and master's degree or higher education. The three groups were compared through the MGA and results will be presented in chapter 5.

4.6 Ethical Considerations

Ethics refers to moral principles and ethical standards that guide our behaviour (Burns & Burns, 2008). It is important to consider ethical aspects in research, especially when participants are involved. To ensure that our research was performed ethically, several actions were taken prior, during and post to our data collection.

A pilot study was conducted before the data collection, which according to Malhotra, Birks and Wills (2010), makes the research more ethical as it assures essential information to be included and makes sure questions are easily understood. All participants of the study were assured entirely anonymity and confidentiality before partaking. Further, they were well informed about the motive of the study as well as the fact that they could leave the survey at any time. Hence, participants were given privacy, freedom of option and fully informed consent, in accordance with Malhotra, Birks and Wills (2010) guidelines.

Following the recommendations of Easterby-Smith, Thorpe & Jackson (2015), fully transparency was applied, and deception was avoided, as respondents were well and honestly informed about the true intent of the study. Furthermore, questions were kept short to reduce the respondents time spent on the survey and questions were constructed not to lead the participant's answers. Moreover, confidentiality was ensured as no personal data were stored appurtenant to individual respondents (Saunders, Lewis & Thornhill, 2012). Finally, the gathered data were truthfully presented following Easterby-Smith's, Thorpe's & Jackson's (2015) recommendations. As the research for this thesis were conducted and presented with respect to participants anonymity, consent, privacy and confidentiality. And as deception were avoided, transparency applied and data trustworthy reported, we would like to argue that our research was conducted and presented ethically.

4.7   Chapter Summary

In this chapter, we have outlined a detailed illustration of the methodology for this thesis. Since our hypotheses are derived from theory, we have taken a deductive approach and performed a confirmatory, quantitative study. The scope of this thesis is the Swedish market, and hence, Swedish citizens and those who had lived in Sweden for at least three years were our target group.

The primary data was collected during April 2020, in the form of an online self-administered completion questionnaire which generated 232 valid responses. The survey consisted of descriptive questions and statements but with a focus on declarative statements with a Likert scale ranging from 1-7. Following this, analyses were run using the SmartPLS software. To answer the stated hypotheses, we conducted a Confirmatory Factor Analysis (CFA) and partial least square structural equation modelling (PLS-SEM).

Given this, the method should provide a comprehensive understanding of eco-labels and purchase intention regarding knowledge and trust. The following chapters will present and elaborate on the findings of our study in-depth as well as emphasise the significant results in a clear and structured way.

5 Findings and Analysis

This chapter outlines the findings and analyses our gathered data. Further, reliability and validity testing were conducted, as well as hypotheses testing.

5.1 Descriptive Statistics

The data were gathered through an online survey for 10 days. In total, 290 individuals began to answer the survey whence 232 of these resulted in valid responses. The valid responses excluded non-completed questionnaires, questionnaires answered too fast or following patterns, as well as participants under the age of 18 and respondents who were not Swedish nor had lived in Sweden for at least three years. Hence, the 232 final respondents had an age ranging from 18 and above. The majority, more specifically 66%, were between the age of 18 and 35, however, 22% were over the age of 56. Thus, the study contained a good range of ages. Furthermore, 73% were female and the income level was very scattered among respondents. The respondents had various occupations and education levels, although the majority of respondents were employed with a minimum of a bachelor's degree. Furthermore, as many as 89% of the respondents perceived themselves as environmentally aware, and 78% perceived themselves as environmentally concerned. Approximately half of the respondents deemed that they actively search for eco-labels when grocery shopping while the other half did not. As many as 56% of respondents perceived the information about eco-labels to be insufficient and 44% were even experiencing eco-labels to create confusion.

Moreover, as seen in Figure 5.1.1, the different labels varied in regard to consumers subjective knowledge and trust. On average 33% claimed to have good knowledge about the labels, thus one in three perceived themselves knowledgeable about the main eco-labels on the Swedish market. Further, 46% of the respondents claimed to trust that the claims and promises that the most common eco-labels on the Swedish market makes are true. As seen, the average level of trust exceeds the level of knowledge. Hence, it seems as if consumer feel more trust towards eco-labels than they feel confident about what these labels actually do.

Furthermore, the survey revealed that consumers recognition of the different labels was rather high at over 90%, with the exception of the *EU Organic Label* at 73% and the *EU Ecolabel* at a mere 36%. The low recognition of mentioned labels resulted in low levels of knowledge and trust, which in turn resulted in low factor loadings. In fact, *EU Organic Label* and *EU Ecolabel* did not make the requirements for Cronbach's alpha nor AVE and were therefore excluded from the final model.
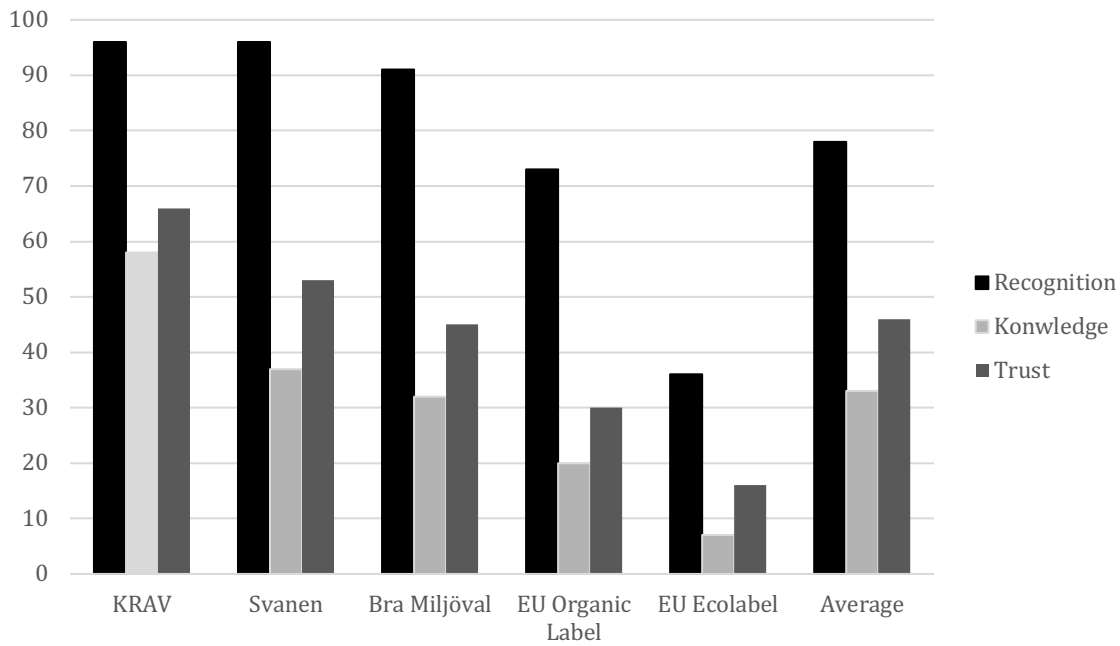
Figure 5.1.1 Consumer recognition, knowledge and trust in the most common eco-labels on the Swedish market (all numbers are in %)

5.2 Mean Values and Standard Deviation

An overview of the variables for our survey is presented in Appendix B. By reviewing this table, it is possible to observe mean values and Standard Deviation for the variables. The variables in this table are those with accepted values for Cronbach's alpha, composite reliability and AVE.

As previously mentioned, the questionnaire gave the respondents chance to answer the items in the questionnaire on a Likert scale ranging from 1-7, scoring from "strongly disagree" (1) to "strongly agree" (7). For eco-label knowledge and eco-label trust, it was also possible to answer, "I do not recognise this label" (0). For the mean values, a value of 4.0 indicates that the respondent neither agree nor disagree. Furthermore, values of 5.0 and above indicates agreement whereas values of 3.0 and below indicates disagreement. The variable with the highest mean value was *Attitude* (5.82) and signify that most respondents agreed with the statements for this item. The item with the lowest mean value was *Eco-label knowledge* (4.79), implying that respondents agreed with the statements for this item were the least. Moreover, all mean values except *Eco-label knowledge* were above 5, indicating all respondents to at least slightly agree with the statements for the variables presented.

When observing the standard deviation, namely how much the value of the population deviates from the mean, it is possible to observe whether respondents had a similar level of agreement in the given statements. Moreover, higher standard deviation values indicate more dispersion in the answers and thus, the respondents were not unison in their opinions (Burns & Burns, 2008). Consequently, lower values indicate more coherent opinions. The highest standard deviation value was *Eco-label trust* (1.57), followed by *Eco-label knowledge* (1.56) which indicates respondents were most inconsistent in their answers regarding these statements. On the contrary, respondents had a high agreement in their opinions regarding *Attitude* (1.26), that scored the lowest. The variable that can be seen to reflect the respondents' opinion the most was *Attitude* since it had the highest mean value as well as the lowest value for standard deviation.

5.3   Confirmatory Factor Analysis

The confirmatory factor analysis result showed the collected data to have a somewhat good fit. The model fit of this study was assured through SRMR. As previously stated, there are two measurements for SRMR when using SmartPLS, and thus we present both the estimated and saturated values. The saturated value fell below the critical level of 0.08, at 0.06, and hence, indicates a good fit. The estimated value, however, scored above the threshold at 0.15 which in turn indicates a less appropriate fit. Hence, it can be argued for and against whether our model has a good fit or not. With the saturated value in mind, found results seem to provide support for the suitability of the chosen measures; eco-label knowledge, eco-label trust, the mediating dimensions of TPB and purchase intention.

The validity and reliability of the variables were examined through AVE, Cronbach's alpha and Composite Reliability. To make these values desirable, three factors with inferior loadings were dismissed. An intervention that made the results valid and reliable and the majority of factor loadings were well over the desired value of 0.7. Mentioned dismissed variables will therefore be overlined in Table 5.3.1, where remaining factor loadings can be found. The table shows the latent variables and their associated statements which individually and to different extent contributes to the variable. For example, attitude seemed to mainly be associated with the statement, "Buying eco-labelled food is a good idea" with a factor loading of 0.915.

More specifically, all values for AVE were above 0.50. In fact, no value was less than 0.72 which indicates that each latent factor explains more than approximately 70% of the variance in their respective indicators. Further, Cronbach's alpha showed all variables to be above 0.70, as desired. In fact, all variables had a Cronbach's alpha above 0.80. Moreover, composite reliability showed all variables to be above 0.70. As a matter of fact, no value was below 0.88, which indicates very high reliability. Some variables had a composite reliability above 0.90. However, as the items in the scales are not redundant, we disregard the concern that constructs may be too similar and interpret these values as acceptable. To conclude, as all variables had

acceptable values for all applied validity and reliability measurements, items can be assumed to measure what they were supposed to measure, and the study is generalisable to a high degree.

Table 5.3.1 Factor loadings with reliability and validity measurements

Constructs	CFA loading	Cronbach's Alpha	Composite Reliability	AVE	References
Purchase intention I am willing to consume eco-labelled food if it is available for purchase I intend to consume eco-labelled food if it is available for purchase I plan to consume eco-labelled food if it is available for purchase I will try to consume eco-labelled food if it is available for purchase	0.089 0.930 0.925 0.923	0.937	0.955	0.841	Wong, Hsu & Chen (2018)
Eco-label knowledge - I am knowledgeable about this eco-label: 1) The Nordic Swan 2) KRAV 3) Bra Miljöval 4) EU Organic Label 5) EU Ecolabel	 0.863 0.808 0.883	0.811	0.888	0.726	House et al. (2004)
Eco-label trust - I trust that the claims and promises that this label makes are true 1) The Nordic Swan 2) KRAV 3) Bra Miljöval 4) EU Organic Label 5) EU Ecolabel	 0.877 0.784 0.894	0.811	0.889	0.727	Taufique, Vocino & Polonsky (2017)
Attitude Buying eco-labelled food is a good idea Buying eco-labelled food is a wise choice I like the idea for buying eco-labelled food Buying eco-labelled food would be pleasant	0.915 0.904 0.900 0.873	0.920	0.943	0.806	Wong, Hsu & Chen (2018)
Subjective norms Eating eco-labelled food is the 'right thing to do' Buying eco-labelled food sets a good example My family and friends think it is a good thing if I purchase eco-labelled food	0.901 0.914 0.791	0.838	0.903	0.757	Liobikiené, Mandravickaité & Jurga Bernatonienė (2016)
Perceived behavioural control I have resources, time and opportunities to buy eco-labelled food I am confident that if I want, I can buy eco-labelled food instead of conventional non-green products Whether or not I buy eco-labelled food instead of conventional non-green product is completely up to me	0.929 0.901	0.808	0.912	0.838	Kim & Han (2010)

5.4   PLS-SEM Analysis

In order to see if the computed values from the conducted confirmatory factor analysis are significant and to test the hypothesis, it is important to examine the structural equation model. The developed construct aims to examine the influence of consumer knowledge in eco-labels and consumer trust in eco-labels on purchase intention. See figure 5.4.1 below for the significant relationships.
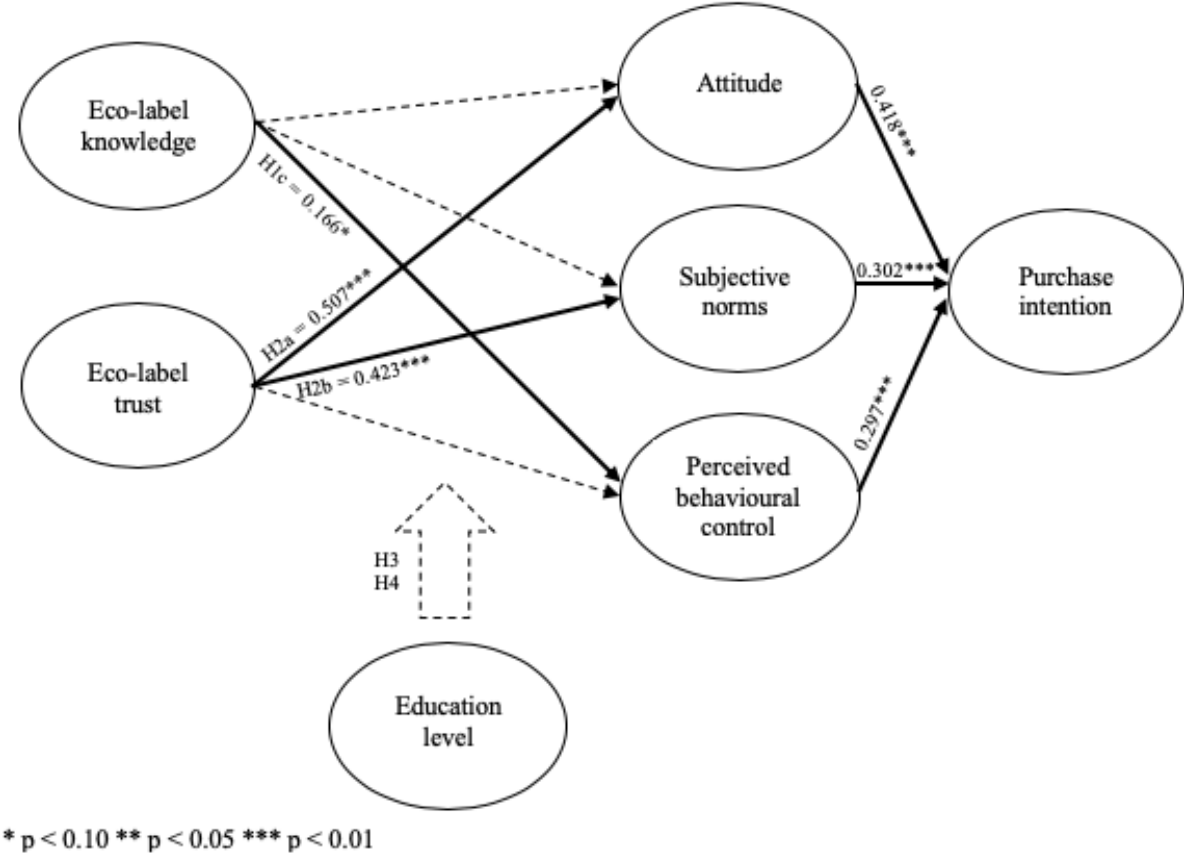
Figure 5.4.1 Conceptual framework with standardised path coefficients

5.4.1   Mediating Effects

The structural equation model presents the indirect effect of eco-label knowledge as well as eco-label trust on purchase intention of eco-labelled food, through the dimensions of the Theory of Planned Behaviour; attitude, subjective norms and perceived behavioural control. Considering the overall model, it is possible to detect direct effects as well. However, we are not examining the direct effects between the TPB dimensions and purchase intention, since that relationship already been established in previous research. Nevertheless, the direct effects

between eco-label knowledge and eco-label trust respectively and the TPB dimensions will be presented. The results are shown below in 5.4.1.

Regarding eco-label knowledge, we proposed that there was a positive indirect relationship between eco-label knowledge and purchase intention of eco-labelled food via attitude, subjective norms, and perceived behavioural control respectively (H1a-c). The results in the Table 5.4.1 show statistically significant mediating effect of perceived behavioural control between eco-label knowledge and purchase intention (t = 1.682; p < 0.10). However, neither attitude (t = 1.252; p > 0.10), nor subjective norms (t = 1.118; p > 0.10) mediated the relationship. Our findings imply that more knowledge of eco-labels leads to more perceived control, which increases the purchase intention of eco-labelled food. Thus, knowledge of eco-labels employs an effect on purchase intention through perceived behavioural control, but not through attitude or subjective norms. Therefore, we accept H1c and reject H1a and H1b.

Regarding eco-label trust, we proposed that there was a positive indirect relationship between eco-label trust and purchase intention of eco-labelled food via attitude, subjective norms, and perceived behavioural control respectively (H2a-c). The results displayed in Table 5.4.1 show a statistically significant mediating effect of attitude between trust in eco-labels and purchase intention (t = 3.511; p < 0.10), as well as of subjective norms (t = 3.059; p < 0.10). However, perceived behavioural control do not show statistically significant mediating effect (t = 1.157; p > 0.10). Our findings imply that improved trust in eco-labels leads to improved attitude and care for subjective norms, which increase purchase intention of eco-labelled food. Thus, trust in eco-labels employ an effect on purchase intention through attitude and subjective norms, but not through perceived control. Hence, we confirm H2a and H2b but reject H2c.

These results imply that consumers' purchase intention of eco-labelled food is strengthened by consumers knowledge in eco-labels and increased control towards purchasing eco-labelled food. Interestingly, all TPB dimensions except perceived behavioural control were significant mediators in the relationship between trust in eco-labels and purchase intention. While perceived behavioural control, on the other hand, was the only significant mediator of the relationship between knowledge and purchase intention. Hence, we found knowledge and trust in eco-labels to have an effect on purchase intention. In other words, if knowledge is increased and trust is enhanced purchase intention will most likely increase. Thus, while knowledge affects perceived behavioural control, trust has an impact on attitude and the receptiveness of subjective norms, hence completing each other.

Table 5.4.1 Mediating effects and hypotheses results

	T-statistics	P-value	Acceptance
Eco-label knowledge → Attitude → Purchase intention	1.252	0.211	No
Eco-label knowledge → Subjective norm → Purchase intention	1.118	0.264	No
Eco-label knowledge → Perceived behavioural control → Purchase intention	1.682	0.093*	**Yes**
Trust in eco-labels → Attitude → Purchase intention	3.511	0.000***	**Yes**
Trust in eco-labels → Subjective norm → Purchase intention	3.059	0.002***	**Yes**
Trust in eco-labels → Perceived behavioural control → Purchase intention	1.157	0.247	No

* p < 0.10 ** p < 0.05 *** p < 0.01

5.4.2 Moderating Effects

Previous research has stated education level as a predictor for purchase intention of sustainable products which was the base for our formulation regarding the moderating effect. Hence, education level was predicted to moderate the relationship between both consumer knowledge in eco-labels and consumer trust in eco-labels, and purchase intention. This resulted in our final hypothesis stating that education level moderates the relationship between eco-label knowledge and purchase intention via the TPB dimensions (H3), and that education level moderates the relationship between eco-label trust and purchase intention via the TPB dimensions (H4). Regarding the hypotheses, the results in Table 5.4.2 show that education level does not moderate the relationship between either eco-label knowledge and the purchase intention, nor trust in eco-labels and purchase intention. Thus, H3 and H4 are rejected. This implies that education level is not an element that should be taken into consideration when communicating regarding these eco-labels, as the different groups do not differ.

Table 5.4.2 Moderating effects and hypotheses results

	Master - Bachelor	Master - High School	Bachelor - High School	Acceptance
Eco-label knowledge → Attitude → Purchase intention	0.658	0.658	0.718	
Eco-label knowledge → Subjective norm → Purchase intention	0.320	0.320	0.540	
				H3: No
Eco-label knowledge → Perceived behavioural control → Purchase intention	0.455	0.455	0.806	
Trust in eco-labels → Attitude → Purchase intention	0.389	0.389	0.755	
Trust in eco-labels → Subjective norm → Purchase intention	0.320	0.363	0.140	
				H4: No
Trust in eco-labels → Perceived behavioural control → Purchase intention	0.577	0.577	0.480	

5.4.3   Overall Model Results

In Appendix C the direct effects between all the variables in our model are presented, except the relationships between the TPB dimensions and purchase intention. In line with previous research, these direct relationships were found to be significant in this study as well. Thus, our findings confirm previous studies and the applied Theory of Planned Behaviour and are consistent with Ajzen's (1991) theory and the findings of many scholars (e.g. Nguyen & Lobo, 2016; Wang, Liu & Qi, 2014). Since these relationships are not central to our thesis, they have been excluded from the table.

The total effect, namely the direct effect between the independent variable and the dependent variable through all mediating variables combined, show different results. The total effect between trust in eco-labels and purchase intention through the three TPB dimensions were found to be significant ($\beta = 0.369$; t = 4.943; p < 0.10). Meanwhile, the total effect between knowledge in eco-labels and purchase intention with the mediating variables was not ($\beta = -0.026$; t = 0.403; p > 0.10). However, all three TPB dimensions were found to mediate these relationships to some extent for the different independent variables trust and knowledge. This implies that both knowledge and trust seem to have an impact on purchase intention. Thus, the TPB dimensions can be seen as an explanation as to why previous research has shown contradictory results.

As shown in Appendix C, statistically significant direct relationships were found among the variables that also mediated the relationship between the independent and dependent variables. Besides the relationship between the TPB dimensions and purchase intention, the direct

relationship between eco-label trust and attitude as well as subjective norms were found to be statistically significant. The direct effect showed attitude ($\beta = 0.507$; t = 5.364; p < 0.10) to have a moderate effect size ($f^2 = 0.201$) and subjective norms ($\beta = 0.423$; t = 4.615; p < 0.10) to have a slightly low effect size ($f^2 = 0.130$). This implies that 20%, respectively 13% in the above-mentioned variables can be explained by eco-label trust. Additionally, the direct relationship between eco-label knowledge and perceived behavioural control was found to be significant. This relationship ($\beta = 0.166$; t = 1.841; p < 0.10) had low effect size ($f^2 = 0.018$), which implies that mere 2% of the variable can be explained by eco-label knowledge. In accordance with Burns and Burns (2008), smaller effect size does not indicate that independent variables have no effect at all, but that the impact is rather small in comparison.

To assure our model did not violate the assumptions of multiple regression, multicollinearity was ensured to be avoided (Burns & Burns, 2008; Garson, 2016). As previously stated, different levels of VIF can be accepted, but a level below 3.0 is preferable, while the Tolerance Index should be higher than 0.25. The highest variance inflation factors (VIF) was 2.537 and the highest Tolerance Index was calculated to 0,39. Thus, multicollinearity was not an issue in this structural model. However, it can be argued that even if we have values below the threshold, we are close to having multicollinearity. To avoid potential multicollinearity issues, we ran the model for each dimension of the Theory of Planned Behaviour to examine whether there were any differences in comparison to the original model. These calculations did not show any different values and the additional calculations can be seen as a robustness check for our original model. In other words, since the additional runs did not show differences, we do not have a problem with multicollinearity even if we are close to the threshold.

5.5   Chapter Summary

This chapter presents an overview of the main findings from the conducted quantitative study. The findings showed statistically significant results for the indirect relationship between knowledge in eco-labels and purchase intention, through perceived behavioural control. This implies that eco-label knowledge enhances purchase intention, as a greater perceived behavioural control affects purchase intention. Moreover, the findings showed statistically significant results for the indirect relationship between trust in eco-labels and purchase intention, through attitude and subjective norms respectively. This implies that trust in eco-labels increase purchase intention, as increased trust affects attitude and subjective norms toward eco-labels, which in turn affects purchase intention. Moreover, remaining relationships were found insignificant as well as the moderating effect of education level. To summarise, with regard to the statistical results, we accept the hypotheses H1c, H2a and H2b, and reject H1a, H1b, H2c, H3, and H4.

6   Discussion

This chapter elaborates on the research findings presented in the previous section and relate and compare this to previous presented literature and theory. Moreover, a discussion of what the results imply will be carried out. This section aims to present a distinct connection to the research questions and by that fulfil the purpose of our thesis. The research questions to be answered are what the relationships between consumers perception (knowledge and trust) of eco-labels and planned sustainable behaviour is, as well as whether education level moderates these potential relationships.

6.1   Main Relationships

To examine the relationship between eco-label knowledge and purchase intention, as well as the relationship between eco-label trust and purchase intention, the three dimensions of TPB were used as mediating variables. The dimensions proved to partly affect the relationships between the variables. More specifically, the dimensions attitude and subjective norms were found to mediate the relation between eco-label trust and purchase intention, while the dimension perceived behavioural control mediate between eco-label knowledge and purchase intention. Hence, these relationships complement each other as they combined make all dimensions significant as mediators. Our research can be seen to explain some of the previous contradictions in the general field on eco-labels and purchase intention. More specifically, the inconsistency in results regarding eco-labels and purchase intention can be due to other factors influencing the relationship, such as the TPB dimensions.

6.1.1   The Relationship Between Eco-Label Knowledge and Planned Sustainable Behaviour

This section examines the findings regarding eco-label knowledge and its effect on purchase intention via the three dimensions of the Theory of Planned Behaviour; attitude, subjective norms and perceived behavioural control. The response to the first part of our research question was addressed by the hypotheses H1a, H1b and H1c. We hypothesised that eco-label knowledge had a positive indirect relationship with purchase intention of eco-labelled food within the FMCG sector, through attitude, subjective norms and perceived behavioural control. As illustrated in Table 5.4.1 and presented in the result section, the relationship between eco-label knowledge and purchase intention through perceived behavioural control was found to be significant, while the relationship between eco-label knowledge and attitude as well as

subjective norms were found to be insignificant. Differently put, we accepted H1c and rejected H1a and H1b.

Attitude was found not to have a mediating effect on the relationship between eco-label knowledge and purchase intention. This implies that even if consumers have a high subjective knowledge regarding a specific eco-label, their attitude will not become greater nor will the intention to purchase. Our findings contradict the findings of Kang, Liu and Kim (2013), as well as Chan (2001), who found attitude to have a mediating effect between sustainable apparel knowledge and purchase intention, as well as ecological knowledge and purchase intention. In contrast to our expectations and the findings of both Berger, Ratchford and Haines (1994) as well as Han and Stoel (2016), subjective knowledge did not have a positive impact on attitude. Similarly, in contrast to Al-Swidi et al. (2014), attitude was not found to be a predictor for purchase intention of environmentally friendly products, at least not in regard to eco-label knowledge. The fact that attitude most often is built on past experiences (Bang, Odio & Reio, 2014), may explain why attitude is not mediating the relationship between knowledge and purchase intention. Accordingly, whether the label has fulfilled expectations in the past do not seem to be related to knowledge. Put differently, despite one's knowledge it does not affect their relation to previous experiences and hence, attitude.

Similarly, the mediating effect of subjective norms on the relationship between eco-label knowledge and purchase intention was found to be insignificant. Our findings contradict the findings of Kang, Liu and Kim (2013) regarding the mediating effect of subjective norms. Our findings imply that high knowledge regarding eco-labels does not influence to what extent consumers are affected by subjective norms when purchasing eco-labelled food. This may be due to the fact that more knowledgeable people may form their own opinions and are less sensitive toward the opinions of others, and therefore are less influenced by subjective norms. Further, Ajzen (1991) claims personal considerations to have greater impact than perceived social pressure. However, as the norm today is to act sustainably (Yang, Li & Zhang, 2018), one could expect this to have the opposite effect. Our study is, however, in line with Godin and Kok (1996) and Paul, Modi and Patel (2016) who examined the relationships separately and found subjective norms not to be a strong, or in some cases no, predictor of purchase intention.

Indifference from previously mentioned mediators perceived behavioural control was found to have a significant mediating effect on the relationship between eco-label knowledge and purchase intention. Our findings are in line with the ones from Kang, Liu and Kim (2013), who stated perceived behavioural control to be a significant mediating variable in the relationship of knowledge in sustainable apparel and purchase intention. Our findings confirm that perceived behavioural control is a predictor of purchase intention of sustainable products, in accordance with (Godin & Kok, 1996). It seems as if an increased level of knowledge regarding eco-labels enhances the perceived control, which in extension can affect the purchase intentions of buying eco-labelled food. This can be due to that more knowledge about a specific product reduces risk and hence, make consumers become more assured about their choice, as Berger, Ratchford and Haines (1994) stated. In other words, increased knowledge reduces barriers and perceived risk (Manget, Roche & Münnich, 2009; Berger, Ratchford & Haines, 1994). These

findings are in line with Ajzen (1991), who stated that behaviour is influenced by a person's confidence regarding the ability to perform a certain task, i.e. the perceived behavioural control. The author claims that an individual's behaviour is influenced by confidence regarding the ability to perform a certain task. Hence, if two individuals have the same knowledge about an eco-label and both want to contribute to a better tomorrow, the person who is confident that the labelled product will have an impact on the environment will most likely have a stronger purchase intention than the person in doubt.

Further, our findings confirm the findings of Alba and Hutchinson (1987), Chiou (1998), and Jin and Han (2014), and imply that more eco-label knowledge will lead to greater confidence in one's actions and result in greater purchase intention. In other words, it seems as if increased eco-label knowledge enhance the perceived control to purchase eco-labelled products. Control has further been exemplified as a perceived skill possessed by an individual (Wang, Liu & Qi, 2014; Barbarossa & De Pelsmacker, 2016), and it has been claimed that the more resources and opportunities we believe we possess, and the fewer obstacles we encounter, the greater the perceived control over a certain behaviour becomes (Ajzen, 1991). Hence, it can be argued that knowledge is an acquired skill and can be seen as a resource.

Our findings imply that eco-label knowledge enhances purchase intention through the TPB dimension perceived behavioural control. Given this, our standpoint is that it is important to educate consumers about eco-labels and its meanings in order to increase perceived behavioural control and thereby enhance purchase intention. Additionally, this also goes in line with the findings of Göçer and Oflaç (2017) claiming knowledge to be a medium-level of predictor of consumer behaviour. Furthermore, our findings have shown knowledge to be important for eco-labels to be successful, which is in accordance with the findings of Sharma and Kushwaha (2019). Finally, our findings are in line with the claim of Taufique, Vocino and Polonsky (2017), stating that more knowledge makes consumers more inclined towards engaging in sustainable behaviour. To conclude, there is a relationship between eco-label knowledge and purchase intention through the lens of TPB, but only through the dimension perceived behavioural control and only to a certain extent.

6.1.2 The Relationship Between Eco-Label Trust and Planned Sustainable Behaviour

This section examines the findings regarding eco-label trust and its effect on purchase intention via the three dimensions of the Theory of Planned Behaviour; attitude, subjective norms and perceived behavioural control. We hypothesised eco-label trust to have a positive indirect relationship with purchase intention of eco-labelled FMCG food, through the mediators of attitude, subjective norms and perceived behavioural control. As illustrated in Table 5.4.1, and presented in the result section, the mediating effect of attitude along with subjective norms was found to be significant. While the mediating effect of perceived behavioural control were found to be insignificant. In other words, we accepted H2a and H2b but rejected H2c.

Attitude was found to have a significant mediating effect on the relationship between eco-label trust and purchase intention. This implies that the more trust consumers feel towards a specific eco-label, the better does their attitude become and the greater will the intention to purchase be. It seems as if consumers who trust in an eco-label, becomes more certain that the products featuring the labels will contribute to something good. Thus, the consumer will predict a positive outcome of the purchase behaviour, in accordance with Hayden's (2013) reasoning. Further, the claim that purchase intention of sustainable products is enhanced by a strong attitude toward sustainable products (Arcury, 1990; Barber, Taylor & Strick, 2009; Kollumuss & Agyeman, 2002) seems to be right in regard to eco-label trust. Moreover, our findings confirm the findings of Ricci, Banterle & Stranieri (2018), which showed that trust positively affects attitudes towards eco-friendly purchase intention. Further, our result is exactly in line with those of Amaro's and Duarte's (2016), who found attitude to have a mediating effect on trust and purchase intention. Furthermore, attitude has been said to be built on past experiences (Bang, Odio & Reio, 2014), which may explain why attitude is mediating the relationship between trust and purchase intention. Thus, how the labels have proved to fulfil expectations in the past can be assumed to be crucial for one's attitude. In other words, trust is built on past experiences, which affects attitude and in turn purchase intention.

Subjective norms were found to mediate the relationship between eco-label trust and purchase intention. This implies that the more trust consumers feel towards eco-labels, the greater influence will subjective norms have on the consumer. As the norm today is to behave environmentally friendly (Yang, Li & Zhang, 2018), the influence of subjective norms seem to enhance the intention to purchase eco-labelled food. Further, as far as we know, no one has looked at the mediating effect of subjective norms in this context before. However, previous research has looked at the relationships separately and found both eco-label trust and subjective norms, as well as subjective norms and purchase intention to be related (Lobb, Mazzocchi & Traill, 2007; Mei, Ling & Piew, 2012; Sharaf, Md Isa & Al-Qasa, 2015). Moreover, while Andorfer and Liebe (2013) argues that subjective norms are more important than trust, we would like to argue that subjective norms is neither of greater nor less importance, but rather enhancing the importance of trust.

In contrary to our expectations, the last hypothesis showed perceived behavioural control to not have a mediating effect on the relationship between eco-label trust and purchase intention. This implies that increased trust in eco-labels does not influence perceived behavioural control. Unexpectedly, it does not seem as if trust reduce suspicion and worries regarding whether the claims labels make are true, indifference from Kee's and Knox's (1970) suggestion. Furthermore, our findings are contradictory to the findings of Karatu and Mat (2015), who proved perceived behavioural control to have a mediating effect on trust and green purchase intention. The fact that the study of Karatu and Mat (2015) was conducted in Nigeria, while our study was conducted in Sweden, may have contributed to the discrepancy. Moreover, it seems as if increased trust in eco-labels does not lead to greater perceived behavioural control. The founder of TPB, Ajzen (1991), claims perceived behavioural control not to be realistic when scarce information is given. Thus, we would like to argue that the lack of information regarding eco-labels may be exactly what is missing. This argument is confirmed by the fact that 71%

according to Riksdagen (2016) and 56% according to our study, perceive the information in regard to eco-labels as insufficient.

Our findings imply that trust in eco-labels enhances purchase intention through the dimensions of attitude and subjective norms. Given the above-mentioned results, our standpoint is that it is important to build trust in eco-labels in order to increase purchase intention. Trust has been said to be a prerequisite for eco-labelled food, not the least to fight distrust. We agree with Potts & Haward (2007), who claim that increased trust for eco-labels will increase purchase intention. Further, we agree with the claims of Tiesl, Rubin and Noblet (2008) and Testa et al., (2015), that customer education is of importance to increase trust in eco-labels as it will make consumers accept the labels and as this will lead to a more positive attitude which will also affect the purchase behaviour. Furthermore, trust has been shown to be of importance for eco-labels in order to be successful (Daugbjerg et al., 2014; Sharma & Kushwaha, 2019; Taufique et al., 2014; Testa et al., 2015), which is in accordance to our findings. To conclude, there is a relationship between eco-label trust and purchase intention through the lens of TPB, through the dimensions attitude and subjective norms.

6.2   Education Level and its Non-Moderating Effects

Education level was not found to moderate the relationship between either eco-label knowledge nor eco-label trust and purchase intention via the three TPB dimensions. This implies that education level does not affect the relationship between neither knowledge nor trust and purchase intention. In other words, regardless of if a consumer possesses a high school, bachelor or a master's degree, knowledge and trust are of the same importance.

Previous literature has shown contradicting results regarding whether education level has an impact on sustainable behaviour. We cannot say for sure if higher education results in sustainable behaviour and sustainable consumption, but it does however not seem to affect examined relationships. Our findings do not support Abu-Shanab's (2011) study, that found education level to moderate the relationship between trust and behavioural intentions. It has further been suggested that education level increase control (Mirowsky & Ross, 2007; Lachman, Neupert & Agrigoroaei, 2011), which does not seem to be the case with the results from our study in mind.

It is further unclear whether trust in eco-labels increase with the level of education like Teisl, Rubin and Noblet (2008) proposed, and if eco-label knowledge has a positive correlation with education level like Noviaristanti, Hanafi and Trihanondo (2020) suggested. Further, our study does not confirm nor contradict the findings of Brécard et al., (2009), who claim education level to affect the way consumers process eco-label information. Finally, our findings tell us that regardless of educational level, environmental understanding and concerns that environmental behaviour varies, indifference from Meyer's (2015) and Park et al's., (2015) suggestions. Thus,

the findings of this study imply that consumers education level do not influence purchase intention when examining its role in relationship to eco-label knowledge and eco-label through the lens of TPB.

6.3   Overall Discussion of the Model and the Theory

The findings of this thesis showed the indirect relationship between consumer knowledge and purchase intention to be mediated by perceived behavioural control, but not by attitude nor subjective norms. While the relationship between eco-label trust and purchase intention was found to be affected by attitude and subjective norms, but not by perceived behavioural control. By looking at the total effects (see Appendix D), namely the effect between an independent variable and the dependent variable through all mediating variables combined, it was possible to observe that all mediating variables resulted in a direct relationship between eco-label trust and purchase intention. Contrary, this was not the case between eco-label knowledge and purchase intention. A reason for this may be the differences in importance among the different dimensions of the theory. According to Ajzen (1991) and the Theory of Planned Behaviour, the strongest predictor of purchase intention is perceived behavioural control. However, perceived behavioural control does not seem to be stronger than attitude and subjective norms combined. In fact, the mediating effect of attitude and subjective norms on the relationship between eco-label trust and purchase intention resulted in total significant effect, despite lack of mediating effect from the variable perceived behavioural control.

The fact that not all dimensions of TPB were necessary to have a mediating effect in order for the total effect between eco-label trust and purchase intention to be significant can be explained by the structural model's explanatory power. The model was found to have higher explanatory power for attitude than subjective norms and perceived behavioural control and thus, the model explains the variation in attitude more than the other two variables. It may be possible that this has had an impact on the non-significant relationship between eco-label knowledge and purchase intention. Moreover, the effect size for attitude and subjective norms were found to be stronger when examining the relationship from eco-label trust, compared to the effect size for perceived behavioural control from eco-label knowledge. Mere 2% of eco-label knowledge could explain perceived behavioural control, and thus the low effect size might be a reason for perceived behavioural control not to be as strong as previous research has shown. Furthermore, it may be possible that this can explain why all mediating variables did not need to be significant for the total effect to be significant. Since attitude and subjective norms had a higher effect size, these variables seem to outweigh the variable perceived behavioural control. Consequently, all three dimensions do not need to mediate mentioned relationships at once for the total effect to be significant.

As mentioned previously, TPB only explains less than 50% of the variance in behavioural intentions (Armitage & Conner, 2001; Sutton, 1998). Thus, there are other factors influencing

purchase intention. In regard to sustainable consumption, influencing factors could be, for example, price and accessibility. It is, however, possible to argue that mentioned factors are included in the dimension perceived behavioural control. Nevertheless, as we chose to only investigate knowledge and trust in eco-labels, it is important to keep in mind that other factors outside of the model may affect purchase intentions.

6.4   Overall Discussion of the Thesis and the Results

The FMCG sector was of interest to investigate as it is a large sector that contributes to a lot of today's consumption, hence has a great environmental impact. As products within the FMCG sector are bought daily it is of importance to advocate sustainable consumption patterns to reduce the environmental footprint. Further, the fact that products within the FMCG sector usually are of low involvement (Asghar, Abbasi & Zafarullah, 2015), can have influenced survey respondents' answers. This since products with low involvement most often involves less consideration (Jain, 2019), and most often are not evaluated in sustainability measures (Elg and Hultman, 2016). This amplifies the importance of extensive communication for such products, as it may require more to convince consumers. It seems as if the FMCG as a whole supply more sustainable products today than they used to (Lacy, Long & Spindler, 2020). This is something that needs to be communicated and can be done through the means of eco-labels (Horne, 2009). However, our research showed that the labels themselves may not be enough, thus need to be communicated and trustworthy to increase purchase intention. Thus, by increasing eco-label knowledge and trust, purchase intention may enhance and the number of consumers actively looking for eco-labels may increase.

Our study found knowledge and trust in eco-labels to have an impact on purchase intention. Hence, it seems as if the labels will be more effective if consumers have knowledge and trust in them. Thus, communication regarding the labels is of utmost importance. As seen in Figure 5.1.1, consumers recognition, knowledge and trust among the different labels varied. It was noted that even though *KRAV* and *Svanen* had the same level of recognition, both knowledge and trust was greater towards *KRAV* than *Svanen*. Thus, it could be expected that *KRAV* is doing a better job in educating consumers about their purpose. Hence, generate greater purchase intention than Svanen.

Furthermore, our study found the majority of consumers to perceive eco-labels as confusing, which is coherent with previous findings (Baker and Miner, 1993; Eden, 1994; Erskine and Collins, 1997). Hence, it is questionable if eco-label is causing more harm than good. We are doubtful to whether the large number of eco-labels on the Swedish market today is of benefit and support one another, as Naturskyddsföreningen (2020a) claims. Considering that 71% according to Riksdagen (2016) and 56% according to our study, regards the information about eco-labels as insufficient, there seems to be a need for more communication regarding these labels. The fact that Konsumentverket provides consumers with information about eco-labels

is a step in the right direction. The authorities' course of action to communicate this information is however questionable. It seems as if they, along with several other stakeholders, rely on consumers to retrieve this information themselves. As it is in everyone's interest to make consumption more sustainable, it should be in everyone's interest to help consumers make informed purchase decisions. Moreover, in accordance with Askew (2018), we believe that consumers are an important driver to change. We would, however, like to add that companies and authorities have a massive impact and play a very important role when it comes to climate issues as well. Hence, we believe that companies and authorities should not only communicate how consumers can contribute, but also be involved in changing the whole industry.

The fact that eco-labels are faced with lack of trust and scepticism (Carrete et al., 2012; Sharma & Kushwaha, 2019), might be due to consumers concerns about greenwashing. This may be especially evident in the FMCG sector, as these products generally are characterised as non-sustainable (Özer et al., 2019), and it may be hard to convince consumer about the opposite. The number of labels on the FMCG market may further exaggerate the distrust towards eco-labels. Nevertheless, to educate consumers about the labels and its meanings has been said to increase trust (Teisl, Rubin and Noblet, 2008). In other words, better communication regarding eco-labels may wash away concerns about greenwashing as it increases the knowledge level and leads to greater trust. Göçer and Oflaç (2017), claims that to create a green identity for a product, the label may not be enough. In fact, we would like to argue that knowledge and trust may be what is missing for consumers to consider the labelled product in their purchase decision. Hence, to educate consumers regarding eco-labels seem to increase knowledge as well as build trust; two important factors to enhance the purchase intention of FMCG.

Furthermore, Rahbar & Abdul Wahid (2011) and D'Souza et al. (2006) claim that eco-labelling is nothing but a green marketing tool. It is however arguable that eco-labels are neither a marketing tool nor used for the greater good. In fact, we would like to argue that eco-labels offer a win-win situation, as we believe it is a great way to reduce climate change and at the same time increase sales of more sustainable products.

6.5 Chapter Summary

This chapter aimed to elaborate and discuss the findings from the previous chapter and relate this to the literature and theory central to this thesis. This was done to fulfil the purpose of our thesis; to examine eco-label knowledge and eco-label trust, and their relation to planned sustainable behaviour. Furthermore, we aimed to answer the research questions regarding the relationship between consumers perception of eco-labels and planned sustainable behaviour, as well as what effect the education level had on these potential relationships. The main points in the discussion were the main relationships, which more specifically refer to consumers eco-label knowledge and eco-label trust, the non-moderating role of education level. Finally, an overall discussion where we elaborated on the Theory of Planned Behaviour and more general topics that influenced the study, took place.

7   Conclusion

This chapter outlines the main findings and insights of this thesis. Followingly, we also state the theoretical and managerial implications, as well as limitations and suggestions for future research.

7.1   Aim and Purpose

The aim of this thesis was primarily to develop a deeper understanding of consumer behaviour in relation to sustainable consumption. More specifically, this thesis examined eco-labels, and whether consumers knowledge and trust in eco-labels have an impact on purchase intention of eco-labelled food. The objective was to investigate whether eco-labels work regardless of consumers subjective knowledge and trust levels, or if consumers need of more communication regarding these labels. The objective was further to examine whether results differ among consumers with different education levels. To investigate this, the Swedish market and the food sector of FMCG was studied through the lens of the Theory of Planned Behaviour. The collected data aimed to answer our research questions:

RQ1: What is the relationship between consumers perception (knowledge and trust) of eco-labels and planned sustainable behaviour?

RQ2: Does education level moderate the relationship between consumers perception (knowledge and trust) of eco-labels and planned sustainable behaviour?

7.2   Main Findings

The findings confirmed some, but not all, of our predicted hypotheses. In short, the relationship between eco-label knowledge and planned sustainable behaviour was found to be significant in one out of three mediating effects. The dimension of perceived behavioural control was found to be significant, whereas attitude and subjective norms were not. This implies that consumers with greater knowledge about eco-labels feel more control, which increases the purchase intention of eco-labelled food. Moreover, the relationship between trust in eco-labels and planned sustainable behaviour was found to be significant in regard to two out of three mediating effects. More specifically, attitude and subjective norms were found to be significant,

however, perceived behavioural control was not. Our findings imply that improved trust in eco-labels lead to improved attitude and care for subjective norms, which increase the purchase intention of eco-labelled food. Consequently, this thesis found knowledge and trust in eco-labels to be of importance for planned sustainable behaviour. In other words, if knowledge is increased and trust is enhanced the purchase intention will increase. While knowledge affects perceived behavioural control, trust has an impact on attitude and the receptiveness of subjective norms and hence, completing one another.

Moreover, education level was found not to moderate the relationship between neither eco-label knowledge and planned sustainable behaviour nor eco-label trust and planned sustainable behaviour. In other words, regardless of the consumer's education level, the findings stay the same. This implies that education level is not something that should be taken into consideration when communicating regarding these labels, as the different group do not seem to differ.

7.3   Theoretical Implications

The rise of sustainable consumption has made it more important for both individuals and organisations to incorporate sustainable actions in their daily lives as well as operations. Eco-labels can be seen as a means to enhance sustainable consumption. Sustainable consumption is a widely researched field, but there are however areas that have not yet been explored. Until now, literature has focused on the direct relationship between eco-labels and purchase intention. Thus, few have examined how knowledge and trust in eco-labels can affect purchase intention.

Initially, this thesis aimed to examine whether consumers need to have knowledge about eco-labels and trust the label in order for the eco-label to influence consumers towards sustainable consumption, or if the label itself is enough. Consequently, this study contributes to the literature on eco-labels by providing insights to the relationship consumers have with eco-labels. Furthermore, by presenting knowledge in eco-labels and trust in eco-labels to affect purchase intention, our findings expand the insights regarding what affects purchase intention of eco-labelled food. Our findings support previous research stating knowledge and trust in eco-labels to be important for sustainable behaviour and purchase intention (Daugbjerg et al., 2014; Sharma & Kushwaha, 2019; Taufique, Vocino & Polonsky, 2017).

The Theory of Planned Behaviour has been extensively used to determine the purchase intention of environmentally friendly products (e.g. Blazquez et al., 2020). However, by extending the TPB framework it is possible to examine more factors influencing purchase intention. The lack of consensus in the literature on eco-label knowledge and eco-label trust regarding purchase intention showed the need for a deeper examination of the topic. In line with this, we applied the TPB framework on the FMCG sector and extended the framework with the variables eco-label knowledge as well as eco-label trust and used the TPB dimensions as mediating variables. By adding mentioned variables, our study clarified the relationship

between eco-labels and planned sustainable behaviour, through attitude, subjective norms and perceived behavioural control. To our knowledge, this has previously not been done extensively and therefore our study adds a new perspective to current research. Hence, our study may be one of the first of its kind and therefore, our data can be seen to provide important insights for future research.

Moreover, we have provided an original conceptual framework in order to understand the relationship between eco-label knowledge, as well as eco-label trust, and purchase intention. The findings of our paper add to existing literature and previous findings, as we confirmed the strength of the framework TPB as mediating variables, which is in line with Kang, Liu and Kim (2013). The lack of consensus in the literature regarding both eco-label knowledge and eco-label trust has been explained to some extent. This is since attitude and subjective norms enhanced the relationship between eco-label trust and purchase intention, while perceived behavioural control enhanced the relationship between eco-label knowledge and purchase intention. Thus, our main contribution to the academical field was to provide an explanation of the lack of consensus in previous literature, as the three dimensions of TPB were shown to affect the relationships between eco-label knowledge and trust, respectively, and planned sustainable behaviour.

7.4   Managerial Implications

We have provided constructive research on knowledge and trust in regard to purchase intention of eco-labels. The findings have several implications for practitioners within the FMCG sector that seek to make consumption more sustainable through the means of eco-labels. We have provided insights regarding the communication of eco-labels to make people more inherent to purchase sustainable products.

In this research, we revealed that consumers perceive communication in regard to eco-labels as insufficient. It is of importance for all stakeholders to improve and expand information regarding these labels. It has further been discussed how the majority of information regarding eco-labels has to be sought by the consumer today. We advocate that practitioners take a step forward and seek to provide the consumers with this information instead, rather than assigning responsibility to the consumers. Our standpoint is that all stakeholders need to be more proactive and reach out to consumers with information regarding the labels. This applies to all stakeholders whether it is authorities, eco-label organisations or companies certified with eco-labels.

Further, we urge companies and authorities to use eco-labels as a tool to address the issue of unsustainable and excessive consumption, and in the long run to reduce the environmental footprint. We encourage more eco-label campaigns such as the ones made by Svanen or Rainforest Alliance, as they proved to result in increased engagement and purchase intention.

In accordance with the Rainforest Alliance objective, we agree that it seems to be important for all eco-labels to not only build awareness but also to activate consumers. However, with the results from this thesis in mind, we would like to argue that it may be even more important to increase consumers knowledge and build trust. In fact, it seems as the combination of both knowledge and trust are important. Thus, it is important to both educate consumers about the eco-labels and to prove that the labels are legitimate. Knowledge and trust in eco-labels may not be sufficient to change behaviour, but it might be an important factor in changing consumption patterns.

Moreover, our research implies that education level does not affect the indirect relationship between knowledge and purchase intention, nor the indirect relationship between trust and purchase intention. The managerial implication of this is that communication efforts do not have to be adapted based on consumers education level. Hence, the level of knowledge and trust needed to increase purchase intention among consumers, do not seem to differ depending on education level. In other words, knowledge and trust are important regardless of educational background.

To sum up, the conclusion that can be drawn from our research is that managers and authorities should put effort to increase both consumers knowledge and trust in eco-labels. This is essential for increasing sales, as well as promote sustainable consumption and reduce climate change. Thus, resulting in a win-win situation. Hence, we suggest managers and authorities to provide consumers with more information, and especially information regarding the implications and legitimacy of the labels. By communicating eco-labels to a greater extent, purchase intention for eco-labelled products will increase.

7.5   Limitations and Future Research

This study was delimited to the Swedish market and since Swedish consumers have presented a generally high environmental awareness, it can be argued that our results are not generalisable outside the Swedish market. This since eco-labels tend to have a greater influence on those who are environmentally concerned (Sharma & Kushwaha, 2019), and as consumption of environmental products are dependent on consumers awareness of, and concern for, the environment (Singh, Singh & Thakur, 2014). Therefore, to attain more generalisability, future studies could be expanded to different countries where environmental awareness is not as prominent. Furthermore, as studies have shown different results between different nationalities when it comes to the relationship between trust and purchase intention (e.g. Andorfer & Liebe, 2013), the study may have turned out differently if it was conducted in another country. Moreover, the result of our study could potentially have turned out differently if another sector would've been examined. In fact, Ajzen (1991) acknowledge that depending on what domain is being examined, there is a possibility that different factors of the model may differ in

importance. Hence, future studies could examine other countries and sectors to give further insight to the topic.

Further, the data for this thesis was gathered through a survey, with 232 valid responses. The number of respondents has been considered sufficient; however, an even higher response rate may have resulted in stronger significance levels. Moreover, a good spread of education levels, ages and other demographics were found among respondents. However, the distribution between the genders was rather uneven, with 73% females. This may have affected the findings of our study as previous research has shown differences between the genders when it comes to pro-environmental behaviour and sustainable consumption (e.g. Costa Pinto et al., 2016; Milfont & Sibley, 2016; Zelezny, Chua & Aldrich, 2000).

Furthermore, a more representative sample could potentially have been gathered through a non-probability sampling method. The fact the convenience sampling was the chosen sampling method for this thesis is our greatest limitation, as participants may have been biased as well as homogeneous. However, with our resources available for this thesis, a non-probability sampling method was regarded as out of reach. Further, the use of convenience sampling might have made it more difficult to obtain an equal and representative sample, which also aggravates the generalisability. Therefore, further research could conduct a similar study but with a non-probability sampling method which might generate greater validity.

Furthermore, in this thesis we examine two specific variables; eco-label knowledge and eco-label trust and its influence on purchase intention. As previous research show, there can be several external factors influencing purchase intention which enables future research to explore other factors. Moreover, this study reviewed consumers subjective knowledge regarding five specific eco-labels. There is a possibility this might have influenced the result in comparison to if more general eco-label knowledge would have been measured, which would have made the respondents freer in their associations. Further, future research could examine objective knowledge of eco-labels and its meaning, rather than subjective. Moreover, it would be interesting for future research to do a qualitative study to explore the underlying factors that creates trust and knowledge. This would give deeper insights into what it is that creates trust and knowledge among consumers. Furthermore, a qualitative study could also be carried out through a document study to gain deeper insights regarding how eco-labels are being communicated today.

Additionally, future research could also examine the impact of the specific brands carrying the eco-labels has on consumers. In line with this, an examination of private eco-labels would also be of interest. This, since private labels has previously been proved to claim more than they can live up to (Wong, Hsu & Chen, 2018), in other words greenwashing. By examining this, it would allow to see whether corporations employ eco-labels for the right reason, as there have been certain disagreements in previous literature regarding whether eco-labels are being used as a marketing tool or not.

Finally, future research could, in general, contribute with a more distinct and well-defined understanding of what factors do influence consumers to make more sustainable choices and increase their willingness to consume sustainable products. This would assist authorities and managers further to address relevant challenges on today's market to balance consumers' demand with the need of the planet.

> *So, once again we would like to ask you to imagine you are stood in the grocery store, looking at two rather similar products. You are trying to decide which product to choose when you notice one of the products hold an eco-label. You shrug your shoulders and wish the communication regarding eco-labels was a bit more extensive. Then you pick up the slightly less expensive product that does not hold a label, as you are not quite sure what the label stands for, nor if it is legit. At least that is what most of you would do.*

References

Ball, M., Harloe, M., & Martens, M. (1988). Housing and Social Change in Europe and the USA, London: Routledge

Carlson, T. (2008). Understanding Information Security Management Systems, in HF Tipton & M Krause (eds), *Information Security Management Handbook*, 6th edn, vol. 2, NY: Cambridge University, pp. 5-28

Fenwick, T. & Hall, R. (2006). Skills in the Knowledge Economy: Changing meanings in changing conditions, *Journal of Industrial Relations*, vol. 48, no. 5, pp. 571-574

Abu-Shanab, E. (2011). Education Level as a Technology Adoption Moderator.

Aertsens, J., Mondelaers, K., Verbeke, W., Buysse, J. & Van Huylenbroeck, G. (2011). The Influence of Subjective and Objective Knowledge on Attitude, Motivations and Consumption of Organic Food, *British Food Journal*, vol. 113, no. 11, pp. 1353–1378.

Ajzen, I. (1991). The Theory of Planned Behavior, *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179–211.

Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M. & Noor Mohd Shariff, M. (2014). The Role of Subjective Norms in Theory of Planned Behavior in the Context of Organic Food Consumption, *British Food Journal*, vol. 116, no. 10, pp. 1561–1580.

Alba, J. W. & Hutchinson, J. W. (1987). Dimensions of Consumer Expertise, *Journal of Consumer Research*, vol. 13, no. 4, p.411.

Amaro, S. & Duarte, P. (2016). Travellers' Intention to Purchase Travel Online: Integrating Trust and Risk to the Theory of Planned Behaviour, *Anatolia*, vol. 27, no. 3, pp. 389–400.

Andorfer, V. A. & Liebe, U. (2013). Consumer Behavior in Moral Markets. On the Relevance of Identity, Justice Beliefs, Social Norms, Status, and Trust in Ethical Consumption, *European Sociological Review*, vol. 29, no. 6, pp. 1251–1265.

Arcury, T. (1990). Environmental Attitude and Environmental Knowledge, *Human Organization*, vol. 49, no. 4, pp. 300–304.

Arenas-Gaitán, J., Sanz-Altamira, B. & Ramírez-Correa, P. E. (2019). Complexity of Understanding Consumer Behavior from the Marketing Perspective [Editorial], *Complexity*, Available Online: https://www.hindawi.com/journals/complexity/2019/2837938/ [Accessed 21 May 2020].

Armitage, C. J. & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review, *British Journal of Social Psychology*, vol. 40, no. 4, pp. 471–499.

Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L. & Shepherd, R. (2008). Predicting Intentions to Purchase Organic Food: The Role of Affective and Moral Attitudes in the Theory of Planned Behaviour, *Appetite*, vol. 50, no. 2–3, pp. 443–454.

Asghar, W., Abbasi, M. N. & Zafarullah, M. (2015). Impact of Advertisement and Sales Promotion on Consumer Cognitive Buying Behavior: A Study of Low Involvement (FMCG) Products, *Pakistan Journal of Social Sciences (PJSS)*, vol. 35, no. 2, pp. 585–598.

Askew, K. (2018). Case study: Rainforest Alliance leverages digital for consumer engagement, Available online: https://www.foodnavigator.com/Article/2018/12/05/Case-study-

Rainforest-Alliance-leverages-digital-for-consumer-engagement [Accessed 16 May 2020]

Atkinson, L. & Rosenthal, S. (2014). Signaling the Green Sell: The Influence of Eco-Label Source, Argument Specificity, and Product Involvement on Consumer Trust, *Journal of Advertising*, vol. 43, no. 1, pp. 33–45.

Baker, J. A. & Miner, K. J. (1993). Corporate Environmentalism: Cooperation or Co-Optation? *Journal of Environmental Health*, vol. 56, no. 2, pp. 25–27.

Bang, H., Odio, M. & Reio, T. (2014). The Moderating Role of Brand Reputation and Moral Obligation: An Application of the Theory of Planned Behavior, *The Journal of Management Development*, vol. 33.

Barbarossa, C. & De Pelsmacker, P. (2016). Positive and Negative Antecedents of Purchasing Eco-Friendly Products: A Comparison Between Green and Non-Green Consumers, 2, *Journal of Business Ethics*, vol. 134, no. 2, pp. 229–247.

Barber, N., Taylor & Strick. (2009). Wine Consumers' Environmental Knowledge and Attitudes: Influence on Willingness to Purchase, *International Journal of Wine Research*, pp. 59.

Bengtsson, M., Alfredsson, E., Cohen, M., Lorek, S. & Schroeder, P. (2018). Transforming Systems of Consumption and Production for Achieving the Sustainable Development Goals: Moving beyond Efficiency, 6, *Sustainability Science*, vol. 13, no. 6, pp. 1533–1547.

Berger, I. E., Ratchford, B. T. & Haines, G. H. (1994). Subjective Product Knowledge as a Moderator of the Relationship between Attitudes and Purchase Intentions for a Durable Product, 2, *Journal of Economic Psychology*, vol. 15, no. 2, pp. 301–314.

Blazquez, M., Henninger, C. E., Alexander, B. & Franquesa, C. (2020). Consumers' Knowledge and Intentions towards Sustainability: A Spanish Fashion Perspective, *Fashion Practice*, vol. 12, no. 1, pp. 34–54.

Blend, J. R. & Ravenswaay, E. O. van. (1999). Measuring Consumer Demand for Ecolabeled Apples, 5, *American Journal of Agricultural Economics*, vol. 81, no. 5, pp. 1072–1077.

Blomquist, G. & Whitehead, J. (1998). Resource Quality Information and Validity of Willingness to Pay in Contingent Valuation, *Resource and Energy Economics*, vol. 20, no. 2, pp. 179–196.

Bray, J., Johns, N. & Kilburn, D. (2011). An Exploratory Study into the Factors Impeding Ethical Consumption, 4, *Journal of Business Ethics*, vol. 98, no. 4, pp. 597–608.

Brécard, D. (2017). Consumer misperception of eco-labels, green market structure and welfare. Journal of Regulatory Economics, vol. 51, no. 3, pp. 340-364. Available through: LUSEM Library website http://www.lusem.lu.se/library [Accessed 24 May 2020]

Brécard, D., Hlaimi, B., Lucas, S., Perraudeau, Y. & Salladarré, F. (2009). Determinants of Demand for Green Products: An Application to Eco-Label Demand for Fish in Europe, *Ecological Economics*, vol. 69, no. 1, pp. 115–125.

Brucks, M. (1985). The Effects of Product Class Knowledge on Information Search Behavior, *Journal of Consumer Research*, vol. 12, no. 1, p. 1.

Brymann, A., & Bell, E. (2012). Bsuiness Research Methods. Oxford: Oxford University Press.

Burns, R. B., & Burns, R. A. (2008). Business Research Methods and Statistics Using SPSS. London: Sage Publications.

Cambridge Dictionary. (2020). Eco-label, Available online: https://dictionary.cambridge.org/dictionary/english/eco-label [Accessed 2 May 2020]

Carrete, L., Castaño, R., Felix, R., Centeno, E. & González, E. (2012). Green Consumer Behavior in an Emerging Economy: Confusion, Credibility, and Compatibility, *Journal of Consumer Marketing*, vol. 29, no. 7, pp. 470–481.

Chan, R. Y. K. (2001). Determinants of Chinese Consumers' Green Purchase Behavior, *Psychology and Marketing*, vol. 18, no. 4, pp. 389–413.

Chang, H. J. & Watchravesringkan, K. (Tu). (2018). Who Are Sustainably Minded Apparel Shoppers? An Investigation to the Influencing Factors of Sustainable Apparel Consumption, *International Journal of Retail & Distribution Management*, vol. 46, no. 2, pp. 148–162.

Chang, H., Tsai, S. & Huang, C. (2019). Sustainable Development: The Effects of Environmental Policy Disclosure in Advertising, *Business Strategy and the Environment*, vol. 28, no. 8, pp. 1497–1506.

Chekima, B., Syed Khalid Wafa, S. A. W., Igau, O. A., Chekima, S. & Sondoh, S. L. (2016b). Examining Green Consumerism Motivational Drivers: Does Premium Price and Demographics Matter to Green Purchasing? *Journal of Cleaner Production*, vol. 112, pp. 3436–3450.

Chen, A. & Peng, N. (2012). Green Hotel Knowledge and Tourists' Staying Behavior, 4, *Annals of Tourism Research*, vol. 39, no. 4, pp. 2211–2216.

Chen, C.-C., Chen, C.-W. & Tung, Y.-C. (2018). Exploring the Consumer Behavior of Intention to Purchase Green Products in Belt and Road Countries: An Empirical Analysis, *Sustainability*, vol. 10, no. 3, p. 854.

Choi, D. & Johnson, K. K. P. (2019). Influences of Environmental and Hedonic Motivations on Intention to Purchase Green Products: An Extension of the Theory of Planned Behavior, *Sustainable Production and Consumption*, vol. 18, pp. 145–155.

Costa Pinto, D., Nique, W. M., Maurer Herter, M. & Borges, A. (2016). Green Consumers and Their Identities: How Identities Change the Motivation for Green Consumption: Green Consumers and Their Identities, *International Journal of Consumer Studies*, vol. 40, no. 6, pp. 742–753.

Crawford, E. (2019). Most consumer want and will pay more for 'sustainable' options, but struggles to easily find them, Food Navigator USA. Available online: https://www.foodnavigator-usa.com/Article/2019/06/24/Most-consumers-want-and-will-pay-more-for-sustainable-options-but-struggle-to-easily-find-them [Accessed 3 May 2020]

Cronbach, L. J. (1951). Coefficient Alpha and the Internal Structure of Tests, *Psychometrika*, vol. 16, no. 3, pp. 297-334, Available Online: https://doi.org/10.1007/BF02310555 [Accessed 8 May 2020]

Crotty, M. (1998). The Foundations of Social Research: Meaning and Perspective in the Research Process. London: SAGE Publications.

D'Souza, C., Taghian, M. & Lamb, P. (2006). An Empirical Study on the Influence of Environmental Labels on Consumers, 2, *Corporate Communications: An International Journal*, vol. 11, no. 2, pp. 162–173.

D'Souza, C., Taghian, M., Lamb, P. & Peretiatko, R. (2007). Green Decisions: Demographics and Consumer Understanding of Environmental Labels, 4, *International Journal of Consumer Studies*, vol. 31, no. 4, pp. 371–376.

Darnall, N., Ji, H. & Vázquez-Brust, D. A. (2018). Third-Party Certification, Sponsorship, and Consumers' Ecolabel Use, *Journal of Business Ethics*, vol. 150, no. 4, pp. 953–969.

Darnall, N., Ponting, C. & Vazquez-Brust, D. (2012). Why Consumers Buy Green, in D.A. Vazquez-Brust & J. Sarkis (eds), *Green Growth: Managing the Transition to a Sustainable Economy, Edition: Greening of Industry Network Series 1,* New York: Social Science Research Network, pp 287-308.

Daugbjerg, C. & Sønderskov, K. M. (2012). Environmental Policy Performance Revisited: Designing Effective Policies for Green Markets, 2, *Political Studies*, vol. 60, no. 2, pp. 399–418.

Daugbjerg, C., Smed, S., Andersen, L. M. & Schvartzman, Y. (2014). Improving Eco-Labelling as an Environmental Policy Instrument: Knowledge, Trust and Organic Consumption, 4, *Journal of Environmental Policy & Planning*, vol. 16, no. 4, pp. 559–575.

de Boer, J. (2003). Sustainability Labelling Schemes: The Logic of Their Claims and Their Functions for Stakeholders, 4, *Business Strategy & the Environment (John Wiley & Sons, Inc)*, vol. 12, no. 4, pp. 254–264.

de Magistris, T. & Gracia, A. (2008). The Decision to Buy Organic Food Products in Southern Italy, 9, *British Food Journal*, vol. 110, no. 9, pp. 929–947.

Donald, I. J., Cooper, S. R. & Conchie, S. M. (2014). An Extended Theory of Planned Behaviour Model of the Psychological Factors Affecting Commuters' Transport Mode Use, *Journal of Environmental Psychology*, vol. 40, pp. 39–48.

DV. (2020). Collective push against climate change more powerful than you'd think. DV. Available online: https://www.dw.com/en/collective-push-against-climate-change-more-powerful-than-youd-think/a-47277330 [Accessed 23 April, 2020]

Dwyer, F. R., Schurr, P. H. & Oh, S. (2018). Developing Buyer-Seller Relationships:, *Journal of Marketing*, [e-journal], Available Online: https://journals.sagepub.com/doi/10.1177/002224298705100202 [Accessed 19 May 2020].

Easterby-Smith, M., Thorpe, R. & Jackson, P. R. (2015). Management and Business Research, Fifth edn., Los Angeles: SAGE Publications Ltd.

Easterby-Smith, M., Thorpe, R., Jackson, P., R., & Jaspersen, L., J. (2018). Management & Business Research, 6th edn., London: Sage Publications.

Eden, S. (1994). Business, Trust and Environmental Information: Perceptions from Consumers and Retailers, *Business Strategy and the Environment*, vol. 3, no. 4, pp. 1–8.

Elg, U. & Hultman, J. (2016). CSR: Retailer Activities vs Consumer Buying Decisions, 6, *International Journal of Retail & Distribution Management*, vol. 44, no. 6, pp.640–657.

Eliasson, A. (2013) Kvantitativ metod från början, 3th edn. Sweden: Studentlitteratur

Ellen, P. S. (1994). Do We Know What We Need to Know? Objective and Subjective Knowledge Effects on pro-Ecological Behaviors, *Journal of Business Research*, vol. 30, no. 1, pp. 43–52.

Erskine, C. C. & Collins, L. (1997). Eco-Labelling: Success or Failure? *Environmentalist*, vol. 17, no. 2, pp. 125–133.

European Environmental Agency. (2020). Europe's state of the environment 2020: change of direction urgently needed to face climate change challenges, reverse degradation and ensure future prosperity. Available online: https://www.eea.europa.eu/highlights/soer2020-europes-environment-state-and-outlook-report [Accessed 23 May, 2020]

Fielding, K. S., McDonald, R. & Louis, W. R. (2008). Theory of Planned Behaviour, Identity and Intentions to Engage in Environmental Activism, *Journal of Environmental Psychology*, vol. 28, no. 4, pp. 318–326.

Flynn, L. R. & Goldsmith, R. E. (1999). A Short, Reliable Measure of Subjective Knowledge, *Journal of Business Research*, vol. 46, no. 1, pp. 57–66.

Folkvord, F., Veltri, G. A., Lupiáñez-Villanueva, F., Tornese, P., Codagnone, C. & Gaskell, G. (2020). The Effects of Ecolabels on Environmentally- and Health-Friendly Cars: An Online Survey and Two Experimental Studies, *The International Journal of Life Cycle Assessment*, vol. 25, no. 5, pp. 883–899.

Forbes, S., Cohen, D. & Dean, D. (2008). An Assessment of Wine Knowledge amongst Global Consumers, *4th International Conference of the Academy of Wine Business Research.*

Garbarino, E. & Johnson, M. S. (1999). The Different Roles of Satisfaction, Trust, and Commitment in Customer Relationships, *Journal of Marketing*, vol. 63, no. 2, pp. 70–87.

Garson, G. D. (2016). Partial Least Squares Regression and Structural Equation Models, Asheboro, NC: Statistical Associates Publishers.

Genevie, E. R., Fatimah, U. Z. A. U., Samuel, L. & Nuzul, N. J. (2019). The Moderating Effects of Gender and Education Level on Safe Food Handling Intention among Consumers in Sibu, Malaysia: Based on the Theory of Planned Behavior.

George, D. & Mallery, P. (2003). SPSS for Windows Step by Step: A simple Guide and Reference, 4th edn. Boston: Allyn & Bacon

Giantari, G. A. K., Zain, D., Rahayu, M. & Solimun. (2013). The Role of Perceived Behavioral Control and Trust as Mediator of Experience on Online Purchasing Intentions Relationship a Study on Youths in Denpasar City (Indonesia), vol. 2, no. 1, pp. 30-38.

Godin, G. & Kok, G. (1996). The Theory of Planned Behavior: A Review of Its Applications to Health-Related Behaviors, *American Journal of Health Promotion*, vol. 11, no. 2, pp. 87–98.

Government Offices of Sweden. (2017). The Swedish Government's climate initiatives – three years into the electoral period, Available online: https://www.government.se/articles/2017/10/the-swedish-governments-climate-initiatives--three-years-into-the-electoral-period/ [Accessed 19 April 2020]

Grunert, K. G. (2011). Sustainability in the Food Sector: A Consumer Behaviour Perspective, *International Journal on Food System Dynamics*, vol. 02, no. 3, pp. 1–12.

Grunert, K. G., Hieke, S. & Wills, J. (2014). Sustainability Labels on Food Products: Consumer Motivation, Understanding and Use, *Food Policy*, vol. 44, pp. 177–189.

Gutierrez, A. & Thornton, T. (2014). Can Consumers Understand Sustainability through Seafood Eco-Labels? A U.S. and UK Case Study, *Sustainability*, vol. 6, no. 11, pp. 8195–8217.

Göçer, A. & Sevil Oflaç, B. (2017). Understanding Young Consumers' Tendencies Regarding Eco-Labelled Products, *Asia Pacific Journal of Marketing and Logistics*, vol. 29, no. 1, pp. 80–97.

Hagen, J. M. & Choe, S. (1998). Trust in Japanese Interfirm Relations: Institutional Sanctions Matter, 3, *The Academy of Management Review*, vol. 23, no. 3, pp. 589–600.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet, *Journal of Marketing theory and Practice*, vol. 19, no. 2, pp. 139-152.

Hair, J. F., Risher, J. J., Sarstedt, M. & Ringle, C. M. (2019). When to Use and How to Report the Results of PLS-SEM, *European Business Review*, vol. 31, no. 1, pp. 2–24.

Han, T.-I. & Stoel, L. (2016). The Effect of Social Norms and Product Knowledge on Purchase of Organic Cotton and Fair-Trade Apparel, *Journal of Global Fashion Marketing*, vol. 7, no. 2, pp. 89–102.

Handelns Utveklingsråd. (2015). Kontroll och certifiering av produktmärkningar. Available online: https://handelsradet.se/wp-content/uploads/2012/09/2015-4-Kontroll-och-certifiering-av-produktmarkningar.pdf [Accessed 25 May 2020]

Hasnain, A., Raza, S. H. & Qureshi, U. S. (2020). The Impact of Personal and Cultural Factors on Green Buying Intentions with Mediating Roles of Environmental Attitude and Eco-Labels as Well as Gender as a Moderator, *South Asian Journal of Management Sciences*, vol. 14, no. 1, pp. 1–27.

Hayden, J. (2013). Introduction to Health Behavior Theory, Jones & Bartlett Publishers.

Heeren, A. J., Singh, A. S., Zwickle, A., Koontz, T. M., Slagle, K. M. & McCreery, A. C. (2016). Is Sustainability Knowledge Half the Battle?: An Examination of Sustainability Knowledge, Attitudes, Norms, and Efficacy to Understand Sustainable Behaviours, *International Journal of Sustainability in Higher Education*, vol. 17, no. 5, pp. 613–632.

Hong, I. B. & Cha, H. S. (2013). The Mediating Role of Consumer Trust in an Online Merchant in Predicting Purchase Intention, *International Journal of Information Management*, vol. 33, no. 6, pp. 927–939.

Horne, R. E. (2009). Limits to Labels: The Role of Eco-Labels in the Assessment of Product Sustainability and Routes to Sustainable Consumption, *International Journal of Consumer Studies*, vol. 33, no. 2, pp. 175–182.

House, L., Lusk, J., Jaeger, S., Traill, W., Moore, M., Valli, C., Morrow, B. & Yee, W. (2004). Objective and Subjective Knowledge: Impacts on Consumer Demand For Genetically Modified Foods In The United States And The European Union, *American Agricultural Economics Association*, vol. 7.

Hox, J. & Bechger, T. (1999). An Introduction to Structural Equation Modeling, *Family Science Review*, vol. 11.

Hwang, J.-A., Park, Y. & Kim, Y. (2016). Why Do Consumers Respond to Eco-Labels? The Case of Korea, *SpringerPlus*, vol. 5, no. 1, p. 1915.

Hållbarhetsforum. (2020). Vad är hållbarhet? Available online: https://www.hallbarhet.lu.se/om-hallbarhetsforum/vad-ar-hallbarhet [Accessed 23 May 2020]

Iraldo, F., Griesshammer, R. & Kahlenborn, W. (2020). The Future of Ecolabels, *The International Journal of Life Cycle Assessment*, vol. 25, no. 5, pp. 833–839.

Jackson, T. (2008). Live Better by Consuming Less?: Is There a "Double Dividend" in Sustainable Consumption?, *Journal of Industrial Ecology*, vol. 9, no. 1–2, pp.19–36.

Jacobsen, M. H. & Hansen, A. R. (2019). (Re)Introducing Embodied Practical Understanding to the Sociology of Sustainable Consumption:, *Journal of Consumer Culture*, Available Online: https://journals.sagepub.com/doi/10.1177/1469540519846213 [Accessed 19 May 2020].

Jain, M. (2019). A study on consumer behavior-decision making under high and low involvement situations. IJRAR- International Journal of Research and Analytical Reviews, vol. 6, no. 1, pp. 943-947. Available online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3345496 [Accessed 24 May 2020]

Janssen, M. & Hamm, U. (2011). Consumer Perception of Different Organic Certification Schemes in Five European Countries, *Organic Agriculture*, vol. 1, no. 1, pp. 31–43.

Jansson, J., Nordlund, A. & Westin, K. (2017). Examining Drivers of Sustainable Consumption: The Influence of Norms and Opinion Leadership on Electric Vehicle Adoption in Sweden, *Journal of Cleaner Production*, vol. 154, pp. 176–187.

Jin, H. J. & Han, D. H. (2014). Interaction between Message Framing and Consumers' Prior Subjective Knowledge Regarding Food Safety Issues, *Food Policy*, vol. 44, pp. 95–102.

Johnston, R., Roheim, C., Donath, H. & Asche, F. (2001). Measuring Consumer Preferences for Ecolabelled Seafood: an International Comparison, *Journal of Agricultural and Resource Economics*, vol. 26, no. 1, Available Online: https://econpapers.repec.org/article/agsjlaare/31157.htm [Accessed 19 May 2020].

Judge, M., Warren-Myers, G. & Paladino, A. (2019). Using the Theory of Planned Behaviour to Predict Intentions to Purchase Sustainable Housing, *Journal of Cleaner Production*, vol. 215, pp. 259–267.

Junaedi, M. F. S. (2007). The Roles of Consumer's Knowledge and Emotion in Ecological Issues: An Empirical Study on Green Consumer Behavior, *Gadjah Mada International Journal of Business*, vol. 9, no. 1, pp. 81–99.

Kaiser, F. G., Ranney, M., Hartig, T. & Bowler, P. A. (1999). Ecological Behavior, Environmental Attitude, and Feelings of Responsibility for the Environment, *European Psychologist*, pp. 59–74.

Kanchanapibul, M., Lacka, E., Wang, X. & Chan, H. K. (2014). An Empirical Investigation of Green Purchase Behaviour among the Young Generation, *Journal of Cleaner Production*, vol. 66, pp. 528–536.

Kang, J., Liu, C. & Kim, S.-H. (2013). Environmentally Sustainable Textile and Apparel Consumption: The Role of Consumer Knowledge, Perceived Consumer Effectiveness and Perceived Personal Relevance, *International Journal of Consumer Studies*, vol. 37, no. 4, pp. 442–452.

Kangun, N., Carlson, L. & Grove, S. J. (1991). Environmental Advertising Claims: A Preliminary Investigation, *Journal of Public Policy & Marketing*, vol. 10, no. 2, pp. 47–58.

Karatu, V. M. H. & Mat, N. K. N. (2015). Predictors of Green Purchase Intention in Nigeria: The Mediating Role of Environmental Consciousness, *American Journal of Economics*, vol. 5, no. 2, pp. 296–304.

Katargo, A. L. G. (2019). Antecedents Affecting Organic Food Purchase Intention, vol. 12, no. 2, p. 11.

Kee, H. W. & Knox, R. E. (2016). Conceptual and Methodological Considerations in the Study of Trust and Suspicion:, *Journal of Conflict Resolution*, Available Online: https://journals.sagepub.com/doi/10.1177/002200277001400307 [Accessed 23 May 2020].

Kenton, W. (2020). Fast Moving Consumer Goods (FMCG), Investopedia. Available online: https://www.investopedia.com/terms/f/fastmoving-consumer-goods-fmcg.asp [Accessed 23 May 2020]

Kim, Y. & Han, H. (2010). Intention to Pay Conventional-Hotel Prices at a Green Hotel – a Modification of the Theory of Planned Behavior, 8, *Journal of Sustainable Tourism*, vol. 18, no. 8, pp. 997–1014.

Klöckner, C. & Ohms, S. (2009). The Importance of Personal Norms for Purchasing Organic Milk, *British Food Journal*, vol. 111, pp. 1173–1187.

KPMG. (2016). Fast-Moving Consumer Goods, Sector report. Available online: https://assets.kpmg/content/dam/kpmg/br/pdf/2016/09/fast-moving-consumer-goods.pdf?source=post_page [Accessed 23 May 2020]

Kollmuss, A. & Agyeman, J. (2002). Mind the Gap: Why Do People Act Environmentally and What Are the Barriers to pro-Environmental Behavior? *Environmental Education Research*, vol. 8, no. 3, pp. 239–260.

Kong, W., Harun, A., Sulong, R. S. & Lily, J. (2014). The Influence of Consumers' Perception of Green Products on Green Purchase Intention, *International Journal of Asian Social Science*, vol. 4, pp. 924-939.

Konsumentverket. (2019). Vår organisation, Available online: https://www.konsumentverket.se/om-konsumentverket/var-organisation [Accessed 23 April 2020]

Krarup, S. & Russell, C. S. (2005). Environment, Information and Consumer Behaviour, Edward Elgar Publishing.

Kun-Shan, Wu & Teng, Y.-M. (2011). Applying the Extended Theory of Planned Behavior to Predict the Intention of Visiting a Green Hotel, *African Journal of Business Management*, vol. 5, no. 17, pp. 7579–7587.

Lachman, M. E., Neupert, S. D. & Agrigoroaei, S. (2011). The Relevance of Control Beliefs for Health and Aging, in *Handbook of the Psychology of Aging, 7th Ed*, San Diego, CA, US: Elsevier Academic Press, pp. 175–190.

Lacy, P., Long, J. & Spindler, W. (2020). Fast-Moving Consumer Goods (FMCG) Industry Profile, *The Circular Economy Handbook: Realizing the Circular Advantage*, London: Palgrave Macmillan

Leahy, R. (2011). Relationships in Fast Moving Consumer Goods Markets: The Consumers' Perspective, *European Journal of Marketing*, vol. 45, no. 4, pp. 651–672.

Lee, K. (2017). How Emotional, Politically Civil and Local Aspects Affect Young Adults' Sustainable Consumption in Transition Economies, *Consumption Markets & Culture*, vol. 20, no. 3, pp. 258–274.

Lehner, M. (2015). Translating Sustainability: The Role of the Retail Store, *International Journal of Retail & Distribution Management*, vol. 43, no. 4–5, pp. 386–402.

Liobikienė, G., Mandravickaitė, J. & Bernatonienė, J. (2016). Theory of Planned Behavior Approach to Understand the Green Purchasing Behavior in the EU: A Cross-Cultural Study, *Ecological Economics*, vol. 125, pp. 38–46.

Lobb, A. E., Mazzocchi, M. & Traill, W. B. (2007). Modelling Risk Perception and Trust in Food Safety Information within the Theory of Planned Behaviour, *Food Quality and Preference*, vol. 18, no. 2, pp. 384–395.

Lorek, S. & Fuchs, D. (2013). Strong Sustainable Consumption Governance – Precondition for a Degrowth Path? *Journal of Cleaner Production*, vol. 38, pp. 36–43.

Loureiro, M. L., McCluskey, J. J. & Mittelhammer, R. C. (2001). Assessing Consumer Preferences for Organic, Eco-Labeled, And Regular Apples, *Journal of Agricultural and Resource Economics*, vol. 26, no. 2, pp. 1–13.

Malhotra, N. (2010). Marketing Research: An Applied Orientation, 6th edn, New York: Pearson Education

Malhotra, N. K., Birks, D. F., & Wills, P. (2010). Marketing research: An Applied Approach, 4th edn, Harlow: Prentice Hall.

Manget, J., Roche, C., & Munnich, F. (2009). Capturing the green advantage for consumer companies. Boston, MA: e Boston Consulting Group.

McCluskey, J. (2000). A game theoretic approach to organic food: an analysis of asymmetric information and policy. *Agricultural and Resource Economics Review, 29* (1), pp. 1–9.

McEachern, M. G. & Warnaby, G. (2008). Exploring the Relationship between Consumer Knowledge and Purchase Behaviour of Value-Based Labels, *International Journal of Consumer Studies*, vol. 32, no. 5, pp. 414–426.

McNeill, L. & Moore, R. (2015). Sustainable Fashion Consumption and the Fast Fashion Conundrum: Fashionable Consumers and Attitudes to Sustainability in Clothing Choice, *International Journal of Consumer Studies*, vol. 39, no. 3, pp. 212–222.

Mei, O. J., Ling, K. C. & Piew, T. H. (2012). The Antecedents of Green Purchase Intention among Malaysian Consumers, *Asian Social Science*, vol. 8, no. 13, pp. 248.

Meyer, A. (2015). Does Education Increase Pro-Environmental Behavior? Evidence from Europe, *Ecological Economics*, vol. 116, pp. 108–121.

Milfont, T. L. & Sibley, C. G. (2016). Empathic and Social Dominance Orientations Help Explain Gender Differences in Environmentalism: A One-Year Bayesian Mediation Analysis, *Personality and Individual Differences*, vol. 90, pp. 85–88.

Mirowsky, J. & Ross, C. (2007). Life Course Trajectories of Perceived Control and Their Relationship to Education, *American Journal of Sociology - AMER J SOCIOL*, vol. 112, pp. 1339–1382.

Naturskyddsföreningen. (2020a). Få koll på miljömärkningarna. Available online: https://www.naturskyddsforeningen.se/miljomarkningar [Accessed 2 May 2020]

Naturskyddsföreningen. (2020b). Det här är Bra Miljöval, Available online: https://www.naturskyddsforeningen.se/bra-miljoval/det-har-ar-bra-miljoval [Accessed 10 May 2020]

Naturvårdsverket. (2018). Allmänheten om klimatet 2018, Available online: https://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/klimat/attitydundersokning/Rapport-Allmanheten-klimatet-2018.pdf [Accessed 5 March 2020].

Nguyen, T. N., Lobo, A. & Greenland, S. (2016). Pro-Environmental Purchase Behaviour: The Role of Consumers' Biospheric Values, C, *Journal of Retailing and Consumer Services*, vol. 33, no. C, pp. 98–108.

Nhu, N. T., My, D. V. & Thu, N. T. K. (2019). Determinants Affecting Green Purchase Intention: A Case of Vietnamese Consumers, *Journal of Management Information and Decision Sciences*, Available Online: https://www.abacademies.org/articles/determinants-affecting-green-purchase-intention-a-case-of-vietnamese-consumers-8152.html [Accessed 19 May 2020].

Noviaristanti, S., Hanafi, H. M. & Trihanondo, D. (2020). Understanding Digital Industry: Proceedings of the Conference on Managing Digital Industry, Technology and Entrepreneurship, Indonesia: Bandung.

Nuttavuthisit, K. & Thøgersen, J. (2017). The Importance of Consumer Trust for the Emergence of a Market for Green Products: The Case of Organic Food, *Journal of Business Ethics*, vol. 140, no. 2, pp. 323–337.

Oates, C. J., Young, W., Hwang, K. & McDonald, S. (2009). Sustainable Consumption: Green Consumer Behaviour When Purchasing Products, *Sustainable Development*, vol. 51, pp. 20-31.

OECD. (2008). Promoting Sustainable Consumption. Available online: https://www.oecd.org/greengrowth/40317373.pdf [Accessed 15 April 2020]

OECD. (2016). Environmental labelling and information schemes, Available online: https://www.oecd.org/env/policy-persectives-environmental-labelling-and-information-schemes.pdf [Accessed 2 May 2020]

Okutoyi, P. (2019). The Role of Consumer Education in Achieving Sustainable Consumption, ASM. Available online: https://africasustainabilitymatters.com/the-role-of-consumer-education-in-achieving-sustainable-consumption-behavior/ [Accessed 23 May 2020]

Park, C. W. & Lessig, V. P. (1981). Familiarity and Its Impact on Consumer Decision Biases and Heuristics, *Journal of Consumer Research*, vol. 8, no. 2, p. 223.

Paul, J., Modi, A. & Patel, J. (2016). Predicting Green Product Consumption Using Theory of Planned Behavior and Reasoned Action, *Journal of Retailing and Consumer Services*, vol. 29, pp. 123–134.

Peattie, K. (2001). Golden Goose or Wild Goose? The Hunt for the Green Consumer, *Business Strategy and the Environment*, vol. 10, no. 4, pp. 187–199.

Pedersen, E. R. & Neergaard, P. (2006). Caveat Emptor – Let the Buyer Beware! Environmental Labelling and the Limitations of 'Green' Consumerism, *Business Strategy and the Environment*, vol. 15, no. 1, pp. 15–29.

Perrini, F., Castaldo, S., Misani, N. & Tencati, A. (2010). The Impact of Corporate Social Responsibility Associations on Trust in Organic Products Marketed by Mainstream

Retailers: A Study of Italian Consumers, *Business Strategy and the Environment*, vol. 19, no. 8, pp. 512–526.

Peterson, R. A., & Kim, Y. (2013). On the Relationship between Coefficient Alpha and Composite Reliability, *Journal of Applied Psychology*, vol. 98, no. 1, pp. 194-198

Phipps, M., Ozanne, L. K., Luchs, M. G., Subrahmanyan, S., Kapitan, S., Catlin, J. R., Gau, R., Naylor, R. W., Rose, R. L., Simpson, B. & Weaver, T. (2013). Understanding the Inherent Complexity of Sustainable Consumption: A Social Cognitive Framework, *Journal of Business Research*, vol. 66, no. 8, pp. 1227–1234.

Potts, T. & Haward, M. (2007). International Trade, Eco-labelling, and Sustainable Fisheries - Recent Issues, Concepts and Practices, *Environment, Development and Sustainability*, vol. 9, no. 1, pp. 91–106.

Rahbar, E. & Abdul Wahid, N. (2011). Investigation of Green Marketing Tools' Effect on Consumers' Purchase Behavior, *Business Strategy Series*, vol. 12, no. 2, pp. 73–83.

Rainforest Alliance. (2017). Follow the Frog 2017 Campaign Recap, Available online: https://www.rainforest-alliance.org/business/wp-content/uploads/2018/10/FTF2017-Recap_external.pdf [Accessed 23 April 2020]

Rainforest Alliance. (2019). Follow the Frag 2019 Campaign recap & examples, Available online: https://www.rainforest-alliance.org/business/wp-content/uploads/2019/11/FTF2019-Recap_external.pdf [Accessed 2 April 2020]

Rainforest Alliance. (2020a). Roger Federer Tennis Channel, [video online] Available online: https://www.youtube.com/watch?v=3iIkOi3srLo&t=2s [Accessed 18 May 2020]

Rapeli, L. (2014). Knowledge and Opinion: The Immigration Issue in the 2011 Finnish Parliamentary Elections, *Nationalism and Ethnic Politics*, vol. 20, no. 3, pp. 309–327.

Rashid, N. R. N. A. (2009). Awareness of Eco-Label in Malaysia's Green Marketing Initiative, *International Journal of Business and Management*, vol. 4, no. 8, pp. 132.

Rashid, N. R. N. A., Jusoff, K. & Kassim, K. M. (2009). Eco-Labeling Perspectives amongst Malaysian Consumers, *Canadian Social Science*, vol. 5, no. 2, pp. 1–10.

Read, D. L., Brown, R. F., Thorsteinsson, E. B., Morgan, M. & Price, I. (2013). The Theory of Planned Behaviour as a Model for Predicting Public Opposition to Wind Farm Developments, *Journal of Environmental Psychology*, vol. 36, pp. 70–76.

Regeringskansliet. (2019). Strategi för hållbar konsumtion, Available online: https://www.regeringen.se/artiklar/2016/10/strategi-for-hallbar-konsumtion/

Reich, J. W. & Infurna, F. J. (2017). Perceived Control: Theory, Research, and Practice in the First 50 Years, Oxford University Press.

Reisch, L.A. (2001). Eco-labeling and sustainable consumption in Europe: lessons to be learned from the introduction of a national label for organic food, *Consumer Interest Annua*l, Vol. 47, pp. 1-6.

Ricci, E. C., Banterle, A. & Stranieri, S. (2018). Trust to Go Green: An Exploration of Consumer Intentions for Eco-Friendly Convenience Food, *Ecological Economics*, vol. 148, pp. 54–65.

Riksdagen. (2016). Miljömärkning av produkter – En översikt över de miljömärkningar av produkter som finns i Sverige och i de övriga nordiska länderna, Available online: https://data.riksdagen.se/fil/34FA7669-7EDB-4A94-8D1F-97C2E509B651 [Accessed 14 May 2020]

Rishi, B. (2013). Determinants of Brand Trust for FMCG Products with Special Reference to Shampoos Category, *Asia-Pacific Journal of Management Research and Innovation*, vol. 9, no. 2, pp. 221–227.

Santos, J. R. A. (1999). Cronbach's Alpha: A Tool for Assessing the Reliability of Scales, *Journal of Extension*, vol. 37, no. 2, Available Online: https://www.joe.org/joe/1999april/tt3.php [Accessed 19 May 2020]

Saunders, M., Lewis, P., & Thornhill, A. (2012). Research Methods for Business Students, 6th edn, New York: Pearson

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A. & King, J. (2006). Reporting Structural Equation Modeling and Confirmatory Factor Analysis Results: A Review, *The Journal of Educational Research*, vol. 99, no. 6, pp. 323–338.

Schumacker, R. E. & Lomax, R. G. (2004). A Beginner's Guide to Structural Equation Modeling, 2nd edn, Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers, pp. 498.

Selnes, F. & Grønhaug, K. (1986). Subjective and Objective Measures of Product Knowledge Contrasted, *ACR North American Advances*, [e-journal] vol. 13, pp. 67-71, Available Online: https:///www.acrwebsite.org/volumes/6464/volumes/v13/NA-13/full [Accessed 19 May 2020].

Semeijn, J., Gelderman, C. J., Schijns, J. M. C. & van Tiel, R. (2019). Disability and pro Environmental Behavior – An Investigation of the Determinants of Purchasing Environmentally Friendly Cars by Disabled Consumers, *Transportation Research Part D: Transport and Environment*, vol. 67, pp. 197–207.

Sharaf, M. A., Md Isa, F. & Al-Qasa, K. (2015). Factors Affecting Young Malaysians' Intention to Purchase Green Products, *Merit Research Journal of Business and Management*, vol. 3, no. 3, pp. 29–33.

Sharma, N. K. & Kushwaha, G. S. (2019). Eco-Labels: A Tool for Green Marketing or Just a Blind Mirror for Consumers, 42, *Electronic Green Journal*, [e-journal] vol. 1, no. 42, Available Online: https://escholarship.org/uc/item/6k83s5mv [Accessed 19 May 2020].

Shen, J. & Saijo, T. (2008). Reexamining the Relations between Socio-Demographic Characteristics and Individual Environmental Concern: Evidence from Shanghai Data, *Journal of Environmental Psychology*, vol. 28, pp. 42–50.

SIFO. (2015). Allmänhetens Förtroende För Institutioner, Politiska Partier, Massmedier & Företag, Available online: https://medieakademien.se/wp-content/uploads/2019/03/F%C3%B6rtroendebarometern-2019-1.pdf [Accessed 23 April 2020]

Silva, D. G. D. & Pownall, R. A. J. (2014). Going Green: Does It Depend on Education, Gender or Income? *Applied Economics*, vol. 46, no. 5, pp. 573–586.

Singh, S., Singh, D., & Thakur, K. S. (2014). Consumer's Attitude and Purchase Intention towards Green Products in the FMCG Sector. Pacific Business Review International, vol.7, no. 6, pp. 27-46.

Sitarz, D. (1994). Agenda 21: The Earth Summit Strategy to Save Our Planet, Colorado: EarthPress.

SmartPLS. (2020). Model Fit, Available online: https://www.smartpls.com/documentation/algorithms-and-techniques/model-fit [Accessed 15 May 2020]

Soyez, K., Francis, J. N. P. & Smirnova, M. M. (2012). How Individual, Product and Situational Determinants Affect the Intention to Buy and Organic Food Buying Behavior: A Cross-National Comparison in Five Nations, *International Journal of Marketing*, vol. 51, no. 1, pp. 27–35.

Steinhart, Y., Ayalon, O. & Puterman, H. (2013). The Effect of an Environmental Claim on Consumers' Perceptions about Luxury and Utilitarian Products, *Journal of Cleaner Production*, vol. 53, pp. 277–286.

Stylianou, N., Guibourg, C., & Briggs, H. (2019). Climate change food calculator: What's your diets carbon footprint? BBC News. Available online: https://www.bbc.com/news/science-environment-46459714 [Accessed 23 April 2020]

Sun, W. (2019). Toward a Theory of Ethical Consumer Intention Formation: Re-Extending the Theory of Planned Behavior, *AMS Review*, Available Online: https://doi.org/10.1007/s13162-019-00156-6 [Accessed 23 May 2020].

Sutton, S. (1998). Predicting and Explaining Intentions and Behavior: How Well Are We Doing? *Journal of Applied Social Psychology*, vol. 28, no. 15, pp. 1317–1338.

Svanen. (2015). Rädda världen lite grann varje dag, Available online: https://www.svanen.se/siteassets/var-hallbarhetsredovisning/miljomarkning_sverige_ab_ars_hallbarhetsredovisning_2015.pdf [Accessed 18 May 2020]

Svanen. (2020a). Om oss, Available online: https://www.svanen.se/om-oss/ [Accessed 23 April 2020]

Svanen. (2020b). Svanens historia, Available online: https://www.svanen.se/svanens-arbete/svanens-historia/ [Accessed 20 April 2020]

Tandon, M. S. & Sethi, V. (2017). An Analysis of the Determinants of Consumer Purchase Behavior towards Green FMCG Products, 3, *IUP Journal of Marketing Management*, [e-journal] vol. 16, no. 3, Available Online: https://www.questia.com/library/journal/1P4-1936441709/an-analysis-of-the-determinants-of-consumer-purchase [Accessed 19 May 2020].

Taufique, K. M. R., Vocino, A. & Polonsky, M. J. (2017). The Influence of Eco-Label Knowledge and Trust on pro-Environmental Consumer Behaviour in an Emerging Market, *Journal of Strategic Marketing*, vol. 25, no. 7, pp. 511–529.

Taufique, K., Siwar, C., Talib, B., Sarah, F. & Chamhuri, N. (2014). Synthesis of Constructs for Modeling Consumers' Understanding and Perception of Eco-Labels, *Sustainability*, vol. 6, no. 4, pp. 2176–2200.

Teisl, M. F., Rubin, J. & Noblet, C. L. (2008). Non-Dirty Dancing? Interactions between Eco-Labels and Consumers, *Journal of Economic Psychology*, vol. 29, no. 2, pp. 140–159.

Terenggana, C. A., Supit, H. & Utami, C. W. (2013). Effect of Value, Consumer Trust and Attitudes Towards Intention Buy Environmentally Friendly Air Conditioners Products in South Sumatera, vol. 4, pp. 13.

Testa, F., Iraldo, F., Vaccari, A. & Ferrari, E. (2015). Why Eco-Labels Can Be Effective Marketing Tools: Evidence from a Study on Italian Consumers, *Business Strategy and the Environment*, vol. 24, no. 4, pp. 252–265.

Thøgersen, J. (2000). Psychological Determinants of Paying Attention to Eco-Labels in Purchase Decisions: Model Development and Multinational Validation, *Journal of Consumer Policy*, vol. 23, no. 3, pp. 285–313.

Thøgersen, J. & Ölander, F. (2006). The Dynamic Interaction of Personal Norms and Environment-Friendly Buying Behavior: A Panel Study1, *Journal of Applied Social Psychology*, vol. 36, no. 7, pp. 1758–1780.

Thøgersen, J., Haugaard, P. & Olesen, A. (2010). Consumer Responses to Ecolabels, *European Journal of Marketing,* vol. 44, pp. 1787-1810.

Torgler, B. & Garcia-Valinas, M. A. (2007). The Determinants of Individuals' Attitudes towards Preventing Environmental Damage, *Ecological Economics*, vol. 63, no. 2–3, pp. 536–552.

Ullman, J. B. & Bentler, P. M. (2012). Structural Equation Modeling, in *Handbook of Psychology, Second Edition*, [e-book] American Cancer Society, Available Online: https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118133880.hop202023 [Accessed 19 May 2020].

UN. (2016). Global metrics for the environment: The Environmental Performance Index ranks countries' performance on high-priority environmental issues, Available online: https://www.unenvironment.org/resources/report/global-metrics-environment-environmental-performance-index-ranks-countries [Accessed 19 March 2020]

Wakeham, Z. (2020). 2020 FMCG environmental sustainability trends, Odgers Interim. Available online: https://www.odgersinterim.com/us/who-we-are/intelligence/2020-fmcg-environmental-sustainability-trends-4858/ [Accessed 23 May 2020]

Wang, P., Liu, Q. & Qi, Y. (2014). Factors Influencing Sustainable Consumption Behaviors: A Survey of the Rural Residents in China, *Journal of Cleaner Production*, vol. 63, pp. 152–165.

White, K., Habib, R. & Hardisty, D. J. (2019). How to SHIFT Consumer Behaviors to Be More Sustainable: A Literature Review and Guiding Framework, *Journal of Marketing*, vol. 83, no. 3, pp. 22–49.

Wong, S.-L., Hsu, C.-C. & Chen, H.-S. (2018). To Buy or Not to Buy? Consumer Attitudes and Purchase Intentions for Suboptimal Food, *International Journal of Environmental Research and Public Health*, vol. 15, no. 7, p. 1431.

Wong, V., Turner, W., & Stoneman, P. (1996). Market Strategies and Market Prospects for Environmentally-Friendly Consumer Products. *British Journal of Management*, vol. 7, pp. 263-281.

WWF. (n.d.). The WWF guide to fighting for your world. Available online: https://www.wwf.org.uk/what-can-i-do/fight-for-your-world-guide [Accessed 15 May 2020]

Yadav, R. & Pathak, G. S. (2017). Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior, *Ecological Economics*, vol. 134, pp. 114–122.

Yang, S., Li, L. & Zhang, J. (2018). Understanding Consumers' Sustainable Consumption Intention at China's Double-11 Online Shopping Festival: An Extended Theory of Planned Behavior Model, 6, *Sustainability*, vol. 10, no. 6, p. 1801.

Zelezny, L. C., Chua, P.-P. & Aldrich, C. (2000). New Ways of Thinking about Environmentalism: Elaborating on Gender Differences in Environmentalism, *Journal of Social Issues*, vol. 56, no. 3, pp. 443–457.

Zepeda, L. & Li, J. (2007). Characteristics of Organic Food Shoppers, *Journal of Agricultural and Applied Economics*, vol. 39.

Özer, E., Kufel, J., Biggs, J., Brown, G., Myers, J., Rana, A., Sou, A. & Ramsdale, C. (2019). Bespoke Machine Learning Processor Development Framework on Flexible Substrates, *IEEE International Conference on Flexible and Printable Sensors and Systems*, pp. 1–3.

Appendix A

Questionnaire

0% completed

Dear respondent,

Thank you for agreeing to participate in this survey. This survey will take approximately 3-5 minutes.

We are two master students writing our thesis in International Marketing and Brand Management at the Lund University, School of Economics and Management.

The purpose of this study is to gain a better understanding about eco-labels on the Swedish market. Hence, this survey is directed to Swedish citizens, or those who live in Sweden. If you do not fulfill this requirement, we kindly ask you to end the survey here.

Your responses will be handled with confidentiality and will be anonymous. Moreover, you are able to end the survey whenever you want. The data will not be used for any purpose other than for our thesis.

If you have any questions regarding your participation or the project, please get in touch with us by clicking on our names stated at the end of every page.

Best regards,

Anna Widerberg and Hanna Nyremo

Next

10% completed

Are you Swedish, or have you lived in Sweden for the last 3 years?

- Yes
- No

How old are you?

- Younger than 18
- 18-25
- 26-35
- 36-45
- 46-55
- 56-65
- 66-75
- >76

What is your gender?

- Male
- Female
- Prefer not to answer

What is the highest level of education you have completed (or are currently studying)?

- ⚪ Mandatory education
- ⚪ High school
- ⚪ Bachelor level
- ⚪ Master level or higher

What is your current occupation?

- ⚪ Student
- ⚪ Employed
- ⚪ Unemployed
- ⚪ Retired
- ⚪ Other

What is your monthly income?

- ⚪ I do not have an income
- ⚪ Less than 14 999
- ⚪ 15 000 – 29 999
- ⚪ 30 000 – 44 999
- ⚪ 50 000 or more

Next

You will be presented with several statements, please mark if you agree or not.

I consider myself environmentally aware

- ○ Yes
- ○ No
- ○ I don't know

I consider myself environmentally concerned

- ○ Yes
- ○ No
- ○ I don't know

I actively look for eco-labels when I grocery shop

- ○ Yes
- ○ No

I feel like the information regarding eco-labels is sufficient (tillräcklig)

- ○ Yes
- ○ No
- ○ I don't know

I feel like eco-labels create confusion

- ○ Yes
- ○ No
- ○ I don't know

You will be presented with several statements, please mark if you agree or not.

I consider myself environmentally aware

- ○ Yes
- ○ No
- ○ I don't know

I consider myself environmentally concerned

- ○ Yes
- ○ No
- ○ I don't know

I actively look for eco-labels when I grocery shop

- ○ Yes
- ○ No

I feel like the information regarding eco-labels is sufficient (tillräcklig)

- ○ Yes
- ○ No
- ○ I don't know

I feel like eco-labels create confusion

- ○ Yes
- ○ No
- ○ I don't know

Next

Do you recognise the following eco-labels?

- ○ Yes
- ○ No

- ○ Yes
- ○ No

- ○ Yes
- ○ No

- ○ Yes
- ○ No

○ Yes
○ No

Next

40% completed

Please read the following statements carefully and mark the option corresponding most to your opinion

I am knowledgeable about this eco-label

	Strongly disagree					Strongly agree	I don't know this label
	○ ○ ○ ○ ○ ○						○

I am knowledgeable about this eco-label

	Strongly disagree					Strongly agree	I don't know this label
	○ ○ ○ ○ ○ ○						○

I am knowledgeable about this eco-label

	Strongly disagree					Strongly agree	I don't know this label
	○	○	○	○	○	○	○

I am knowledgeable about this eco-label

	Strongly disagree					Strongly agree	I don't know this label
	○	○	○	○	○	○	○

I am knowledgeable about this eco-label

	Strongly disagree					Strongly agree	I don't know this label
	○	○	○	○	○	○	○

Next

Please read the following statements carefully and mark the option corresponding most to your opinion

I trust that the claims and promises that this label makes are true

Strongly disagree					Strongly agree		I don't know this label
○	○	○	○	○	○	○	○

I trust that the claims and promises that this label makes are true

Strongly disagree					Strongly agree		I don't know this label
○	○	○	○	○	○	○	○

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I trust that the claims and promises that this label makes are true

	Strongly disagree					Strongly agree	I don't know this label
	○ ○ ○ ○ ○ ○ ○						○

I trust that the claims and promises that this label makes are true

	Strongly disagree					Strongly agree	I don't know this label
	○ ○ ○ ○ ○ ○ ○						○

60% completed

Please read the following statements carefully and mark the option corresponding most to your opinion

	Strongly disagree					Strongly agree
Buying eco-labelled food is a good idea	○ ○ ○ ○ ○ ○ ○					

	Strongly disagree					Strongly agree
Buying eco-labelled food is a wise choice	○ ○ ○ ○ ○ ○ ○					

	Strongly disagree					Strongly agree
I like the idea of buying eco-labelled food	○ ○ ○ ○ ○ ○ ○					

	Strongly disagree					Strongly agree
Buying eco-labelled food would be pleasant	○ ○ ○ ○ ○ ○ ○					

Next

I trust that the claims and promises that this label makes are true

	Strongly disagree					Strongly agree	I don't know this label
	○ ○ ○ ○ ○ ○ ○						○

Next

70% completed

Please read the following statements carefully and mark the option corresponding most to your opinion

	Strongly disagree					Strongly agree
Buying eco-labelled food is the 'right thing to do'	○ ○ ○ ○ ○ ○ ○					

	Strongly disagree					Strongly agree
Buying eco-labelled food sets a good example	○ ○ ○ ○ ○ ○ ○					

	Strongly disagree					Strongly agree
My family and friends think it's a good thing if I purchase eco-labelled food	○ ○ ○ ○ ○ ○ ○					

Next

Please read the following statements carefully and mark the option corresponding most to your opinion

	Strongly disagree						Strongly agree
Whether or not I buy eco-labelled food instead of conventional non-green products is completely up to me	○	○	○	○	○	○	○
I have resources, time and opportunities to buy eco-labelled food	○	○	○	○	○	○	○
I am confident that if I want, I can buy eco-labelled food instead of conventional non-green products	○	○	○	○	○	○	○

Next

Please read the following statements carefully and mark the option corresponding most to your opinion

	Strongly disagree						Strongly agree
I am willing to consume eco-labelled food if it is available for purchase	○	○	○	○	○	○	○
I intend to consume eco-labelled food if it is available for purchase	○	○	○	○	○	○	○
I plan to consume eco-labelled food if it is available for purchase	○	○	○	○	○	○	○
I will try to consume eco-labelled food if it is available for purchase	○	○	○	○	○	○	○

Next

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Thank you for completing this questionnaire!

We would like to thank you very much for participating.

Your answers were transmitted, you may close the browser window or tab now.

Appendix B

Mean and Standard Deviation Values

Variabel	Min	Max	Mean	Standard Deviation (SD)
Eco-label knowledge	0.00	7.00	4.79	1.56
Eco-label trust	0.00	7.00	5.11	1.57
Attitude	1.00	7.00	5.82	1.26
Subjective norms	1.00	7.00	5.30	1.35
Perceived behavioural control	1.00	7.00	5.11	1.53
Purchase intention	1.00	7.00	5.24	1.50

Appendix C

Structural Model

	Path coefficients	T-statistics	P-value
Eco-label knowledge → Attitude	- 0.112	1.324	0.186
Trust in eco-labels → Attitude	0.507	5.364	0.000***
Eco-label knowledge → Subjective norm	- 0.096	1.182	0.238
Trust in eco-labels → Subjective norm	0.423	4.615	0.000***
Eco-label knowledge → Perceived behavioural control	0.166	1.841	0.066 *
Trust in eco-labels → Perceived behavioural control	0.097	1.159	0.247

* p < 0.10 ** p < 0.05 *** p < 0.01

Appendix D

Total Effects

	T-statistics	P-value
Eco-label knowledge → TPB → Purchase intention	0.403	0.687
Eco-label trust → TPB → Purchase intention	4.943	0.000***

* p < 0.10 ** p < 0.05 *** p < 0.01