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The Role of Cruelty-free and Vegan logos on Purchase Intention:

Investigating the effects of certification, logo recognizability and pro-environmental attitude.

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ABSTRACT

The Role of Cruelty-Free and Vegan logos on Purchase Intention: Investigating the effects of certification, logo recognizability and pro-environmental attitude

By Bárbara Marques Freire Cardoso

As consumers become increasingly aware of the negative environmental consequences of buying certain products, they demand more transparency and responsible behaviors from manufacturers. In this context, eco-labels emerge to empower shoppers with knowledge so that they can make informed sustainable purchases. However, since there is a vast number of eco-labels on the market, brands need to choose wisely the logos that will add some value to customers, in terms of environmental implications, without overwhelming or growing mistrust.

This dissertation aims to clarify how eco-label communication impacts the purchase intention of skincare by using two types of logos: cruelty-free and vegan. It further explores if certification influences consumers' buying decisions.

For such, an online survey was distributed, and the results indicated that logo communication has a positive impact on purchase intention, as does certification. However, the two logos used did not show significant differences between them. Hence we argue that different claims do not matter in this case.

Additionally, other variables were incorporated. Logo recognizability exhibited a positive effect on purchase intention, and pro-environmental attitude moderated the relationship that eco-labels have on the willingness to purchase.

In conclusion, this study gives marketers relevant insights on how they can increase purchase intention by incorporating eco-labels in their products, which can be translated into higher sales volume.

Keywords: Eco-labels, Logos, Cruelty-Free, Vegan, Purchase intention, Certified, Self-claimed, Logo Recognizability, Pro-environmental attitude

SUMÁRIO

O papel que os rótulos Não Testado em Animais e Vegan têm na intenção de compra dos consumidores: Investigação dos efeitos de certificação, reconhecimento do rótulo e atitude pro-ambiental

Por Bárbara Marques Freire Cardoso

Os consumidores estão cada vez mais conscientes das consequências ambientais negativas envolvidas na compra de produtos e, por isso, exigem mais transparência e responsabilidade por parte dos fabricantes. Nesse contexto, os rótulos ecológicos surgem para dotar os consumidores de conhecimento para que possam exercer com maior confiança compras sustentáveis. No entanto, dado que existe um grande número de rótulos ecológicos no mercado, é preciso ponderar quais os símbolos que acrescentam valor aos clientes, em termos de implicações ambientais, sem sobrecarregar ou aumentar a desconfiança.

Este estudo visa compreender o impacto que a comunicação de rótulos ecológicos tem na intenção de compra de cuidados para a pele, através de dois tipos de símbolos: não testado em animais e vegan. Para além disso, o efeito que a certificação desempenha nos consumidores também é aprofundado.

Para tal, um inquérito online foi distribuído e os resultados revelam que a comunicação de rótulos tem um impacto positivo na intenção de compra, assim como a certificação. No entanto, os rótulos não mostraram diferenças significativas entre eles, pelo que se concluiu que diferentes símbolos não importam neste caso.

Além disso, outras variáveis foram incorporadas. O reconhecimento de rótulos apresentou um efeito positivo na intenção de compra e a atitude pró-ambiental moderou a relação que os rótulos têm na intenção de compra.

Concluindo, este estudo oferece conhecimentos relevantes para aumentar a intenção de compra dos consumidores ao incorporar rótulos ecológicos nos produtos, o que se pode traduzir num maior número de vendas.

Palavras-chave: Rótulos ecológicos, Logotipos, Não Testado em Animais, Vegan, Intenção de compra, Certificado, Auto-atribuído, Reconhecimento de rótulo, Atitude pró-ambiental

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GLOSSARY

CAGR Compound annual growth rate

CCF Choose Cruelty-Free

CF Cruelty-free

CLT Central Limit Theorem

ECHA European Chemicals Agency

EU European Union

NEP New Ecological Paradigm

PBC Perceived behavioral control

PEA Pro-environmental attitude

PI Purchase Intention

TPB Theory of Planned Behavior

USA United States of America

CHAPTER 1: INTRODUCTION

1.1 Background

Over the past few decades, consumer preferences have been changing, and a trend towards sustainability and ethical consumerism is rising. This is particularly true in the cosmetics and personal care industry (Sahota, 2014). In fact, this market has received strong backlash due to unethical practices like animal testing and the usage of unsustainable raw materials (Manca, 2016). No wonder companies are looking to upgrade their products' sustainability dimensions in an effort to differentiate themselves from the competition (Sahota, 2014). This way, they can better capture the emerging market environmental-friendly consumers (Bom et al., 2019).

Eco-labels arise in this context as an important strategy for green marketing. They are intended to help consumers in their purchasing decisions by highlighting environmental properties and standards that were met during the production process (Sharma & Kushwaha, 2019). Their presence on products' packaging allows consumers to differentiate goods that minimize the impact on the environment and has been linked to green purchasing (Harun et al., 2014).

Several studies have examined how knowledge and trust towards labels are essential for consumers to incorporate them in their decision-making process. As the attributes yielded by eco-labels cannot be observed by the end-user, limited knowledge and low perceived trust in the conveyed information is set to weaken consumers' willingness to purchase sustainable alternatives (Tsakiridou et al., 2008). With today's markets being flooded with green communications, skepticism begins to settle, and uncertainty grows. A clear example is the EU market, which has suffered a boom in green advertising over the past few years. Thus, even though environmental logos aim to reduce consumers' perceived risk when buying environmentally friendly options, the lack of a defined regulation and unified labels overwhelms consumers. Eco-labels lose credibility and might work against their purpose (Brach et al., 2018).

But a solution might be in sight: studies have found that environmental labels provided by the government or independent organizations tend to be more reliable than information provided by producers or retailers (Thøgersen, 2000). In addition, if recognized certified schemes were to be implemented internationally by third-party bodies, misleading claims could be

mitigated, and consumers could exert more confidently their purchase decisions (Testa et al., 2015).

Hence, this study aims to better understand the role of eco-labels in the purchasing context of cosmetics, especially skincare products. Despite several studies on eco-labels, there is a clear gap in the literature when it comes to the cosmetic category.

Furthermore, previous research has shed light on the positive impact that environmental labels have on consumer buying behavior of green products (Harun et al., 2014). Yet not enough studies have analyzed how certified logos, carried out by independent organizations, influence the purchasing context and how it compares to self-claimed logos, which are issued by the retailer itself. For this part, two eco-labels that are relevant in the industry were used: cruelty-free and vegan. This paper will also establish if one of the environmental claims used appeals more to the consumer.

Other variables will be addressed, namely eco-label recognizability and pro-environmental attitude. The former is expected to deliver a higher purchase intention for individuals that recognize the logo. The latter will be checked for moderation effect, that is, if its presence alters the relationship between eco-label communication and purchase intention. Thøgersen (2000) has argued that consumers who value protecting the environment are more likely to pay attention to eco-labels and include them in their decision-making. While Finisterra do Paço & Reis (2012) have stated that environmentally concerned individuals have a higher tendency to disregard different forms of green advertising and be skeptical of green labels.

1.2 Relevance

This thesis focuses on skincare products, which include skin moisturizers, cleansers, and facial products. Nowadays, people are more concerned than ever with their looks and appearances, which is expected to contribute to the continuous growth of this industry (Sabharwal et al., 2014). This becomes relevant for managers as it can open new opportunities for firms but also attract fiercer competition.

As the green consumer starts growing and gaining some relevant weight across industries, the cosmetic field is no exception. Consumers are becoming increasingly aware of environmental concerns and demanding brands to produce skincare products ethically throughout the whole supply chain (Bom et al., 2019). Yet much of the consumers' positive attitudes towards the

environment are not translated into consistent behaviors. Factors like price, performance, availability, or convenience might get in the way when making green choices. Nevertheless, companies are investigating other attributes like certification labels that could add some value to the consumer (Brach et al., 2018). A study developed by GreenPrint found that 78% of Americans are more likely to purchase products that are labeled as environmentally friendly. But there is a high level of mistrust, and 53% say they do not believe such claims. 45% of respondents mentioned that they would trust the label if it was issued by a third-party source (GreenPrint, 2021).

Therefore, it is important to understand the role of eco-labels and to determine whether certifications validated by independent sources impact purchase intention. The study will also address if logo awareness and a pro-environmental profile alter the impact on the purchasing decision.

As packaging plays a critical role in consumer decision-making, especially at the point of purchase (Hussain et al., 2015), marketers should carefully decide which eco-labels they want to communicate on the product's packaging so that they can work best to maximize sales.

1.3 Problem Statement

This research aims to explore the impact that eco-labels have on the consumer's purchase intention for skincare products. Particularly whether certified eco-labels have a stronger influence on the willingness to purchase than self-claimed eco-labels. For this purpose, two different types of eco-labels will be used: cruelty-free and vegan, in the different formats that might appear to the consumer in the shopping environment. Additionally, eco-label recognizability will be analyzed to verify if it impacts the dependent variable, and the consumer's pro-environmental attitude will be checked for the role of moderator. The problem statement can be reviewed below:

How does the presence of different Eco-labels (self-claimed vs. certified) impact consumers' purchase intention for skincare products?

The following research questions support the problem statement:

RQ1: What is the impact of eco-labels on consumers' purchase intention?

RQ2: Does featuring a cruelty-free logo vs. a vegan logo impact differently consumers' purchase intention?

RQ3: Does featuring a certified eco-label have a stronger impact on purchase intention than featuring a self-claimed logo?

RQ4: Does the consumer's recognizability of logos positively impact purchase intention?

RQ5: Does the consumer's pro-environmental attitude influence the relationship between eco-labels and purchase intention?

1.4 Research Methods

To answer the research questions, different techniques were used for data gathering. To begin with, a literature review was conducted, and various academic articles on the key topics addressed in this dissertation were consulted. Additionally, data from reports and statistical databases were included to delineate current trends.

When collecting primary data, both qualitative and quantitative methods were used. First, in-depth interviews took place, which helped gain relevant insights that were later incorporated in the development of the quantitative research. Second, an online survey was distributed to assess which type of eco-label has a greater impact on consumers' purchase intention and whether certification plays an important role. The data gathered from the survey was treated using IBM SPSS statistics, which was essential to assess the validity of the hypotheses initially formulated.

1.5 Thesis Outline

This thesis is organized by chapters. A Literature review is presented in the next chapter, which introduces past academic research on the variables of purchase intention, eco-labels, logo recognizability, and pro-environmental attitude. The hypotheses are drawn from the findings, and a conceptual model is constructed. The third chapter comprises the Methodology, where the procedures and techniques used to treat the data, in order to answer the research questions, are described. The fourth chapter discusses the results obtained and assesses the validity of the hypotheses proposed. The last chapter is dedicated to the conclusions. Additionally, in this section, limitations are identified, and directions for future research are provided.

CHAPTER 2: LITERATURE REVIEW

This chapter provides insights on the main topics and theories that are relevant to this dissertation. Previous academic articles build up the literature and share light on the context in which the hypotheses were developed. Firstly, the concept of purchase intention is introduced. Next, eco-labels and the role they take on consumers' buying decisions when featured in the product's packaging are addressed. Two different eco-labels that have grown popular in the skincare segment will be discussed: cruelty-free and vegan. Finally, logo recognizability and the consumer pro-environmental attitude are presented.

2.1. Purchase Intention

Purchase intention has been defined as the individual's awareness to make an effort to purchase a brand (Spears & Singh, 2004) and depends on the level of satisfaction that is expected to be attained with its usage (Kupiec & Revell, 2001). It has been reported to be the main predictor of consumer buying behavior (V. Morwitz, 2014) and it has also been used to estimate market demand and predict sales (V. G. Morwitz et al., 2007).

According to the Theory of Planned Behavior (TPB), developed by Ajzen, the immediate determinant for behavior is intention. Intention designates motivation to engage in a certain action and depends on attitudes, subjective norms, and perceived behavioral control. Attitude refers to one's evaluations of performing such behavior and includes the perceptions of its consequences. Subjective norms relate to pressures from the surrounding social environment. Finally, a higher degree of perceived behavioral control will increase the likelihood of enacting the behavior (Manstead & Parker, 1995). This variable provides key insights on how constraints outside the individual's control influence behavior. In fact, if the behavior in question were under full volitional control, the PBC would exert no influence on the model (Paul et al., 2016).

However, intentions can be rather poor indicators of purchase behavior. There is a gap between what people say they intend to do and what they actually do. Previous studies have referred to this phenomenon as the "intention-behavior gap" (Carrigan & Attalla, 2001). Conner et al. (2000) have argued that this inconsistency is affected by the temporal distance. Indeed, a larger time frame between the completion of the survey and the purchase decision allows for new information to emerge, that can change intentions and reduce the accuracy of

behavioral predictions. Thus, the interval between the measured intention and the observed behavior should be kept to a minimum (Ajzen, 2011).

Even though contradictory studies hold against its reliability, extensive academic research has used purchase intention as a proxy for consumer behavior (De Cannière et al., 2010), which will be assumed in this study.

2.2. Environmental labels

Environmental labels (or eco-labels) are communication tools that inform consumers about the environmental implications of buying a certain good (Rex & Baumann, 2006). Sønderskov & Daugbjerg (2011) describe eco-label as a logo that provides consumers easy access to information about the product's environmental attributes. Hence, these logos aim to reduce the information asymmetry between sellers and buyers by being transparent about the impacts of certain activities throughout the supply chain: from manufacturing to distribution and usage (Teisl et al., 2002).

Eco-labels are visual elements present on products' packaging, but they can also include verbal claims. They serve as a guide for consumers who wish to adopt a more sustainable consumption: they seek to distinguish products that are in some way less harmful to the environment than other alternatives (Tang et al., 2008) and at the same time reduce the search cost for specific information valued by consumers (Teisl et al., 2002).

On the retailer's side, it is a way of attracting the expanding market of environmentally conscious consumers. Previous studies have reported a growth of marketing promotions featuring social commitments and environmental claims (Leonidou et al., 2011). Indeed, the presence of eco-labels has been shown to have a positive impact on green purchase intention (Harun et al., 2014). Green purchase intention indicates consumers' readiness to purchase green products and willingness to adopt green alternatives (Paul et al., 2016). A considerable amount of review has been published in this field. For example, Teisl et al. (2002) studied the impact of Dolphin-safe labeling on canned tuna and concluded that the implementation of them positively affected consumer buying behavior.

Nevertheless, some academic articles have reported opposing findings. Consumers may be confused by the different eco-labels adopted by firms (Leire & Thidell, 2005), the logo can be

associated with compromised product quality (Delmas & Grant, 2010), or consumers believe that companies use them to charge higher prices (Daugbjerg et al., 2014).

There are quite a few eco-labels out there in the market, and they can be classified according to different criteria: they can be mandatory or voluntary, the certification can be carried out by a third-party or self-claimed (Horne, 2009), and they can address different environmental concerns. In this thesis, two eco-labels will be addressed to carry out the study on the cosmetic market: cruelty-free and vegan.

A study developed by Chen & Lee (2015) found that different types of green claims impacted consumers' purchase intention of Starbucks products. By exposing consumers to different claims, namely: "ethical sourcing," "energy and water savings," and "cup recycling", the author found out that the first had a greater impact on consumers' trust towards the company, satisfaction, and purchase intention. But it's not just the type of information provided that affects consumer preferences. How the information is provided is also crucial. That is, visual stimuli and design can influence consumer processing of information. A study conducted by Sansgiry & Cady (1997) reported that medication labels that depict a congruent picture-verbal design enhance purchase behavior. Hence, it can be stated that different logos impact consumers' behavior differently.

H1: Communicating an eco-label has a higher impact on purchase intention than no-label communication.

H2: Communicating cruelty-free logos vs. vegan logos has a differential impact on purchase intention.

2.2.1 Cruelty-free logos

If one stumbles upon a Cruelty-free symbol, it means that the product in question has not been tested on animals. According to Cruelty-Free International, animal testing is any form of experimenting on living animals that is likely to cause them pain, suffering, distress, or harm. Many companies go through these practices to ensure that their products are safe to enter consumer markets (Chitrakorn, 2016).

The cruelty-free logo is voluntary and can be ambiguous to consumers since there is a lack of consistent regulation. This means that brands can apply the cruelty-free stamp to their products without meeting a defined standard. Some brands leverage this and use false

propaganda to deceive consumers into thinking that their products do not bring any sort of harm towards animals, which is not necessarily true (Sheehan & Lee, 2014).

Some organizations emerged in this context to ensure consumers that their claims are trustworthy. They grant companies the permission to employ their logos if specific criteria are met, like pledging not to resort to animal testing at any stage of the supply chain and agreeing to random audits. Three organizations that certify cruelty-free stand out, namely Cruelty-Free International, Choose Cruelty-Free, and PETA. The first is widely recognized (Manca, 2016) and its registered trademark, the Leaping Bunny, is considered the golden standard of cruelty-free. Brands that wish to employ its logo must meet the criteria for all portfolio products sold anywhere in the world. Choose Cruelty-Free, which is Australian-based, recently joined Cruelty-Free International (1st June 2021). All previously licensed brands by CCF will be given the opportunity to transition to the Leaping Bunny Program (Cruelty-Free International). Finally, PETA's standards require brands to take a pledge and submit detailed paperwork about the company's testing of their products (PETA). It is important to underline that cruelty-free certification does not exclude the usage of ingredients from animal sources (Manca, 2016).

In 2013, the European Union banned the sale of cosmetics that were animal-tested anywhere in the globe. This ban comprises both cosmetic products and ingredients (Sheehan & Lee, 2014). However, this is far from being attained.

In fact, despite the bans, thousands of animals are still being tested. The European Chemicals Agency (ECHA), backed by the European Commission, issued statements requiring animal testing for chemicals used in cosmetics since workers might be exposed to them during the production process. But in other occurrences, animal testing has been allowed despite no risk of exposed workers. Thus, the ECHA is overriding the EU, and many organizations have been trying to prevent this (Priya, 2021).

Looking outside the EU, the USA and Canada have failed to give a clear statement on this matter: they do not require nor prohibit such activities. In China, the legal authorities demand that cosmetics be tested on animals, even on imported goods (Sheehan & Lee, 2014). Therefore, companies who sell cosmetics in China, even if they do not animal-test their products up until that point, become complicit in these practices and cannot employ the Leaping Bunny certification (Cruelty-Free International).

Overall labels play a crucial role in helping consumers distinguish products and satisfying specific individual needs. According to the Nielsen report conducted among skincare consumers, 57% of the respondents said that the claim “not tested on animals” was the most relevant packaging statement for beauty products. In second place came “SPF” with 56%, followed by “natural” which scored 53% (Brown, 2015).

In a study developed by Sheehan & Lee (2014), the presence of a cruelty-free logo was highly motivating for some consumers, particularly those who supported animal rights. They also perceived the brand that employed it to be more socially conscious and responsible. Hence, it is expected that consumers show a higher purchase intention towards products that feature a cruelty-free logo than conventional products.



Fig.1) PETA logo



Fig.2) Choose Cruelty-Free logo



Fig. 3) The Leaping Bunny logo

2.2.2 Vegan logos

According to Retail Data Nielsen (2020), European consumption of plant-based food has grown 49% from 2018 to 2020. Data from 11 different countries reported an increase in sales in this sector. Matic & Puh (2015) showed that consumers who prefer vegan food have a higher tendency to purchase natural and vegan cosmetics. These people have greater concerns about their consumption habits, which tend to overspill into other areas.

The global vegan cosmetics market is expected to register a CAGR of 7,1% from 2018 to 2023. This increase is fueled by the growing trend of vegan lifestyles adopted, especially by younger generations (360 Market Updates, 2018).

According to The Vegan Society, veganism is a lifestyle that seeks to exclude all forms of exploitation and abuse of animals for food, clothing, entertainment, or other purposes. But once again, there is no legal definition or regulation of the term “vegan” and its usage. Hence what lies behind a label is not 100% clear (Gerke & Janssen, 2017), and this gap in the law creates uncertainty among consumers.

The most acceptable definition of vegan refers to products that do not include animals, parts of animals, or animal-derived products (V-Label). To identify them, multiple companies employ vegan labels, but they are not mandatory. They intend to help consumers identify more easily products that do not contain animal ingredients by skipping the ingredients list.

Multiple certifications with different nationalities exist to market a product as vegan. To name a few, Vegan Society and V-label are two examples of logos that the consumer can rely on. These logos are granted by third-party organizations and, similarly to the cruelty-free system above, companies who wish to use this registered trademark must comply with specific criteria (Vegan Official Labels). V-label requires that any ingredient or process changes be reported immediately and “reserves the right to conduct quality assurance measures”. Even though these organizations ensure that there is no animal testing on their verified products, this does not imply that all vegan products and claims in the market are cruelty-free. Therefore, if a company claims that its products are vegan without any proof, there is no assurance that the product was not tested on animals. Companies can still proceed to animal-testing their cosmetics. In fact, when companies build their own vegan labels, they define their set of criteria, which isn’t always consistent with other producers and can lead to incorrect labeling (V-Label).

Lastly, it is important to mention that vegan certified standards are approved on a product-by-product basis and not on companies. Companies that sell both vegan and animal-derived products are quite common. Additionally, it works as an incentive for companies to develop and invest more in vegan alternatives for their portfolios (Vegan Society).



Fig.4) Vegan Society logo



Fig.5) V-Label logo for vegan products

2.3 Logo recognizability

To answer the conflicting studies about whether eco-labels bring true benefits and influence consumers’ buying behavior, some authors have suggested that for an eco-label to be

effective, consumers need to be aware of it, understand its meaning and trust the conveyed information (Horne, 2009).

Indeed, several studies have identified eco-label recognition and understanding as prerequisites for consumers to integrate labels in their purchase decisions (Md et al., 2017). Recognizability means that the individual knows it exists and what it looks like. Being better informed and knowledgeable on the subject can decrease uncertainty and raise trust (Thøgersen, 2000). Thus, if consumers' confidence is low towards environmental claims, it damages the impact on green purchasing. As the usage of sustainable claims in advertising is intensifying and some players have leveraged consumer naivety with greenwashing practices, consumers suffer from information overload and are reluctant to trust eco-labels and other forms of green marketing (Testa et al., 2015).

A way to solve this problem would be to unify and regulate the different labeling systems. Consumers have been described to prefer certifications carried out independently by third parties rather than self-claimed labels (Md et al., 2017). Self-declared claims are displayed on a product by the producer, retailer, or marketer, while independent certifications are granted by an impartial, competent entity that verifies the compliance of specific criteria and standards (Nik & Rashid, 2009). Self-claimed environmental attributes may be false or misleading, motivated by corporate interests (Delmas & Grant, 2010). Certifications work to mitigate this risk by providing stronger assurance that the claims are true.

H3: Communicating certified eco-labels has a higher impact on purchase intention than communicating self-claimed logos.

H4: Eco-label recognizability impacts positively consumers' purchase intention.

2.4 Pro-environmental attitude

According to Ajzen (2015), attitude is a disposition to respond positively or negatively to an object or entity, which can be tangible or abstract. When formed towards a behavior, it refers to an evaluative judgment of enacting a particular behavior and its consequences (Manstead & Parker, 1995). Allport (1935) considers that attitudes consist of preparation or readiness to perform a specific behavior.

Pro-environmental attitude is defined as the individual's tendency to evaluate the environment positively and care for its preservation (Hawcroft & Milfont, 2010). This concept has been

associated many times with environmental concern, which is the extent to which an individual shows emotion and commitment towards environmental issues (Testa et al., 2015). Previous research has identified pro-environmental attitude as an important moderator for pro-environmental behavior (Tanner & Kast, 2003). Pro-environmental behavior refers to consciously seeking to reduce the negative consequences of one's actions on the environment (Dono et al., 2010). Thus, consumers are more likely to engage in green behavior if they hold favorable attitudes and concerns towards the environment (Bissing-Olson et al., 2013; Kaiser et al., 1999). Schlegelmilch et al. (1996) suggest that, for this to hold, businesses should make sure that new green offerings are also competitive in functional performance.

However, opposing studies clash with this proposition that green attitudes lead to green purchase behavior: they argue that consumers who care about the environment do not necessarily transfer that into their purchasing habits. In other words, having a pro-environmental attitude does not automatically guarantee pro-environmental behavior (Pickett-Baker & Ozaki, 2008). This relates to the concept of the intention-action gap mentioned earlier. Carrington et al. (2010) suggest that consumers will say what they believe to be socially desirable, “overstating the importance of ethical considerations in their buying behavior”. Additionally, other factors can be a barrier to green purchase behavior, like the perceived higher prices, reduced availability, and inconvenience that is associated with sustainable alternatives (Joshi & Rahman, 2015).

Previous research has proposed yet another obstacle which is the individual's concern regarding whether the product will deliver in functional performance. The reputation of brands works to mitigate this aspect since consumers are more willing to trust well-known brands and their product's performance (Pickett-Baker & Ozaki, 2008). Luchs et al. (2010) state that this trade-off depends on the main benefits consumers expect to gain with the purchase. For example, in certain categories like laundry detergents, sustainability can be perceived as having weak attributes. On the other hand, categories in which consumers value gentleness are more likely to benefit from sustainability claims. This is especially true for baby products and cosmetics. Finally, Testa et al. (2015) express that environmentally concerned consumers are less prone to consume.

Nevertheless, this thesis will rely on the strong evidence that attitudes are a good predictor of green customer behavior. When exposed to green marketing, Pickett-Baker & Ozaki (2008) identified that respondents who held higher environmental-friendly beliefs were way more

likely to choose sustainable brands. Hence, it is expected that in the presence of eco-labels, environmentally conscious consumers show higher levels of purchase intention.

H5: Communicating eco-labels has a stronger influence on purchase intention if the consumer's pro-environmental attitude is high.

2.5 Conceptual Framework

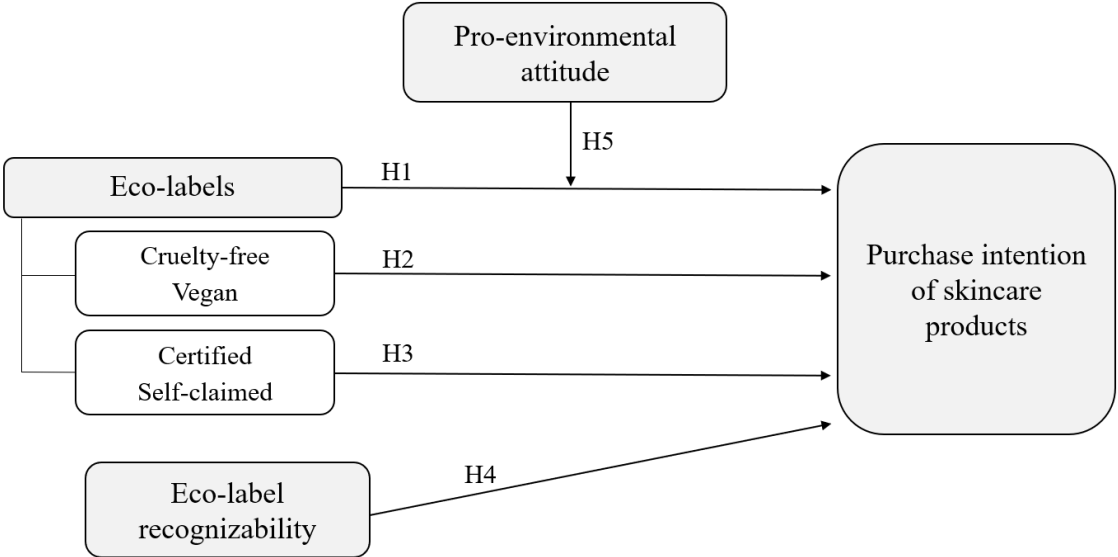


Fig. 6) Conceptual framework

CHAPTER 3: METHODOLOGY

This chapter focuses on the methodology employed to answer the research questions and assess the validity of the hypotheses proposed before. First, the research approach is addressed. Next, we proceed to explain in more detail the process of collecting primary data, and, finally, the measurements and statistical techniques used are presented.

3.1 Research Approach

This research aims to deepen the knowledge about what attributes of eco-labels have a greater impact on purchase intention. Particularly, the study will assess if official certifications have the power to stimulate more purchasing outcomes than self-claimed labels. Additionally, different claims will be investigated (cruelty-free and vegan) to understand if one of them appeals best to the consumer. Finally, the degree of recognizability of the logo will be taken into consideration.

To reach conclusions about the hypothesis formulated, the research approach comprises two phases: exploratory research followed by explanatory research. At the preliminary stage, the exploratory research was useful to gather insights, investigate the relevant variables, as well as previously documented relationships between them. A literature review was crucial for this part, as it was the basis for developing the research problem and the hypotheses that derive from it. As for the explanatory research, it allowed us to reach conclusions and to infer cause-effect relationships between the variables concerned.

Regarding qualitative and quantitative research, in-depth interviews and an online survey were the best-suited approaches for gathering primary data, respectively. The interviews helped select the cosmetic category that served as visual stimuli in the study, as well as the most appropriate eco-labels that were placed on the product's packaging. The online survey measured respondents' purchase intention regarding the cues that were placed in front of them. The questionnaire also gathered information about the individual pro-environmental attitude.

3.2 Primary Data

Primary data refers to the data gathered specifically for this study. First, in-depth interviews were conducted to explore consumers' perceptions about the topic at hand and lay the ground for the second part, the survey.

The online survey was the most adequate method for collecting quantitative data since it involves low costs, allows for faster data gathering, is convenient, and does not feature an intermediary that could influence people's responses (anonymity is ensured). However, since there is no one to clarify any doubts, instructions must be extremely clear (Evans & Mathur, 2005). For this part, a pilot survey was crucial: a few people were selected to answer the survey out loud and expose all their questions along the way. This worked to mitigate confusion that could arise during the filling of the questionnaire.

3.2.1 In-depth interviews

3.2.1.1 Data Collection

9 in-depth interviews were conducted to gather insights and understand individuals' perceptions of eco-labels. Regarding the individuals' characteristics, only two were male, and the age range was between 21-48. Occupation-wise, the sample included students, working students, and employed people.

In the first part, the emphasis was on respondents' understanding of the concept of cruelty-free, as well as assessing their knowledge on cruelty-free products. It was also crucial to identify the categories and brands that customers better associate with cruelty-free products.

Following, consumer purchasing habits were explored. Questions to uncover how frequently cruelty-free products are bought, as well as the reasoning behind such purchases, were inquired. After investigating how individuals distinguish the mentioned products from other market offerings, it was time to expose them to different logos and discover their preferences and awareness levels. This was essential to select which logos were going to be featured in the survey.

Lastly, the same set of questions, with minor adjustments, were made for vegan perceptions, habits, and logos.

3.2.1.2 Results

The results are separated into two sections: the first section focuses on cruelty-free and the second on vegan products. As mentioned before, a total of 9 individuals participated in the interviews.

Cruelty-Free:

All respondents knew the meaning of “not tested on animals”, but 2 people were unsure if it meant the same as cruelty-free. Hence, for the survey, the term “not tested on animals” is preferred. Additionally, it is wise to choose logos that have the same claims to ensure that differential impact is not due to differences in verbal phrases, but due to visual stimuli or certification.

Regarding the knowledge of cruelty-free products, the results were dispersed. Everyone was able to identify categories where a cruelty-free product could be found, being skincare and make-up the most frequently mentioned. Within skincare, people often named facial creams. However, only 5 people were able to recall a brand that did not animal-test. Examples included the Body Shop, Rituals, Lush, Quem disse Berenice, NYX, and so on. Out of the 4 individuals who couldn't, two were male, and one was a middle-aged woman (the upper limit of the age gap). In terms of distinguishing such products, there was a consensus: everyone indicated that the packaging or specific elements like logos were usually insight to identify them. Some individuals also added that one could search more thoroughly the brand online.

Concerning the usage of cruelty free-products, 4 respondents had used cruelty-free products. They mentioned that they bought them because they supported animal rights and felt like it was a good action to take.

After displaying different logos to the respondents, 7 individuals said that the CCF logo was the most trustworthy. For the less trustworthy, the answers were not so unified, but the clear candidates were either the first (PETA logo) or the fifth logo. The motive behind PETA's low credibility was due to its childish and colorful appearance. Finally, the CCF logo was the leader when asked which ones were certified/verified. When asked to justify their answer, the respondents said it was simple and straight to the point, while others spotted the registered trademark symbol ® and added that to their reasoning. Additionally, some also believed the Leaping Bunny to be certified. Only one individual recognized this logo from previous purchases.

When inquired what they would change about the logos, some suggested that logo #6 could include a verbal claim and the registered trademark could be larger.



Fig. 7) Cruelty-free logos presented to respondents

Vegan:

Concerning vegan products, everyone knew the definition and difference between vegetarian and vegan. Individuals associated veganism very strongly with food categories, and it was harder for them to name non-food products. Only 5 of the interviewees named a category, and once again, the preferred was cosmetics, particularly make-up, skincare, and shampoos. 2 people also mentioned apparel. Considering brands that sell vegan products, many respondents used the ones mentioned in the previous section. Indeed, they perceived these concepts to be often linked, and that brands specialized in selling one type of product usually sell the other type too. The method to identify such products was through logos and descriptive labels. From the sample, only 3 individuals said they used non-food vegan products and added that they followed either a full or partially restricted diet.

After showcasing the vegan logos, 6 interviewees said the V-Label was the one that inspired the most confidence. This was also the symbol that people were most familiar with, adding that they had seen it before. The less trustworthy appeared to be the first one, although with a higher dispersion. Finally, people claimed that the V-Label was the certified one, mainly due to the word “European,” which adds credibility, and the registered trademark symbol.



Fig. 8) Vegan logos presented to respondents

In conclusion, these results led to the selection of the category inside cosmetics, which turned out to be skincare, as well as the different eco-labels: 2 cruelty-free logos (the certified logo that was selected was the CCF logo, while the fifth logo was chosen to represent the self-claimed logo) and 2 vegan logos (the certified logo that was chosen was the V-Label and the self-claimed logo was embodied by the first logo).

3.2.2 Online Questionnaire

3.2.2.1 Pilot test

10 respondents were asked to answer the survey out loud in my presence and to expose all their doubts and concerns regarding the images and questions that appeared in front of them. Since 4 people did not pay enough attention to the stimulus to provide a correct answer to the manipulation check question, the logo recognizability block featured the logo that was displayed previously in the product but isolated and zoomed in.

3.2.2.2 Data Collection

The online survey was distributed between November 11th and November 29th 2021, and 468 responses were collected. It was shared through social media websites and distributed at Universities' campuses. English was chosen as the base language to enable people from different nationalities to answer. However, the survey was also made available in Portuguese so that more people could answer if language barriers were an issue. A gift card from a cosmetic retailer was placed as an incentive for individuals to fill it out.

In the process of gathering data, non-probability sampling and convenience sampling techniques were used, which means that the elements that were included in the study were not chosen randomly. The advantages of these sampling frames are reduced costs and effort. However, as subjects are not assigned a probability to participate, this can result in selection biases. Regarding the convenience frame, respondents are chosen because they happen to be "at the right place, at the right time" (Acharya et al., 2013).

Screening questions were placed at the beginning of the survey to ensure that only individuals from the targeted population answered the survey. Thus, specific criteria regarding consumer habits had to be met.

3.2.2.3 Research design

At the beginning of the survey, consumers are asked about their past purchasing behavior and usage patterns of skincare to determine if they fill the requirements to carry on the survey. Respondents are also asked about how knowledgeable they are within the category. For the next part, the constructs presented are randomized.

To begin, consumers are exposed to different stimuli. Specifically, they are all exposed to the same product, but there are 5 different possible scenarios in which the respondents are allocated randomly. In the first scenario, respondents observe one product that does not display any kind of eco-label. The second and third groups are presented with one product that features a cruelty-free logo, but one has a self-claimed logo while the other has a certified logo. The fourth and fifth groups are exposed to a product that features a vegan logo, but the fourth has a self-claimed logo while the fifth has a certified logo.

No real brands were used to ensure that consumers do not bring any perceived past associations of a specific brand to the study. Hence, a fictional brand is used to mitigate biases.



Fig.9) Stimuli presented to different groups of respondents

After the stimulus, consumers are asked about their purchase intention regarding the product displayed, and the manipulation check follows. Questions about logo recognizability also arise and focus on the logo previously used in the stimuli.

The next section explores consumers' pro-environmental attitudes. Finally, demographics, namely gender, age, occupation, nationality, and household income close the survey.

3.2.2.4 Measurement / Indicators

A lab experiment was put in place to measure individuals' responses and reactions. As such, individuals were exposed to a product image. After taking a close look at it, purchase intention was measured by using 3 items on a 7-point semantic differential scale proposed by Spears & Singh (2004).

After measuring the dependent variable, other constructs were important to assess too. Regarding label recognizability, 5 items were displayed to understand respondents' awareness towards the logo presented before them. On a 7-point Likert scale, respondents had to indicate to what extent they agreed to statements like "The label is recognizable" and "The label is distinct from others". The construct was extracted from Fouroudi (2019).

To measure the pro-environmental attitude, the New Ecological Paradigm (NEP) Scale developed by Dunlap & Van Liere (1978) was used. This scale has been used in many studies (Bissing-Olson et al., 2013; Pickett-Baker & Ozaki, 2008) and is now a renowned model to measure environmental beliefs, concerns, attitudes, values, and so on. The model features 15 sentences, and participants indicate their level of agreement to each item on a 5-point Likert scale, which was adapted to ensure consistency in the study. To guarantee some balance and avoid biases by only displaying items that point in one direction, 8 sentences are pro-NEP while 7 are anti-NEP. Thus, a pro-environmental attitude is present when there is an agreement with the odd-numbered items, but for the even-numbered items, a disagreement should occur (Dunlap, 2008).

1	We are approaching the limit of the number of people the earth can support
2	Humans have the right to modify the natural environment to suit their needs
3	When humans interfere with nature, it often produces disastrous consequences
4	Human ingenuity will ensure that we do NOT make the earth unlivable
5	Humans are severely abusing the environment
6	The earth has plenty of natural resources if we just learn how to develop them
7	Plants and animals have as much right as humans to exist
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations
9	Despite our special abilities, humans are still subject to the laws of nature
10	The so-called "ecological crisis" facing humankind has been greatly exaggerated
11	The earth is like a spaceship with very limited room and resources
12	Humans were meant to rule over the rest of nature
13	The balance of nature is very delicate and easily upset
14	Humans will eventually learn enough about how nature works to be able to control it

15 If things continue on their present course, we will soon experience a major ecological catastrophe

Table 1: NEP scale

Framework	Measure	Items	Scale	Reference	Cronbach α
Independent variable	Eco-labels	Stimuli	N/A	N/A	N/A
Dependent variable	Purchase intention	3	7-point semantic differential scale	Spears & Singh (2004)	0,97
Independent variable	Logo recognizability	5	7-point Likert scale	Fouroudi (2019)	0,85
Moderator	Pro-environmental attitude	15	7-point Likert Scale*	Dunlap (2008)	0,83

* The scale was adapted from the original scale.

Table 2: Measurement model

3.2.2.5 Data Analysis

The software IBM SPSS statistics was used to process the data collected with the online survey. Initially, descriptive analysis was useful to study the profile of the respondents, mainly by working with measures of central tendency and frequencies.

To analyze if the presence of eco-labels impacts purchase intention, one independent sample T-test was conducted between the groups exposed to no label and the ones exposed to a visual label. Thus, it was possible to infer whether eco-labels and no-label communication have different means for purchase intention.

The same statistical method was used to understand if different labels matter, but this time only the groups that observed a label were used: the first group visualized a cruelty-free logo and the second a vegan logo. Hence, it was possible to address whether the means for purchase intention differ between different claims.

To understand if certified labels have a higher impact on purchase intention than self-claimed labels, an independent sample T-test was conducted once again. This way, it was possible to assess whether there are different levels of purchase intention between the certified label exposed groups and the ones who were exposed to self-claimed labels.

Regarding logo recognizability and the impact that it has on purchase intention, a linear regression model was constructed.

Finally, to assess the effect of the moderator, Hayes' macro-PROCESS was employed. A relationship between two variables is moderated when a third variable influences the strength or sign of the casual-effect relationship (Hayes, 2017). Hence, this method was useful to explore whether pro-environmental attitude influences the association between eco-labels and purchase intention for different values of the moderator.

CHAPTER 4: RESULTS AND DISCUSSION

The fourth chapter analyzes the data collected from the online survey by using the methods described in the previous chapter. In the beginning, the sample is characterized in terms of demographics, followed by the testing of each hypothesis and the interpretation of such statistical results.

4.1 Sample characterization

In total, 365 valid responses were collected. However, 29 respondents were excluded due to not buying or using the product category at hand. Additionally, 6 outliers were removed from the sample with the help of the Mahalanobis distance. To do so, a linear regression was run with the variables that were to be examined for the presence of outliers as dependent variables. After saving the Mahalanobis distances, a chi-square distribution enabled the elimination of the outliers, as they exhibited probability values below 0,01%. Hence, the final sample gathered only 330 responses.

The respondents were randomly assigned to each group, as mentioned earlier. Because of that, it can be assumed that the groups are homogeneous among them. 17% of the respondents were exposed to the stimuli without any logo, 20% to a self-claimed cruelty-free logo, 18% received a certified cruelty-free logo, 24% observed a self-claimed vegan logo, and lastly, 21% were exposed to a certified vegan logo.

	Frequency	Valid Percent	Cumulative Percent
No label	56	17,0	17,0
Self-claimed CF	67	20,3	37,3
Certified CF	58	17,6	54,8
Self-claimed Vegan	80	24,2	79,1
Certified Vegan	69	20,9	100,0
Total	330	100,0	

Table 3: Number of respondents by group stimuli

In terms of demographics, the majority of the sample was made of female respondents: a total of 95% were women, which means a very small fraction were male. Concerning age, 56% had ages between 18 and 24, followed by 26% that had 25 to 34 years old. The most predominant nationality was Portuguese, with a percentage of 59%. Occupation-wise, most respondents

were either employed (43%) or students (42%). And finally, regarding household income, 52% stated that their monthly income was within the € [1,000; 4,999] range.

		Percentage
Gender	Female	95,2
	Male	4,5
	Other	0,3
Age	Under 18	0,6
	18-24	56,4
	25-34	26,4
	35-44	10
	45-54	3
	55-64	3,3
	65 or more	0,3
Nationality	Portuguese	59,1
	USA	29,7
	Germany	3
	Brazil	2,4
Occupation	Employed	43,6
	Student	42,1
	Working student	13,3
	Unemployed	0,9
Income	Less than 1,000€	8,5
	€1,000 - €4,999	51,5
	€5,000 - €9,999	15,8
	€10,000 - €14,999	12,7
	€15,000 - €19,999	6,7
	€20,000 or more	4,8

Table 4: Characteristics of Respondents

Regarding the metric variables, they were all measured with a 7-point differential scale, except “level of knowledge”, in which a scale ranging from 0 to 100 was used. The following table summarizes some measures of central tendency to give a clearer picture of our sample.

	N	Minimum	Maximum	Mean	Std. Deviation
Purchase Intention	330	1,00	7,00	4,6971	1,49404
Logo Recognizability	274	2,40	7,00	5,2839	,95071
Pro-environmental attitude	330	2,47	7,00	5,0251	,84610
Valid N (listwise)	274				

Table 5: Descriptive statistics of metric variables

4.2 Manipulation check

A manipulation question was included in the survey to understand whether consumers perceived the stimuli correctly.

In the following table, we can observe that each stimulus was presented on average 94 times. However, since not every group got the same percentage of correct answers, there are some discrepancies in the count of respondents of different groups. This happens because the individuals that failed to perceive the manipulated stimuli correctly were eliminated (“wrong”), and the analysis was conducted with the remaining responses (only “right” responses were considered).

In the end, the statistical methods were repeated to include the respondents that did not fully comprehend the stimuli. Hence, it was possible to conclude that the additional responses did not alter the final results.

Group			Manipulation check		Total
			wrong	right	
No logo	Count		34	56	90
	% within Group		37,8%	62,2%	100,0%
Self-claimed	Count		29	70	99
	Cruelty-Free	% within Group	29,3%	70,7%	100,0%
Certified	Count		33	58	91
	Cruelty-Free	% within Group	36,3%	63,7%	100,0%
Self-claimed	Count		16	81	97
	Vegan	% within Group	16,5%	83,5%	100,0%
Certified	Count		20	71	91
	Vegan	% within Group	22,0%	78,0%	100,0%
Total	Count		132	336	468
	% within Group		28,2%	71,8%	100,0%

Table 6: Crosstabulation comparing stimuli type and manipulation check

4.3 Measure reliability

Even though all constructs were extracted from the literature, Cronbach's alpha was used to measure the internal consistency of different variables. Hence, for scale items like Purchase Intention, Label Recognizability, and Pro-Environmental attitude, the alpha was computed. But first, the pro-environmental attitude had to be recoded into a new variable since some of its items were positive while others were built negatively. Hence, the coding for even items

was reversed, as lower values (disagreement) indicated a higher pro-environmental attitude (Dunlap & Van Liere, 2010).

The Cronbach alpha should assume values above 0,70 to be acceptable (Tavakol & Dennick, 2011). All our variables had values within that range. If any of the items were to be removed, that would not increase the value of alpha. Hence no alterations were made to the constructs.

	Construct		
	Purchase intention	Logo Recognizability	Pro-environmental attitude
N° Items	3	5	15
N° Items deleted	-	-	-
Cronbach alpha	0,911	0,741	0,860

Table 7: Cronbach Alpha Results

4.4 Results from Hypotheses Testing

H1: Communicating an eco-label has a higher impact on purchase intention than no-label communication.

An independent sample t-test was used to understand whether the means for purchase intention differ between 2 independent groups: no logo and logo communication. The dependent variable is metric, and the independent variable is categorical.

$$H_0: \mu_{\text{No logo}} = \mu_{\text{Logo}}$$

Before analyzing the results, assumptions had to be investigated. To check whether the dependent variable is normally distributed, the Kolmogorov-Smirnova test was used because $N > 50$. For the group “no logo”, the null hypothesis that the variable follows a normal distribution is not rejected because $p\text{-value} = ,190 > ,05$. However, in the group “Logo” the null hypothesis is rejected. In this case, since the group has $N=274$, the Central Limit Theorem can be invoked for large samples ($N > 30$), and it can be said that the variable follows an approximately normal distribution. Additionally, the QQ plot can be examined: variances from the straight line indicate a deviation from normality, which is not the case. To verify the homogeneity of variances, Levene’s test was employed. Since the $p\text{-value} = ,672 > ,05$, we do not reject the null hypothesis that the variances are equal.

Moving on to the independent t-test, the model is statistically significant, and the null hypothesis that the means are equal is rejected ($t_{(328)} = -7,110$; $p\text{-value} < ,001$). At a significance level of 5%, there are statistical differences for purchase intention between both groups.

In conclusion, there is evidence that the presence of a logo has a bigger impact on PI, as the mean of the group “Logo” ($\bar{x} = 4,94$; $\sigma = 1,40$) is higher than the mean of the “No Logo” group ($\bar{x} = 3,49$; $\sigma = 1,35$). Thus, **H1 is confirmed**.

H2: Communicating cruelty-free logos vs. vegan logos has a differential impact on purchase intention.

An independent sample t-test was used again to understand whether the means for purchase intention, the metric variable, differ between 2 independent groups: one that was exposed to a Cruelty-free logo and the other to a Vegan logo.

$$H_0: \mu_{\text{cruelty-free}} = \mu_{\text{vegan}}$$

Starting with the assumptions, the Kolmogorov-Smirnova test was employed. The null hypothesis that the variable follows a normal distribution is rejected for both groups, since the p-value is smaller than ,05 ($p\text{-value}_{\text{cruelty-free}} = p\text{-value}_{\text{vegan}} = ,001$). But once again, the CLT is to be employed because the count of each group is greater than 30 ($N_{\text{CF}}=125$; $N_{\text{vegan}}=149$), so we can proceed with the analysis. Additionally, the equality of variances was validated with the Levene’s Test since $p\text{-value} = ,749 > ,05$.

The t-test did not reject the null hypothesis that the means are equal ($t_{(272)} = -,093$; $p\text{-value} = ,926$). Hence, at the level of significance of 5%, there are no statistical differences for purchase intention among both groups. **Hypothesis 2 cannot be validated**, and there is no evidence that different claims (cruelty-free vs. vegan) influence the purchase intention.

H3: Communicating certified eco-labels has a higher impact on purchase intention than communicating self-claimed logos.

The same statistical method used previously was useful to understand whether the means for purchase intention, the metric variable, differ between 2 independent groups: one that was exposed to a self-claimed logo and the other to a certified logo.

$$H_0: \mu_{\text{self-claimed}} = \mu_{\text{certified}}$$

For the assumptions, the Kolmogorov-Smirnova test was employed. The null hypothesis that the variable follows a normal distribution is rejected for both groups, since the p-value is smaller than ,05 ($p\text{-value}_{\text{self-claimed}} < ,001$; $p\text{-value}_{\text{certified}} = ,003$). But with the CLT, the variable will approximate a normal distribution since $N_{\text{self-claimed}}=147$ and $N_{\text{certified}}=127$, which is greater than 30. The Levene's test rejected the equality of variances since $p\text{-value} = ,002$, so the results had to be extracted from the row "equal variances not assumed".

The independent sample t-test rejected the null hypothesis that the means are equal ($t_{(260)} = -4,585$; $p\text{-value} < ,001$). Hence, at the level of significance of 5%, there are statistical differences between the means for purchase intention among both groups. **Hypothesis 3 is validated**, and there is evidence that certification has a higher influence on purchase intention than self-claimed logos. Indeed, the mean for PI of the certified logo is superior ($\bar{x} = 5,34$; $\sigma = 1,08$) to the mean of the self-claimed logo ($\bar{x} = 4,60$; $\sigma = 1,55$).

In the following table, the results for hypotheses 1,2, and 3 are summarized.

		Purchase Intention			t	p-value
		N	Mean	Std. Deviation		
Group No Logo vs. Logo	No logo	56	3,4912	1,34518	-7,110	<,001
	Logo	274	4,9436	1,40223		
Group CF vs. Vegan	Cruelty-Free	125	4,9349	1,44809	-,093	,926
	Vegan	149	4,9508	1,36746		
Group Self vs. Certified	Self-claimed	147	4,6032	1,55338	-4,585	<,001
	Certified	127	5,3375	1,08287		

Table 8: Independent sample t-test results for H1, H2 & H3

H4: Logo recognizability impacts positively purchase intention.

A linear regression was performed, with purchase intention as the dependent variable and logo recognizability as the independent variable. Both variables are metric.

The regression equation can be written as: $\widehat{PI} = \beta_0 + \beta_1 \times \text{Recongiz}$

Where PI is purchase intention for the skincare product and Recongiz designates Logo Recognizability for the observed label.

Before looking at the results, some assumptions had to be checked. Observations are independent (Durbin Watson=1,763), there is homoscedasticity (as indicated by the scatterplot of the residuals), the mean of the error term is zero, and the residuals are approximately normally distributed (Normal PP plot). It is also necessary to verify the absence of multicollinearity. Tolerance is greater than 0,1, the Condition Index is lower than 15, and the Pearson correlation is lower than 0,8, so multicollinearity is not a problem and the analysis can proceed.

The explanatory power of the model is rather weak: Logo Recognizability explains only 5,2% of the total variance of purchase intention. Nevertheless, the model is statistically significant, as confirmed by the ANOVA table ($F_{(1)} = 14,981$; p-value < ,001), which means the beta coefficient is different than zero. Indeed, the coefficient for recognizability is positive and statistically significant at a confidence interval of 95% ($\beta_1 = ,337$; p-value < ,001). On average, if label recognizability increases by one unit (on a scale from 1 to 7), PI increases by ,337 on the same scale, *ceteris paribus*.

The regression can be formulated as follows: $\widehat{PI} = 3,163 + 0,337 \times \text{Recogniz}$

Hence, logo recognizability has a positive influence on purchase intention, and **H4 is verified**.

The fact that logo recognizability has a positive impact on purchase intention could help explain why certified logos show higher levels of purchase intention than self-claimed logos. Indeed, the mean for logo recognizability was higher among the group that was exposed to a certified logo ($\bar{x} = 5,45$) than the group that was shown a self-claimed logo ($\bar{x} = 5,14$).

Group Self-claimed vs. Certified		N	Mean	Std. Deviation
Logo	Self-claimed	147	5,1429	,91472
Recognizability	Certified	127	5,4472	,96887

Table 9: Means for Logo Recognizability split by certification group

H5: Communicating eco-labels has a stronger influence on purchase intention if the consumer's pro-environmental attitude is high.

To study the effects of moderators, the PROCESS macro by Hayes was conducted. Model 1a was used for this purpose, as one single moderator is present. Having purchase intention as the dependent variable and the group “No Logo” vs. “Logo” as the independent categorical

variable, the process was run. A moderation effect is present if the interaction term is statistically significant at a confidence interval of 95%. This is the case ($\text{Int} = ,529$; $p\text{-value} = ,0437$), meaning that pro-environmental attitude moderates the relationship of displaying eco-labels on purchase intention. By looking at the conditional effects, different interpretations are made for different values of the moderator: for the highest level of PEA, the effect is greater, and for the lowest level of PEA, the effect is much smaller.

Regarding the graph interpretation, when an eco-label is displayed, the PI is higher if the PEA is higher. Contrarily, if there is no eco-label communication, the PI is higher when the PEA is lower. Thus, **H5 is validated**.

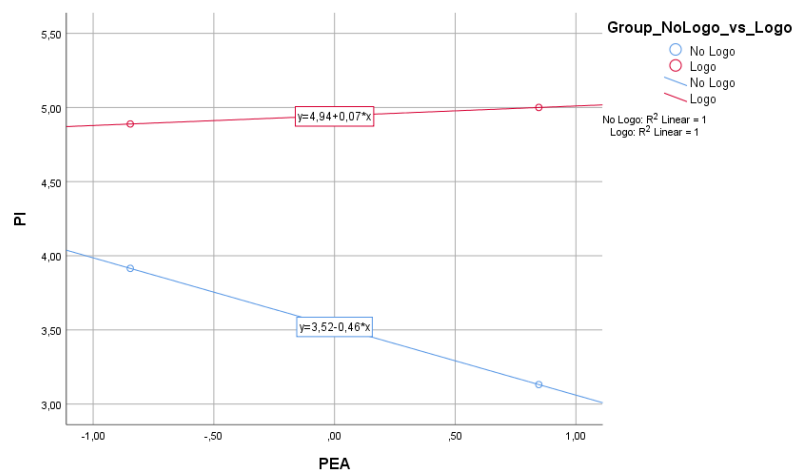


Fig.10) Interaction effect between eco-label communication and PEA on PI

To summarize all the findings from the hypotheses testing, here is the final overview:

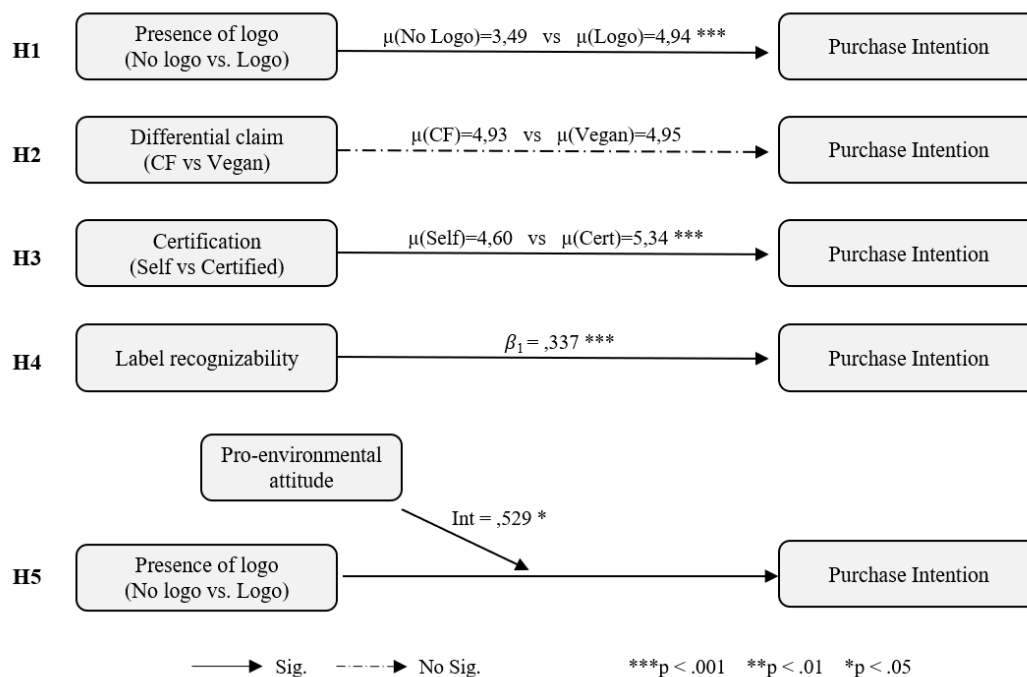


Fig.11) Summary of hypotheses testing

CHAPTER 5: CONCLUSIONS AND LIMITATIONS

The last chapter of this dissertation entails the main conclusions from the results previously obtained. Additionally, the managerial and academic implications are identified, as well as limitations that might have influenced the outcomes of the research. Finally, suggestions for further research are presented.

5.1 Main Findings & Conclusions

RQ1: What is the impact of eco-labels on consumers' purchase intention?

The goal of this dissertation is to understand whether the communication of eco-labels has an impact on the purchase intention of skincare products. To investigate these effects, two types of eco-labels were used, particularly cruelty-free and vegan.

The results indicated that the willingness to purchase the item displayed was significantly higher in the presence of a logo (either being vegan or cruelty-free and regardless of it being certified or not). Indeed, the respondents who encountered the product without any sort of logo exhibited lower levels of purchasing intent than the respondents who observed a product that featured an eco-label. Thus, we can say that eco-label communication has a positive influence on purchase intention. This result was verified through an independent sample t-test and was consistent with the literature findings that eco-label communication is associated with green buying behaviour (Harun et al., 2014).

RQ2: Does featuring a cruelty-free logo vs. a vegan logo impact differently consumers' purchase intention?

Furthermore, the dissertation intended to perceive if different logos, which entail distinct claims and designs, impact purchase intention differently. Regarding our study, there are no statistical differences between the two types of eco-labels concerned: the means for PI between cruelty-free logos and vegan logos (no matter if they are certified or not) were very similar. The result of the independent sample t-test was not significant.

One reason could be the fact that some people believe vegan and cruelty-free to be very tied concepts: that is, they perceive a vegan product to be cruelty-free, and they also believe the vice-versa to be true. These perceptions were clear during the in-depth interviews and might

explain the lack of differences between the groups that were exposed to different types of logos.

RQ3: Does featuring a certified eco-label have a stronger impact on purchase intention than featuring a self-claimed logo?

Another major topic to be disclosed was whether certified logos have a stronger impact on purchase intention than non-certified logos, also known as self-claimed logos, issued by the producer. By grouping the respondents into exposure to certified eco-labels and exposure to self-claimed logos, it was possible to conclude that the purchase intention was significantly higher for the first group. Thus, it seems that customers favor the logos that are certified by independent and unbiased entities, as illustrated by the higher willingness to purchase, which was verified through an independent sample t-test. Even though little research has been done on this matter, it is aligned with the expectations.

RQ4: Does the consumer's recognizability of logos positively impact purchase intention?

Other variables were examined in an attempt to better explain the variance of purchase intention. Logo recognizability arises in this context. The results indicate that recognizability has a positive impact on purchase intention, which was concluded through a linear regression model. Thus if consumers recognize the label, they are more likely to have a higher willingness to purchase. The effect is significant and amounts to ,337 which suggests that a one-unit increase in logo recognizability raises purchase intention by ,337.

This result was compatible with the findings from previous studies: being better informed and aware of logos raises consumers' trust in the information conveyed, which can later be incorporated into their decision-making process (Testa et al., 2015). This line of thought could explain the reasoning behind label recognizability pulling up purchase intention. Additionally, certified logos were more easily recognized than self-claimed logos, which can help explain why purchase intentions were higher when certified eco-labeling was communicated.

RQ5: Does the consumer's pro-environmental attitude influence the relationship between eco-labels and purchase intention?

Another important factor to be examined was whether pro-environmental attitude moderates the relationship between eco-label communication and purchase intention. The pro-environmental attitude was expected to moderate this relationship, as supported by the

literature (Tanner & Kast, 2003), and it proved to be the case. The interaction term between eco-label communication and pro-environmental attitude was significant, and it can be interpreted as follows: when an eco-label is featured, a higher PEA leads to a higher purchase intention, but when no logo is featured on the product, a higher PEA decreases the level of purchase intention.

If a big percentage of our consumers is environmentally concerned, it is wise to place an eco-label on the product as it increases customer conversion. Indeed, considering respondents that had a high pro-environmental attitude, purchase intention was greater for the group that had been exposed to an eco-label. Hence, this recommendation will depend on the profile of the target customer.

Individuals that showed a high pro-ecological behavior but had not been exhibited a logo displayed lower levels of purchasing intent. One reason that might explain this, according to the literature, relates to a lower predisposition to consume (Testa et al., 2015).

5.2 Managerial / Academic Implications

From an academic perspective, this report provides new insights into the field of eco-label communication. It is relevant because little research has been done on the category of cosmetic products, and there was also a gap regarding the effect that certification exerts on consumers. For that, the impacts of displaying certified and non-certified logos on purchase intention were compared, which had not been the focus of any particular studies.

From a managerial point of view, this dissertation gives recommendations on how marketers can increase purchase intention and maximize sales. What goes on the packaging of the product needs to be carefully planned as it influences consumers' decisions. Eco-labels could be an effective strategy, as they add value to the products they are placed in, highlighting relevant environmental attributes.

This study outlined the importance of displaying vegan or cruelty-free logos on the packaging, as purchase intention was greater for the group that had been exposed to an eco-label. But the most striking difference between the groups that were not displayed an eco-label and the ones who were, was among the environmentally concerned customer segment. Thus, in this situation, it becomes even more crucial for producers to invest in these environmental labeling features.

Furthermore, the group that showed the highest level of purchase intention was the one who observed a certified logo. Thus, if businesses are considering placing eco-labels on their products, it is advised that they negotiate with third-party entities behind more reliable certifications.

5.3 Limitations and Further Research

This paper has provided relevant insights on the impact that eco-labels have on purchase intention. However, one should be aware of certain limitations and constraints.

First, time restrictions were tight related to the context in which this dissertation was developed, as part of the master's program. Another factor is related to the process of data collection, for which a non-probability sampling technique was used. Many responses were collected within Universities' campuses and through social networks, which justifies the clear predominance of Portuguese respondents aged between 18-24. The percentage of students was also considerably high. Additionally, the male presence was very residual in our sample (less than 5%), which is related to the topic at hand and the monetary incentive not being very attractive to this segment. Finally, the sample size could be bigger, as only 330 responses were considered for the analysis.

To minimize these risks, future research should gather a greater number of respondents to ensure a more representative sample of the population. Regarding gender predominance, one of two approaches could be followed: eliminating the presence of males, as a small percentage could bias the results, or increase the weight of males in the responses. Some relevant insights could arise from comparing these groups, which was not possible in our study.

Second, only two types of eco-labels were incorporated in the research, so other logos could also be explored. Additionally, the used logos were analyzed in isolation, so it could be interesting to study whether a combination of the two would influence purchase intention differently. Hence, the impact that these specific types of eco-labels have on purchase intention should not be generalized to the full range of eco-label communications.

Furthermore, only the skincare segment was studied, so it is not possible to compare the effects of eco-labels among different categories. Luchs et al. (2010) identified some categories that may benefit from sustainability claims, like cosmetics. Hence, it could be

argued that the category influences the purchase intention, and it could be an interesting route to explore.

Third, it was mentioned in the literature that purchase intention would be used as a proxy for purchase behavior, even though some researchers have identified a gap between attitudes and actions. Thus, if one wants to draw conclusions about consumer behavior, it is advised to conduct a field experiment in which the shopping conditions of the real world can be replicated. This way, purchases can be observed and measured.

Finally, other variables that could have influenced purchase intention were not explored in this study, like willingness to pay and brand image. For the latter, the usage of real brands could be included in the survey.

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APPENDICES

Appendix 1: In-depth interviews

Hello and thank you for participating in this 1-on-1 interview. This interview is being conducted for my Master's Thesis, which I am developing at Universidade Católica Portuguesa. This discussion will be important to understand individuals' perceptions about the topic of environmental eco-labels. There are no right, or wrong answers and your identity will not be disclosed.

1) Profile of the respondents

- What is your name, age, education level, and occupation?

2) Cruelty-free

Consumer perceptions and attitudes of cruelty-free

- What does it mean to be cruelty-free?
- What do you know about cruelty-free products?
- Can you name a category where you could find cruelty-free products?
- Can you name a brand that does not animal test?

Consumer habits and purchases

- Have you ever purchased cruelty-free products? What are they? When was the last time you bought them?
- Why do you buy cruelty-free products? / Why does one buy cruelty-free products?
- How do you identify which products are cruelty-free?

Consumer awareness of eco-logos



- Which of these logos have you seen before?
- Do you know what these logos mean?
- Which logo would you say is more trustworthy? Why?

- Which logo would you say is less trustworthy/ shadiest? Why?
- Are any of them certified by independent/ NGO organizations? Why?
- Is there anything you would change in the logos?

3) Vegan

Consumer perceptions and attitudes

- What does it mean to be vegan? And vegetarian?
- What do you know about vegan products?
- Can you name a non-food category where you could find vegan products?
- Can you name a brand that sells (non-food) vegan products?

Consumer habits and purchases

- Do you consume vegan products? How often?
- Do you consume non-food vegan products? What are they? When was the last time you bought them?
- How do you identify which products are vegan?

Consumer awareness of eco-logos



- Which of these logos have you seen before?
- Do you know what these logos mean?
- Which logo would you say is more trustworthy? Why?
- Which logo would you say is less trustworthy/ shadiest? Why?
- Are any of them certified by independent/ NGO organizations?
- Is there anything you would change in the logos?

4) Skincare category

Consumer habits and purchases

- With what frequency do you use skincare products?
- When was your last purchase? What did you buy?

Appendix 2: Survey Questionnaire

Hello and thank you for answering this survey. 😊

My name is Bárbara and this is a part of my thesis project, which I am developing at Universidade Católica.

Your responses are anonymous.

When you reach the end of the survey, you need to insert a password to get a chance to win a 25€ gift card from Sephora.

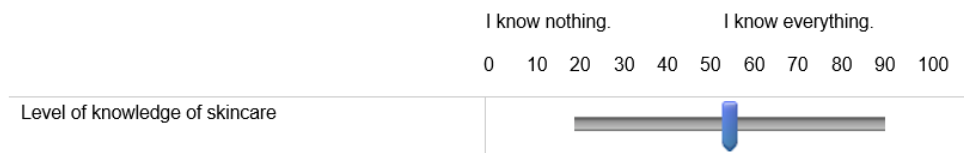
Within one year, how often do you **buy** skincare?
 (ex: products for cleansing or moisturizing your skin)

- Never
- Once a year
- Once every 6 months
- Once every 3 months
- Once a month
- Once a week

How often do you **use** skincare?

- Never
- Once a week
- 2-3 times a week
- 4-6 times a week
- Daily

Please indicate your level of knowledge on the category of skincare.



Start of Block: Stimulus 1: no logo

Imagine now that you are in the aisle of cosmetics at the supermarket and see this product on the shelf. Take a close look at it.

Please rate how much you identify with the following statements.

	1	2	3	4	5	6	7	
I definitely do not intend to buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it.
I have a very low purchase interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have a very high purchase interest.
I would definitely not buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I would definitely buy it.

Did the product feature a sustainable/ environmentally friendly logo?

- Yes (not tested on animals)
- Yes (vegan)
- No

End of Block: Stimulus 1: no logo

Start of Block: Stimulus 2: Self-claim cruelty-free

Imagine now that you are in the aisle of cosmetics at the supermarket and see this product on the shelf. Take a close look at it.

Please rate how much you identify with the following statements.

	1	2	3	4	5	6	7	
I definitely do not intend to buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it.
I have a very low purchase interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have a very high purchase interest.
I would definitely not buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I would definitely buy it.

Did the product feature a sustainable/ environmentally-friendly logo?

- Yes (not tested on animals)
- Yes (vegan)
- No

Look closely at the following logo.

Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The label is recognizable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label recognizability has an influence on my decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is recalled easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is distinct from other sustainable labels.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is memorable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Stimulus 2: Self-claim cruelty-free

Start of Block: Stimulus 3: Certified cruelty-free

Imagine now that you are in the aisle of cosmetics at the supermarket and see this product on the shelf. Take a close look at it.

Please rate how much you identify with the following statements.

	1	2	3	4	5	6	7	
I definitely do not intend to buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it.
I have a very low purchase interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have a very high purchase interest.
I would definitely not buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I would definitely buy it.

Did the product feature a sustainable/ environmentally-friendly logo?

- Yes (not tested on animals)
- Yes (vegan)
- No

Look closely at the following logo.

Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The label is recognizable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label recognizability has an influence on my decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is recalled easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is distinct from other sustainable labels.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is memorable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Stimulus 3: Certified cruelty-free

Start of Block: Stimulus 4: Self-claimed vegan

Imagine now that you are in the aisle of cosmetics at the supermarket and see this product on the shelf. Take a close look at it.

Please rate how much you identify with the following statements.

	1	2	3	4	5	6	7	
I definitely do not intend to buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it.
I have a very low purchase interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have a very high purchase interest.
I would definitely not buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I would definitely buy it.

Did the product feature a sustainable/ environmentally-friendly logo?

- Yes (not tested on animals)
- Yes (vegan)
- No

Look closely at the following logo.

Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The label is recognizable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label recognizability has an influence on my decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is recalled easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is distinct from other sustainable labels.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is memorable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Stimulus 4: Self-claimed vegan

Start of Block: Stimulus 5: Certified vegan

Imagine now that you are in the aisle of cosmetics at the supermarket and see this product on the shelf. Take a close look at it.

Please rate how much you identify with the following statements.

	1	2	3	4	5	6	7	
I definitely do not intend to buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it.
I have a very low purchase interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have a very high purchase interest.
I would definitely not buy it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I would definitely buy it.

Did the product feature a sustainable/ environmentally-friendly logo?

- Yes (not tested on animals)
- Yes (vegan)
- No

Look closely at the following logo.

Please indicate your level of agreement with the following statements.

End of Block: Stimulus 5: Certified vegan

Start of Block: Block 6: Pro-environmental attitude

Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The label is recognizable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label recognizability has an influence on my decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is recalled easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is distinct from other sustainable labels.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The label is memorable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
1) We are approaching the limit of the number of people the earth can support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) Humans have the right to modify the natural environment to suit their needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) When humans interfere with nature it often produces disastrous consequences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) Human ingenuity will ensure that we do NOT make the earth unlivable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) Humans are severely abusing the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) The earth has plenty of natural resources if we just learn how to develop them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) Plants and animals have as much right as humans to exist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) The balance of nature is strong enough to cope with the impacts of modern industrial nations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) Despite our special abilities humans are still subject to the laws of nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10) The so-called "ecological crisis" facing humankind has been greatly exaggerated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11) The earth is like a spaceship with very limited room and resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12) Humans were meant to rule over the rest of nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13) The balance of nature is very delicate and easily upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14) Humans will eventually learn enough about how nature works to be able to control it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15) If things continue on their present course, we will soon experience a major ecological catastrophe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 6: Pro-environmental attitude

Start of Block: Demographics

What is your gender?

- Male
- Female
- Other

How old are you?

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 or older

What is your nationality?

▼ Afghanistan ... Zimbabwe

What is your occupation?

- Employed
- Student
- Working Student
- Unemployed
- Retired

What is the aprox. monthly gross income of your household?

- Less than €1,000
- €1,000 - €4,999
- €5,000 - €9,999
- €10,000 - €14,999
- €15,000 - €19,999
- More than 20,000€

End of Block: Demographics

Start of Block: Thank you and password

Thank you for completing the survey. Continue to be eligible for a reward.
Please remember the password: ⚠ **skincare** ⚠

End of Block: Thank you and password

Appendix 3: Sample characterization

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	15	4,5	4,5	4,5
	Female	314	95,2	95,2	99,7
	Other	1	,3	,3	100,0
	Total	330	100,0	100,0	

What is your nationality?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Albania	1	,3	,3	,3
	Brazil	8	2,4	2,4	2,7
	Canada	1	,3	,3	3,0
	China	1	,3	,3	3,3
	Croatia	1	,3	,3	3,6
	France	3	,9	,9	4,5
	Germany	10	3,0	3,0	7,6
	Hungary	1	,3	,3	7,9
	Italy	2	,6	,6	8,5
	Lithuania	1	,3	,3	8,8
	Mexico	1	,3	,3	9,1
	Netherlands	1	,3	,3	9,4
	Portugal	195	59,1	59,1	68,5
	Russian Federation	1	,3	,3	68,8
	Slovenia	1	,3	,3	69,1
	United Kingdom	2	,6	,6	69,7
	United States of America	98	29,7	29,7	99,4
	Uruguay	2	,6	,6	100,0
	Total	330	100,0	100,0	

How old are you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18	2	,6	,6	,6
	18 - 24	186	56,4	56,4	57,0
	25 - 34	87	26,4	26,4	83,3
	35 - 44	33	10,0	10,0	93,3
	45 - 54	10	3,0	3,0	96,4
	55 - 64	11	3,3	3,3	99,7
	65 or older	1	,3	,3	100,0
	Total	330	100,0	100,0	

What is your occupation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	144	43,6	43,6	43,6
	Student	139	42,1	42,1	85,8
	Working Student	44	13,3	13,3	99,1
	Unemployed	3	,9	,9	100,0
	Total	330	100,0	100,0	

What is the approx. monthly gross income of your household?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than €1,000	28	8,5	8,5	8,5
	€1,000 - €4,999	170	51,5	51,5	60,0
	€5,000 - €9,999	52	15,8	15,8	75,8
	€10,000 - €14,999	42	12,7	12,7	88,5
	€15,000 - €19,999	22	6,7	6,7	95,2
	More than 20,000€	16	4,8	4,8	100,0
	Total	330	100,0	100,0	

Appendix 4: Reliability measures

Reliability Statistics – PI

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,910	,911	3

Reliability Statistics - Recognizability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,739	,741	5

Reliability Statistics - PEA

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,857	,860	15

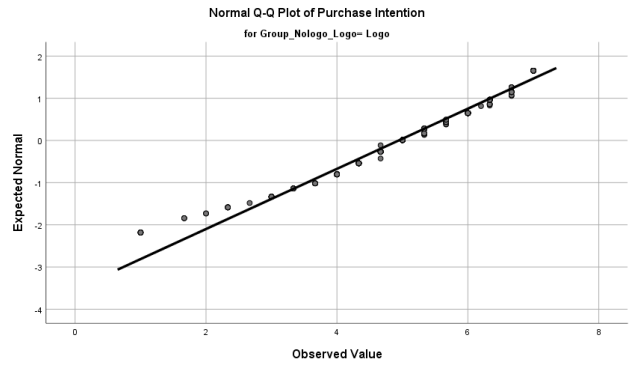
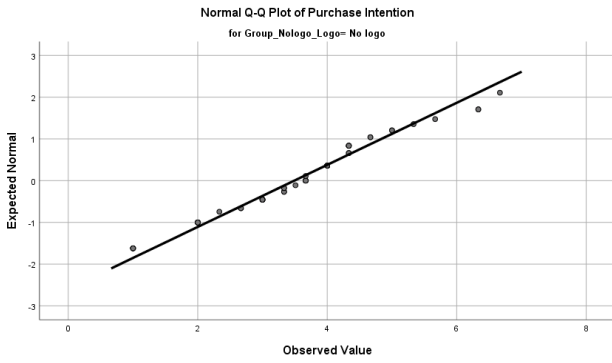
Appendix 5: Statistical Hypotheses testing

Hypothesis 1

Tests of Normality

	Group No Logo vs. Logo	Kolmogorov-Smirnov ^a		
		Statistic	df	Sig.
Purchase	No logo	,105	56	,190
Intention	Logo	,090	274	,000

a. Lilliefors Significance Correction



Group Statistics

		Group No Logo vs. Logo	N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	No logo		56	3,4912	1,34518	,17976
	Logo		274	4,9436	1,40223	,08471

Independent Samples Test

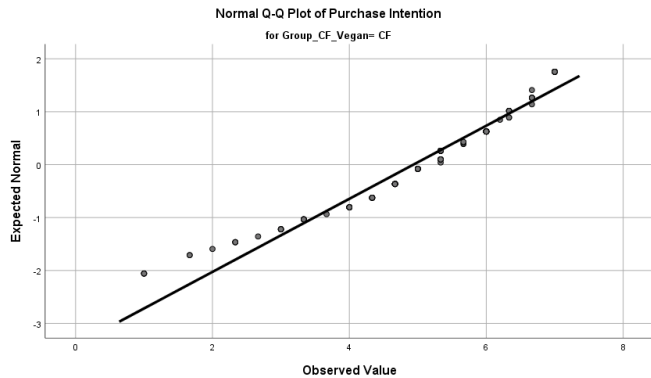
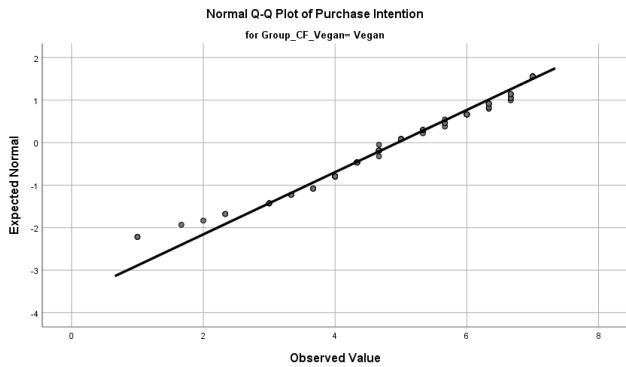
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Purchase Intention	Equal variances assumed	,180	,672	-7,110	328	,000	-1,45230	,20426	-1,85413	-1,05047

Hypothesis 2

Tests of Normality

		Group Cruelty Free vs Vegan	Kolmogorov-Smirnov ^a		
			Statistic	df	Sig.
Purchase Intention	CF		,108	125	,001
	Vegan		,098	149	,001

a. Lilliefors Significance Correction



Group Statistics

		Group Cruelty Free vs Vegan	N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	CF		125	4,9349	1,44809	,12952
	Vegan		149	4,9508	1,36746	,11203

Independent Samples Test

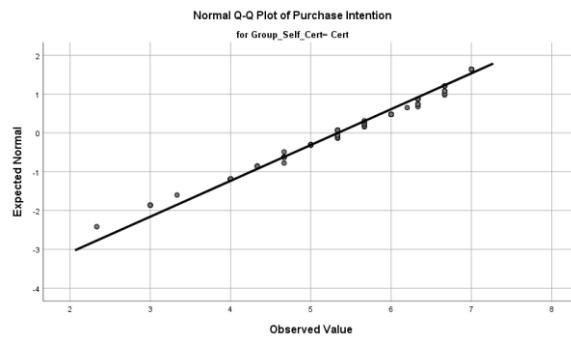
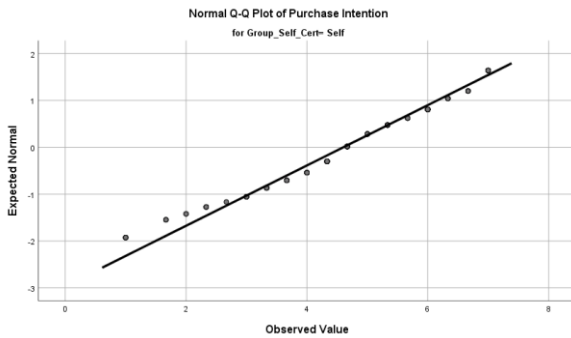
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Purchase Intention	Equal variances assumed	,102	,749	-,093	272	,926	-,01585	,17039	-,35130	,31960

Hypothesis 3

Tests of Normality

Group Self-claimed vs Certified		Kolmogorov-Smirnov ^a		
		Statistic	df	Sig.
Purchase Intention	Self	,105	147	,000
	Cert	,100	127	,003

a. Lilliefors Significance Correction



Group Statistics

Group Self-claimed vs Certified		N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	Self	147	4,6032	1,55338	,12812
	Cert	127	5,3375	1,08287	,09609

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Purchase Intention	Equal variances assumed	9,997	,002	-4,471	272	,000	-,73436	,16426	-1,05774	-,41097
	Equal variances not assumed			-4,585	260,820	,000	-,73436	,16015	-1,04971	-,41901

Hypothesis 4

Variables Entered/Removed^a

Model	Variables		Method
	Entered	Removed	
1	Label Recognizability ^b		Enter

a. Dependent Variable: Purchase Intention

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,228 ^a	,052	,049	1,36765	1,763

a. Predictors: (Constant), Label Recognizability

b. Dependent Variable: Purchase Intention

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28,021	1	28,021	14,981	,000 ^b
	Residual	508,768	272	1,870		
	Total	536,789	273			

a. Dependent Variable: Purchase Intention

b. Predictors: (Constant), Label Recognizability

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,163	,467		6,767	,000		
	Label Recognizability	,337	,087	,228	3,871	,000	1,000	1,000

a. Dependent Variable: Purchase Intention

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Label Recognizability
1	1	1,984	1,000	,01	,01
	2	,016	11,225	,99	,99

a. Dependent Variable: Purchase Intention

Correlations

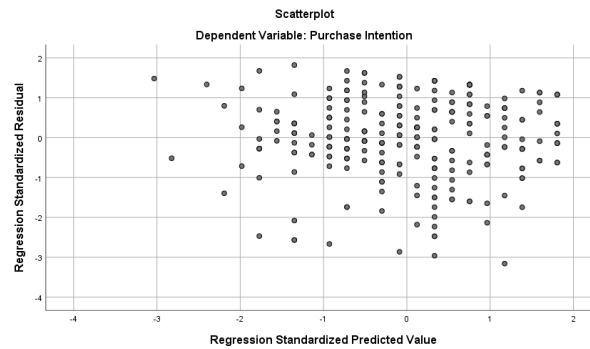
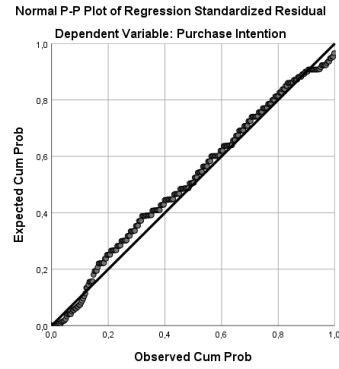
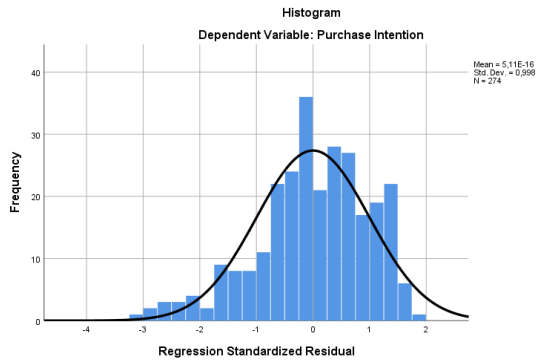
		Recognizability
Purchase Intention	Pearson Correlation	,228
	Sig. (2-tailed)	,000
	N	274

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,9717	5,5218	4,9436	,32038	274
Residual	-4,31965	2,48912	,00000	1,36514	274
Std. Predicted Value	-3,033	1,805	,000	1,000	274
Std. Residual	-3,158	1,820	,000	,998	274

a. Dependent Variable: Purchase Intention

Charts



Hypothesis 5

Model : 1
 Y : PI
 X : Group_NoLogo_vs_Logo
 W : PEA

Sample
 Size: 330

OUTCOME VARIABLE:
 PI

Model Summary

R	R-sq	MSE	F	df1	df2	p
,3799	,1443	1,9276	18,3278	3,0000	326,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,5232	,1863	18,9133	,0000	3,1567	3,8897
Group_No	1,4213	,2043	6,9569	,0000	1,0194	1,8232
PEA	-,4630	,2423	-1,9107	,0569	-,9398	,0137
Int_1	,5289	,2612	2,0245	,0437	,0150	1,0428

Product terms key:

Int_1 : Group_No x PEA

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	,0108	4,0986	1,0000	326,0000	,0437

Focal predict: Group_No (X)
 Mod var: PEA (W)

Conditional effects of the focal predictor at values of the moderator(s):

PEA	Effect	se	t	p	LLCI	ULCI
-,8461	,9738	,3118	3,1230	,0020	,3604	1,5872
,0000	1,4213	,2043	6,9569	,0000	1,0194	1,8232
,8461	1,8688	,2898	6,4492	,0000	1,2987	2,4388

Appendix 6: Hypotheses testing for the whole sample

Hypothesis 1

Group Statistics					
Group No Logo vs. Logo					
	N	Mean	Std. Deviation	Std. Error Mean	
PI	No Logo	90	3,8242	1,40319	,14791
	Logo	372	4,6412	1,54478	,08009

Independent Samples Test										
Levene's Test for Equality of Variances					t-test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PI	Equal variances assumed	1,094	,296	-4,581	460	,000	-,81703	,17837	-1,16755	-,46651

Hypothesis 2

Group Statistics					
Group CF vs Vegan					
	N	Mean	Std. Deviation	Std. Error Mean	
PI	CF	187	4,5929	1,59074	,11633
	Vegan	185	4,6901	1,49961	,11025

Independent Samples Test										
Levene's Test for Equality of Variances					t-test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PI	Equal variances assumed	1,163	,282	-,606	370	,545	-,09722	,16033	-,41248	,21804

Hypothesis 3

Group Statistics					
Group Self vs Cert					
	N	Mean	Std. Deviation	Std. Error Mean	
PI	Self	192	4,4288	1,59392	,11503
	Cert	180	4,8678	1,46120	,10891

Independent Samples Test										
Levene's Test for Equality of Variances					t-test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PI	Equal variances assumed	,791	,374	-2,763	370	,006	-,43896	,15886	-,75133	-,12659

Hypothesis 4

Variables Entered/Removed^a

Model	Variables	Variables	Method
	Entered	Removed	
1	Recognizability ^b	.	Enter

a. Dependent Variable: PI

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,245 ^a	,060	,057	1,49979	1,308

a. Predictors: (Constant), Recognizability

b. Dependent Variable: PI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53,068	1	53,068	23,593	,000 ^b
	Residual	832,264	370	2,249		
	Total	885,332	371			

a. Dependent Variable: PI

b. Predictors: (Constant), Recognizability

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,677	,412		6,500	,000		
	Recognizability	,383	,079	,245	4,857	,000	1,000	1,000

a. Dependent Variable: PI

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Recognizability
1	1	1,982	1,000	,01	,01
	2	,018	10,497	,99	,99

a. Dependent Variable: PI

Correlations

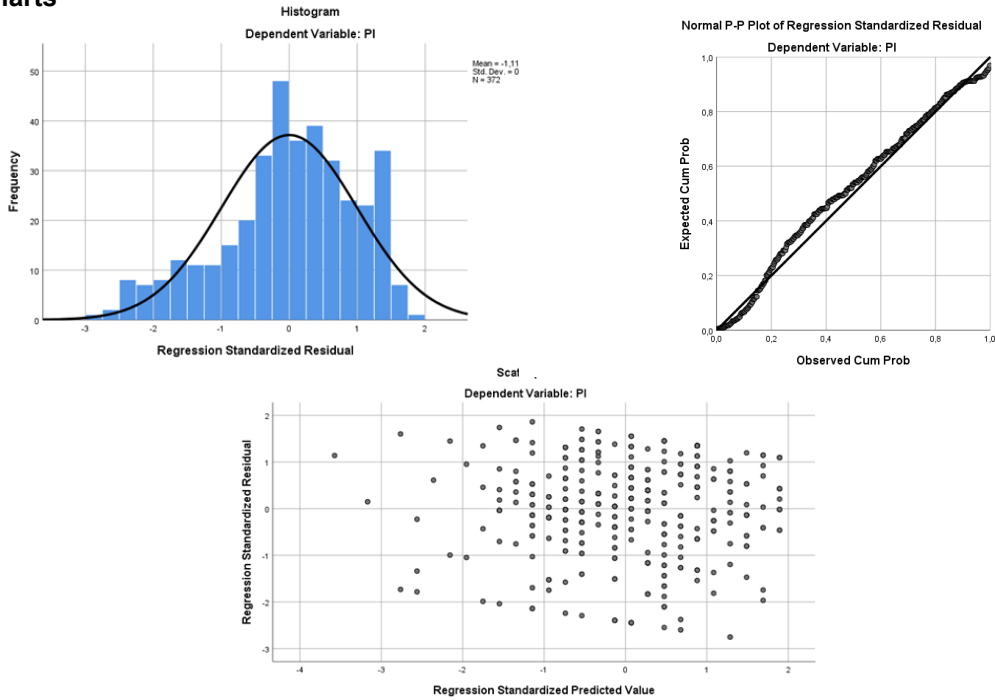
		Recognizability
PI	Pearson Correlation	,245
	Sig. (2-tailed)	,000
	N	372

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,2895	5,3572	4,6412	,37821	372
Residual	-4,12747	2,79151	,00000	1,49776	372
Std. Predicted Value	-3,574	1,893	,000	1,000	372
Std. Residual	-2,752	1,861	,000	,999	372

a. Dependent Variable: PI

Charts



Hypothesis 5

Model : 1
 Y : PI
 X : Group_NoLogo_Logo
 W : PEA

Sample Size: 462

OUTCOME VARIABLE:
 PI

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,2446	,0598	2,2765	9,7110	3,0000	458,0000	,0000

Model	coeff	se	t	p	LLCI	ULCI
constant	3,8656	,1598	24,1965	,0000	3,5516	4,1795
Group_No	,7767	,1779	4,3663	,0000	,4271	1,1263
PEA	-,5397	,1970	-2,7391	,0064	-,9269	-,1525
Int_1	,5963	,2174	2,7430	,0063	,1691	1,0236

Product terms key:
 Int_1 : Group_No x PEA

Test(s) of highest order unconditional interaction(s):	R2-chng	F	df1	df2	p
X*W	,0154	7,5241	1,0000	458,0000	,0063

 Focal predict: Group_No (X)
 Mod var: PEA (W)

Conditional effects of the focal predictor at values of the moderator(s):

PEA	Effect	se	t	p	LLCI	ULCI
-,8447	,2730	,2648	1,0308	,3032	-,2474	,7934
,0000	,7767	,1779	4,3663	,0000	,4271	1,1263
,8447	1,2805	,2462	5,2012	,0000	,7967	1,7642

