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The effect of food eco-labels in green behaviours: reaching sustainable consumption.

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Master in Marketing

Supervisor:
PhD Prof. Daniela Langaro da Silva do Souto, Assistant Professor, Marketing, Operations and General Management (IBS)

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Acknowledgments

Developing a dissertation requires many hours of hard work, resilience, commitment and responsibility. It is an academic challenge for which we have been preparing throughout the academic years, but only during its development do we understand the challenges of each step. Even so, the choice of a topic I am passionate about allowed me to move forward and complete this work with great satisfaction. Nevertheless, I could not forget to thank those who were by my side during these long months and who contributed in some way to the success of this academic chapter.

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Abstract

Purpose - The impacts of climate change on the planet have brought to light green concerns and needed initiatives to address environmental problems. Eco-labels provide information related to the environmental performance of products/services, enabling consumers to easier identify greener product alternatives. This paper explores whether eco-labels are capable of generating green behaviours amongst consumers as a way to reach sustainable consumption.
Design/methodology/approach - The research employs a survey-based method to test a set of theoretically anchored hypotheses. It uses simple and multiple linear regression models by OLS (Ordinary Least Squares) and tests variable moderation through PROCESS analysis to undertake an empirical study. The research object of this study is the answers of 392 consumers.
Findings - The results have proven that eco-labels can drive purchase intentions of green products since they add positive associations to brands, favourably influencing the brand image. Additionally, the outcomes revealed that familiarity with the eco-label moderates this relationship, as higher levels of eco-label familiarity generated higher levels of brand image. Hence, this study suggests that companies should promote their green initiatives – such as eco-labels – to foster consumers' awareness and drive sustainable consumption.
Originality/value - Most studies analyse the factors influencing eco-labels capacity to generate green behaviours. However, none has studied the influence of eco-labels on brands' image and whether brands can benefit from the presence of these certifications. This study builds into the concept of Brand Image presented within the Customer-Based Brand Equity (CBBE) model by Kevin Keller (1993).

Keywords: ethical consumption; green consumption; eco-labels; sustainable consumption; green purchase intentions; brand image

JEL Classification System: Marketing (M31); Social Responsibility (M14)

Resumo

Objetivo - O impacto das alterações climáticas tem ampliado preocupações ecológicas e a necessidade de desenvolver iniciativas que mitiguem os problemas ambientais. As certificações ecológicas fornecem informações relacionadas com o desempenho ambiental dos produtos/serviços, permitindo aos consumidores identificar facilmente alternativas ecológicas. Este documento explora a capacidade das certificações ecológicas em gerar comportamentos em prol do ambiente nos consumidores como forma de alcançar o consumo sustentável.

Conceção/método/abordagem - A investigação recorre a questionários para testar hipóteses teoricamente suportadas. São utilizados modelos simples e múltiplos de regressão linear pela OLS (*Ordinary Least Squares*), bem como a análise de moderação via *PROCESS*, com o objetivo de realizar um estudo empírico. O objeto de investigação é as respostas de 392 consumidores.

Conclusões - Os resultados comprovaram que as certificações ecológicas têm a capacidade de impulsionar intenções de compra de produtos sustentáveis, uma vez que influenciam positivamente a imagem das marcas. Além disso, os resultados revelaram que a familiaridade com a certificação modera esta relação, uma vez que níveis mais elevados de familiaridade geraram níveis mais favoráveis de imagem de marca. Desta forma, este estudo sugere que as empresas promovam as suas iniciativas ecológicas – tais como as certificações – de forma a impulsionar o consumo sustentável.

Originalidade/valor - A maioria dos estudos investiga os fatores que influenciam a capacidade das certificações em gerar comportamentos ecológicos, mas nenhum estuda a sua influência na imagem das marcas. Este estudo tem por base o conceito de Imagem de Marca apresentado no modelo *Customer-Based Brand Equity (CBBE)* por Kevin Keller (1993).

Palavras-chave: consumo ético; consumo verde; certificações ecológicas; consumo sustentável; intenções de compra ecológicas; imagem de marca

Sistema de Classificação JEL: Marketing (M31); Responsabilidade Social (M14)

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1. Introduction

Over the last decades, economic and social progress has been followed closely by environmental degradation (United Nations, 2020). As Shaw et al. (2016) cite Adam Smith in his book Wealth of Nations, “Consumption is the end and aim of all economic action” (p.1052). The way society consumes today is no longer based on functional needs, with consumers seeking, throughout consumption, to express what they value and believe - “we learn, define, and remind ourselves of who we are by our possessions” (Belk, 1988, p.160).

World organisations (United Nations, n.d.; UNICEF, 2022; WWF, 2022; FAO, 2022a) call our attention to the adverse effects of overconsumption on the global environment, society and generations to come, with the wealthiest countries being most accountable - “if everybody in the world consumed resources at the rate people do in OECD and EU countries, the equivalent of 3.3 earths would be needed to keep up with consumption levels. (...) at the rate at which people in Canada, Luxembourg and the United States do, at least five earths would be needed” (UNICEF, 2022, para. 3). The global food system is one of the significant contributors to environmental degradation by unsustainable production and consumption patterns (Annunziata & Scarpato, 2014; Bastounis et al., 2021). According to FAO/WHO (2019), the global food system accounts for 20-35% of GHG emissions and is one of the leading causes of land conversion, deforestation and biodiversity loss.

This year, 2022, humanity exhausted nature’s budget for the year in less than eight months - July 28 - (Global Footprint Network, 2022). The United Nations’ Sustainable Development Goals urgently call for businesses and consumers to ensure sustainable consumption and production patterns (Goal 12) and for countries to take urgent action to fight climate change and its impacts (Goal 13) (United Nations, n.d.).

These wake-up calls are growing awareness and consciousness among the population and consumers, who now seek to make a positive impact through their choices (Shaw et al., 2006; Carrington et al., 2010; Euromonitor, 2021). Consumer behaviour and food preferences are changing, with aspects such as lowering environmental impacts of the production chains, climate change, food waste awareness, and concerns regarding animal welfare growing significantly (FAO, 2022a). Additionally, the COVID-19 pandemic accelerated emerging habits and forever changed how we behave and consume - “we want to make the world better” (Euromonitor, 2021, p. 2).

The need to act on climate change has brought to light green concerns and needed initiatives to address environmental problems. Eco-labels are one of the topics in the spotlight in the literature by looking at whether they can generate sustainable lifestyles (Horne, 2009).

1.1. Relevance of the Topic

Ethical consumption is a hot topic throughout society (Carrington et al., 2010; Sudbury & Kohlbacherb, 2016; Torma & Thøgersen, 2021). New concerns and new ways of living and consuming emerge (Annunziata & Scarpato, 2014) with 'ethical consumers' raising questions and demanding transparency (Vermeir & Verbeke, 2006; Carrington et al., 2010; Sudbury & Kohlbacherb, 2016).

Euromonitor (2021) identified, as one of the Top 2021 trends, the investment by consumers to do better regarding environmental challenges - after a pushed down in 2020 by the COVID-19 pandemic. Today, sustainability is a crucial issue for marketers and addressing the green market appears as a form of creating competitive advantage and value (Lin & Niu, 2018; do Paço et al., 2019; Euromonitor, 2021). Increasingly, consumers seek 'green products', i.e. products with higher environmental standards (Cerri et al., 2018; Lin & Niu, 2018; FAO, 2022a), looking to achieve sustainability through green behaviours, such as choosing products with ecological labels (do Paço et al. 2019). With this, companies understood the need to evaluate business and marketing strategies and incorporate principles that address these ethical concerns (Carrington et al., 2010; Sudbury & Kohlbacherb, 2016).

The Marketing Science Institute (2020) identified as a top research priority the understanding of what currently generates customer value in order to identify the benefits that brands can deliver that consumers will be willing to pay. Some of the macro trends identified by the Institute that influence consumer decision-making and that we will address in this report are (1) the changes in consumer behaviour in response to the COVID-19 pandemic, (2) which are the global emerging markets and how consumers behave within and (3) whether there are ethical issues that brands should take into consideration when developing their strategies. With the use of eco-labels, brands have the possibility to encourage consumers into more sustainable behaviours (Lin & Niu, 2018; Rustam et al., 2020; Torma and Thøgersen; 2021; Potter et al., 2021), and supporting consumers with tools that help them meet their needs, is a way to add value.

From a managerial perspective, eco-labels can be a way to increase consumers' trust in companies' environmental claims by conveying relevant and certified information (Horne, 2009; Thøgersen et al., 2010; Macready et al., 2020) since consumers' intentions to buy green products can be affected by several factors such as high prices and distrust of companies' green claims (Horne, 2009; Lin & Niu, 2018). Companies invest time and money applying for certifications, making it very relevant to understand consumers' perceptions of eco-labels and how they contribute to the brand, so companies can better optimise their marketing and business strategies.

1.2. Problem Statement

Several authors across the literature conducted research to study whether eco-labels could influence consumers into environmental friendly behaviours and the purchasing of sustainable products (e.g. Horne, 2009; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018; Bastounis et al., 2021; Torma & Thøgersen, 2021). Although there are reasons to believe that they enhance green consumer behaviour, is far to be a consensus in the literature (Potter e al., 2021).

Eco-labels are characterised as visual information that goes together with products/services and provides information to consumers about aspects related to environmental performance, aiming to support informed pro-environmental decisions (Thøgersen et al., 2010; OECD, 2016; Potter et al., 2021).

Given the growing environmental concern, it would be reasonable to infer that consumers would be highly engaged in purchasing eco-labelled products (Thøgersen et al., 2010). However, several barriers identified in the literature impact the use of eco-labels. Authors encourage more research on the effect of product information - such as eco-labels - on purchasing behaviour (Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018).

Eco-labels, when well-framed, can have a fundamental role beyond mere identification of green products, but rather add a set of new associations to the brands that carry them (Iraldo et al., 2006; Vermeir & Verbeke, 2006; Horne, 2009; Lin & Niu, 2018; Bastounis et al., 2021). Most studies focus their analysis on the factors that affect the eco-labels ability to generate pro-environmental behaviours, such as consumers' background factors (e.g. motivations, understanding and involvement). This study will focus on the associations that eco-labels generate for brands - particularly, how the presence of eco-labels affects the brand image - and how brands can benefit from these certifications while guiding consumers towards more sustainable consumption.

This investigation will differentiate itself by focusing on the contribution of the eco-label presence to the brand itself, building within the concept of Brand Image from the Customer-Based Brand Equity (CBBE) model by Kevin Keller (1993). This type of analysis was not found in the literature.

1.3. Research Purpose

The primary motivation of this study is to explore whether eco-labels can generate green behaviours through enhanced levels of brand image. We will argue that eco-labels foster positive attitudes to the brand image and that higher levels of the brand image will translate into higher purchase intentions. There is evidence in the literature that positive attitudes toward sustainable products - i.e. brand image - are good indicators of adopting sustainable consumption - i.e. purchase intention of green products (Vermeir & Verbeke, 2006; Rustam et

al., 2020), and that brand awareness affects the brand image and both are determinants of purchase behaviour (Esch et al., 2006).

Moreover, it will be studied how familiarity with the eco-label moderates the relationship between the presence of the eco-label on a product and its influence on the brand image, arguing that familiarity with the eco-label will result in higher levels of brand image. A research model is proposed based on the variables presented.

Thus, this research intends to contribute to the ethical consumption literature, specifically, within the green consumption topic, with relevant insights into the factors that enhance sustainable consumption, introducing new concepts, variables and avenues for future research. In particular, insights into eco-labels as a tool that comprises information regarding the environmental performance of products and how this influences consumers' perceptions of brands, hoping to draw relevant findings into the marketing theory and managerial fields.

This paper aims to investigate eco-labels effects on consumer behaviours rather than whether the various labels are accurate representations. We consider that the eco-labels discussed here stand for what they claim.

1.4. Research Questions

1. To what extent are eco-labels capable of generating purchase intentions for green products?
2. How does brand image mediate this relationship (research question 1)?
3. How does familiarity with the eco-label moderate the relationship between the effects of the eco-label on the brand image?

1.5. Research Outline

This master dissertation is structured into six main chapters.

The first chapter starts with an Introduction to the document by describing the Thesis topic, its relevance and the research problem. In addition, it includes the purpose of the research with expectations on contributions to both marketing literature and management, closing with the research questions and the structure of the various chapters.

The second chapter belongs to the Literature Review, which comprises comprehensive information from the investigation conducted on what knowledge existed in the literature regarding eco-labels and what was known about their effect in generating sustainable consumption behaviours. Considering the academic context in which this study is developed, the analysis is framed within the concepts of ethical consumption and green consumption. A first approach is made to the literature seeking to define ethical consumption, its relationship with green consumption and how eco-labels fit into consumer behaviour studies, as well as an objective explanation of what eco-labels are and how they are categorised.

The third chapter builds on what has been learned in the literature review and is where the opportunity of study for this dissertation is discussed, culminating in the Proposed Hypotheses and the Conceptual Model.

Chapter four covers the research Methodology, including the research approach, the target population and the method for data collection, as its structure. Additionally, it includes the methods used for data measurement and scales.

Chapter five, the main section of this report, it is presented the sample of the research with descriptive characterisation, the tests conducted to guarantee the quality of the data for analysis, and the Results of the research, followed by the Discussion of the main findings with the validation of the research hypotheses.

Lastly, chapter six includes the main conclusions of the study with theoretical and managerial implications, as well as the research's limitations and avenues for future research on the topic.

2. Literature Review

2.1. Ethical Consumption

Ethical consumption is defined as the actions, decisions and choices that are part of the consumption process, driven by concerns regarding the well-being of others (e.g. Fairtrade products), the environment (e.g. eating less meat) and oneself (e.g. overeating) (Li et al., 2021). The Ethical Consumer Market Report (2020) defines *ethical consumption* as an allocation of funds by people, be it consumption or investment, shaped by specific worries such as human rights, social justice, environmental impact or animal welfare. This action reflects a conscious consumer (Sudbury & Kohlbacherb, 2016) - as opposed to compulsive and conspicuous consumption (Li et al., 2021) - who takes into consideration the consequences of one's buying decisions on the environment and society (Carrington et al., 2010), especially the impacts on the poorest countries (Shaw & Clarke, 1999). The trade-offs between those considerations can be influenced by consumers' values, moral norms and internal ethics (Vermeir & Verbeke, 2006; Carrington et al., 2010). Consumers motivated by such concerns may adopt two approaches to ethical consumption: refinement - i.e. preference for brands/products/businesses that exhibit corporate social responsibility and harm the environment as little as possible - and reduction - i.e. aspiring to simpler lifestyles and frugal purchasing by reducing consumption levels (Lin et al., 2021).

Nowadays, ethical consumption is not anymore a form of consumption of few (Carrington et al., 2010; Sudbury & Kohlbacherb, 2016; Torma & Thøgersen, 2021) but has started to appear as a relevant topic throughout society with huge attention from the media, the emerging of activist groups and a growing number of ethical products (Shaw et al., 2006; Carrington et al., 2010; Li et al., 2021). New concerns and new ways of living and consuming emerge in society (Annunziata & Scarpato, 2014), with 'ethical consumers' raising questions and demanding transparency on sustainability, environmental footprint, workers' rights, country of origin, fair trade, animal welfare, recycling issues, social justice and human rights (Vermeir & Verbeke, 2006; Carrington et al., 2010; Sudbury & Kohlbacherb, 2016). In a post-modern society, individuals actively reflect on cultural norms and the link between what they consume and what that represents in their social self. Through purchasing, ethical consumers express their feelings of responsibility towards society (Vermeir & Verbeke, 2006).

The COVID-19 pandemic impacted how people consume, as they present deeper concerns regarding health, the environment and animal welfare in their decision-making process (Ethical Consumer Market Report, 2020; FAO, 2022a). In the United Kingdom, ethical consumption hit record levels, with Fairtrade and Organic products out-performing the market, as their sales increased by 13.7% and 19%, respectively, in 2020 in the food and drink sector (Ethical Consumer Market Report, 2020). Overall, more consumers intend to make better

choices, compared to the pre-pandemic scenario, such as buying fairtrade and organic food and drink products, reducing single plastic use, shopping locally and second-hand and reducing energy consumption (Ethical Consumer Market Report, 2020).

All this represents 'sustainable consumption': a decision-making process which incorporates into the equation the social responsibility of consumers in addition to their individual needs and wants (Vermeir & Verbeke, 2006), breaking the link between economic growth and environmental degradation and fostering sustainable lifestyles (United Nations, n.d.).

2.2. Green Consumption

The effects of climate change on the planet, resulting from humanity's production and consumption patterns, brought nations to review their policies and consumers to pay more attention to environmental challenges (Lin & Niu, 2018; FAO, 2022a).

'Green consumption' or 'Green consumerism' is one of the forms of ethical consumption (Carrington et al., 2010). It reflects the tendency of consumers to prioritise environmental protection values in their buying behaviours, valuing the protection of resources, the reduction of pollution and the preservation of the planet by purchasing more responsibly (Lin & Niu, 2018; do Paço et al., 2019; Rustam et al., 2020). These values can be expressed in consumers' actions by chasing eco-labelled products, reducing excessive consumption, recycling daily (Lin & Niu, 2018), "buying energy efficient products, avoiding over packaged goods, exhibiting a preference for biodegradable and recycled articles, buying fairtrade and locally sourced products" (do Paço et al., 2019, p.1001). As consumers consider these aspects when choosing products or services, they are consuming sustainably (Horne, 2009).

Henceforth, we will refer to the concept of 'green' to consumers, products and activities which are environmentally responsible (Lin & Niu, 2018; Rustam et al., 2020).

'Green consumers' appear as a new segment of consumers, highly concerned with environmental degradation and the impact of their actions on the planet, characterised to be more prone to embrace 'green behaviours' and 'green consumption' (Finisterra do Paço and Raposo, 2010; Lin & Niu, 2018), such as supporting environmentally friendly companies, adopting sustainable consumption and the willingness to pay more for 'green products' (Kumar & Ghodeswar, 2015).

Increasingly, consumers are seeking to include 'green products', i.e. products with higher environmental standards, in their daily lives throughout several product categories (Cerri et al., 2018; Lin & Niu, 2018; FAO, 2022a), looking to achieve sustainability through green behaviours such as choosing products with ecological labels (do Paço et al. 2019). Adopting low-impact products, as in sustainable food consumption (Annunziata & Scarpato, 2014; Grunert et al., 2014), can play an essential role in addressing environmental challenges (Cerri et al., 2018).

The global food system is one of the significant contributors to environmental degradation by unsustainable patterns of production and consumption, with all stages of the supply chain having an impact - from agriculture production, processing, distribution, retailing, home food preparation and waste -, resulting, inter alia, in climate change, greenhouse gas (GHG) emissions, biodiversity loss, pollution and depletion of natural resources (Annunziata & Scarpato, 2014; FAO/WHO, 2019; Bastounis et al., 2021). According to FAO/WHO (2019), the global food system accounts for 20-35% of GHG emissions and is a major contributor to land conversion, deforestation and biodiversity loss. Food consumption appears at the centre of sustainability politics with an urgent need to promote sustainable diets for a growing population with planetary boundaries (Annunziata & Scarpato, 2014; Willett et al., 2019; United Nations, n.d.; FAO/WHO, 2019; Potter et al., 2021).

Consumers are becoming more selective and demanding in their food choices - taking into consideration issues such as the protection of natural resources, biodiversity loss, responsible sourcing of food ingredients and sustainable packaging - and, through their choices, have the power to foster sustainable food production (Annunziata & Scarpato, 2014; Macready et al., 2020; FAO, 2022a).

With this growing consumer concern for more ethical choices and the demand for more transparency regarding green issues, companies understand the need to evaluate business and marketing strategies and incorporate principles that address these ethical concerns towards ecological and human welfare (Carrington et al., 2010; Sudbury & Kohlbacherb, 2016). Today, sustainability is a vital issue for both governments and marketers and addressing the green market appears as a form of creating competitive advantage and value (Lin & Niu, 2018; do Paço et al., 2019; Euromonitor, 2021).

On one side, consumers are looking for companies that care beyond revenue and demand green solutions as evidence of environmental responsibility (Rustam et al., 2020; Euromonitor, 2021). Euromonitor (2021) identified, as one of the Top 2021 trends, the investment by consumers to do better regarding environmental challenges - after a pushed down in 2020 by the COVID-19 humanity crisis - and they will seek brands that respond to these needs.

On the other side, firms have the possibility to encourage consumers to more eco-friendly behaviours (Lin & Niu, 2018); in fact, there is empirical evidence that when companies expose their green practices - particularly by green and user-friendly eco-labelling - environmental awareness increases, it influences consumers on the adoption of green values and the consumption of green products (Rustam et al., 2020). Not only consumers but also companies have the power to reshape the way things are done by changing their business principles and promoting pro-environmental information, leading to a purpose-driven economy that fights environmental damage and builds a better and cleaner future (Euromonitor, 2021). “It’s in

businesses' interest to find new solutions that enable sustainable consumption and production patterns. (...) inspire individuals to lead more sustainable lifestyles" (United Nations, 2020, p.1).

The need to act on climate change and respond to worried consumers brought the necessity to develop initiatives that address environmental problems with methods and tools appearing to assess products/companies' sustainability and governments worldwide developing policies and laws to raise public awareness (Horne, 2009; Lin & Niu, 2018).

Consumers' intention to buy green products can be affected by several factors such as high prices and the distrust of companies' green claims (Horne, 2009; Lin & Niu, 2018). Third-party certification, such as eco-labels, can be a way to increase consumers' trust in environmental claims and enhance companies' transparency by conveying relevant and certified information (Horne, 2009; Thøgersen et al., 2010; Macready et al., 2020). As Vermeir and Verbeke (2006) point out, sustainability is a credence attribute, making it hard for individuals to evaluate it personally: product labelling is the information that sustains green claims that consumers can trust. Sustainability environmental labels (hereafter: eco-labels) appear as a trending topic in the literature, wondering about their effect on generating sustainable lifestyles (Horne, 2009) and their promising approach to changing individuals' food choices (Potter et al., 2021).

2.3. Eco-labels

The first public eco-labelling schemes date back to 1970, with private schemes following in 1980 (OECD, 2016). Blue Angel, established in 1978, was the world's first environmental label founded by the German Government, which signals environmentally friendly products and services (Thøgersen & Torma, 2021).

In this study, the analysis will focus on food eco-labels, given the severe impact of food production and consumption chains on the environment, as described before. Over the last decades, both businesses, non-profit organizations and policy-makers started communicating information about sustainability in food to consumers, introducing eco-labels and logos in-store and on-pack as a tool to share information regarding product origin, production processes and environmental impact (Grunert et al., 2014; Cerri et al., 2018). From a political perspective, an eco-label is a market-based policy instrument that can be mandated by law or voluntarily adopted (Ibanez, 2016).

Environmental labelling schemes have long been considered an important mechanism to change consumption patterns. According to Grunert et al. (2014), the objective of such labelling schemes "is to increase transparency along the food chain and inform the consumer in a way that can promote sustainable consumption" (p.177). Torma and Thøgersen (2021) refer to sustainability labelling as a way to nudge consumers into sustainable consumption, "the intended (primary) user" (p.2), and to reduce information asymmetry between sellers and

buyers. At the United Nations Conference on Environment and Development (UNCED) in 1992, Agenda 21 was set as a plan of action to tackle the negative impacts of human activity on the environment. One of the critical aspects highlighted in the comprehensive document was the importance of developing strategies to encourage changes in unsustainable consumption patterns with the expansion of environmental labelling to enable informed choices by consumers (UNCED, 1992).

Eco-labels are characterized as visual information, in the form of seals, that go together with products/services and provide information to consumers about one or more aspects related to environmental performance, aiming to support informed pro-environmental decisions (Thøgersen et al., 2010; OECD, 2016; Potter et al., 2021). This instrument appears as a way to meet consumers' demand for greater transparency in food production and enables them to choose sustainable diets (Potter et al., 2021).

Lin and Niu (2018) highlight eco-labels as a marketing strategy that enhance the consumer to buy again, building loyalty. Labels may also contribute to product differentiation from other players (Horne, 2009), building a competitive advantage when consumers demand green solutions and environmental responsibility. Furthermore, the application for environmental certification - to obtain the rights to use eco-labels - may help businesses to review their production processes and reduce the environmental footprint of their products, resulting not only in a more sustainable company but also in an improved image in the eyes of consumers and a possible increase in sales (Iraldo et al., 2006; Bastounis et al., 2021).

In a time when consumers are impacted with tones of messages every minute, have a lot of options to choose from and little time to reflect, eco-labels allow consumers to distinguish more sustainable products from less sustainable ones and, ideally, foster consumers to choose sustainable products over conventional ones (Horne, 2009; Cerri et al., 2018). Eco-labels represent a powerful tool to reduce consumers' efforts and search costs when looking for information on products' green features (Thøgersen et al., 2010).

Nowadays, we can observe a growing number of products with eco-labels initiatives. In fact, over the last thirty years, that has been a growth in both certification schemes and product categories covered, often motivated by the awareness of environmental challenges the world is facing (OECD, 2016). Environmental and ethical labels are increasingly appearing on food products (Grunert et al., 2014; OECD, 2016); for example, in 2020, the UTZ certification program and the Rainforest Alliance program increased the number of alliances with farmers by, respectively, 6% and 18% compared to 2019 (Rainforest Alliance, 2021). Even more impressive, in 2020, the UTZ certification program and the Rainforest Alliance program increased their coffee-certified products' sales by 94% and 44% since 2017 (Rainforest Alliance, 2021).

In Portugal, according to Ecolabel Index (n.d.), there are at least 15 eco-labels commercialized in the food sector.

2.3.1. The main types of certification

When it comes to the classification of environmental labels, we will consider OECD categorisation, in preference to ISO 14020 series, since it captured a wide range of modern schemes (Gruère, 2013; Weiss et al., 2015).

Some main characteristics must be highlighted: if the label is (1) mandatory - legal background, generally associated with product performance characteristics, such as water or energy efficiency - or (2) voluntary - organizations apply for the certification of their products/services from third-party certifiers or organizations create their certifications or use existing labels based on self-declarations; with this in mind, we can further consider that environmental labels can come from (3) third-party certification or (4) self-setting certification (OECD, 2016). In addition, Horne (2009) indicates that labels can be (5) multi-product groups - which apply to several product categories - or (6) single-product groups - which apply to one product category.

Exhibit 1 visually represents these characteristics, presenting examples of eco-labels for the various classifications. Since this study is conducted in Portugal, all the labels presented are chosen for being used in Portugal, based on the Ecolabel Index (n.d.).

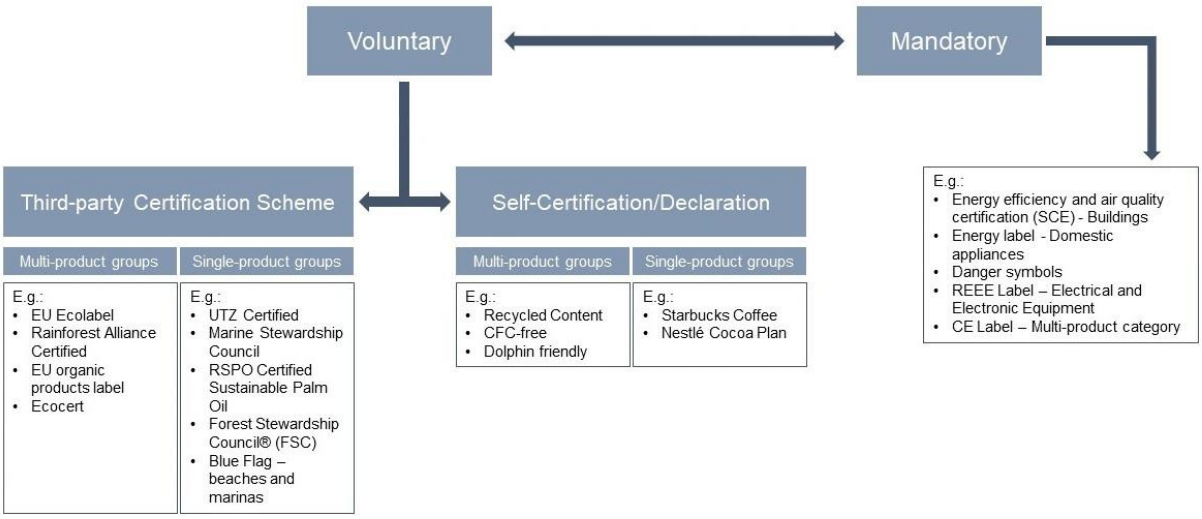

Exhibit 2.1. *Classification of product environmental labels by type (adapted from Horne, 2009).*

Different stakeholders can be involved in developing eco-labels, such as environmental organisations, NGOs, governments, multi-national, and/or private firms (OECD, 2016).

Nowadays, non-profit voluntary schemes are the most common, followed by private schemes and a trend of manufacturers and retailers to adopt in-house standards (OECD, 2016).

2.3.2. The influence of eco-labels on purchasing behaviour

Several authors across the literature conducted research to study whether eco-labels could influence consumers into environmental friendly behaviours and the purchasing of sustainable products (e.g. Horne, 2009; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018; Bastounis et al., 2021; Torma & Thøgersen, 2021). Although there are reasons to believe that they enhance green consumer behaviour in the selection and purchase of products, is far to be a consensus in the literature (Potter e al., 2021).

There is empirical evidence on how eco-labels change consumer behaviour into the purchasing of more sustainable products, revealing to be a potential tool to encourage the transition to more sustainable diets (Bastounis et al., 2021). For one side, empirical evidence shows that many of the eco-labels in consumers' households are recognised only by a small portion of them, and even a smaller number consider it at the moment of purchase, resulting in a low level of reported use of such labels (Horne, 2009; Grunert et al., 2014; OECD, 2016). On the other side, studies highlight the importance of green information - such as eco-labels - in shaping green consumer behaviours and supporting informed green product choices since providing consumers with accurate and detailed information about the environmental impacts can help increase awareness of environmental challenges (Cerri et al., 2018; Bastounis et al., 2021; Torma & Thøgersen, 2021).

According to Finisterra do Paço and Raposo (2010), consumers will be more prone to embrace green behaviours if they understand how their actions can help towards environmental problems. Eco-labels can represent a valuable tool for consumers to understand how their product choice is doing good for the environment.

Sustainability labels can motivate consumers into sustainable consumption choices since it summarises product characteristics on sustainability performance, which is hard to identify for consumers at the moment of purchase - enabling the consumer to more straightforward identify sustainable product alternatives (Torma & Thøgersen, 2021). Consumers look for detailed information when purchasing sustainable products, such as product life cycle, packaging, origin and environmental footprint (Vermeir & Verbeke, 2006; Cerri et al., 2018). Eco-labels can foster positive attitudes toward sustainable products, augmenting the tendency of consumers to purchase them (Cerri et al., 2018) since positive attitudes toward sustainable products are good indicators to adopt sustainable consumption (Vermeir & Verbeke, 2006). Contrary, Horne (2009) argues that eco-labels are not enough to generate green behaviours, but additional strategies must be played together, such as education and information campaigns to raise awareness and sometimes even additional legislation must be needed.

2.3.3. Factors influencing the effects of eco-labels on purchasing behaviour

Given the growing environmental concern, it would be reasonable to infer that consumers would be highly engaged in purchasing eco-labelled products (Thøgersen et al., 2010). However, several barriers were identified in the literature that impact the use of eco-labels, i.e. choosing labelled products when purchasing.

Despite the awareness and concern of environmental challenges, at the moment of purchase, consumers tend to consider other food product attributes - such as price, brand, use-by-date, nutritional data, convenience, package, and taste - that have a significant influence on consumers' decisions and can cut the translation of sustainability concerns/intentions to actual green behaviour (Vermeir & Verbeke, 2006; Grunert et al., 2014; Annunziata & Scarpato, 2014; OECD, 2016; Potter et al., 2021). Green consumption can be a complex process given all the intervening factors influencing the moment of decision because even when consumers show a willingness to buy eco-labelled products they are influenced by "price, awareness, trust, and the complexity and availability of information, not to mention product availability, social practises and habits, brand reputation and identity" (Horne, 2009, p.179). In fact, environmental concern alone is not enough to drive consumers' awareness of eco-labels (Cerri et al., 2018), making it very relevant to develop future research on food purchasing trade-offs and information processing of food-specific characteristics and ecolabels information.

The literature shows us that the actual use of these labels will depend on consumers' motivation to understand sustainability information. Motivated consumers put more effort into understanding eco-labels and then use them for trade-offs with the other product attributes to guide their behaviour (Grunert et al., 2014; Cerri et al., 2018). However, from another perspective, product labelling can be a helpful tool for those consumers who are less motivated and with less understanding to quickly identify sustainable alternative products at the moment of purchase (Torma & Thøgersen, 2021). That said, food eco-labels must be clear enough for consumers to make sense of it because "if the labels are unknown and/or their meaning not clear, even a motivated consumer cannot use them" (Grunert et al., 2014, p.178).

Lack of information or inadequate provision of information is a common barrier to sustainable food consumption because if consumers cannot understand the information presented, i.e. if eco-labels are not self-explanatory, it will be difficult for them to identify green products (Vermeir & Verbeke, 2006; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018). There is a reported lack of knowledge from consumers on what 'sustainable food choices' are and what labels represent 'sustainable products' (Annunziata & Scarpato, 2014), or even that eco-labels exist (Thøgersen et al., 2010). Eco-labels exist in diverse formats (e.g. logo-only, text-only, or both), but it is unclear in the literature which format is more effective (Potter et al., 2021). According to Thøgersen et al. (2010), most eco-seals on the market

convey limited information on them, which requires consumers' expertise to recognise them, and the adoption normally comes from consumers who are already familiarised with and more willing to use them since resulting from previous experience, the perception of risk is lower. Information is essential for sustainable consumption (Cerri et al., 2018). However, according to Grunert et al. (2014), motivation and understanding are not sufficient factors to trigger behaviour since the actual use of such labels in their study was low. The authors encourage more research on the effect of product information - such as eco-labels - on purchasing behaviour.

Another critical factor related to adopting eco-labels is individuals' level of involvement towards the environmental issue and the demand for green products. Consumers will pay more attention if the eco-label represents a need or goal closer to the consumers' motivation (e.g. ocean sustainability, deforestation, biodiversity loss) (Thøgersen et al., 2010); in fact, involvement or perceived personal importance is a type of motivation (Vermeir & Verbeke, 2006). A practical example of this is people who are highly concerned about the impacts of overfishing, will strongly intend to buy sustainable fishing products and look for sustainable fishing labels - e.g. Marine Stewardship Council (MSC) - resulting from the "need for a tool that transforms this credence attribute into a search attribute" (Thøgersen et al., 2010, p.1802). Consumers will form more positive attitudes and be more prone to buy sustainable products if they have higher involvement with a particular environmental issue, enhancing their cognitive effort in decision-making (Vermeir & Verbeke, 2006).

The consumption context also plays an essential driver of green consumption, such as the availability and visibility of sustainable products in stores, time pressure, peers influence and other social and normative factors (Horne, 2009; Thøgersen et al., 2010; Annunziata & Scarpato, 2014; Cerri et al., 2018). The amplification of sustainable behaviour is conditioned by particular factors such as consumer habits and preferences (e.g. favourite brand), situational triggers (e.g. promotions, appearance) and consumer opportunities to encounter sustainable products (Vermeir & Verbeke, 2006). Vermeir and Verbeke (2006) found out in their study that perceived availability could act as a barrier to green behaviour since, although consumers were motivated towards sustainable consumption, their intention to buy green products was lower when they believed those products were less available (and vice versa).

Regarding the price, eco-labels may be the necessary information for consumers to be willing to pay more for sustainable products that are usually offered at a premium price (green products are estimated to cost 20% more to produce compared to available products (Pieters et al., 2022), and this can represent a barrier for consumers (Vermeir & Verbeke, 2006; Grunert et al., 2014; Lin & Niu, 2018). Studies show that consumers are willing to pay more for food products with eco-labels since it increases product reputation (Bastounis et al., 2021) - according to Grunert et al. (2014), consumers are willing to pay 10% more for Fair Trade

labelled products. Labels for organic production present a higher willingness to pay from consumers compared with specific environmental labels (Bastounis et al., 2021; Potter et al., 2021). Organic food labels - as is the case of EU organic products Label - are a form of environmental labels as they indicate that the product is developed according to sustainable cultivation standards, respecting natural systems (Ecolabel Index, n.d.). Bastounis et al. (2021) argue that since organic certification labels have existed for longer than other environmental certifications, such as Rainforest Alliance or UTZ Certified, it may explain consumers' greater trust and familiarity.

Notwithstanding, the increasing number of eco-labels can potentially threaten it as a valuable tool to enhance consumers' green behaviours. Information overload can result in misunderstanding and confusion by consumers and, consequently, loss of credibility and reduce the use of eco-labels (Horne, 2009; Grunert et al., 2014; Prag et al., 2016; Thøgersen et al., 2010; Torma & Thøgersen, 2021).

European consumers present strong concerns regarding sustainability issues in today's consumption reality but usually fail to translate these concerns into sustainable behaviours and food choices (Annunziata & Scarpato, 2014). Many authors across the literature (e.g. Vermeir and Verbeke, 2006; Horne, 2009; Carrington et al., 2010; do Paço et al., 2019; Torma & Thøgersen, 2021) relate this relationship with the intention-behaviour gap, where consumers with declared positive intentions towards the environment, generally fail to translate that into actual green behaviour.

In part, Grunert et al. (2014) associate this gap with the fact that consumers find themselves doing trade-offs with other product attributes at the moment of purchase. Other authors (Horne, 2009; Annunziata & Scarpato, 2014; Potter et al., 2021) also point out that the lack of sustainable food choices can be associated with a lack of credibility and uncertainty about the entity responsible for certification. Consumers' perception of the value and trustworthiness of an eco-label and, consequently, its adoption is influenced by who's the certifying organisation (Hornes, 2009; Thøgersen et al., 2010; Potter et al., 2021). If consumers are not confident about the labels and their information, they will not transform their positive attitudes into actual behaviour intentions.

Hornes (2009) studied whether the different types of classification of eco-labels could have more strengths than others. The author found that the label's ownership impacts its trust and reputation: consumers trust less self-funded voluntary labels and more mandatory labels, where governments play a central role; consumers also trust more in labels from environmental organisations and NGOs.

Awareness, motivation, understanding and use of eco-labels can also be influenced by demographic characteristics, human values and country differences, but without consistent findings from the authors (Grunert et al., 2014; Cerri et al., 2018; Potter et al., 2021; Bastounis

et al., 2021). Vermeir and Verbeke (2006) mention that since ethical concerns and awareness have become widespread, more than demographics alone is needed to establish the socially responsible consumer.

3. Hypotheses Formulation and Conceptual Model

3.1. Research Opportunity

As we can infer from the literature review, there is a lack of scholarly agreement regarding eco-labels' effectiveness in generating green purchasing intentions. It can be said that, effectively, for a green consumer - who is already framed within the theme and alongside the existing sustainable certifications (Finisterra do Paço and Raposo, 2010; Lin & Niu, 2018) -, eco-labels work as a beacon that qualifies products between being environmentally friendly or not, and for this consumer, is necessary to choose the right product (Vermeir & Verbeke, 2006; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018).

However, there is an overall understanding in the literature that many factors influence the use of eco-labels, mainly due to the lack of awareness of their existence or the misunderstanding of their meaning (Vermeir & Verbeke, 2006; Horne, 2009; Thøgersen et al., 2010; Grunert et al., 2014; Annunziata & Scarpato, 2014; Cerri et al., 2018; Potter et al., 2021). Rustam et al. (2020) relate these to brands' lack of green marketing strategies and green product promotions.

Eco-labels, when well-framed, represent a fundamental role beyond mere signposting of green products, but rather add a set of new associations to the brands that carry them - such as enhancing reputation (Bastounis et al., 2021) and trust (Vermeir & Verbeke, 2006) -, which can be reflected in competitive advantage (Horne, 2009), consumer loyalty (Lin & Niu, 2018) and an increase in sales (Iraldo et al., 2006).

Most studies in the literature focus their analysis on the factors that are affecting the capacity of eco-labels to generate pro-environmental behaviours, trying to capture the role of background factors (as motivations, understanding and involvement) in this relationship, linking to theories like the Theory of Reasoned Action and the Theory of Planned Behaviour. This study will differentiate itself as it will focus on the associations that eco-labels generate for brands and how the presence of eco-labels affects the brand image and, consequently, develops higher purchase intentions, trying to understand how brands can benefit from these certifications at the same time as they are responding to consumers' wants. Such associations can be integrated into the concept of Brand Image presented within the Customer-Based Brand Equity (CBBE) model by Kevin Keller (1993). Kevin Keller's model focuses on the perspective of an individual consumer by investigating knowledge structures such as brand awareness, image and personality (Esch et al., 2006). Customer-based brand equity is "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993, p.2).

3.2. Hypotheses Formulation

Brand Image is defined as the perceptions an individual holds about a brand (how the brand is perceived) that result from meaningful associations present in the individual's memory (Aaker, 1991; Keller, 1993). Such associations can have different forms, mainly related to their level of abstraction: attributes, benefits and attitudes (Keller, 1993).

These types of associations are linked with each other and constitute the brand image: (1) attributes represent the descriptive characteristics that define the brand name, (2) benefits represent the value assessment of the attributes and (3) attitudes are the evaluation (perceptions) towards benefits and attributes, commonly recognised as the one most capable of foster behaviour (Langaro et al., 2018; Schivinski et al., 2020).

Eco-labels go together with products/services as attributes and provide information to consumers related to the environmental benefits of their presence, adding a set of new associations to the product/service. Eco-labels have the power to foster positive attitudes toward sustainable products (Iraldo et al., 2006; Cerri et al., 2018; Bastounis et al., 2021).

As we can infer from the literature, the benefits of such attributes are not well understood by most consumers, i.e., they cannot understand what the label (the attribute) can do for them (the benefit). This lack of value assessment is not related to the eco-label itself but, yes, to the level of understanding of the theme, since for 'green consumers' it is the necessary input to choose the right product/service and differentiate it from the competition.

Benefits can be characterised into three important and distinct categories - functional, experiential and symbolic - depending on the underlying motivation (Keller, 1993; Orth & De Marchi, 2007). Functional associations are related to utilitarian/economic/rational aspects of the brand (e.g. reliability, usefulness, quality), giving objective meaning to the brand - intrinsic advantages; symbolic associations are related to the emotional/affective aspects (e.g. attachment, emotions, personal expression), giving subjective meaning to the brand - extrinsic advantages (Keller, 1993; Orth & De Marchi, 2007; Schivinski et al., 2020). Experiential associations are related to what it feels like to use the product (Keller, 1993; Orth & De Marchi, 2007), and that is why we will not consider this category hereafter, as we will study intentions prior to purchase.

An example from our research, products can be perceived as more trustful (Vermeir & Verbeke, 2006) and have a better reputation (Bastounis et al., 2021) when comporting eco-labels, which contributes to their symbolic image.

According to this analysis, the following hypotheses are proposed:

- *H1: Eco-labels positively influence Brand Image.*
    - *H1a: Eco-labels positively influence Functional Brand Image.*
    - *H1b: Eco-labels positively influence Symbolic Brand Image.*

Previous research indicates that consumers behave favourably toward the brand when they hold a favourable, unique, and strong brand image and that brand image is one of the most important antecedents of behaviour engagement (Esch et al., 2006; Schivinski et al., 2020). Schivinski et al. (2020) found that brand image influences CBE behaviours, with symbolic association playing a more relevant role than functional ones in the context of brand engagement within social media.

In the context of green behaviours, the literature points us to the fact that positive attitudes toward sustainable products are good indicators of sustainable consumption (Vermeir & Verbeke, 2006; Rustam et al., 2020).

Thus, these findings are replicated by predicting:

- *H2: Brand Image positively influences purchase intentions.*
    - *H2a: Functional Brand Image positively influences Purchase Intentions.*
    - *H2b: Symbolic Brand Image positively influences Purchase Intentions.*

Advertising can play an essential role in generating changes regarding consumer purchase intentions and is a significant push in shaping brand beliefs (antecedent to brand attitude and consumer purchase intentions); indeed, advertising has a distinctive effect on influencing functional or symbolic brand beliefs (Orth & De Marchi, 2007). Rustam et al. (2020) highlighted how appropriate advertising and communication of eco-labels can raise consumers' awareness of environmental concerns and support them in identifying different green labels and their meanings.

Green Marketing strategies, such as promotion and display, can play an essential role in these matters, enhancing eco-label visibility among the plethora of other labels and, consequently, its awareness and adoption; as consumers shop for convenience, it will reduce the efforts of making such choices (Thøgersen et al., 2010; Annunziata & Scarpato, 2014; Cerri et al., 2018). The general public perceives green products as difficult to access and only available in specialised stores (Vermeir & Verbeke, 2006). Additionally, increasing the appeal of sustainable products can potentially reduce the impact of higher prices (Bastounis et al., 2021). More than communicating how a product is sustainable, companies and policymakers should inform consumers of the benefits of sustainable food consumption, which are often poorly communicated, to increase the understanding of the actual impacts of their choices, increasing social pressure and individual motivation (Vermeir & Verbeke, 2006; Annunziata & Scarpato, 2014). Lin and Niu (2018) concluded that many consumers present environmental concerns but are reluctant to change their purchase behaviours since one's well-being significantly impacts the decision-making process. The authors suggest that green campaigns focus on environmental appeals and consumers' benefits, so they can feel more involved in the decision-making process and increase social pressure.

Horne (2009) argues that for eco-labels to generate green behaviours, additional strategies must be played together, such as education and information campaigns to raise awareness. Marketing efforts must be structured to promote brand awareness and create favourable, solid and unique brand associations in consumers' memory - Brand Image - which will result in greater brand familiarity (Esch et al., 2006; Vermeir & Verbeke, 2006). The brand image occurs when the consumer is aware and familiar with the brand. Esch et al. (2006) found out in their study: that brand awareness affects the brand image, and both are determinants of purchase behaviour.

Thus, the following hypotheses are proposed:

- *H3: Familiarity with the eco-label affects the effects of the Eco-label's Presence on Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.*
    - *H3a: Familiarity with the eco-label affects the effects of the Eco-label's Presence on Functional Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.*
    - *H3b: Familiarity with the eco-label affects the effects of the Eco-label's Presence on Symbolic Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.*

3.3. Research Model

Taking into consideration the information collected in the literature review and the proposed hypotheses, the following research model was developed:

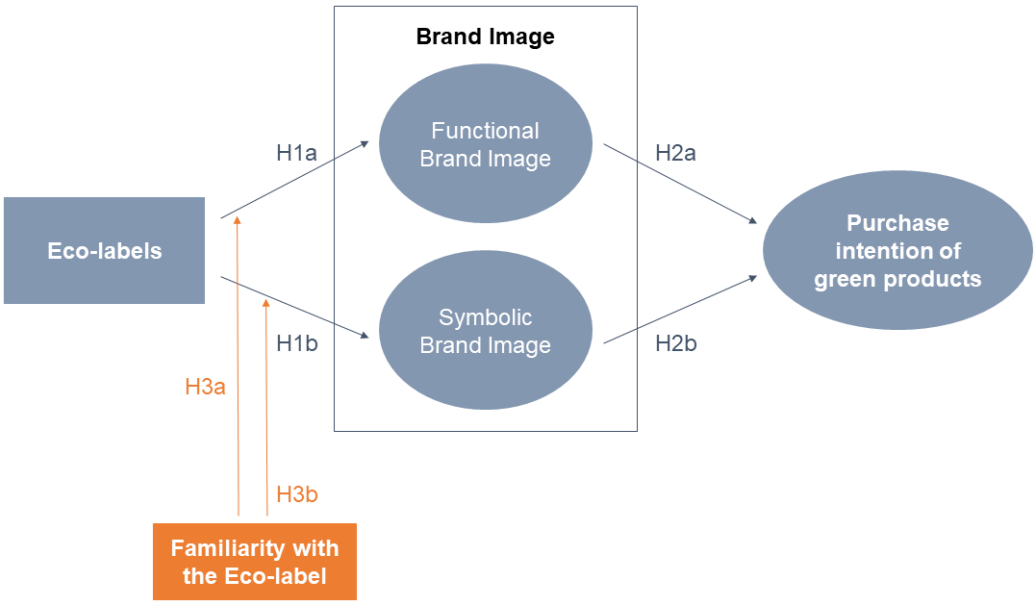

Exhibit 3.1. *Proposed research model*

This model makes a visual representation of the proposed assumptions and the relationship between variables. It pretends to illustrate how eco-labels can foster the purchase intention of green products by means of enhanced brand image. The moderation of familiarity with the eco-label is also integrated into the model, pretending to study its impact on the effects of the presence of eco-labels on Brand Image.

Thus, in order to summarize the proposed hypothesis:

- *H1: Eco-labels positively influence Brand Image.*
    - *H1a: Eco-labels positively influence Functional Brand Image.*
    - *H1b: Eco-labels positively influence Symbolic Brand Image.*
- *H2: Brand Image positively influences purchase intentions.*
    - *H2a: Functional Brand Image positively influences Purchase Intentions.*
    - *H2b: Symbolic Brand Image positively influences Purchase Intentions.*
- *H3: Familiarity with the eco-label affects the effects of the Eco-label's Presence on Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.*
    - *H3a: Familiarity with the eco-label affects the effects of the Eco-label's Presence on Functional Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.*
    - *H3b: Familiarity with the eco-label affects the effects of the Eco-label's Presence on Symbolic Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.*

4. Methodology

4.1. Research Approach

In order to test the proposed hypothesis established based on the literature, quantitative research will be conducted with the resource of an online survey method to study the consumer and their behaviour. Thus, it will allow for gathering information from a large sample, measuring data, generalising results and uncovering patterns.

For the purpose of this investigation, the Rainforest Alliance food eco-label will be chosen to study consumers' familiarity with eco-labels and their influence on green purchase intentions through Brand Image effects, hoping to be able to generalise results that can contribute to the current literature on this topic. In sum, the Rainforest Alliance Certification is a non-profit organisation that signals responsible businesses, submitted to rigorous evaluations, from the agricultural/forestry fields to the supermarket (Rainforest Alliance, 2021a). We can find this seal in Portugal, essentially on food products such as coffee, tea, chocolate, fruit and ready-to-eat drinks/juices, which represents an opportunity to ensure the progress of this investigation, given the potential notoriety of the certification among Portuguese consumers.

Also, to study the model proposed, a fictional new brand of bananas was created - 'banana's'. This product category, covered by the certification Rainforest Alliance, was chosen for the research taking into consideration its habitual presence in consumers' everyday purchases and its significant environmental importance regarding the impacts of its production. Banana is the most popular fruit worldwide, and one of the world's most important food crops, especially with the least developed and low-income countries depending on it, but also known for its environmental impacts resulting from the heavy use of pesticides, rampant deforestation, streams and rivers pollution and coral reefs destruction (Business Ethics Magazine, 2010; Rainforest Alliance, 2021b; FAO, 2022). Rainforest Alliance, in its first years (the early 1990s), made the banana industry a priority for change, and it is still a big focus from scientists and NGOs towards more sustainable growing methods (Rainforest Alliance, 2021b).

The decision to create a fictitious brand was taken to reduce the variables influencing the participants' answers, namely existing perceptions and opinions of brands: feelings of brand love or hate could result in biased outcomes.

4.2. Target Population

The study's target population are Portuguese consumers responsible for their purchases. Convenience Sampling was used with the link to the online survey published on Facebook and WhatsApp Groups, as well as asking family and friends to share within their groups of influence (groups of friends, companies, etc.).

4.2. Data Collection

4.2.1. Questionnaire Development

The survey was designed and the data was collected through Qualtrics Survey Software.

Two versions of the survey were created to analyse the different stimuli resulting from the presence or not of the Rainforest Alliance label on the packaging of the new brand: 'banana's'.

The two versions had the same questions but were distinct in the presentation of the new brand to the participants: one version communicated the new fictional bananas' brand; the other version communicated the new fictional brand in the same format but added the information that this new bananas' brand was certified by the Rainforest Alliance, including the certification seal (Appendix A & B). Therefore, the two products presented were the same except for the eco-label.

In Qualtrics Survey Software, it was created a single link for both questionnaires and participants would be randomly assigned to one of the two surveys to ensure that a similar number of participants were allocated to each version. The goal was to obtain at least 150 valid responses in each version.

The questionnaire was developed with four sections: (1) the new brand on the market, (2) Rainforest Alliance familiarity, understanding and use, (2) green concern and behaviour and (3) consumer demographic profile. The order of questions was thought that the scores of Brand Image and Purchase Intention regarding the new brand are not biased by perceptions of green concern and the Rainforest Alliance Certification.

The first part of the questionnaire started by presenting the new brand 'banana's', where respondents were impacted with either one version of the questionnaire or another. Then, respondents were asked to evaluate statements in order to measure the research model variables: Functional Brand Image (H1a), Symbolic Brand Image (H1b) and Purchase Intention (H2a e H2b).

Thus, the second part of the questionnaire studied whether the Rainforest Alliance Certification was known among participants (familiarity) and if they were aware of its meaning (understanding) and considered it when buying (use).

In the third part, questions regarding green aspects are made, aiming to characterise the type of consumer concerning green behaviours and green concerns. As we have discussed in the literature, green consumers are typically aware of eco-labels and use them to identify sustainable products when buying (Vermeir & Verbeke, 2006; Thøgersen et al., 2010; Finisterra do Paço and Raposo, 2010; Grunert et al., 2014; Lin & Niu, 2018; Cerri et al., 2018). Green Concern can act as a control variable since it can influence opinions and behaviours.

The last part of the questionnaire is devoted to drawing up the consumer profile with basic demographic information - gender, age, education and monthly income - which can also be considered control variables.

4.2.2. Data Measurement and Scales

In order to assess each variable of the model, the questions of the survey were developed based on scales of authors found in the literature review. The table below lists the variables under study, the respective authors of the chosen scales and the number of items for each.

Table 4.1. *Questionnaire scales*

Variable	Nª of items	Adapted Scale Items	Original Scale Items	Scale's Author
Functional Brand Image	5	BANANA'S is reliable. BANANA'S is credible. I trust BANANA'S. BANANA'S has high quality. BANANA'S is healthy.	Airbnb is reliable. Airbnb is credible. I trust Airbnb. High Quality. Healthy.	Schivinski et al. (2020) Orth and De Marchi (2007)
Symbolic Brand Image	4	BANANA'S is attractive. BANANA'S is desirable. BANANA'S is strong in character. BANANA'S is strong in personality.	Airbnb is attractive. Airbnb is desirable. Airbnb is strong in character. Airbnb is strong in personality.	Schivinski et al. (2020)
Purchase Intention	3	It is possible that I will buy BANANA'S in the future. I will seriously consider purchasing BANANA'S. It is highly likely that I will buy BANANA'S.	It is possible that I will buy [brand] in the future. I will seriously consider purchasing [brand]. It is highly likely that I will buy [brand].	Bruhn et al. (2012)
Green Concern	5	I am concerned about the development of the global environment. I feel it is a moral obligation to use environment-friendly	I am concerned about the development of the global environment. I feel it is a moral obligation to use environment-friendly products.	Thogersen et al. (2010)

products.	It concerns me that people do not care enough for the environment.
It concerns me that people do not care enough for the environment.	I have changed from one brand to another for the sake of the environment.
I have changed from one brand to another for the sake of the environment.	I often buy eco labelled products for the sake of the environment.
I often buy eco labelled products for the sake of the environment.	

All the items presented in the table above were measured according to a 7-point Likert scale from 1 - Strongly disagree to 7 - Strongly agree.

To study Green Purchase Behaviour, respondents were asked to rate self-reported search of sustainability information on food packages (e.g. origin, certification, production processes, transport) on a 7-point Likert scale from 1 - Never to 7 - Always. Familiarity with the eco-labels was measured by asking respondents if they were familiar with the eco-label presented and, for those who did, it was asked if they knew its meaning (understanding) and use was measured on a 7-point Likert scale from 1 - Never to 7 - Always by asking respondents if they took it into consideration when buying.

Green Concern (Table 4.1) and Green Purchase Behaviour, as well as demographic variables, were used as control variables. Gender was measured between “female”, “male” or “other”; Age was measured by grouping consumers into 7 age groups (under 18 years old, 18-24 years old, 25-34 years old, 35-44 years old, 45-54 years old, 55-64 years old, and 65 years old and older); Academic Qualifications was measured by asking respondents to select between no academic qualifications and 6 different levels (9th grade or lower, high school, Technological or Professional Degree, Baccalaureate, Bachelor's Degree, Master's Degree and PhD); finally, Monthly Income was measured between no income and 6 other levels (less than 750€, between 750€ and 1000€, between 1001€ and 1500€, between 1501€ and 2500€, between 2501€ and 5000€ and more than 5000€).

5. Results and Discussion

The data collected in the questionnaire was uploaded to IBM SPSS Statistics (Version 28) and prepared for analysis.

First, the responses were analysed, and invalid participation was excluded to guarantee the quality of the sample (Sarstedt & Mooi, 2019) using a survey-control question. Considering the valid sample, the next step was to perform descriptive analysis, exploring the demographic characterization of the sample and additional characterization regarding green concerns, green purchase behaviour and knowledge and use of the eco-label. In addition, it was verified the existence of two groups, corresponding to the two versions of the questionnaire (one group that was impacted by the eco-label and another that was not) using a non-parametric Chi-square test.

After, a preliminary control check was implemented to test the data integrity, accuracy and credibility (Sarstedt & Mooi, 2019). It started by validating if both groups were statistically similar, using independent t-tests to avoid biased results. Then, to assess the reliability of the items that compose each construct, a Cronbach's Alpha test was conducted and, next, a exploratory factor analysis using Principal Component Analysis (PCA) tested the hypothesised structures underlying each construct.

Having the preliminary control tests validated, the final part of this section tests the hypotheses developed for this paper using simple and multiple linear regression models by Ordinary Least Squares (OLS) and a moderation test using PROCESS analysis by Hayes (2017). The regression analysis is a market research tool that analyses the relationship between dependent and independent variables (Sarstedt & Mooi, 2019); the moderation analysis determines whether the relationship between the dependent and independent variables in our hypothesis is influenced by, or depends on, the value of a third variable (in our study, familiarity with the eco-label) (Hayes, 2017).

5.1. Sample

A total of 402 responses were registered, with 392 valid responses, which yields an effective response rate of 98%. N=392 will be considered the sample frame from now on.

Ten responses were considered invalid because their respondents failed the control question saying they had seen the seal when they were not exposed to the version of the questionnaire which contained the seal - and vice-versa -; therefore, it is not possible to rely on their answers. The control question was designed to assess the overall credibility of the data, assuming that respondents' misbehaviour in a particular moment is indicative of misbehaviour throughout the entire questionnaire, removing those who are not correctly reading the questions (Sarstedt & Mooi, 2019).

From the valid answers (N=392), 186 participants completed the questionnaire according to the version without the 'Rainforest Alliance Certification' seal and 206 participants completed the questionnaire according to the version containing the seal. The goal to obtain at least 150 valid responses in each version was achieved.

5.1.1. Demographic Characterization

Regarding the demographics characterization of the sample, the majority of respondents are women (65.8%), and the respondents are mostly aged between 25 and 44 years old (53.4%). With respect to academic qualifications, 37% of the respondents have a Bachelor's degree, and 27% have only high school level education and, in relation to monthly income, 33.4% have an income between 1001€ and 1500€ and 26.5% between 750€ and 1000€. More detailed information on the respondents' demographic profile can be found in Table 5.1.

Table 5.1. *Demographic Information*

N = 392	Demographic	%
Gender	Female	65.8
	Male	33.9
	Other	0.3
Age	Under 18 years old	0.8
	18 - 24 years old	5.9
	25 - 34 years old	25.8
	35 - 44 years old	27.6
	45 - 54 years old	22.4
	55 - 64 years old	15.1
	65 years old and over	2.6
Education	No education	0.3
	9th grade (3rd cycle of basic education) or lower	7.7
	12th grade (high school level)	27.0
	Technological/professional/other course (level III)	5.9
	Baccalaureate	6.9
	Bachelor's Degree	37.0
	Master's Degree	15.1
	PhD	0.3
Monthly Income	No income	4.6
	Under 750€	9.2

Between 750€ and 1000€	26.5
Between 1001€ and 1500€	33.4
Between 1501€ and 2500€	17.6
Between 2501€ and 5000€	6.9
Over 5000€	1.8

5.1.2. Additional Characterization

Respondents present high levels of Green Concern (M=5.70; SD=0.87). This variable was measured on a scale of 5 items from 1 (very low green concern) to 7 (very high green concern) points, and its score was obtained through the mean of the values obtained in each item (average summation score).

Table 5.2. *Green Concern*

	N	Minimum	Maximum	Mean	Std. Deviation
Green Concern	392	2.80	7.00	5.7056	.87475
Valid N (listwise)	392				

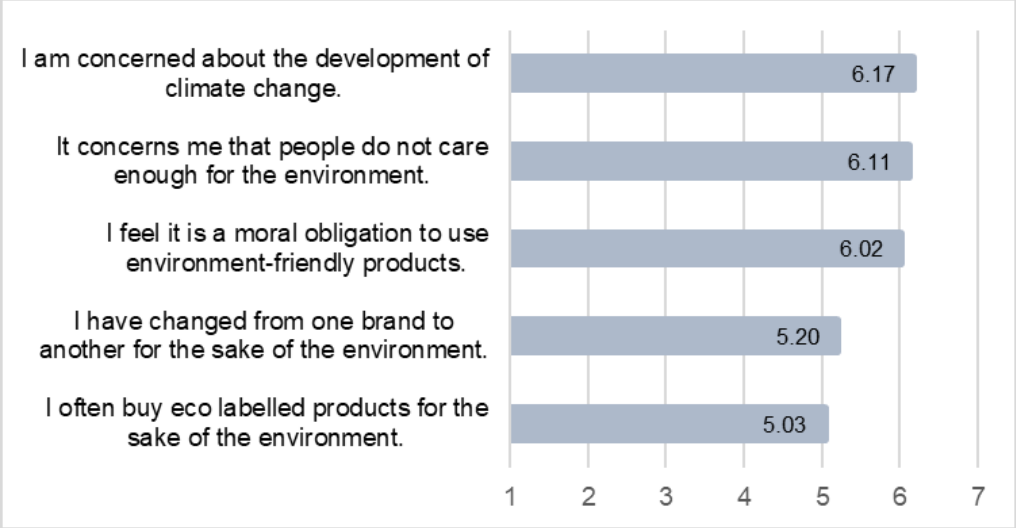

Exhibit 5.1. *Items measuring Green Concern*

Despite high levels of Green Concern, when respondents were asked about food purchase habits, such as searching for information regarding environmental performance on products' packaging, average-low levels of green purchase behaviour were registered (M=3.71; SD=1.55). This variable was measured on a 7-point Likert scale from 1 - Never to 7 - Always.

Table 5.3. *Green Purchase Behaviour*

	N	Minimum	Maximum	Mean	Std. Deviation
When buying food products, how often do you look for information regarding environmental performance on the packaging? (e.g. origin, certification, production, transportation)	392	1	7	3.71	1.548
Valid N (listwise)	392				

When analysing the familiarity of the 'Rainforest Alliance Certification' eco-label among the audience, only 46.2% of the respondents indicated that the label looked familiar to them. Of those respondents, only 20.4% were sure about what it represented.

Table 5.4. *Does this seal look familiar to you?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	211	53.8	53.8	53.8
	Yes	181	46.2	46.2	100.0
	Total	392	100.0	100.0	

Table 5.5. *Do you know what it represents?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	21	5.4	11.6	11.6
	I think so / Not sure	80	20.4	44.2	55.8
	Yes	80	20.4	44.2	100.0
	Total	181	46.2	100.0	
Missing	System	211	53.8		
Total		392	100.0		

Furthermore, of the respondents who claimed to know what the seal represented or thought they knew (40.8%), only 53.8% got the correct answer on what the seal represents - an 'environmentally responsible business'. If we take into consideration the whole sample (N=392), only 21.94% of the respondents knew what the label stood for.

Table 5.6. *Please indicate what the seal represents for you:*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Environmentally responsible business	86	21.9	53.8	53.8
	Organic product	13	3.3	8.1	61.9
	Protecting wildlife in the rainforest	54	13.8	33.8	95.6
	Protecting the Amazon rainforest	7	1.8	4.4	100.0
	Total	160	40.8	100.0	
Missing	System	232	59.2		
Total		392	100.0		

Also, average-low levels of use of the eco-label were indicated by respondents (M=3.73; SD=1.59). Use of the eco-label was measured on a 7-point Likert scale from 1 - Never to 7 - Always. If we take into consideration the whole sample, only 13.01% of respondents reported average-high to a high frequency of use (‘Often’=26; ‘Normally’=21, ‘Always’=4), as it can be seen in Table 5.8.

Table 5.7*. Use of the eco-label*

	N	Minimum	Maximum	Mean	Std. Deviation
To what extent do you take this label into consideration when you are shopping?	160	1	7	3.73	1.585
Valid N (listwise)	160				

Table 5.8. *To what extent do you take this label into consideration when you are shopping?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	16	4.1	10.0	10.0
	Rarely	23	5.9	14.4	24.4
	Occasionally	29	7.4	18.1	42.5
	Sometimes	41	10.5	25.6	68.1
	Often	26	6.6	16.3	84.4
	Normally	21	5.4	13.1	97.5
	Always	4	1.0	2.5	100.0
	Total	160	40.8	100.0	
Missing	System	232	59.2		
Total		392	100.0		

5.1.3. Two groups within the sample

A non-parametric Chi-square test was conducted to test the independence of the two categorical variables: Questionnaire Version and the Control Question. Specifically, to verify the existence of two different groups within the sample who said they have or have not seen the seal (control question) regarding the version of the questionnaire they were impacted - one that was exposed to the questionnaire without the eco-label (Group 1) and the other that was exposed to the questionnaire with the eco-label (Group 2). The assumptions of the Chi-Square test were fulfilled with 0% of cells having expected counts below 5 (reference of 20% as maximum value), and the minimum expected count larger than 1 (88.26), which made it possible to rely on its conclusions. Sig. of the test is lower than 0.05 (Sig.=<0.001), being possible to infer that the two variables are related. As can be observed in Exhibit 4, Group 1 (version of the questionnaire without the eco-label) is composed of 186 individuals who said they had not seen the seal and Group 2 (version of the questionnaire with the eco-label) is composed of 206 individuals who said to have seen the seal in the communication of the new brand “banana’s”.

Table 5.9. *Chi-Square Tests*

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	392.000[a]	1	<.001		
Continuity Correction[b]	388.000	1	<.001		
Likelihood Ratio	542.407	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	391.000	1	<.001		
N of Valid Cases	392				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 88.26.

b. Computed only for a 2x2 table

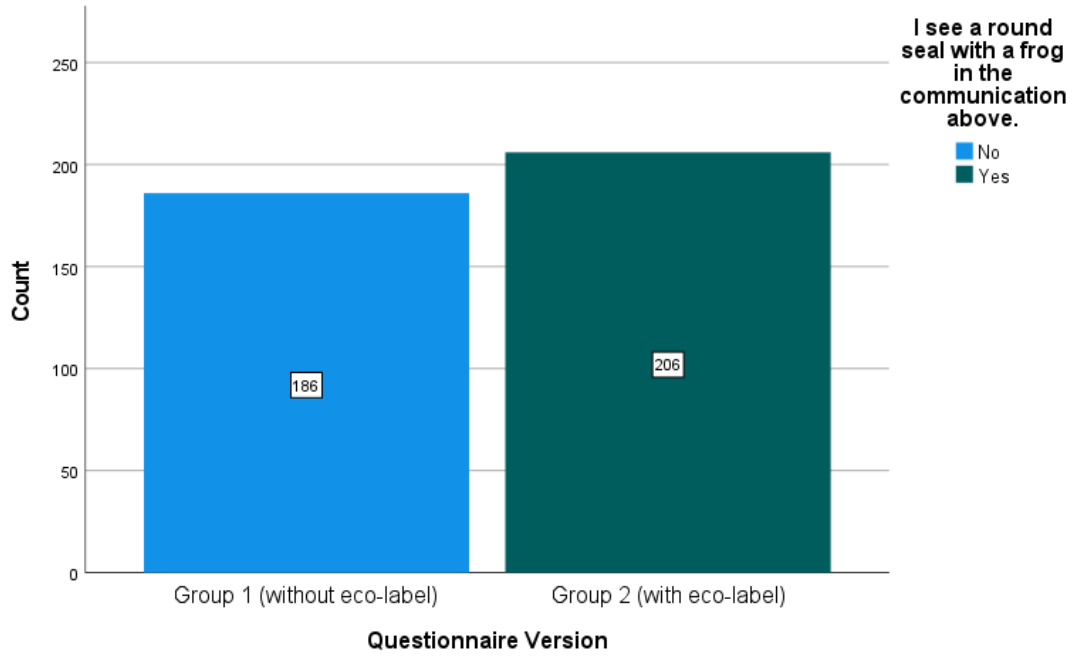

Exhibit 5.2. *Stacked Bar Count of Questionnaire Version by Control Question.*

5.2. Preliminary Control Checks

5.2.1. Comparing Group 1 (without eco-label) with Group 2 (with eco-label)

Considering the two different groups that compose the sample, it was analysed if there was any significant difference between them that could affect the results and conclusions. Independent t-tests were implemented and no statistical differences were found in the variables age (t=-1.366; p=0.173), education (t=0.473; p=0.637), monthly income (t=0.572; p=0.567), green concern (t=-0.259; p=0.796), green purchase behaviour (t=-0.255; p=0.799),

familiarity (t=0.834; p=0.405), understanding (t=0.146; 0.884) and use (t=-1.102; p=0.272) of the eco-label; except for the variable gender (t=-1.919; p=0.056) that presented a sig. value very close to the reference value (>0.05) and must not be considered a representative result. Thus, both groups are statistically similar, except for the variable gender.

Table 5.10. *Statistics of Group 1 (without eco-label) vs. Group 2 (with eco-label).*

	Questionnaire Version	N	Mean	Std. Deviation	Std. Error Mean
Gender	Group 1 (without eco-label)	186	1.30	.458	.034
	Group 2 (with eco-label)	206	1.39	.498	.035
Age in Groups	Group 1 (without eco-label)	186	4.11	1.258	.092
	Group 2 (with eco-label)	206	4.29	1.253	.087
Education Level	Group 1 (without eco-label)	186	3.88	1.682	.123
	Group 2 (with eco-label)	206	3.80	1.695	.118
Monthly Income	Group 1 (without eco-label)	186	2.74	1.189	.087
	Group 2 (with eco-label)	206	2.82	1.342	.093
Familiarity with the eco-label	Group 1 (without eco-label)	186	.48	.501	.037
	Group 2 (with eco-label)	206	.44	.498	.035
Understanding of the eco-label	Group 1 (without eco-label)	90	1.33	.703	.074
	Group 2 (with eco-label)	91	1.32	.648	.068
Use of the eco-label	Group 1 (without eco-label)	78	3.59	1.498	.170
	Group 2 (with eco-label)	82	3.87	1.661	.183
Green Purchase Behaviour	Group 1 (without eco-label)	186	3.69	1.577	.116
	Group 2 (with eco-label)	206	3.73	1.525	.106
Green Concern	Group 1 (without eco-label)	186	5.6935	.84499	.06196
	Group 2 (with eco-label)	206	5.7165	.90269	.06289

***Table 5.11**. Independent Samples Test of Group 1 (without eco-label) vs. Group 2 (with eco-label).*

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Gender	Equal variances assumed	14.561	<.001	-1.910	390	.028	.057	-.093	.048	-.188	.003
	Equal variances not assumed			-1.919	389.889	.028	.056	-.093	.048	-.188	.002
Age in Groups	Equal variances assumed	.008	.929	-1.366	390	.086	.173	-.174	.127	-.423	.076
	Equal variances not assumed			-1.366	385.685	.086	.173	-.174	.127	-.423	.076
Education Level	Equal variances assumed	.186	.666	.473	390	.318	.637	.081	.171	-.255	.417
	Equal variances not assumed			.473	386.522	.318	.637	.081	.171	-.255	.416
Monthly Income	Equal variances assumed	1.838	.176	-.572	390	.284	.567	-.074	.129	-.326	.179
	Equal variances not assumed			-.576	389.871	.283	.565	-.074	.128	-.325	.178
Familiarity with the eco-label	Equal variances assumed	2.029	.155	.834	390	.202	.405	.042	.051	-.057	.141
	Equal variances not assumed			.834	385.421	.202	.405	.042	.051	-.057	.141
Understanding of the eco-label	Equal variances assumed	1.314	.253	.146	179	.442	.884	.015	.100	-.184	.213
	Equal variances not assumed			.146	177.466	.442	.884	.015	.101	-.184	.213
Use of the eco-label	Equal variances assumed	.917	.340	-1.102	158	.136	.272	-.276	.251	-.771	.219
	Equal variances not assumed			-1.105	157.562	.135	.271	-.276	.250	-.770	.217
Green Purchase Behaviour	Equal variances assumed	.620	.431	-.255	390	.399	.799	-.040	.157	-.348	.268
	Equal variances not assumed			-.255	382.953	.400	.799	-.040	.157	-.349	.269
Green Concern	Equal variances assumed	2.149	.143	-.259	390	.398	.796	-.02296	.08858	-.19712	.15121
	Equal variances not assumed			-.260	389.486	.397	.795	-.02296	.08829	-.19653	.15062

5.2.2. Reliability test for the items on a scale

To assess the reliability of the items on the scales, a Cronbach's Alpha test was implemented on the items of the model's constructs. All constructs present satisfactory internal consistency values, with all the values above 0.80, which indicates that the model is internally reliable (Sarstedt & Mooi, 2019).

***Table 5.12**. Cronbach's Alpha reliability test.*

Construct	Items	Cronbach's α
Purchase Intention	PI1	0.851
	PI2	
	PI3	
Functional Brand Image	FBI1	0.908
	FBI2	
	FBI3	
	FBI4	
	FBI5	
Symbolic Brand Image	SBI1	0.910
	SBI2	
	SBI3	
	SBI4	
Green Concern	GC1	0.836
	GC2	
	GC3	
	GC4	
	GC5	

5.2.3. Exploratory factor analysis

In order to test the hypothesised structures underlying variables developed based on previous theory, exploratory factor analysis was conducted using Principal Component Analysis (PCA) to access how well the data fit the pre-specified structures (Sarstedt & Mooi, 2019), asking for extraction of fours factors.

***Table 5.13.** Constructs sctructure for analysis.*

Component	Construct	Items
1	Functional Brand Image	I trust BANANA'S.
		BANANA'S has high quality.
		BANANA'S is credible.
		BANANA'S is reliable.
		BANANA'S is healthy.

Component	Construct	Items
2	Green Concern	I feel it is a moral obligation to use environment-friendly products. It concerns me that people do not care enough for the environment. I have changed from one brand to another for the sake of the environment. I am concerned about the development of the global environment. I often buy eco labelled products for the sake of the environment.
3	Symbolic Brand Image	BANANA'S is strong in character. BANANA'S is strong in personality. BANANA'S is desirable. BANANA'S is attractive.
4	Purchase Intention	I will seriously consider purchasing BANANA'S. It is highly likely that I will buy BANANA'S. It is possible that I will buy BANANA'S in the future.

The results were favourable to our analysis, with the four factors extracted explaining 72.989% of the total variance and the items falling in the correct dimensions, as can be seen in Table 5.14. More outputs of the analysis can be found in Appendix H.

Table 5.14. *Rotated Component Matrix[a] from PCA.*

	Component			
	1	2	3	4
I trust the brand BANANA'S.	.829	.111	.277	.276
The BANANA'S brand has quality.	.823	.057	.257	.151
The BANANA'S brand is credible.	.822	.089	.279	.259
The BANANA'S brand is reliable.	.810	.088	.247	.270
The BANANA'S brand is healthy.	.652	.034	.213	.098
I feel it is a moral obligation to use environment-friendly products.	.129	.816	.152	-.021
It concerns me that people do not care enough for the environment.	.044	.815	.014	.021
I have changed from one brand to another for the sake of the environment.	.084	.791	.051	.055
I am concerned about the development of climate change.	-.004	.784	-.028	.122
I often buy eco labelled products for the sake of the environment.	.047	.734	.138	.082
The BANANA'S brand is strong in character.	.279	.064	.851	.172
The BANANA'S brand is strong in personality.	.307	.092	.836	.140
The BANANA'S brand is desirable.	.335	.071	.766	.227
The BANANA'S brand is attractive.	.295	.141	.759	.256
I will seriously consider buying the BANANA'S brand.	.248	.132	.203	.820
It is highly likely that I will buy the BANANA'S brand.	.306	.101	.230	.808
It is possible that I will buy the BANANA'S brand in the future.	.219	.021	.197	.787

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

5.3. Hypotheses Testing

This section of the analysis will investigate the developed hypothesis in order to build statistical evidence against or in favour of the statements, testing if they're likely true in the population of interest (Sarstedt & Mooi, 2019).

To check H1 - *Eco-labels positively influence Brand Image*. -, a simple linear regression model by OLS was conducted for each of the assumptions that derive from it (H1a and H1b).

First, H1a - *Eco-labels positively influence Functional Brand Image.* - was tested and the results indicate that the presence of the eco-label significantly influences Functional Brand Image as there is statistical evidence that the constant term should be included in the model equation (Sig.=<0.001) and that EcolabelPresence is an important explanatory variable of FBI (Sig.=0.005) since both Sig. of the t-test are lower than 0.05 (Sarstedt & Mooi, 2019). Looking at the positive unstandardized B coefficient (0.261) it is possible to conclude that the presence of the eco-label on the product positively influences the Functional Brand Image, meaning that a unit increase on EcolabelPresence reflects an increase of 0.261 in FBI, as it can be observed in Table 5.15. In other words, when participants were impacted by the version of the questionnaire that contained the eco-label, higher levels of Functional Brand Image were attributed to the brand "babana's" than those who were not impacted by the eco-label, which validates H1a. Also, Table 5.15 presents the correlation between the two variables, where it is possible to conclude that the variables are positively correlated (0.142). Nevertheless, the variable presence of eco-label explains 2% of the variability of Functional Brand Image (R Square=0.020) which left us with a very poor model since 98% is left to explain and more explanatory variables are needed in the model. In any case, the model is valid since the sig. ANOVA < 0.05 (Appendix I).

Table 5.15. *Linear Regression Coefficients[a] for EcolabelPresence and FBI (H1a).*

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.526	.067		67.919	<.001
	Presence of Eco-label	.261	.092	.142	2.835	.005

a. Dependent Variable: Functional Brand Image

After, following the same reasoning, H1b - *Eco-labels positively influence Symbolic Brand Image.* - was tested and the results indicate that the presence of the eco-label significantly influences Symbolic Brand Image as there is statistical evidence that the constant term should be included in the model equation (Sig.=<0.001) and that EcolabelPresence is an important explanatory variable of SBI (Sig.=0.012) since both Sig. of the t-test are lower than 0.05.

Looking at the positive unstandardized B coefficient (0.273) it is possible to conclude that the presence of the eco-label on the product positively influences the Symbolic Brand Image, meaning that a unit increase on EcolabelPresence reflects an increase of 0.273 in SBI, as it can be observed in Table 5.16. In other words, when participants were impacted by the version of the questionnaire that contained the eco-label, higher levels of Symbolic Brand Image were attributed to the brand "babana's" than those who were not impacted by the eco-label, which validates H1b. Also, Table 5.16 presents the correlation between the two variables, where it is possible to observe that the variables are positively correlated (0.127). Nevertheless, the variable presence of eco-label explains 1.6% of the variability of Symbolic Brand Image (R Square=0.016) which left us with a very poor model since 98.4% are left to explain and more explanatory variables are needed in the model. In any case, the model is valid since the sig. ANOVA < 0.05 (Appendix J).

***Table 5.16**. Linear Regression Coefficients[a] for EcolabelPresence and SBI (H1b).*

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.598	.078		58.625	<.001
	Presence of Eco-label	.273	.108	.127	2.525	.012

a. Dependent Variable: Symbolic Brand Image

Given the validation of the two hypotheses that compose H1 (H1a and H1b), it is possible to validate H1 overall, i.e. the presence of eco-labels positively affects the brand image.

To check H2 - *Brand Image positively influences purchase intentions*. - a multiple linear regression model by OLS was conducted to study if Purchase Intention was simultaneously influenced by Functional Brand Image (H2a - *Functional Brand Image positively influences purchase intentions*.) and Symbolic Brand Image (H2b - *Symbolic Brand Image positively influences purchase intentions*.).

The results indicate that there is statistical evidence that the constant term (Sig.=<0.001) should be included in the model equation, as well as for the two explanatory variables - FBI (Sig.=<0.001) and SBI (Sig.<0.001) -, since Sig. of the t-test of the three predictors is lower than 0.05. In other words, these two explanatory variables are useful and should be kept in the model since they help explain Purchase Intention: a unit increase on FBI and SBI reflects an increase of 0.512 and 0.296, respectively, in PurchaseIntention, as it can be observed by the unstandardized B coefficients in Table 5.17. FBI and SBI significantly influence Purchase Intention in a positive correlation, respectively 0.399 and 0.272 (Table 5.17), which validates H2a and H2b. Even so, only 37.4% of the variation of Purchase Intention is explained by the

explanatory variables in the model (R Square=0.374), which is still below the reference value of 50% (Sarstedt & Mooi, 2019), meaning more explanatory variables are needed in the model. In any case, the model is valid since the sig. ANOVA < 0.05 (Appendix K).

Table 5.17. *Multiple Regression Coefficients[a] for FBI and SBI and Purchase Intention (H2).*

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.058	.254		4.165	<.001		
	Functional Brand Image	.512	.067	.399	7.586	<.001	.581	1.720
	Symbolic Brand Image	.296	.057	.272	5.161	<.001	.581	1.720

a. Dependent Variable: Purchase Intention

In sum, higher levels of Brand Image result in higher levels of Purchase Intentions, which represent a validation of H2 overall.

To study H3 - *Familiarity with the eco-label affects the effects of EcolabelPresence on Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low.* - a moderation test using PROCESS v4.1 by Andrew F. Hayes was conducted to test the moderation of the familiarity with the eco-label on the effects of EcolabelPresence on FBI (H3a) and SBI (H3b). For this analysis, the sample was divided into two groups: a group that presented familiarity with the eco-label, consisting of 181 individuals, and another group that did not present familiarity with the eco-label, consisting of 211 individuals (Exhibit 5).

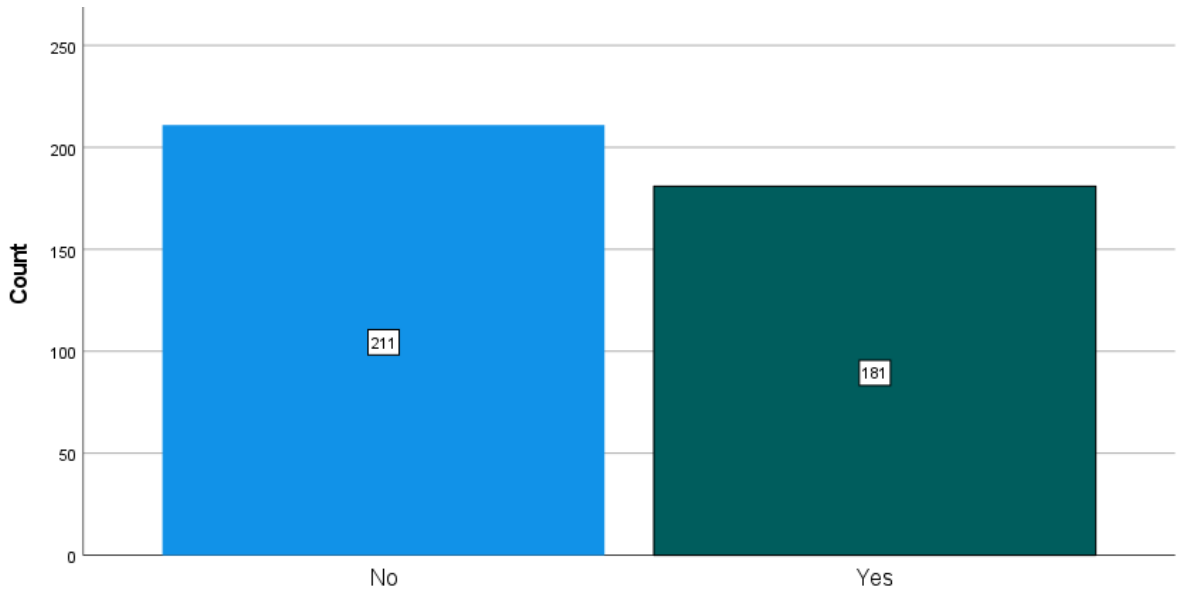

Exhibit 5.3. *Does this seal look familiar to you?*

Regarding H3a - *Familiarity with the eco-label affects the effects of EcolabelPresence on Functional Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low*. -, our interest was to study whether the effects of the presence of the eco-label on the functional brand image were influenced by familiarity with the eco-label. When looking at the model output (Table 5.18), it is possible to observe that the interaction term (Int_1) is statistically different from zero, t(388)=2.497, p.=0.013 and a 95% confidence interval between 0.095 and 0.803. Thus, it is possible to conclude that participants' familiarity with the eco-label moderates the effect of the eco-label presence on functional brand image. More specifically, as familiarity with the eco-label increases by one unit, the difference in functional brand image between those who were presented with the eco-label, or not, "increases" by 0.449 units. The remaining outputs for this analysis can be found in Appendix L.

Table 5.18. *Regression Model using PROCESS for familiarity and FBI (H3a).*

	coeff	se	t	p	LLCI	ULCI
constant	4.4646	.0904	49.3763	.0000	4.2868	4.6424
LabelPre	.0676	.1225	.5519	.5814	-.1732	.3084
Familiar	.1265	.1300	.9734	.3310	-.1290	.3821
Int_1	.4490	.1799	2.4965	.0130	.0954	.8026

The Exhibit 6 enables a visual representation of the moderation of familiarity with the eco-label on the effects of the presence of the eco-label on the functional brand image (Hayes, 2017). As it is possible to observe, when familiarity with the eco-label occurs (Familiar=1), higher levels of functional brand image occur too. Moreover, this effect becomes more significant when the eco-label is presented (LabelPre=1): respondents who were familiar with the eco-label have attributed an average higher score to FBI than those who were not familiar with the eco-label, which validates H3a.

Table 5.19. *Data for visualizing the conditional effect of the focal predictor through a scatterplot (H3a).*

```
DATA LIST FREE/
   LabelPre   Familiar   FuncBI     .
BEGIN DATA.
      .0000      .0000     4.4646
     1.0000      .0000     4.5322
      .0000     1.0000     4.5911
     1.0000     1.0000     5.1077
END DATA.
GRAPH/SCATTERPLOT=
 LabelPre WITH     FuncBI   BY       Familiar .
```

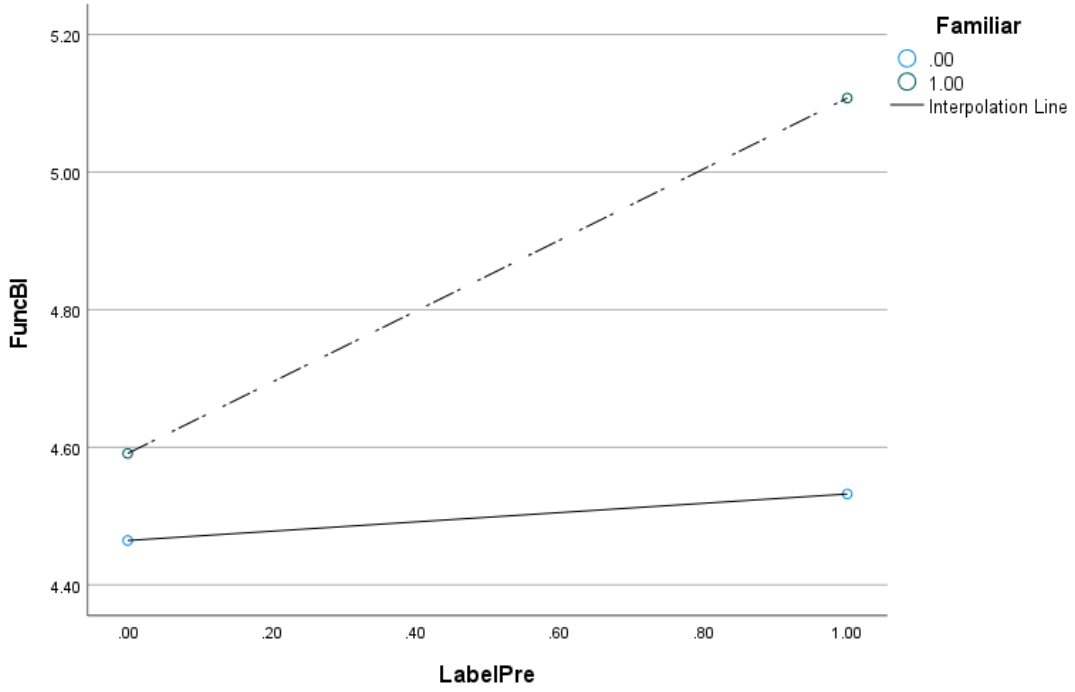

Exhibit 5.4. *Moderation of familiarity on the effects of EcolabelPresence on FBI (H3a).*

Following the same rationale, to check H3b - *Familiarity with the eco-label affects the effects of EcolabelPresence on Symbolic Brand Image, so when familiarity is high, the effects are significantly higher than when familiarity is low*. -, our interest was to study whether the effects of the presence of the eco-label on the symbolic brand image were influenced by familiarity with the eco-label. When looking at the model output (Table 5.20), it is possible to observe that the interaction term (Int_1) is statistically different from zero, t(388)=2.133, p.=0.034 and a 95% confidence interval between 0.036 and 0.886. Thus, it is possible to conclude that participants' familiarity with the eco-label moderates the effects of the eco-label presence on symbolic brand image. More specifically, as familiarity with the eco-label increases by one unit, the difference in symbolic brand image between those who were presented with the eco-label, or not, "increases" by 0.461 units. The remaining outputs for this analysis can be found in Appendix M.

Table 5.20. *Regression Model using PROCESS for familiarity and SBI (H3b).*

	coeff	se	t	p	LLCI	ULCI
constant	4.6693	.1087	42.9502	.0000	4.4555	4.8830
LabelPre	.0633	.1473	.4301	.6673	-.2262	.3529
Familiar	-.1470	.1563	-.9409	.3473	-.4543	.1602
Int_1	.4611	.2162	2.1326	.0336	.0360	.8863

Exhibit 7 enables a visual representation of the moderation of familiarity with the eco-label on the effects of the presence of the eco-label on the symbolic brand image. As it is possible to observe, when the eco-label is presented (LabelPre=1) and familiarity with the eco-label occurs (Familiar=1), higher levels of symbolic brand image occur too. In other words, respondents have attributed a higher average score of SBI when familiar with the eco-label, which validates H3b.

Table 5.21. *Data for visualizing the conditional effect of the focal predictor through a scatterplot (H3b).*

```
DATA LIST FREE/
   LabelPre    Familiar    SymBI       .
BEGIN DATA.
      .0000       .0000     4.6693
     1.0000       .0000     4.7326
      .0000      1.0000     4.5222
     1.0000      1.0000     5.0467
END DATA.
GRAPH/SCATTERPLOT=
 LabelPre WITH     SymBI     BY       Familiar .
```

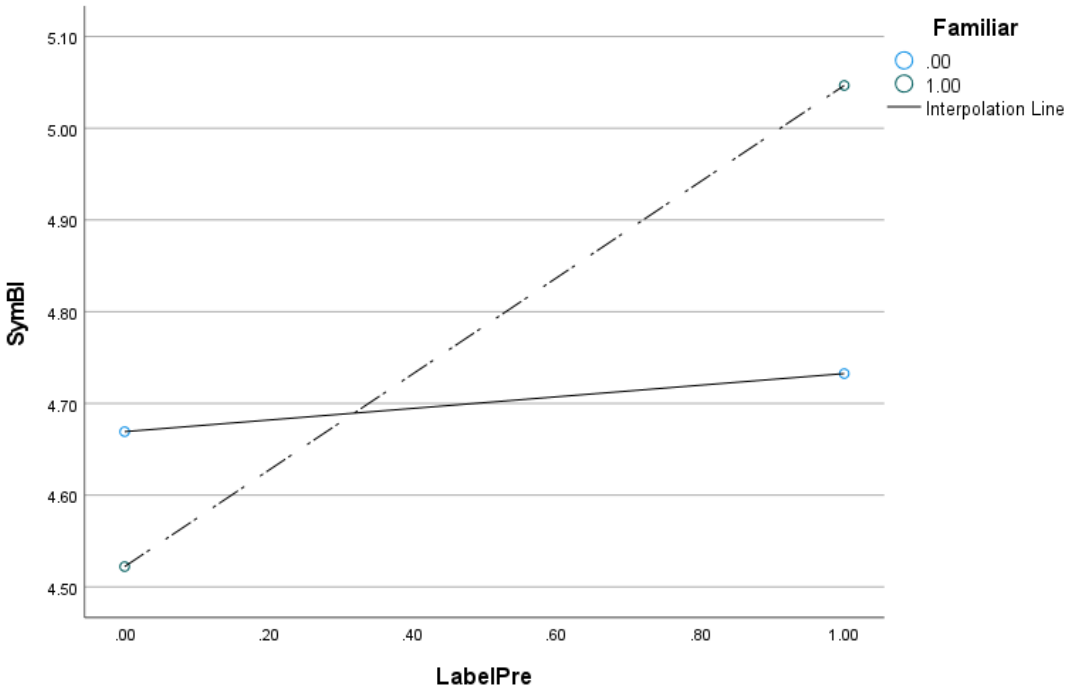

Exhibit 5.5. *Moderation of familiarity on the effects of EcolabelPresence on SBI (H3b).*

Considering that both hypotheses H3a and H3b are valid, we can consider H3 valid overall. Thus, familiarity with the eco-label moderates the effects of eco-label presence on brand image and, when familiarity is high, the effects are significantly higher than when familiarity is low.

Finally, Table 5.22 summarises the information presented in this section regarding the testing of the hypothesis:

Table 5.22. *Summary results from each hypothesis testing.*

Hypothesis	**H1a**	**H1b**	**H2a**	**H2b**	**H3a**	**H3b**
Results	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted

5.4. Discussion

The data analysis began by tracing the green profile of our sample, characterising the respondents in terms of green concern and behaviour. The sample presented high levels of Green Concern (measured on a 5-item scale) but average-low values of Green Purchase Behaviour since respondents presented average-low frequency (occasionally or sometimes) when asked if they searched for information regarding the environmental performance of products when shopping for food. In fact, of the items measuring Green Concern, the ones with the highest values were the items related to attitudes rather than the items related to behaviour ('I am concerned about the development of climate change' obtained an average of 6.17, while 'I have changed from one brand to another for the sake of the environment' registered an average of 5.20, measured on a 7-point scale). These results are in line with the literature, which declared high levels of environmental concern are not enough to drive consumers' awareness of food eco-labels (Annunziata & Scarpato, 2014; Cerri et al., 2018). According to several authors, consumers tend to consider other food product attributes - such as price, brand, use-by-date, nutritional data, convenience, package, and taste - at the moment of purchase (Vermeir & Verbeke, 2006; Grunert et al., 2014; Annunziata & Scarpato, 2014; OECD, 2016; Potter et al., 2021).

The findings of the primary analysis (hypothesis testing) have proven that eco-labels have the ability to drive purchase intentions of green products since they add positive associations to brands, positively influencing the brand image. This outcome is consistent with Vermeir and Verbeke (2006) and Rustam et al. (2020), where positive attitudes toward sustainable products - i.e. brand image - are good indicators of adopting sustainable consumption - i.e. purchase intention of green products.

According to the findings, the presence of the eco-label on the new brand "banana's" generated higher levels of brand image than when the new brand was presented without reference to certification (without the eco-label), which validated H1. In other words, participants attributed higher levels of brand image when the product carried the eco-label, that is, a superior brand image. Therefore, it can be assumed that eco-labels positively influence

the brand image. As expected, eco-labels, when well-framed, represent a fundamental role beyond mere signposting of green products, but rather add a set of new associations to the brands that carry them, fostering positive attitudes towards the products (Iraldo et al., 2006; Cerri et al., 2018; Bastounis et al., 2021).

In addition, the analysis proved that higher levels of Brand Image result in higher levels of Purchase Intentions. In other words, the more favourable the brand is perceived by consumers, the greater will be the intention to purchase it, and therefore we can claim that brand image positively influences purchase intention, validating H2. These findings are in line with previous research that indicates that brand image is one of the most important antecedents of behaviour engagement when consumers hold a favourable, unique, and strong brand image (Esch et al., 2006; Schivinski et al., 2020).

In sum, by incorporating eco-labels in their products, brands evoke positive associations in consumers' memory and therefore, consumers will present higher intentions to buy them, being able to infer that eco-labels are a way to generate sustainable food consumption through the purchase of environmentally friendly products.

Taking into account that consumers are becoming more selective and demanding in their food choices, seeking 'green products' - i.e. products with higher environmental standards - (Cerri et al., 2018; Lin & Niu, 2018; FAO, 2022a), one would expect that eco-labels were widely known within consumers. However, indeed, consumers report little use of eco-labels, mainly because they do not know what they represent and, consequently, do not consider them in the purchasing process (Horne, 2009; Grunert et al., 2014; OECD, 2016). There is a consensus in the literature that the lack of information, or the inadequate provision of it, is a common barrier to sustainable food consumption because consumers cannot understand the information presented - i.e. if eco-labels are not self-explanatory -, becoming difficult for them to identify green products (Vermeir & Verbeke, 2006; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018).

This is in line with our results since when familiarity with the eco-label was analysed, only 46.2% of the sample considered the eco-label familiar, only 27.94% knew what it represented and only 13.01% reported average-high to high frequency of use (in a 7-point scale). Consumers have little understanding of what 'sustainable food choices' are and what labels represent 'sustainable products' (Annunziata & Scarpato, 2014), or even that eco-labels exist (Thøgersen et al., 2010).

The outcomes of the present study is evidence of the relevance of information as reported in the literature. In fact, as revealed in the results, familiarity with the eco-label moderates the relationship between eco-labels and brand image. When familiarity is high, the effects of eco-labels on the brand image are significantly higher than when familiarity is low; in other words,

if consumers are familiar with the eco-label they will attribute even greater value to the brand image because they know what it stands for, which validated H3.

As it can be inferred from the literature and the results of the present study, the bottleneck is not in the capacity of the eco-label itself to generate green behaviours, but rather the lack of consumer awareness and understanding regarding eco-labels (Vermeir & Verbeke, 2006; Horne, 2009; Thøgersen et al., 2010; Grunert et al., 2014; Annunziata & Scarpato, 2014; Cerri et al., 2018; Potter et al., 2021). Rustam et al. (2020) relate these to brands' lack of green marketing strategies and green product promotions.

Indeed, for already 'green' consumers, eco-labels are the necessary input to choose the right product/service and differentiate it from the competition (Vermeir & Verbeke, 2006; Finisterra do Paço and Raposo, 2010; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018; Lin & Niu, 2018), as proven in H3: when participants were more familiar with the eco-label, brand image levels were higher. As Horne (2009) argued, if brands invest the time in educationally communicating the presence of eco-labels to consumers - enhancing its awareness, understanding and the benefits of its use - they could benefit from competitive advantage and consumer loyalty. Companies' marketing efforts "afford a flexible means of shaping consumer perceptions of the product or service. (...) marketers may have to translate attributes into their corresponding benefits for consumers through advertising" (Keller, 1993, p. 10), for example, advertising has a distinctive effect on influencing functional or symbolic brand beliefs (Orth & De Marchi, 2007).

The key takeaway from this analysis is that eco-labels have proven to be capable of generating green purchase intentions since they enhance brand image; but, for that to happen, eco-labels must be clear so consumers can be aware of it, understand their meaning and make us of it, i.e. lower perceived barriers to consumption (Vermeir & Verbeke, 2006; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018). Indeed, studies highlight the importance of green information - such as eco-labels - in shaping green consumer behaviours (Cerri et al., 2018; Bastounis et al., 2021; Torma & Thøgersen, 2021; Borin et al., 2011; Pickett-Baker & Ozaki, 2008). Moreover, Esch et al. (2006) found out in their study that brand awareness affects the brand image, and both are determinants of purchase behaviour.

6. Conclusion and Recommendations

This year, 2022, humanity exhausted nature's budget for the year on July 28 (Global Footprint Network, 2022). We are now living in debt to the planet.

The United Nations Sustainable Development Goals urgently call for governments and businesses to foster sustainable consumption and production (Goal 12) (United Nations, n.d.). There is empirical evidence that when companies expose their green practices - mainly through green and user-friendly eco-labelling - environmental awareness increases and it influences consumers on the adoption of green values and the consumption of green products (Rustam et al., 2020). In addition, the effects of climate change on the planet are driving awareness among consumers (Lin & Niu, 2018; FAO, 2022a), who are becoming more selective in their purchase behaviour (Annunziata & Scarpato, 2014; Macready et al., 2020; FAO, 2022a).

Eco-labels are characterised as visual information that provides information related to the environmental performance of products/services (Thøgersen et al., 2010; OECD, 2016; Potter et al., 2021) and appear as a tool to meet consumers' demand for greater transparency and green solutions (Potter et al., 2021), enabling them to easier and quicker identify sustainable product alternatives (Horne, 2009; Cerri et al., 2018; Torma and Thøgersen, 2021).

6.1. Theoretical Implications

The purpose of the current research was to explore whether eco-labels were capable of generating green behaviours through enhanced levels of brand image. Moreover, it was studied how familiarity with the eco-label moderated the relationship between the presence of the eco-label on a product and its influence on the brand image.

Several authors across the literature conducted research to study whether eco-labels could influence consumers into environmental friendly behaviours and the purchasing of sustainable products (e.g. Horne, 2009; Thøgersen et al., 2010; Grunert et al., 2014; Cerri et al., 2018; Bastounis et al., 2021; Torma & Thøgersen, 2021). Although there were reasons to believe that eco-labels enhance green consumer behaviour, it was far from a consensus in the literature, and authors encourage more research on the effect of product information - such as eco-labels - on purchasing behaviour.

Most studies focus their analysis on the factors that affect the capacity of eco-labels to generate pro-environmental behaviours, but none have studied the influence of eco-labels on brands' image and whether brands can benefit from the presence of these certification seals. In fact, eco-labels, when well-framed, can have a fundamental role beyond mere identification of green products, but rather add a set of new associations to the brands that carry them (Iraldo et al., 2006; Vermeir & Verbeke, 2006; Horne, 2009; Lin & Niu, 2018; Bastounis et al., 2021).

Such associations were integrated into the concept of Brand Image presented within the Customer-Based Brand Equity (CBBE) model by Kevin Keller (1993).

With the collection of 392 questionnaires, the findings proved that eco-labels have the ability to drive purchase intentions of green products since they add favourable associations to brands - both symbolic (strong in character and personality) and functional (reliable, credible, trustworthy and with quality) -, positively influencing the brand image. In other words, by incorporating eco-labels in their products, brands evoke positive associations in consumers' memory (enhancing brand image), and therefore, consumers will present higher intentions to buy them, being possible to infer that eco-labels are a tool to generate sustainable food consumption, through the purchase of pro-environment certified products.

Additionally, as reported in the literature, the outcomes reinforced the importance of marketing strategies in promoting green information and, consequently, enhancing green behaviours (Thøgersen et al., 2010; Annunziata & Scarpato, 2014; Cerri et al., 2018; Bastounis et al., 2021): the results proved that when consumers were familiar with the eco-label, they attributed higher value to the brand image. It is in accordance with Esch et al. (2006), where brand awareness affects the brand image and both are determinants of purchase behaviour.

6.2. Managerial Implications

The need to act on climate change has raised green concerns and needed initiatives to address environmental problems. Consumers are increasingly aware of how their consumption behaviours impact the environment and increasingly value brands that provide them with environmentally friendly products. Brands see themselves pushed to present solutions that respond to consumers' needs, running the risk of being left behind if they do not meet their expectations.

Eco-labels have proven to be a tool that can help brands to make this transition since they help consumers to identify sustainable products/services and, in accordance with this study's results, the presence of eco-labels generates positive associations for the brands' image, which translates into higher purchase intentions. This helps validate the brands' investment in this type of initiative, supporting decision-makers within companies.

Additionally, the presence of eco-labels is a means to increase consumers' trust in the company's environmental claims by conveying relevant and certified information since consumers' intentions to buy green products can be affected by several factors such as high prices and distrust of companies' green claims. Also, in a time when consumers are impacted with tones of messages every minute, have many options to choose from and have little time to reflect, eco-labels allow consumers to distinguish more sustainable products from less sustainable ones, being an opportunity for brands with eco-labels to stand out from their competitors – building competitive advantage, consumer loyalty and higher sales.

Another important outcome from this research is related to the importance of the familiarity of the eco-label on the effects of brand image. The findings revealed that when respondents were more familiar with the eco-label, the values attributed to the brand image were also higher. This highlights the importance of brands in communicating the presence of green labels in their products since higher levels of familiarity result in a higher brand image that results in higher purchase intention. Brands can benefit by including green initiatives in their business strategy and communication plans, and efforts in this direction are advised.

6.3. Limitations

Although this research makes a clear contribution regarding the effects of eco-label in generating green behaviours, it is also subject to some limitations.

First, the presentation of a fictitious brand and the nature of the study (questionnaire) cannot measure actual behaviour. In fact, in real consumption situations, many factors influence the decision process of green products. In a real-life situation, consumers may not even notice the eco-label. Secondly, familiarity with the eco-label was measured through assisted brand recall by presenting the eco-label to participants and asking whether they considered the eco-label familiar or not. Responses may have been affected by bias on the awareness of the label.

Furthermore, our study investigated the effect of the presence of the eco-label based on the responses of two groups that were impacted by different versions of the questionnaire: one that contained the eco-label and one that did not. When analysing whether there were statistically relevant differences between the groups that could affect the quality of the results, the groups proved to be statistically similar in most of the demographic variables and in those that characterized the participants regarding green concerns and behaviours, except for the variable gender. This represents a limitation to our study since it may affect the results and conclusions.

Finally, the linear regressions' models were generally poor (H1a: R Square=0.020; H1b: R Square=0.016; H2: R Square=0.374), meaning more explanatory variables were needed in the models for greater relevance of the results.

6.4. Future Research

A compelling aspect highlighted in the literature is that today the growing number of eco-labels (OECD, 2016) can be a real threat to their purpose of helping consumers identify the most sustainable products. This is because eco-label overload - i.e. many eco-labels to choose from - can result in misunderstanding and confusion among consumers and, consequently, loss of credibility and reduced use of eco-labels (Horne, 2009; Grunert et al., 2014; Prag et al., 2016; Thøgersen et al., 2010; Torma & Thøgersen, 2021).

It would be worth exploring the existence of a universal eco-label that characterised the products on an environmental scale. Rather than consumers having to understand the meaning of a wide range of eco-labels - that vary, among others, from their format to the category they certify or the certifying entity - there would be a single label that rated the overall environmental performance of products on the same scale. A real example of this tool is the label Nutri-Score, which is found on food products and ranks them on a scale from A to E. This label aims to help consumers make better choices, considering the product quality, with user-friendly and front-of-pack information (IARC, 2021). Another example is the EU Energy Label which ranks electronic products on a scale from A to G according to their energy efficiency and aims to help consumers make informed sustainable choices (European Commission, 2021). The characterisation of the environmental performance of products could benefit from a similar system that simplified information for consumers to identify and compare products to induce more sustainable choices easily. Future research could analyse consumers' perceptions of such a scheme and its impact on purchasing intentions.

Furthermore, it would be interesting to investigate the most effective type of eco-label in generating green behaviours, which is still lacking in the literature, so companies, governments and world organisations could focus on developing certification schemes that perform better among consumers.

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Appendices

Appendix A. Online Survey (English)

Note: The questionnaire was developed in Portuguese as it was exclusively addressed to Portuguese participants. At the time I made the English version for presentation purposes in this document, the academic login on the Qualtrics Survey Software platform was down, so I had to build the questionnaire in English in the free version, hence the two versions (Portuguese and English) presented here have different layouts. The original layout is the Portuguese version with the ISCTE template (Appendix B).

ISCTE Instituto Universitário de Lisboa

Thesis Questionnaire (5 minutes)

This questionnaire is part of an investigation within the scope of the dissertation for the Master's degree in Marketing, carried out at ISCTE-IUL, where I would like to ask for your opinion on a new product.

It lasts about 5 minutes and the anonymity of all data collected is guaranteed, which will be used only in this academic work.

You are requested to answer in a spontaneous and sincere way, without resorting to research.

Thank you for your participation!
Mariana Brântuas

Should any questions arise, please contact: marianabrantuas@gmail.com

(To continue, please click on the arrow in the bottom right corner of the screen).

→

(Presenting the brand for analysis - Version with the eco-label)

The brand BANANA'S is a new brand of bananas on the market with Rainforest Alliance certification.

(Presenting the brand for analysis - Version without the eco-label)

The brand BANANA'S is a new brand of bananas on the market.

1/4 - I see a round seal with a frog in the communication above:

- Yes
- No

2/4 - Evaluate the following statements and answer accordingly:

	1- Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Neither disagree nor agree	5 - Somewhat agree	6 - Agree	7 - Strongly agree
It is possible that I will buy BANANA'S in the future.	○	○	○	○	○	○	○
I will seriously consider purchasing BANANA'S.	○	○	○	○	○	○	○
It is highly likely that I will buy BANANA'S.	○	○	○	○	○	○	○

3/4 - The brand BANANA'S ...

	1- Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Neither disagree nor agree	5 - Somewhat agree	6 - Agree	7 - Strongly agree
... is reliable.	○	○	○	○	○	○	○
... is credible.	○	○	○	○	○	○	○
... is trustworthy.	○	○	○	○	○	○	○
... has high quality.	○	○	○	○	○	○	○
... is healthy.	○	○	○	○	○	○	○

4/4 - The brand BANANA'S ...

	1- Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Neither disagree nor agree	5 - Somewhat agree	6 - Agree	7 - Strongly agree
... is attractive.	○	○	○	○	○	○	○
... is desirable.	○	○	○	○	○	○	○
... is strong in character.	○	○	○	○	○	○	○
... is strong in personality.	○	○	○	○	○	○	○

Does this seal look familiar to you?

Yes

No → If “No”, moves to the question “When you buy food products, how often do you look for information regarding environmental performance on the packaging?”.

Do you know what it represents?

- Yes
- I think so / Not sure
- No → If “No”, moves to the question “When you buy food products, how often do you look for information regarding environmental performance on the packaging?”.

Please indicate what the seal represents for you:

- Protecting Wildlife in the Rainforest
- Amazon Rainforest Protection
- Environmentally responsible business
- Pest Protection (e.g. toads)
- Organic Product

To what extent do you take this label into consideration when you buy?

- 1 - Never
- 2 - Rarely
- 3 - Occasionally
- 4 - Sometimes
- 5 - Often
- 6 - Usually
- 7 - Always

When you buy food products, how often do you look for information regarding environmental performance on the packaging? (e.g. origin, certification, production, transportation)

- 1 - Never
- 2 - Rarely
- 3 - Occasionally
- 4 - Sometimes
- 5 - Often
- 6 - Usually
- 7 - Always

Evaluate the following statements and answer accordingly:

	1- Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Neither disagree nor agree	5 - Somewhat agree	6 - Agree	7 - Strongly agree
I am concerned about the development of the global environment.	○	○	○	○	○	○	○
I feel it is a moral obligation to use environment-friendly products.	○	○	○	○	○	○	○
It concerns me that people do not care enough for the environment.	○	○	○	○	○	○	○
I have changed from one brand to another for the sake of the environment.	○	○	○	○	○	○	○
I often buy eco labelled products for the sake of the environment.	○	○	○	○	○	○	○

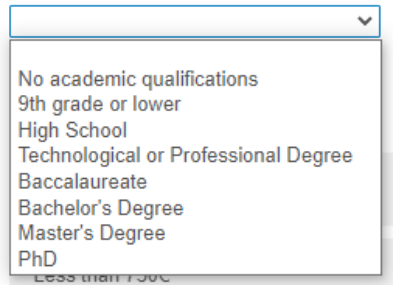
Gender

- Female
- Male
- Other

Age

- Under 18 years old
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65 years old and older

Academic qualifications



Net monthly income

- No income
- Less than 750€
- 750€ - 1.000€
- 1.001€ - 1.500€
- 1.501€ - 2.500€
- 501€ - 5.000€
- More than 5.000€

– END OF SURVEY –

Appendix B. Online Survey (Portuguese)

ISCTE Instituto Universitário de Lisboa

Questionário de Tese (5 minutos)

O presente questionário enquadra-se numa investigação no âmbito da dissertação do Mestrado em Marketing, realizado no ISCTE-IUL, onde gostaria de solicitar a sua opinião sobre um novo produto.

Tem a duração de cerca de 5 minutos e é garantido o anonimato de todos os dados recolhidos, que serão utilizados apenas no presente trabalho académico.

Solicita-se que responda de forma espontânea e sincera, sem recurso a pesquisa.

Agradeço a sua participação!
Mariana Brântuas

Caso surja alguma questão, por favor contactar: marianabrantuas@gmail.com

(Para continuar, por favor clique na seta no canto inferior direito do ecrã.)

→

(Presenting the brand for analysis - Version with the eco-label)

A marca BANANA'S é uma nova marca de bananas no mercado com a certificação Rainforest Alliance.

(Presenting the brand for analysis - Version without the eco-label)

A marca BANANA'S é uma nova marca de bananas no mercado.

1/4 - Vejo um selo redondo com um sapo na comunicação acima:

- ◯ Sim
- ◯ Não

2/4 - Avalie as seguintes afirmações e responda de acordo com a sua concordância:

	1 - Discordo totalmente	2 - Discordo	3 - Discordo de certa forma	4 - Não discordo nem concordo	5 - Concordo de certa forma	6 - Concordo	7 - Concordo totalmente
É possível que eu compre a marca BANANA'S no futuro.	◯	◯	◯	◯	◯	◯	◯
Vou considerar seriamente a compra da marca BANANA'S.	◯	◯	◯	◯	◯	◯	◯
É altamente provável que eu compre a marca BANANA'S.	◯	◯	◯	◯	◯	◯	◯

3/4 - A marca BANANA'S ...

	1 - Discordo totalmente	2 - Discordo	3 - Discordo de certa forma	4 - Não discordo nem concordo	5 - Concordo de certa forma	6 - Concordo	7 - Concordo totalmente
... é fiável.	◯	◯	◯	◯	◯	◯	◯
... é credível.	◯	◯	◯	◯	◯	◯	◯
... é confiável.	◯	◯	◯	◯	◯	◯	◯
... tem qualidade.	◯	◯	◯	◯	◯	◯	◯
... é saudável.	◯	◯	◯	◯	◯	◯	◯

4/4 - A marca BANANA'S ...

	1 - Discordo totalmente	2 - Discordo	3 - Discordo de certa forma	4 - Não discordo nem concordo	5 - Concordo de certa forma	6 - Concordo	7 - Concordo totalmente
... é atrativa.	○	○	○	○	○	○	○
... é desejável.	○	○	○	○	○	○	○
... é forte em carácter.	○	○	○	○	○	○	○
... é forte em personalidade.	○	○	○	○	○	○	○

Este selo é lhe familiar?

○ Sim

○ Não →

If "Não", moves to the question "Ao comprar produtos alimentares, com que frequência procura informações referentes à performance ambiental na embalagem?".

Sabe o que representa?

○ Sim

○ Acho que sim / Não tenho a certeza

○ Não →

If "Não", moves to the question "Ao comprar produtos alimentares, com que frequência procura informações referentes à performance ambiental na embalagem?".

Por favor indique o que o selo representa para si:

○ Proteção da vida selvagem na floresta tropical

○ Proteção da floresta Amazónia

○ Negócio ambientalmente responsável

○ Proteção contra Pragas (ex. sapos)

○ Produto orgânico

Em que medida tem em consideração este selo quando compra?

○ 1 - Nunca

○ 2 - Raramente

○ 3 - Ocasionalmente

○ 4 - Às vezes

○ 5 - Frequentemente

○ 6 - Normalmente

○ 7 - Sempre

Ao comprar produtos alimentares, com que frequência procura informações referentes à performance ambiental na embalagem? (ex. origem, certificação, produção, transporte)

- ◯ 1 - Nunca
- ◯ 2 - Raramente
- ◯ 3 - Ocasionalmente
- ◯ 4 - Às vezes
- ◯ 5 - Frequentemente
- ◯ 6 - Normalmente
- ◯ 7 - Sempre

Avalie as seguintes informações e responda de acordo com a sua concordância:

	1 - Discordo totalmente	2 - Discordo	3 - Discordo de certa forma	4 - Não concordo nem discordo	5 - Concordo de certa forma	6 - Concordo	7 - Concordo totalmente
Estou preocupado/a com o desenvolvimento das alterações climáticas.	◯	◯	◯	◯	◯	◯	◯
Sinto que é uma obrigação moral a utilização de produtos amigos do ambiente.	◯	◯	◯	◯	◯	◯	◯
Preocupa-me que as pessoas não se preocupem o suficiente com o ambiente.	◯	◯	◯	◯	◯	◯	◯
Mudei de uma marca para outra pelo bem do ambiente.	◯	◯	◯	◯	◯	◯	◯
Compro, com frequência, produtos com certificação ecológica para o bem do planeta.	◯	◯	◯	◯	◯	◯	◯

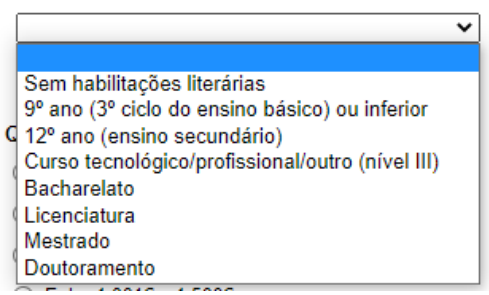
Género

- ◯ Feminino
- ◯ Masculino
- ◯ Outro

Idade

- ◯ Menos de 18 anos
- ◯ 18 - 24 anos
- ◯ 25 - 34 anos
- ◯ 35 - 44 anos
- ◯ 45 - 54 anos
- ◯ 55 - 64 anos
- ◯ 65 anos ou mais

Habilitações Literárias



Qual é o seu rendimento líquido mensal?

- ◯ Sem rendimento
- ◯ Menor que 750€
- ◯ Entre 750€ e 1.000€
- ◯ Entre 1.001€ e 1.500€
- ◯ Entre 1.501€ e 2.500€
- ◯ Entre 2.501€ e 5.000€
- ◯ Maior que 5.000€

– END OF SURVEY –

Appendix C. Sample characterization results

Table C.1. *Gender*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	258	65.8	65.8	65.8
	Male	133	33.9	33.9	99.7
	Other	1	.3	.3	100.0
	Total	392	100.0	100.0	

Table C.2. *Age in groups*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18 years old	3	.8	.8	.8
	18 - 24 years old	23	5.9	5.9	6.6
	25 - 34 years old	101	25.8	25.8	32.4
	35 - 44 years old	108	27.6	27.6	59.9
	45 - 54 years old	88	22.4	22.4	82.4
	55 - 64 years old	59	15.1	15.1	97.4
	65 years old and over	10	2.6	2.6	100.0
	Total	392	100.0	100.0	

Table C.3. *Education Level*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No education	1	.3	.3	.3
	9th grade (3rd cycle of basic education) or less	30	7.7	7.7	7.9
	12th grade (high school level)	106	27.0	27.0	34.9
	Technological/professional/other course (level III)	23	5.9	5.9	40.8
	Baccalaureate	27	6.9	6.9	47.7
	Bachelor's Degree	145	37.0	37.0	84.7
	Master's Degree	59	15.1	15.1	99.7
	PhD	1	.3	.3	100.0
	Total	392	100.0	100.0	

Table C.4. *Monthly Income*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No income	18	4,6	4,6	4,6
	Less than 750€	36	9,2	9,2	13,8
	Between 750€ and 1000€	104	26,5	26,5	40,3
	Between 1001€ and 1500 €	131	33,4	33,4	73,7
	Between 1501€ and 2500 €	69	17,6	17,6	91,3
	Between 2501€ and 5000 €	27	6,9	6,9	98,2
	Greater than 5000€	7	1,8	1,8	100,0
	Total	392	100,0	100,0	

Appendix D. Reliability test for the items on a scale: Purchase Intention

Table D.1. *Purchase Intention: Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.851	.850	3

Table D.2. *Purchase Intention: Inter-Item Correlation Matrix*

	It is possible that I will buy the BANANA'S brand in the future.	I will seriously consider buying the BANANA'S brand.	It is highly likely that I will buy the BANANA'S brand.
It is possible that I will buy the BANANA'S brand in the future.	1.000	.582	.614
I will seriously consider buying the BANANA'S brand.	.582	1.000	.767
It is highly likely that I will buy the BANANA'S brand.	.614	.767	1.000

Appendix E. Reliability test for the items on a scale: Functional Brand Image

Table E.1. *Functional Brand Image: Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.908	.910	5

Table E.2. *Functional Brand Image: Inter-Item Correlation Matrix*

	The BANANA'S brand is reliable.	The BANANA'S brand is credible.	I trust the brand BANANA'S.	The BANANA'S brand has quality.	The BANANA'S brand is healthy.
The BANANA'S brand is reliable.	1.000	.825	.817	.718	.441
The BANANA'S brand is credible.	.825	1.000	.859	.702	.497
I trust the brand BANANA'S.	.817	.859	1.000	.736	.526
The BANANA'S brand has quality.	.718	.702	.736	1.000	.574
The BANANA'S brand is healthy.	.441	.497	.526	.574	1.000

Appendix F. Reliability test for the items on a scale: Symbolic Brand Image

Table F.1. *Symbolic Brand Image: Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.910	.910	4

Table F.2. *Symbolic Brand Image: Inter-Item Correlation Matrix*

	The BANANA'S brand is attractive.	The BANANA'S brand is desirable.	The BANANA'S brand is strong in character.	The BANANA'S brand is strong in personality.
The BANANA'S brand is attractive.	1.000	.747	.675	.676
The BANANA'S brand is desirable.	.747	1.000	.696	.670
The BANANA'S brand is strong in character.	.675	.696	1.000	.836
The BANANA'S brand is strong in personality.	.676	.670	.836	1.000

Appendix G. Reliability test for the items on a scale: Green Concern

Table G.1. *Green Concern: Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.836	.854	5

Table G.2. *Green Concern: Inter-Item Correlation Matrix*

	I am concerned about the development of climate change.	I feel it is a moral obligation to use environment-friendly products.	It concerns me that people do not care enough for the environment.	I have changed from one brand to another for the sake of the environment.	I often buy eco labelled products for the sake of the environment.
I am concerned about the development of climate change.	1.000	.595	.677	.435	.391
I feel it is a moral obligation to use environment-friendly products.	.595	1.000	.623	.539	.531
It concerns me that people do not care enough for the environment.	.677	.623	1.000	.513	.395
I have changed from one brand to another for the sake of the environment.	.435	.539	.513	1.000	.701
I often buy eco labelled products for the sake of the environment.	.391	.531	.395	.701	1.000

Appendix H. Exploratory factor analysis using Principal Component Analysis

Table H.1. *PCA: KMO and Bartlett's Test*

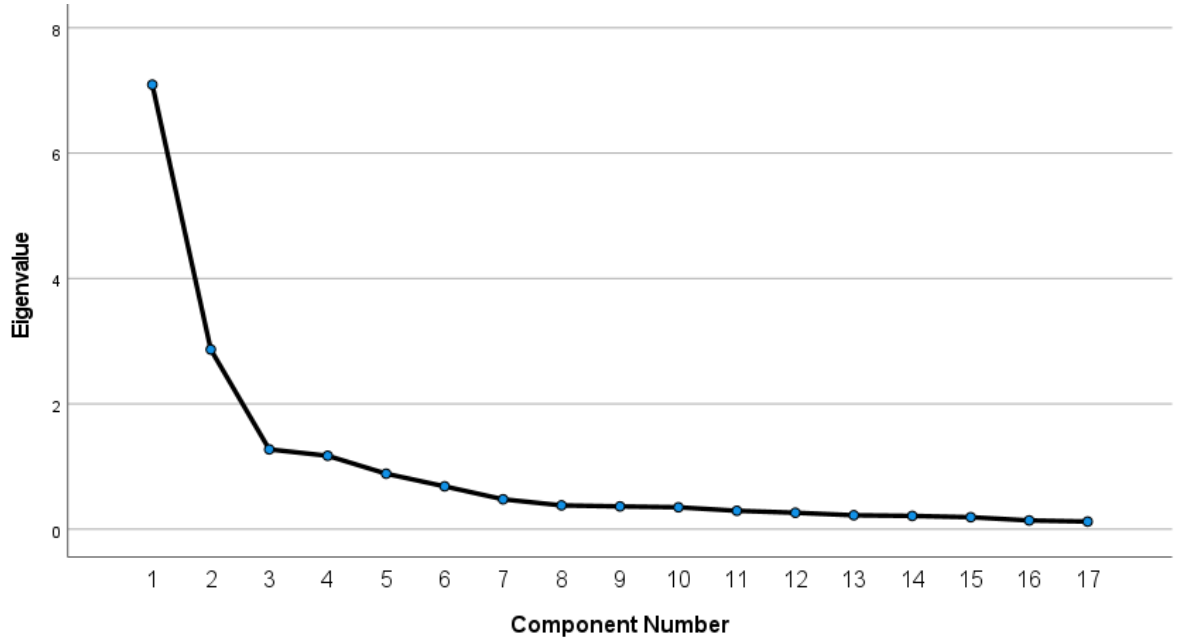
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	4679.558
	df	136
	Sig.	.000

Table H.2. *PCA: Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.094	41.728	41.728	7.094	41.728	41.728	3.723	21.900	21.900
2	2.868	16.869	58.596	2.868	16.869	58.596	3.208	18.868	40.768
3	1.274	7.496	66.092	1.274	7.496	66.092	3.093	18.192	58.960
4	1.172	6.897	72.989	1.172	6.897	72.989	2.385	14.029	72.989
5	.886	5.214	78.203						
6	.684	4.026	82.229						
7	.478	2.811	85.041						
8	.381	2.240	87.280						
9	.364	2.143	89.423						
10	.350	2.060	91.483						
11	.295	1.733	93.216						
12	.263	1.548	94.764						
13	.223	1.313	96.077						
14	.212	1.250	97.327						
15	.192	1.128	98.455						
16	.140	.826	99.281						
17	.122	.719	100.000						

Extraction Method: Principal Component Analysis.

Table H.3. *PCA: Scree Plot*



Appendix I. Model Summary and ANOVA outputs from the linear regression model output EcolabelPresence and FBI (H1a)

Table I.1. *Linear Regression H1a: Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.142[a]	.020	.018	.90879

a. Predictors: (Constant), Presence of Eco-label

Table I.2. *Linear Regression H1a: ANOVA[a]*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.638	1	6.638	8.038	.005[b]
	Residual	322.098	390	.826		
	Total	328.736	391			

a. Dependent Variable: Functional Brand Image

b. Predictors: (Constant), Presence of Eco-label

Appendix J. Model Summary and ANOVA outputs from the linear regression model output EcolabelPresence and SBI (H1b)

Table J.1. *Linear Regression H1b: Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.127[a]	.016	.014	1.06967

a. Predictors: (Constant), Presence of Eco-label

Table J.2. *Linear Regression H1b: ANOVA[a]*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.298	1	7.298	6.378	.012[b]
	Residual	446.238	390	1.144		
	Total	453.536	391			

a. Dependent Variable: Symbolic Brand Image

b. Predictors: (Constant), Presence of Eco-label

Appendix K. Model Summary and ANOVA outputs from the multiple linear regression model output BrandImage and PurchaseIntantion (H2)

Table K.1. *Linear Regression H2: Model Summary[b]*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.611[a]	.374	.370	.93246	2.030

a. Predictors: (Constant), Symbolic Brand Image, Functional Brand Image

b. Dependent Variable: Purchase Intention

Table K.2. *Linear Regression H2: ANOVA[a]*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	201.683	2	100.841	115.980	<.001[b]
	Residual	338.225	389	.869		
	Total	539.908	391			

a. Dependent Variable: Purchase Intention

b. Predictors: (Constant), Symbolic Brand Image, Functional Brand Image

Appendix L. Model Summary and outputs from the PROCESS analysis of the moderation of the variable Familiarity on the effect of EcolabelPresence on FBI (H3a)

Table L.1. *PROCESS analysis H3a: Model Summary*

R	R-sq	MSE	F	df1	df2	p
.2714	.0736	.7849	10.2812	3.0000	388.0000	.0000

Table L.2. *PROCESS analysis H3a: Test of highest order unconditional interaction.*

	R2-chng	F	df1	df2	p
X*W	.0149	6.2323	1.0000	388.0000	.0130

Table L.3. *PROCESS analysis H3a: Conditional effects of the focal predictor at values of the moderator.*

Familiar	Effect	se	t	p	LLCI	ULCI
.0000	.0676	.1225	.5519	.5814	-.1732	.3084
1.0000	.5166	.1317	3.9223	.0001	.2576	.7755

Appendix M. Model Summary and outputs from the PROCESS analysis of the moderation of the variable Familiarity on the effect of EcolabelPresence on SBI (H3b)

Table M.1. *PROCESS analysis H3b: Model Summary*

R	R-sq	MSE	F	df1	df2	p
.1713	.0294	1.1346	3.9115	3.0000	388.0000	.0090

Table M.2. *PROCESS analysis H3b: Test of highest order unconditional interaction.*

	R2-chng	F	df1	df2	p
X*W	.0114	4.5478	1.0000	388.0000	.0336

Table M.3. *PROCESS analysis H3b: Conditional effects of the focal predictor at values of the moderator.*

Familiar	Effect	se	t	p	LLCI	ULCI
.0000	.0633	.1473	.4301	.6673	-.2262	.3529
1.0000	.5245	.1583	3.3122	.0010	.2132	.8358