



**“ENVIRONMENTAL BRAND ATTRIBUTES  
AND NATURE IMAGERY IN VEGAN  
PRODUCT ADVERTISING”**

**TESIS PARA OPTAR AL GRADO DE MAGÍSTER EN  
MARKETING**

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## Executive summary

Environmental issues have been the center of discussion for a long time and the effects of climate change are becoming increasingly visible around us. On a positive side, people have started to become more aware of these effects and other environmental issues. This has also led to people being more conscious about the power of their own purchasing decisions (Glocalities 2019). In addition, companies around the world have started executing more environmentally friendly business practices and offering greener products (Clarke, Crocker, Ferguson y Marcell 2019) following consumers' growing demand for sustainability. Among the rise in demand for green products also the sales of different plant-based food products have seen an incredible rise in recent years (The International Trade Center 2019; The Good Food Institute, 2020).

Although today there are some significant green trends, green marketing and green advertising have existed for a long time. For decades marketers have used different green advertising strategies in order to attract environmentally conscious consumers. One of these strategies is the usage of different green product attributes such as ecolabels and information of the product's environmental characteristics in advertisements in order to communicate the product's environmental benefits to the consumer and to generate cognitive advertisement responses such as utilitarian environmental brand benefits. Another green advertising strategy includes the usage of nature imagery which purpose is to create affective responses in consumers by creating virtual nature experiences. These effects are said to positively affect for example, brand attitude which in turn could have a positive effect on purchase intention.

This thesis follows the study of Schmuck, Matthes, Naderer and Beaufort (2017) in which they investigated the cognitive and affective advertisement responses and their effect on brand attitude and purchase intention using different levels of environmental involvement, environmental concern, green purchase intention and attitude towards green products, as moderators. Among other relevant variables environmental involvement is often used as a predictor of green consumer behavior.

The objective of this present study is to test how the international vegan label, the V-Label, generates perceived utilitarian environmental brand benefits when used as an environmental brand attribute in advertisements. In addition, the combined effect of nature imagery and the V-

Label is tested in order to gain insight into what type of responses nature imagery creates in vegan product advertising, especially when advertising vegan food products.

The products chosen for this study are plant-based milk and a television. Plant-based milk was chosen due to the growing popularity of vegan milk alternatives, and television in order to test what kind of responses the exposure to the V-Label creates in a similar product category used by Schmuck et al. (2017). Two fictitious brands were created around these products: Plantay for the vegan milk and Kandai for the television. Consequently, altogether three advertisement appeals were created for each of the products: control appeal presenting the product on a blank background, functional appeal presenting the product together with the V-Label and a combined appeal that included both the V-Label and nature imagery.

The effects were measured by conducting a survey which included the advertisement appeals as stimulus. The survey measured the levels of individuals' environmental involvement before exposure to the advertisements. After seeing the advertisements, the cognitive and affective responses of utilitarian environmental brand benefits and virtual nature experience were measured. This was followed by questions related to the respondents' attitudes towards the brand seen on the advertisement and their purchase intention.

These results were then tested by running different statistical analyses such as ANOVA and regression modeling. The tests provided similar results as previous studies alike, further consolidating the existing correlations between the studied variables. One of the key findings of this study is that V-Label was found to create perceived utilitarian environmental brand benefits in a similar way like other labels, such as eco-seals (see Schmuck et al.2017). The findings were similar with both the functional and combined advertisement appeals.

The findings indicate that the usage of V-Label in vegan product advertising is more beneficial than for instance just stating the product being plant-based and may create a more positive effect on utilitarian environmental brand benefits even among those individuals perhaps otherwise not interested in vegan products. In addition, presenting the V-Label together with emotional attributes such as nature imagery can create even stronger effects which then in turn positively affect brand attitude and purchase intention.

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# 1 Introduction

Human contribution to climate change and environmental degradation has been long argued and studied but nowadays there is vast and ever-growing scientific evidence supporting these claims (United Nations 2019; National Research Council, Division on Earth and Life Studies, Committee on the Science of Climate Change 2001; IPCC 2013). To express the current situation in more practical terms, studies have shown that the majority of countries are now running a biocapacity deficit meaning that the caused ecological footprint exceeds the biocapacity of the given country (Global Footprint Network 2019). To explain this further, if every person would live, for example, like an average U.S. citizen approximately five planets would be needed to cover up the ecological footprint (Global Footprint Network 2019). Thus, it is clear urgent actions are needed to secure our planet will remain habitable for us and future generations.

Luckily, however, in recent years environmental concern and eco-consciousness have been growing globally among all demographic groups both in advanced and developing economies (Glocalities 2019). Studies indicate that people are becoming increasingly aware of the impacts of their purchasing power and exhibit a greater intention to take practical steps towards more sustainable lifestyles (Glocalities 2019). The growing concern for the environment has also created a shift in business practices and companies around the world have started to take various actions towards sustainability, including developing greener products and lowering their emissions throughout their value chains (Clarke, Crocker, Ferguson y Marcell 2019). These actions are also part of green marketing strategies as explained by Polonsky (1994): green marketing includes not just advertising products with environmental product attributes, but it can also be applied to both consumer and industrial goods and services. It encompasses a variety of activities such as product modification and packaging changes, and changes to production processes and advertising (Polonsky 1994).

These shifts are increasingly visible in the sales numbers as well: The International Trade Center (2019) conducted a study of European Union markets for sustainable products in five different EU countries and their report demonstrates clear results how the sales of sustainable products have increased in the past five years and are also expected to continue increasing in the next five years in all the surveyed markets. Another major change is the increase in the

demand and supply of plant-based products. In the United States plant-based food sales grew from 3,9 billion dollars to 5 billion between 2017 and 2019 (The Good Food Institute, 2020). During the same time period plant-based milk sales grew 14,2% and in total plant-based milks accounted for 40% of the total plant-based food market (The Good Food Institute, 2020). Globally plant-based food market sector was valued at 21.18 billion USD in 2019 (UnivDtos Market Insights, 2019). In Chile there were 150 certified vegan products in the market in 2019 and this number was expected to double in 2020 which would then sum to a total of 300 certified international and national vegan products ranging from hamburgers to mayonnaise and cosmetics (El Mostrador, 2019).

The connection between the increase in eco-consciousness and demand for plant-based products can be at least partly explained by a variety of studies proving the environmental unsustainability as well as the unethicity of animal agriculture and meat consumption. Issues around animal agriculture are complex: Goodland (1997) found several negative impacts related to livestock agriculture and meat consumption concerning not just environmental damage, but also global food crisis and suffering caused by growing population. Several other studies have also proven the negative effects of meat consumption and by contrast demonstrated the positive implications of plant-based diets, especially on the environment. One of these studies is the comprehensive meta-analysis study of Poore and Nemecek (2018) that found that animal products' environmental impacts can exceed those of vegetable substitutes to a degree where meat, aquaculture, eggs, and dairy contribute to around 58% of food's different emissions and use approximately 83% of all farmland despite that they provide only 37% of our protein and 18% of our calories. Poore and Nemecek (2018) also demonstrated how consumers' transition towards a plant-based diet can have substantial positive effects on reduction of emissions and land use as well as freshwater preservation.

However, things are not that straightforward and regardless of the growing environmental concern, scientific evidence and the increasing demand for green products, studies have shown that these factors do not always directly affect purchase intention and behavior. Fraj and Martinez (2007) found that even if people felt strongly about environmental problems they could still be less involved with their daily customs and shopping habits. Several other studies have come to the same conclusion. It has been found that green purchase behavior is affected by several different factors: Yatish and Rahman (2015) investigated in their vast literature review the variables affecting green purchase intention and behavior and categorized them into two



groups: individual and situational. Individual factors included variables such as emotions, values, knowledge and perceived consumer effectiveness (Yatish and Rahman 2015). Situational factors included product availability and quality, brand image and eco-labelling and certification, among others (Yatish and Rahman 2015).

These findings have long been implemented in green marketing and brand positioning strategies. Several studies have tested ways how to influence people and affect the components categorized in the individual and situational factors affecting green purchase behavior. As the characteristics of a product or service are often communicated through advertisements, studies have tried to point out which kind of appeals have the most impact on consumers' perceptions of the product and their purchase behavior (e.g Hartmann, Apaolaza Ibañez y Forcada Sainz 2005; Hartmann and Apaolaza-Ibañez 2008; Yang, Lu, Zhu y Su 2015; Schmuck, Matthes, Naderer and Beaufort 2017). Advertising appeals are categorized as concrete and abstract, or in other words functional and emotional. Concrete, or functional appeals communicate the features of the product in a factual and detailed manner while abstract, or emotional appeals are more vague and unspecific and often use imagery instead of words or labels in communicating the product characteristics (Leonidou, L. C., Leonidou, C. N., Paliawadana and Hultman 2011; Yang, Lu, Zhu and Su 2015).

This thesis follows the study of Schmuck, Matthes, Naderer and Beaufort (2017) in which they investigated the cognitive and affective responses created by functional and emotional ad appeals on consumers', how those responses were influenced by individuals' environmental involvement and as a result, in which way they affected brand attitude and purchase intention. Schmuck et al. (2017) created three different ad appeals, control appeal, functional appeal and a combination appeal with both functional and emotional characteristics for a fictitious mobile phone brand. In the control appeal the product was presented on a blank background whereas the functional ad presented the product with a well-known eco-seal and the emotional ad together with nature imagery.

Nature has been scientifically proven to have a very positive impact on humans on many levels. Because of such findings, it is common for marketers to use nature imagery in advertising in order for consumers to experience similar positive emotional effects as in real nature through virtual nature experiences, which in turn is expected to have a positive effect on brand attitude (e.g., Hartmann and Apaolaza-Ibañez 2009). Furthermore, Schmuck et al. (2017) studied the

individuals' level of environmental involvement and treated it as a moderator on the responses generated by the different ad appeals. The cognitive and affective advertisement responses, perceived utilitarian environmental brand benefits and virtual nature experiences, then functioned as mediators on brand attitude and purchase intention (Schmuck 2017).

Inspired by the growing popularity of plant-based product markets and the need for actions to protect the environment this thesis investigates the effects of both functional and emotional ad appeals when advertising vegan products. The results will be tested with two distinct product types, plant-based food product and a television, in order to gain insight into the possible differences between different product categories.

The aim is to extend the research of Schmuck et al. (2017) and therefore altogether six different advertisement appeals were created, both product categories having the control, functional and combined nature appeals. Instead of utilizing the eco-seal, the products are presented with international vegan label, the V-Label. The aim is to see if the V-Label increases perceived utilitarian environmental brand benefits in a similar way as other labels, such as the well-known eco-seal. This also tells us if and to what degree vegan products are perceived as environmental and if a vegan label in itself is sufficient in signaling consumers about the product's pro-environmental qualities. The effects of the environmental brand attributes and nature imagery are tested with both high and low involvement products in order to understand possible differences between advertising different vegan product categories and to see if the results of Schmuck et al. (2017) hold. The reason plant-based milk was chosen to represent the food product lies in its strong position in the plant-based food market including in Chile, its pro-environmental benefits and its ability to attract various types of consumers.

This study also aims to contribute to the research regarding vegan products and especially plant-based food products. The effects of green advertising appeals using functional attributes such as eco-seals and emotional appeals like nature imagery are vastly researched, but often with products such as household goods and electronics as seen for example in studies of Schmuck et al. (2019), Hartmann y Apaolaza-Ibáñez (2009), Matthes, Wonneberger and Schmuck (2014) and Sand Bickart y Ruth (2012). There is very limited, if any, research regarding vegan product advertising and especially consumers' cognitive and affective responses to vegan product advertisements. This study is also inspired by the authors personal observations on how people often tend to perceive vegan products as environmental although

that is not always necessarily true. Vegan labeling informs consumers that there are no animal derived ingredients in the product, but it does not tell anything about the manufacturing process, for instance. Therefore, in some respects, the results may also indicate if vegan labeling might create false perceptions of the product's sustainability. It is important to mention that although there are several reasons people choose veganism, such as animal rights, personal health and the environment (Janssen y Rödiger 2016), this study does not address the ethical or health related factors affecting vegan product purchase behavior or attitude towards vegan brands but measures the role of environmental factors such as environmental involvement in vegan advertisement responses.

## 2 Theoretical framework

### 2.1 Green consumption and green consumption behavior

Green consumption is one of many different ways of expressing sustainable behavior. Green consumption refers to consumption patterns where people favor and consume sustainable and eco-friendly products whereas other ethical and sustainable behaviors may include things such as recycling (Peattie, 2010). Environmental behavior, however, is not a simple concept to grasp. Some behaviors with environmental motivations may or may not always be sustainable: someone making an ethical decision to switch to a plant-based diet creates a positive environmental impact while another person exhibiting sustainable behavior by recycling may end up causing more harm if constantly using a car in order to get to the recycling center (Peattie, 2010).

Green consumption can be examined from many different viewpoints, one being the marketing point of view which focuses on understanding the behavior and intentions of a consumer for choosing green products (Peattie, 2010), in which we also focus on in this study. Studies have identified several factors affecting green purchase behavior of which the ones considered most relevant to this study are listed below.

**Economic rationality** refers to economic incentives such as financial rewards or penalties regarding certain behavior or consumption of a product (Peattie, 2010).

**Demographics** such as sex, age, number of children, social class and educational level are important factors affecting and in understanding green consumption behavior (Peattie, 2010).

**Environmental knowledge** has in some cases been shown to positively affect green consumption behavior. However, the results in this area are conflicting, and some studies have suggested there is no impact on behavior even when knowledge of environmental issues is high or when additional information is offered to consumers. It is argued that in some cases increasing people's knowledge may even lead to confusion (Peattie, 2010). Further investigation on this matter is recommended.

**Attitudes, beliefs, and values** have been shown to affect green behaviors. However, especially values are argued to be strongly linked to one's culture so the effects of these factors may vary (Peattie, 2010). While pro-environmental attitudes may predict a willingness to pay premium prices, the way values guide one's behavior may not be consistent nor originate from the same basis (Peattie, 2010). Some studies have shown that values related to environmental protection have led to behaviors such as waste minimization while recycling behavior was more linked to social influences and practicalities, or that individuals with strong environmental values were more likely to conserve water and recycle than to buy organic food (Peattie, 2010).

**Responsibility, Control and Personal Effectiveness** are factors that are related to whether a consumer believes they carry responsibility of environmental issues or solving environmental issues, and to what extent the consumer believes their actions can make a difference (Peattie, 2010).

Other factors affecting green consumption can be related to lifestyles and habits as well as person's own green consumer identity, or to social factors such as social environment related norms and how one wishes to be seen by others (Peattie, 2010). Therefore, understanding green consumption behavior and identifying green consumers is not easy. Roberts (1996) had also addressed this issue in his study on green consumers and had come to the same conclusion that environmental concern does not necessarily reflect behavior: consumers may declare to be willing to pay more for environmentally friendly products but then in practice claim them to be too expensive and not buy them, or that the product's environmental quality may be a competitive advantage but not if other decision factors such as price, are compromised (Roberts 1996).

Roberts (1996) created a green consumer profile by studying different correlates: demographic correlates and attitudinal correlates of perceived consumer effectiveness, liberalism and environmental concern. The demographic variables which had positive effects on ecologically conscious consumer behavior were age (middle-aged), sex (female) and education, while income had a negative effect, suggesting that people from lower socioeconomic classes are becoming more involved and green consumption is no longer an activity of those better off, as previously assumed (Roberts 1996). Attitudinal effects were found to be better in predicting ecologically conscious behavior and perceived consumer effectiveness, a measurement of to what extent the individual consumer believes they can affect environmental problems (Antil,

1978 cited by Roberts 1996), was found to be highly significant in predicting ecologically conscious consumer behavior (Roberts 1996). Interestingly environmental concern was not such a strong predictor, suggesting that even if the consumer would be concerned about the environment if they felt they had little ability to contribute to a change, they did not necessarily take part in such activities (Roberts 1996).

The results were supported by the green consumer psychographic analysis study of Fraj and Martinez (2007). They found similar results on how environmental concern is not always reflected to actual behavior and how consumers might feel their ability to affect environmental issues is limited and therefore rather rely on actions from economic institutions and government to tackle environmental issues (Fraj and Martinez 2007). This further consolidates the already addressed importance of perceived consumer effectiveness in green consumer behavior.

Although these findings need more in-depth investigation, they give valuable information for marketers in segmenting ecologically conscious consumers and in understanding the factors affecting green consumption behavior. The results also give new information that can help change previous, perhaps wrong, assumptions about green consumers (Roberts 1996).

This thesis measures the demographic and attitudinal variables including perceived consumer effectiveness. In addition, all levels of environmental involvement, environmental concern, attitudes towards green products and green purchase intentions, are included here as seen in the study of Schmuck et al. (2017) but studied as a whole instead of concentrating on each element separately. Both the environmental involvement and perceived consumer effectiveness will be explained in greater detail in the following chapters.

## **2.2 Environmental advertising and consumer responses**

Environmental advertising emerged when environmental concern started rising and marketers wanted to appeal to the new green population segment (Banerjee, Gulas y Iyer, 1995). Banerjee et al. (1995) have identified green advertising as something that explicitly or implicitly addresses the relationship between a product or service and the biophysical environment, promotes a green lifestyle with or without highlighting a product or service, or presents a corporate image of environmental responsibility. Levels of environmental focus on ads were defined as shallow,

moderate and deep, depending on how explicitly the appeal communicated the environmental attributes (Banerjee et al. 1995). Using data from numerous companies this study identified and categorized ad appeals as zeitgeist (ad including only an environmental stance), emotional appeals (ad using fear, guilt, humor, self-esteem and warmth), rational appeals (emphasizing financial aspects), organic appeals (highlighting health aspects), corporate greenness appeals (e.g., promoting social responsibility), testimonial appeals (using a person to endorse the environmental benefits), and comparative ad appeals that compare environmental benefits with another product or service (Banerjee et al. 1995). Davis (1993) also discussed about green advertising and explained how marketers try to position their products as environmental by using specific or vague and unspecific claims. Specific claims directly communicate the products environmental benefits with useful information and facts while unspecific claims make vague statements such as “less waste” without offering any proof for these statements (Davis 1993).

Consequently, green advertising seeks to communicate the environmental attributes of a product, service, or company and therefore appeal to consumers. How consumers react to green advertising and different ad appeals, however, depends on various factors. Yoo and MacInnis (2005) studied the complex process of how different emotional and informational ad appeals affected consumer responses, what type of feelings and beliefs they generated, how the advertisement attitude formed and how it affected brand attitudes.

The results suggested that when using an emotional format brand attitude formed through feelings (Yoo and MacInnis 2005). These feelings could be positive or negative and can affect ad attitude, which in turn affects the brand attitude (Yoo and MacInnis 2005). Informational ads were suggested to influence brand attitude by forming beliefs and generating favorable thoughts, even though some feelings could be at play as well (Yoo and MacInnis 2005).

Different advertisement appeals' effects on consumers have been studied even from neuroscientific perspective. One study (Couwenberg et al. 2017) investigated individuals' neurological responses by showing a test group television advertisements with both functional and experiential elements while measuring their brain activity with functional magnetic resonance imaging and then later measuring their online behavior such as click through rate and purchasing of the product that was presented in the ad. Different ads stimulated different parts of the brain: some activated parts were unique to either functional or experiential element

(Couwenberg et al. 2017). In addition, it was showed that the activity in different parts of the brain also worked as a predictor for click-through behavior (Couwenberg et al. 2017). In short, the study showed that the experimental, or emotional, appeal created cognitive thought processes evoking, for example, imagination and that this emotion is processed in a certain part of the brain that is also linked to cognitive processes such as sustaining attention and problem solving, and therefore these processes can lead to increased ad effectiveness (Couwenberg et al. 2017). The functional ad activated parts in the brain that process object identification, interpretation and recognition (Couwenberg et al. 2017). It was concluded that the experimental appeal may be more effective even when used advertising a utilitarian product but using these appeals together created the kind of combinations of brain activity that produced the most effective responses to the advertisement (Couwenberg et al. 2017).

Hartmann et al. (2005) focused on studying specifically green branding and green brand positioning with functional and emotional appeals and their effect on brand attitude. They used an environmental statement as a functional attribute and nature imagery as an emotional attribute. Nature imagery in advertising creates various affective responses one of them being the virtual nature experiences which are similar emotions a person is experiencing when in contact with real nature. These positive emotions have a positive effect on brand attitude which in turn enhances advertising effectiveness (e.g Hartmann, Apaolaza and Alija, 2013; Hartmann and Apaolaza-Ibañez, 2008). Nature imagery can also affect memory and increase attention towards advertising messages (Hartmann, Apaolaza and Alija, 2013).

The results of the green branding study of Hartmann et al. (2005) supported the statements of other studies, that emotional nature appeals generated a nature association, and functional attributes created a stronger cognitive perception of the brand being environmental. It was concluded that both appeals affected brand attitude but also that there seems to be an interaction with emotional and cognitive processes in the attitude formation and therefore these appeals should be considered used together to maximize the attitudinal effect (Hartmann et al., 2005).

Different ad appeals' effects between high and low involvement products on advertising attitude were tested in the study of Akbari (2015). Two tests were conducted where participants were exposed to persuasive messages including two functional and two emotional appeals (Akbari 2015). Functional appeals of the low-involvement product consisted of information and quality



appeals while the emotional appeal consisted of fear and pleasure appeals (Akbari 2015). Appeals were the same for the high-involvement product except that the emotional fear appeal was switched to pride appeal (Akbari 2015). When comparing the responses, it was concluded that emotional appeals were more effective with low involvement products and functional appeals were more effective with high involvement products (Akbari 2015). These results could be explained by risk aversion and consumers greater need for more accurate information when purchasing high involvement products.

### **2.3 Green product characteristics**

Green products can be observed from many different perspectives from manufacturing to final product use and disposal (Dangelico and Pontrandolfo, 2010). The manufacturing related green product characteristics summarized in Dangelico's and Pontrandolfo's (2010) study were, for example, minimization of environmental damage, minimal use of nonrenewable materials, using less energy and resources, causing less waste and not involving unnecessary animal testing and animal use or cruelty to animals (Dangelico and Pontrandolfo, 2010). Characteristics related to the product usage were long useful life, minimal packaging and low energy consumption, and for the disposal state recyclability, among others (Dangelico and Pontrandolfo, 2010).

As a summary it can be concluded that green products have minimal negative environmental and social impacts regarding all, or any part of their lifecycle, though Dangelico and Pontrandolfo (2010) suggested that products with characteristics that benefit the environment should be taken into consideration as well in defining green products. Green product characteristics most related to the plant-based milk product chosen for this thesis, are the ones related to the reduction of the use of environmental resources, environmental damage and animal suffering.

As discussed earlier several studies have demonstrated the negative environmental effects of animal agriculture (Goodland, 1997; Poore and Nemecek, 2018; Pimentel and Pimentel, 2003) and alternatively the positive effects of plant-based diets on the environment. For these reasons a plant-based milk is determined in this study as a green product with pro-environmental characteristics. Vegan label automatically rules out the use of animal derived ingredients in food

and other products and therefore mitigates the environmental damages related to animal agriculture. However, it is understood that vegan label in itself does not guarantee the product is environmental taking all of its characteristics into consideration and therefore this study focuses solely on the animal and plant agriculture comparison from the sustainability perspective.

## **2.4 Environmental Involvement**

There are several factors affecting individuals' overall green purchase behavior and in the same way some factors may affect how we respond to advertising. It has been argued that environmental involvement has an important role in moderating how customers perceive green advertising messages. Different dimensions of environmental involvement, where involvement refers to the degree of personal importance of the attitude object, are environmental concern, attitude towards green products and green purchase intention (Matthes et al., 2014; Petty and Cacioppo 1990). Environmental concern refers to an awareness of environmental issues and the perceived need to protect the environment (Matthes et al., 2014). Attitude towards green products is related to the product's quality, advantages and favorability and green purchase behavior is an indicator of environmental involvement, that being either actual behavior or behavioral intentions (Matthes et al., 2014).

It has been suggested that functional advertisements have greater effect on individuals with higher levels of involvement than emotional appeals, as more involved individuals are more capable and more motivated in processing information (e.g., Petty and Cacioppo, 1986). Several studies have found evidence supporting this, although results regarding the overall moderating role of environmental involvement are fairly mixed.

Matthes et al. (2014) conducted a study investigating the effects of emotional and functional advertising appeals, combined and separately, and tested the moderating role of environmental involvement. Against the assumptions they did not find clear evidence of the involvement's role: only attitudes towards green products affected the attitude toward the advertisement and the brand (Matthes et al., 2014). Chang, Zhang and Xie (2015) also discussed the possible mixed effects of environmental concern on advertising effects. They conducted a study where they investigated the effects of environmental concern using ad appeals with gain-loss framing and

found that in this setting people with higher level of environmental concern were more affected by the appeals.

Kamonthip, Surakiat and Ke-Chung (2017) studied environmental involvement and green product purchase intentions in Thailand. However, this study did not measure how consumers perceived green advertisements. Instead, it was conducted by doing face-to-face interviews to young Thai consumers aged 18-30 and measuring how their environmental concern affected their purchase intention (Kamonthip et al., 2017). Again, supporting other studies, the results showed significant positive impact on purchase intention when levels of environmental concern and environmental attitude were high (Kamonthip et al., 2017).

The study of Schmuck et al. (2017), that this thesis seeks to follow, investigated the moderating role of environmental involvement on green advertising effects and simultaneously the mediating roles of utilitarian environmental brand benefits and virtual nature experiences. Utilitarian environmental brand benefits refer to the additional benefits obtained compared to conventional products and virtual nature experiences to the emotional responses caused by nature imagery in advertising as discussed in previous chapters (Schmuck et al., 2017).

Schmuck et al., (2017) argued that each element of environmental involvement should play a part in the formation of certain advertisement responses such as virtual nature experiences and perceived utilitarian environmental brand benefits, the elements of environmental involvement being environmental concern, attitude towards green products and green purchase behavior. In the lack of previous research, they created a research question of how environmental involvement moderates the perceived utilitarian environmental brand benefits and virtual nature experiences (Schmuck et al., 2017). As a stimulus, participants were presented with three different cellphone ads: cellphone on a blank background, cellphone with a slogan and a green eco-seal as environmental brand attributes and a cellphone presented with environmental brand attributes combined with pleasant nature imagery (Schmuck et al., 2017). Moderating effects of each element of environmental involvement on the advertisement responses were measured. Results showed that environmental concern had a significant positive impact on utilitarian environmental brand benefits and virtual nature experiences when participants were exposed to the combined nature advertisement appeal and that attitude towards green products and green purchase behavior significantly moderated the combined ad's effect on virtual nature experience (Schmuck et al., 2017). However, the involvement did not play a role in moderating the

advertisement effects when participants were presented with the functional ad appeal (Schmuck et al., 2017).

The results indicate that different levels of environmental involvement have a different effect on virtual nature experiences and utilitarian brand benefits, and that combined nature ad creates stronger responses than functional advertisement (Schmuck et al., 2017). This thesis aims to test how these findings hold using a high-involvement electronics product in addition to low-involvement food product as well as to provide information whether these appeals would be as effective in the said product categories and if the vegan label could function as an environmental brand attribute. The investigation also aims to show if environmental involvement plays a role in understanding and perceiving the V-label and affecting brand attitude and purchase intention of different vegan products.

## **2.5 Perceived consumer effectiveness**

Another variable added to this study is perceived consumer effectiveness. PCE measures the extent to which a consumer believes their actions can influence in reducing pollution (Kinnear, Taylor and Ahmed, 1974), or that said, to what extent an individual consumer believes they can affect environmental problems. Kinnear et al. (1974) conducted a study about ecologically concerned consumers investigating the relationship between their socioeconomic and personality characteristics and the level of their ecological concern. The independent PCE variable was obtained by asking participants whether it is futile for the individual consumer to try to do anything about pollution (Kinnear et al., 1974). Respondents were ranked to three categories where the ones who strongly disagreed were in the highest category of PCE and those who strongly agreed in the lowest category while the moderate respondents were assigned to the middle category (Kinnear, Taylor and Ahmed, 1974). In this study Kinnear et al. (1974) found that personality variables were better in predicting behavior than socioeconomic variables and that PCE had a great effect on environmental concern. In addition, as discussed earlier, Roberts (1996) also found that PCE was highly significant in predicting ecologically conscious consumer behavior. Since its definition perceived consumer effectiveness's has been identified as an important variable in predicting green consumer behavior and has been frequently used in various studies related to green advertising and green consumer behavior, among others, and therefore it is also included in this study.

### **3 Objectives**

Based on the existing research and future research suggestions this study has the following general and specific objectives.

#### **3.1 General objectives**

This study seeks to demonstrate what kind of cognitive and affective responses functional and emotional ad appeals in vegan product advertising create in Chilean consumers and how these responses affect brand attitude and purchase intention. In addition, the moderating effects of individuals' level of environmental involvement to advertisement responses is studied.

Furthermore, the aim is to determine if, and to what extent the vegan label works as a green product attribute and communicates environmental brand benefits, and to obtain information on the importance of environmental involvement in creating perceptions of utilitarian environmental brand benefits in vegan product advertising.

#### **3.2 Specific objectives**

O1: Determine how environmental involvement moderates the cognitive and affective responses of utilitarian environmental brand benefits and virtual nature experiences created by functional and emotional vegan product advertisement appeals.

O2: Determine how utilitarian environmental brand benefits and virtual nature experiences affect brand attitude and purchase intention.

O3: Investigate vegan label's effect on perceived utilitarian environmental brand benefits and whether this generates similar results as advertisement appeals with other known green labels such the eco-seal.

O4: Determine how the levels of utilitarian environmental brand benefits and virtual nature experiences differ between low-involvement food product and high-involvement electronics appliance, and what kind of role environmental involvement has in moderating the

advertisement responses in said categories, and what are the possible differences in its importance between the product categories.

## **4 Hypotheses**

Based on the literature review and the study of Schmuck et al. (2017) the following hypotheses were created.

### **4.1 Utilitarian environmental brand benefits**

H1a. Functional green advertisement appeals including the V-label enhance the perceived utilitarian environmental brand benefits like other environmental brand attributes, such as eco-seals (see Schmuck et al., 2017).

H1b. Advertisement including the V-label will have stronger effects on utilitarian environmental brand benefits when presented with a plant-based food product than when presented with an electronic product. This hypothesis is based on an assumption that people are more familiar with vegan food products than other possible products free from animal derived ingredients, such as electronics.

H1c: Schmuck et al. (2017) found direct positive effects of utilitarian environmental brand benefits on purchase intention. It is hypothesized that these results hold, and utilitarian environmental brand benefits positively influence purchase intention.

H1d: Similarly, as in H1c, Schmuck et al. (2017) found significant positive influence of perceived utilitarian environmental brand benefits on purchase intention when mediated by brand attitude. Therefore, it is hypothesized that the effects of utilitarian environmental brand benefits on purchase intention are mediated by brand attitude.

### **4.2 Virtual nature experiences**

H2a: Advertisement appeals with nature imagery and environmental brand attributes create virtual nature experiences.

H2b: Advertisements with nature imagery and environmental brand attributes enhance the utilitarian environmental brand benefits.

H2c: Schmuck et al. (2017) found direct positive effects of virtual nature experiences on purchase intention. It is hypothesized that these results hold, and virtual nature experiences positively influence purchase intention.

H2d: Schmuck et al. (2017) also found significant positive influence of virtual nature experiences on purchase intention when mediated by brand attitude. Therefore, it is hypothesized that the effects of virtual nature experiences on purchase intention are mediated by brand attitude.

### **4.3 Environmental involvement**

H3a: Environmental involvement has a positive effect on utilitarian environmental brand benefits and virtual nature experiences.

H3b: It is suggested that processing the V-label as an environmental brand attribute requires stronger levels of involvement and therefore the effects on utilitarian environmental brand benefits as well as virtual nature experiences are stronger with those individuals who present higher environmental involvement. This should apply especially to the results created by the functional advertisement appeal.



## **5 Method**

This study is of quantitative type and transversal as it examines one sample population only in one certain point of time. Following the Schmuck et al., (2017) this study employs a one-factorial between-subjects design, meaning that one group of participants were tested only with one of the six different ad conditions. Based on previous studies (Hartmann et al., 2005, 2013; Hartmann and Apaolaza-Ibáñez, 2009; Schmuck et al., 2017) altogether three different ad appeals were created for both of the two different products: control appeal, functional appeal and combined appeal presenting both nature imagery and the environmental brand attribute. Following the study of Schmuck et al., (2017) the dimensions of environmental involvement were measured before ad exposure. In order to test the effects between the variables several different analyses are conducted for each of the examined variables.

### **5.1 Sample**

The reference study of Schmuck et al., (2017) based their sample on the general public of Austria using a non-probability quota sampling technique in order to guarantee population validity. Due to time constraints and limited resources this study employs a non-probability convenience sampling technique which allows a faster sample collection from the available resources. Sample size is pre-determined to 300 based on the samples of previous studies. With this response rate each appeal would reach at least 50 responses. The population of interest are Chilean citizens aged between 18 and 87.

### **5.2 Variables**

This chapter presents the different variables measured in this study and explains their role in the analysis.

#### **5.2.1 Independent variables**

Each different ad appeal is used as an independent variable in this study and analyzed separately. These advertisement appeals include the control appeal, which will be used as a

control group, functional appeal which presents the product with the V-Label as an environmental brand attribute and the combined appeal presenting the product together with nature imagery and the environmental brand attribute. These appeals were created for both of the products used in this study.

**Utilitarian environmental brand benefits:**

These benefits refer to the additional benefits consumer obtains from buying a product with environmental attributes compared to buying a conventional product. In this study utilitarian environmental brand benefits is treated both as independent and dependent variable. When treated as independent variable the direct effects on purchase intention are measured. Levels of utilitarian environmental brand benefits are measured with a two-item 7-point Likert scale based on Hartmann and Apaolaza-Ibañez (2012) as in the study of Schmuck et al., (2017).

**Virtual nature experience:**

Virtual nature experiences refer to emotions that are similar to feelings evoked when in touch with real nature but are created by nature imagery in advertising. Nature imagery is used both as independent and dependent variable in this study. When treated as independent variable the direct effects on purchase intention are measured. Levels of virtual nature experience are measured with two-item 7-point Likert scale based on Hartmann and Apaolaza-Ibañez (2012) as in the study of Schmuck et al., (2017).

## **5.2.2 Control variables**

**Demographic:**

Demographic variables included in this study are age, gender, level of education and region of residence in Chile. Demographic variables are important determinants of environmental consumer behavior though they are not the main focus in this study.

**Perceived consumer effectiveness:**

Perceived consumer effectiveness measures to what extent a consumer believes their actions and behavior can have a positive effect on the environment, or in other words, it measures consumers' estimate of their ability to contribute to pro-environmental outcomes through their behavior. This variable is assessed with three items based on Ellen, Wiener and Cobb-Walgren (1991) and Schmuck et al., (2017) and measured on a 5-point Likert scale.

### **5.2.3 Moderating variables**

#### **Environmental involvement:**

All three dimensions of environmental involvement, environmental concern, attitude towards green products and green purchase behavior, are measured in this study as follows:

Environmental concern is measured using four items based on Schuhwerk and Lefkoff-Hagius (1995), as done also by Schmuck et al., (2017). Attitude towards green products is measured using four items based on Chang (2011) and Schmuck et al., (2017). Green purchase behavior is measured with six items based on Kim and Choi (2005) and Schmuck et al., (2017). Each item is measured on a 7-point Likert scale values ranging from 1 = strongly disagree to 7 = strongly agree. Consequently, environmental involvement's moderating role on advertisement responses is measured.

### **5.2.4 Mediating variables**

#### **Brand Attitude**

Brand attitude measures consumers' opinion towards a brand, or in other words what a consumer feels or thinks of a brand or service. In this study brand attitude is measured through five-item 7-point semantic differential scale based on Schmuck et al. (2017).

### **5.2.5 Dependent variables**

#### **Utilitarian environmental brand benefits:**

Used as dependent variable when measuring the effects of different advertising appeals.

#### **Virtual nature experience:**

Used as dependent variable when measuring the effects of different advertising appeals.

#### **Purchase intention**

Purchase intention measures consumer preference to buy a product or service. This variable is measured through a single 7-point scale item based on Schmuck et al. (2017).

The following table (Table 1) presents the main variables and the items and scales used to measure them. Survey questions were translated in Spanish for the original survey. Original untranslated survey items can be found in the annexes.

Table 1. Variables, items and scales

Variable	Type	Scale	Items	Reference
Demographics: Age, Gender, Education, Region	Multiple Choice	-	-	-
Perceived Consumer Effectiveness	Likert	1 - 7	1. "There is not much that any one individual can do about the environment" 2. "The conservation efforts of one person are useless as long as other people refuse to conserve." 3. "The efforts of one individual to protect the environment are hopeless if others reject environmental protection."	(Ellen, Wiener, and Cobb-Walgren, 1991; Kim & Choi, 2005) as in Schmuck et al. (2017)
Environmental Concern	Likert	1 - 7	1. "I am concerned about the environment." 2. "The condition of the environment affects the quality of my life." 3. "I am willing to make sacrifices to protect the environment." 4. "My actions impact the environment."	Schuhwerk and Lefkoff-Hagius (1995) as in Schmuck et al. (2017)
Attitude Towards Green Products	Likert	1 - 7	1. "I like green products." 2. "I feel positive toward green products." 3. "Green products are good for the environment." 4. "I feel proud when I buy/use green products."	Chang (2011) as in Schmuck et al. (2017)
Green Purchase Behavior	Likert	1 - 7	1. "I make a special effort to buy products in biodegradable packages." 2. "I would switch from my usual brands and buy environmentally safe cleaning products, even if I have to give up some cleaning effectiveness." 3. "I have switched products for ecological reasons." 4. "When I have a choice between two equal products, I purchase the one less harmful to the environment." 5. "I enjoy buying green products." 6. "Buying green products is the preferable option."	Kim and Choi (2005) as in Schmuck et al. (2017)
Utilitarian Environmental Brand Benefits	Likert	1 - 7	1. "Plantay" / "Kandai" respects the environment. 2. "Plantay" milk is better for the environment than other animal milk brands. OR "Kandai" is better for the environment than other television brands"	Hartmann and Apaolaza-Ibáñez (2012) as in Schmuck et al. (2017)
Virtual Nature Experience	Likert	1 - 7	1. "Plantay" / "Kandai" makes me feel close to nature. 2. "Plantay" / "Kandai" makes me think of nature, fields, forests and mountains.	Hartmann and Apaolaza-Ibáñez (2012) as in Schmuck et al. (2017).
Brand Attitude	Likert	1 - 7	1. "unattractive–attractive" 2. "not likable–likable" 3. "negative–positive" 4. "boring–interesting" 5. "not recommendable–recommendable"	Schmuck et al. (2017)
Purchase Intention	Likert	1 - 7	1. "Would you be interested in buying a product of "Plantay" / "Kandai" in the future? How likely is such a purchase?"	Schmuck et al. (2017)

The figure below (Figure 1) illustrates the interactions of different variables in this study. Environmental involvement is expected to directly affect as well as to moderate the effects of different ad appeals on utilitarian environmental brand benefits and virtual nature experiences. These responses in turn affect purchase intention partly mediated by brand attitude.

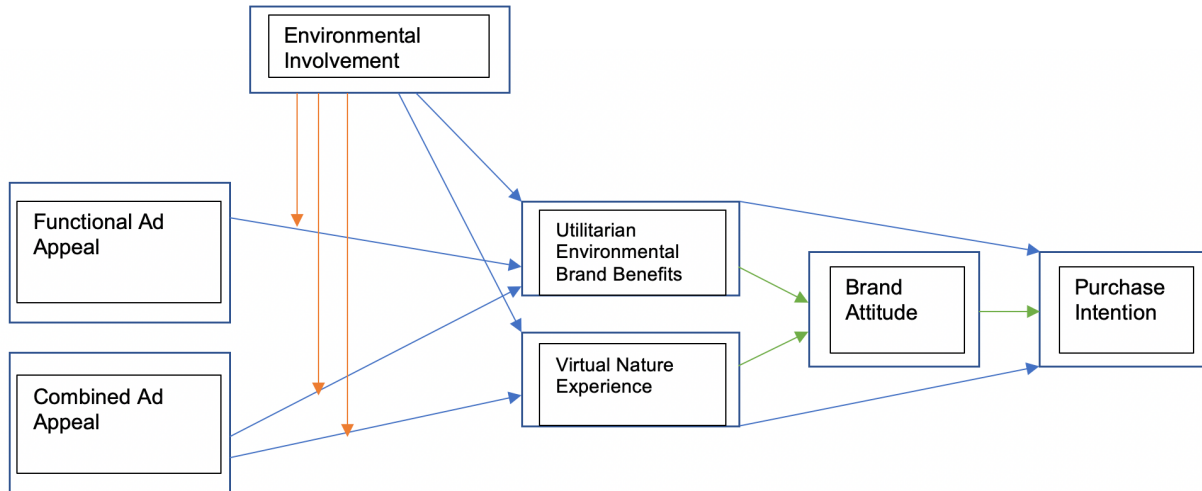


Figure 1. Variable interactions

### 5.3 Stimulus

To avoid bias due to existing perceptions of a brand, a fictitious plant-based milk brand “Plantay” and a fictitious electronics brand “Kandai” were created for this study. To study the effects of different ad appeals altogether three different appeals were created for each product: Control appeal, functional appeal and a combined appeal with both environmental brand attributes and nature imagery. Illustration 1 represents the Plantay control condition appeal where the product is presented on a blank background without environmental product attributes.



Illustration 1. Control Condition. Plantay.

Illustration 2 represents the functional appeal for Plantay with slogan and the V-label as environmental brand attributes.



Illustration 2. Functional Ad Appeal. Plantay.

Illustration 3 represents the combined ad appeal. Nature appeals with landscapes containing mountains and water have been used also in previous green advertising studies (e.g., Schmuck et al., 2017) and for that reason similar landscape was also chosen for this study.



Illustration 3. Combined Ad Appeal. Plantay.

The following illustrations represent the appeals created for the brand “Kandai”. Illustration 4 represents the control condition appeal.



Illustration 4. Control Condition. Kandai.

Illustration 5 represents Kandai's functional advertisement appeal where the television is presented with the environmental attribute V-Label.



Illustration 5. Functional Ad Appeal. Kandai.

Illustration 6 represents the combined functional-nature appeal for Kandai. In order to avoid different responses caused by different type of nature imagery, a landscape with mountains and water was chosen also for this combined appeal.



Illustration 6. Combined Ad Appeal. Kandai.



## **5.4 Procedure**

To carry out this study altogether six different advertisement appeals were created for the two fictitious brands Plantay and Kandai. These appeals were added to the survey made using the Qualtrics survey tool. The survey was structured following the interactions model (see figure 1) and started off by determining the demographic variables of age, gender, education and region of residence together with perceived consumer effectiveness. Next, each level of environmental involvement were measured, followed by utilitarian environmental brand benefits and virtual nature experiences which measured the effects generated by the advertisement exposures. Final questions measured brand attitude and purchase intention in the said order. Survey including the original untranslated question items can be found in the annexes. Table 1 in the previous chapter represents the measured variables together with the used scales and survey items.

The survey was programmed so that each ad appeal was distributed equal number of times between respondents and that each respondent was able to see only one of the six ad appeals and respond the questions in relation to that particular appeal only. Distribution between participants was totally random.

The survey was distributed via several different channels such as WhatsApp, Facebook, Instagram and email. In order to encourage participation each respondent had an opportunity to take part in a draw of two \$25.000 gift cards by providing their email addresses. These gift cards will be addressed to Planta Maestra unless another similar shop needs to be chosen due to the winners' place of residence.

## **5.5 Data analysis**

When receiving the sufficient amount of survey responses, the obtained data were cleaned by removing incomplete responses and those of which response times were less than two minutes. The data was then exported to and analyzed using the IBM SPSS Statistics version 25. The received response rate was left below the expected 300 amounting to 171 of which 167 were fit for the analysis after filtering the responses. Kandai received 25 responses for the control appeal, 27 for the functional appeal and 30 for the combined ad appeal. Plantay received

altogether 85 responses, 30 for the control group, 26 for the functional and 29 for the combined appeal.

In order to test the hypotheses, the data were grouped based on the ad appeal groups. A series of statistical analyses were carried out, including analysis of variance ANOVA, simple regression and mediation and moderation analyses. The reliability of the scales was determined through Cronbach's Alpha.

## **5.6 Ethical considerations**

This study is conducted in a way that does not cause any type of harm to the participants. Surveys are carried out anonymously and email addresses provided for the draw are separated from the survey responses upon analysis. Participants are provided with full information regarding the study and survey purpose. Surveys are handled according to protection of statistical secrecy. Information in this study, other than the authors own, are adequately referenced and cited in APA format. Results are interpreted according to, and conclusions are drawn from the results obtained in this study and the results are communicated openly.

## 6 Results

In this chapter the results for the statistical analyses and hypotheses are presented. The following data are based on the obtained survey sample which was altogether 171 responses of which 167 were eligible for this study.

### 6.1 Reliability of the scales

A Cronbach's alpha was used to determine reliability, or in other words the internal consistency of the scales. In order for the scale to be reliable the acceptable coefficient for the alpha should be above 0.7. As seen in the table 2 below, the internal consistency of the scales is high: perceived consumer effectiveness 0.772, environmental concern 0.811, attitude towards green products 0.866, green purchase behavior 0.860, utilitarian environmental brand benefits 0.824, virtual nature experience 0.851 and brand attitude 0.888.

*Table 2. Cronbach's Alpha. PCE and Environmental Involvement*

Variable	Cronbach's Alpha	Number of Items
Perceived Consumer Effectiveness	0.772	3
Environmental Concern	0.811	4
Attitude Towards Green Products	0.866	4
Green Purchase Behavior	0.860	6
Utilitarian Environmental Brand Benefits	0.824	2
Virtual Nature Experience	0.851	2
Brand Attitude	0.888	5

## 6.2 Ad appeals effects on utilitarian environmental brand benefits

Hypothesis H1a suggested that functional advertisement appeals that include environmental attributes such as the V-label, have a positive effect on utilitarian environmental brand benefits. In addition, H2b also suggested that the advertisements with both environmental attributes and nature imagery enhance the perceived utilitarian environmental brand benefits.

To test this, independent variables', those being the advertisement appeals, effects on dependent variables were tested by running an ANOVA analysis. ANOVA is an analysis technique used to measure and understand differences between different groups by comparing their mean values. In order for the difference to be significant the p-value should be below 0.05.

The mean values for functional and combined ad appeals were very different from those of the control group and the significance level was valued at 0,025 indicating that the functional and combined ad appeals have a significant positive effect on the utilitarian environmental brand benefits. Therefore, both H1a and H2b are supported. Table 3 and 4 showcase the results obtained.

*Table 3. Anova. Utilitarian Environmental Brand Benefits*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
CONTROL	55	4,2909	1,33573	0,18011	3,9298	4,652	1,00	7,00
FUNCTIONAL APPEAL	53	4,717	1,08091	0,14847	4,419	5,0149	2,00	7,00
COMBINED APPEAL	59	4,8644	1,01638	0,13232	4,5995	5,1293	2,50	7,00
Total	167	4,6287	1,16934	0,09049	4,4501	4,8074	1,00	7,00

*Table 4. Anova. Utilitarian Environmental Brand Benefits – Between Groups*

	Sum of squares	df	Mean square	F	Sig.
Between groups	9,967	2	4,983	3,766	0,025
Within groups	217,015	164	1,323		
Total	226,982	166			

### 6.3 V-label's effect based on product category

In hypothesis H1b it is suggested that the V-label would have stronger effects on utilitarian environmental brand benefits when presented with a plant-based milk product. This suggestion was based on the assumption that people would be more familiar with the V-label when presented with a food product, rather than electronics. However, after running the ANOVA analysis for the two product categories, it can be seen that the results are only significant for Kandai. Kandai's significance value is 0,001 showing statistical significance while Plantay's significance value is 0,760 indicating that in this case the V-label's effect over utilitarian environmental brand benefits is not stronger when presented with a vegan food product. Against the planted hypothesis the results are only significant for Kandai and therefore H1b is not supported.

The following tables 5 and 6 and showcase the results of the ANOVA. In addition to the significance levels, the mean values also show that there was no significant effect with Plantay. Kandai's mean value, on the other hand, for functional and combined appeals show statistically significant difference when compared with the control group.

Table 5. Anova. Descriptive - Utilitarian Environmental Brand Benefits

DESCRIPTIVE. UTILITARIAN ENVIRONMENTAL BRAND BENEFITS									
BRAND		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower bound	Upper bound		
KANDAI	CONTROL	25	3,7000	0,62915	0,12583	3,4403	3,9597	2	4,50
	FUNCTIONAL APPEAL	27	4,5000	1,1094	0,2135	4,0611	4,9389	2	7,00
	COMBINED APPEAL	30	4,7167	1,02287	0,18675	4,3347	5,0986	2,5	7,00
	Total	82	4,3354	1,03654	0,11447	4,1076	4,5631	2	7,00
PLANTAY	CONTROL	30	4,7833	1,56295	0,28535	4,1997	5,3669	1	7,00
	FUNCTIONAL APPEAL	26	4,9423	1,023	0,20063	4,5291	5,3555	2,5	7,00
	COMBINED APPEAL	29	5,0172	1,0043	0,18649	4,6352	5,3993	3	7,00
	Total	85	4,9118	1,22517	0,13289	4,6475	5,176	1	7,00

Table 6. Utilitarian Environmental Brand Benefits by Brand

ANOVA. UTILITARIAN ENVIRONMENTAL BRAND BENEFITS BY BRAND						
Brand		Sum of Squares	df	Mean square	F	Sig.
Kandai	Between groups	15,186	2	7,593	8,349	0,001
	Within groups	7,842	79	0,909		
	Total	87,027	81			
Plantay	Between groups	0,842	2	0,421	0,276	0,760
	Within groups	125,247	82	1,527		
	Total	126,088	84			

#### 6.4 Utilitarian environmental brand benefits' effect on purchase intention

Utilitarian environmental brand benefits' effect on purchase intention was measured with a simple regression analysis, which is a statistical method used to study relationships between quantitative variables. Hypothesis H1c suggested that utilitarian environmental brand benefits positively affect purchase intention. The results in the below table 7 show the significance value for the utilitarian environmental brand benefits as 0,000 indicating significant relationship with purchase intention. Therefore, the H1c is supported.

Table 7. Utilitarian Environmental Brand Benefits on Purchase Intention

DEPENDENT VARIABLE: PURCHASE INTENTION					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0,112	0,505		-0,221	0,825
Utilitarian Environmental Brand Benefits	0,857	0,106	0,533	8,098	0,000

## 6.5 Mediation: Utilitarian environmental brand benefits – Brand attitude - Purchase intention

In hypothesis H1d it was suggested that the utilitarian environmental brand benefits' effect on purchase intention is mediated by brand attitude. The mediation analysis resulted in a p-value of 0,0017 and bootstrapped lower and upper level of confidence intervals valued as 0,3190 and 0,7600 in respective order, showing statistical significance in the mediation effect. According to the analysis H1d was supported. The analysis results are presented in the following table 8.

Table 8. Mediation – Brand Attitude

Direct effect of X on Y						
	Effect	se	t	p	LLCI	ULCI
	,3357	,1052	3,1902	,0017	,1279	,5434
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
BRANDATT	,5216	,1142	,3190	,7600		

When the demographic control variables of age, gender, education and region and perceived consumer effectiveness were included in the analyses, no significant changes were observed in the results. These results are presented in the table 9 below.

Table 9. Mediation - Brand Attitude. Including Control Variables

Direct effect of X on Y						
	Effect	se	t	p	LLCI	ULCI
	.3247	.1077	30.137	.0030	.1119	.5374
Indirect effect(s) of X on Y						
	Effect	BootSE	BootLLCI	BootULCI		
BRANDATT	.5126	.1171	.3118	.7756		

## 6.6 Advertisement appeals effect on Virtual nature experiences

Another ANOVA test was run in order to test if the different advertisement appeals have an effect in creating virtual nature experiences: hypothesis H2a suggested that advertisement appeals with nature imagery and environmental brand attributes create virtual nature experiences. There is a significant difference in the mean value for the combined appeal, compared to the other types of appeals indicating that the nature imagery contributed to creating virtual nature experiences supporting H2a. The results are shown in the table 10 and 11.

Table 10. ANOVA. Ad Appeals on Virtual Nature Experiences

VIRTUAL NATURE EXPERIENCE		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower bound	Upper bound		
	CONTROL	55	3,4364	1,45314	0,19594	3,0435	3,8292	1,00	7,00
	FUNCTIONAL APPEAL	53	3,6226	1,48358	0,20379	3,2137	4,0316	1,00	7,00
	COMBINED APPEAL	59	4,678	1,46147	0,19027	4,2971	5,0588	1,00	7,00
	Total	167	3,9341	1,55961	0,12069	3,6959	4,1724	1,00	7,00

Table 11. ANOVA. Ad Appeals on Virtual Nature Experience by Group

VIRTUAL NATURE EXPERIENCE						
	Between groups	51,414	2	25,707	11,965	0,000
	Within groups	352,361	164	2,149		
	Total	403,775	166			

## 6.7 Virtual nature experiences' effect on Purchase intention

Virtual nature experiences were expected to have a positive influence on purchase intention as suggested in hypothesis H2c. By conducting a simple regression analysis for virtual nature experiences treating purchase intention as the dependent variable, it can be concluded that



virtual nature experiences have an effect on purchase intention, significance level being less than 0,00 as shown in the table 12. Hypothesis H2c is therefore supported.

Table 12. Virtual Nature Experience on Purchase Intention

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,577	0,348		4,531	0,00
	VIRTUAL NATURE EXPERIENCE	0,579	0,082	0,481	7,041	0,00

a. Dependent Variable: PI

## 6.8 Mediation: Virtual nature experience - Brand attitude – Purchase intention

Similarly, like in H1d it was hypothesized in H2d that the virtual nature experiences' effect on purchase intention is mediated by brand attitude. To test this effect, another mediation analysis was conducted. The results show a p-value of 0,0464 and bootstrapped lower-level confidence interval value of 0,2577 and bootstrapped upper-level confidence interval value of 0,6130.

These results indicate that brand attitude functions as a mediator between the effects of virtual nature experiences on purchase intention hence supporting the H2d. The results of the mediation analysis are presented in the table 13.

Table 13. Mediation. Virtual Nature Experience on Purchase Intention

Direct effect of X on Y						
	Effect	se	t	p	LLCI	ULCI
	,1610	,0802	2,0071	,0464	,0026	,3194
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
BRANDATT	,4183	,0907	,2577	,6130		

## 6.9 Environmental involvement and advertisement responses

Environmental involvement was expected to be an important factor affecting the responses on different advertisement appeals. Its effect on perceived utilitarian environmental brand benefits and virtual nature experiences was tested by running a simple regression analyses treating both the utilitarian environmental brand benefits and virtual nature experience as dependent variables. Results are presented in the following tables 14 and 15.

*Table 14. Environmental Involvement on Ad Responses – Virtual Nature Experience*

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0,649	0,892		0,728	0,468
	ENVIRONMENTAL INVOLVEMENT	0,564	0,152	0,278	3,716	0,000

a. Dependent Variable: Virtual Nature Experience

*Table 15. Environmental Involvement on Ad Responses – Utilitarian Environmental Brand Benefits*

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,807	0,66		2,739	0,007
	ENVIRONMENTAL INVOLVEMENT	0,484	0,112	0,318	4,314	0,000

a. Dependent Variable: Utilitarian Environmental Brand Benefits

The results for both utilitarian environmental benefits and virtual nature experience showcase statistical significance with values of <0,00. The findings support the H3a suggesting that environmental involvement affects perceived utilitarian environmental brand benefits and virtual nature experiences.

## 6.10 Importance of Environmental involvement in perceiving environmental brand attributes

Hypothesis H3b suggested that processing the V-label as an environmental brand attribute would require stronger levels of involvement and therefore the effects on utilitarian environmental brand benefits as well as virtual nature experiences would be stronger with those individuals who present higher environmental involvement.

In order to test this a moderation analysis was run where the environmental involvement was treated as the moderating variable, V-label appeals as independent variable and utilitarian environmental brand benefits and virtual nature experience as dependent variables.

When testing the environmental involvements effects on perceived utilitarian environmental brand benefits, the p-value was calculated as 0,6203 showing that environmental involvement levels did not have a moderating effect on perceived utilitarian environmental benefits. The variables and results are represented in the following tables 16 and 17.

*Table 16. Moderation Analysis. Variables. Utilitarian Environmental Brand Benefits*

<b>MODERATION ANALYSIS</b>
Model : 1
Y : UE <sub>BB</sub>
X : V <sub>L</sub> ABEL
W : EN <sub>I</sub> INVOLVEMENT

Table 17. Moderation Analysis – V-Label – Environmental Involvement - UEBC

	<b>coeff</b>	<b>se</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
<b>constant</b>	2,0105	1,2022	1,6724	,0964	-,3633	4,3844
<b>VLABEL</b>	-,2141	1,4282	-,1499	,8810	-3,0342	2,6061
<b>ENVINVOLV</b>	,3928	,2055	1,9113	,0577	-,0130	,7986
<b>Int_1</b>	,1210	,2437	,4964	,6203	-,3602	,6022

When testing the moderation and including the demographic control variables of age, gender, education and region and the perceived consumer effectiveness in the model, no significant changes in the results were observed. Moderation including the control variables are presented in the following table 18.

Table 18. Moderation Analysis: V-Label - Environmental Involvement – UEBC, including control variables

<b>Model</b>	<b>coeff</b>	<b>se</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
<b>Constant</b>	21.706	14.382	15.092	.1332	-.6700	50.112
<b>VLABEL</b>	-.4365	14.301	-.3052	.7606	-32.611	23.882
<b>ENV.CON</b>	.3704	.2107	17.581	.0807	-.0457	.7865
<b>Int_1</b>	.1608	.2443	.6583	.5113	-.3216	.6432
<b>PCE</b>	.0077	.0196	.3920	.6956	-.0310	.0463
<b>Age</b>	.0937	.0754	12.429	.2158	-.0552	.2426
<b>Gender</b>	-.1082	.1807	-.5990	.5500	-.4651	.2487
<b>Education</b>	.0045	.0668	.0669	.9468	-.1274	.1363
<b>Region</b>	-.1014	.0366	-27.713	.0063	-.1737	-.0291

When environmental involvement's moderating role was tested on virtual nature experience, the results were similar as on utilitarian environmental brand benefits as can be seen in the tables 19 and 20 below.

Table 19. Moderation Analysis. Variables. Virtual Nature Experience

<b>MODERATION ANALYSIS</b>	
Model : 1	
Y : VIRTUALN	
X : VLABEL	
W : ENVINVOLVEMENT	

Table 20. Moderation Analysis – V-Label – Environmental Involvement - Virtual Nature Experience

<b>Model</b>						
	<b>coeff</b>	<b>se</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
<b>constant</b>	,8510	1,6174	,5261	,5995	-2,3428	4,0448
<b>VLABEL</b>	-,1761	1,9215	-,0916	,9271	-3,9703	3,6182
<b>ENVINVOLV</b>	,4454	,2765	1,6106	,1092	-,1007	,9914
<b>Int_1</b>	,1551	,3279	,4729	,6369	-,4924	,8025

P-value is 0,6369 showing the interaction effect is not significant and levels of environmental involvement did not moderate the advertisement's effect on virtual nature experiences. In conclusion, against the hypothesized effects environmental involvement did not moderate the effects on utilitarian environmental brand benefits nor virtual nature experiences, hence H3b was not supported.

When the demographic control variables of age, gender, education and region and perceived consumer effectiveness were included in the moderation analysis, no significant difference was observed. These effects are presented in the following table 21.

Table 21. Moderation Analysis: V-Label - Environmental Involvement – VNE, including control variables

Model	coeff	se	t	p	LLCI	ULCI
Constant	.2637	19.009	.1387	.8899	-34.908	40.182
VLABEL	-.0522	18.902	-.0276	.9780	-37.856	36.811
ENV.CON	.5040	.2785	18.098	.0722	-.0460	10.539
Int_1	.1378	.3228	.4270	.6700	-.4998	.7755
PCE	.0209	.0259	.8097	.4193	-.0301	.0720
Age	.3582	.0996	35.952	.0004	.1614	.5550
Gender	.1706	.2388	.7143	.4761	-.3011	.6423
Education	-.1003	.0882	-11.374	.2571	-.2746	.0739
Region	-.0091	.0484	-1.883	.8509	-.1046	.0864

## 6.11 Demographic variables

In the analysis demographic variables did not have significant effects on the outcome variables apart from age on virtual nature experience. This can be partly explained by the homogeneity of the sample. As the predetermined sample size was not met and the quota sampling was uncontrolled majority of the participants represented the same age group, came from the same region and had fairly similar educational backgrounds. The direct effects of the demographic variables of age, gender, education and region of residence on the outcome variables are presented in the following table (Table 22).

Table 22. Demographic variables' effects on the outcome variables

Demographic Variables	Dependent Variables											
	Utilitarian Brand Benefits			Virtual Nature Experience			Brand Attitude			Purchase Intention		
	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.
Age	0.052	0.080	0.515	0.338	0.103	0.001	0.064	0.094	0.498	0.113	0.128	0.378
Gender	-0.293	0.185	0.115	0.034	0.249	0.890	-0.181	0.219	0.408	-0.321	0.299	0.284
Education	0.017	0.072	0.814	-0.067	0.096	0.484	0.015	0.084	0.861	-0.083	0.115	0.474
Region	-0.87	0.038	0.025	0.032	0.052	0.540	-0.061	0.045	0.178			

## 7 Conclusions and discussion

This study was conducted in order to understand the role of environmental involvement on different cognitive and affective responses generated by different advertisement appeals in vegan product advertisement. Consequently, the functional advertisement appeals including the V-Label as an environmental brand attribute, and the combined functional nature appeals featuring both the V-Label and nature imagery were expected to generate perceived utilitarian environmental brand benefits and virtual nature experiences. In addition, these responses were expected to affect brand attitude which would positively mediate the effect on purchase intention. The structure of this study follows the study of Schmuck et al. (2017) and was set to test those results when advertising both low and high involvement vegan products using the V-label as an environmental attribute in order to create insights on the perceptions related to the label.

As expected, the results showed that advertisements including nature imagery create virtual nature experiences and the functional advertisement appeals enhance the effects of perceived utilitarian environmental brand attributes. These effects on utilitarian environmental brand benefits were significant also for the combined advertisement appeals. These results suggest that the V-Label is enough in generating perceived utilitarian environmental brand benefits. Interestingly however, when these effects were tested by brand it was shown that the effects are significant only for Kandai while Plantay's different ad appeals do not have an effect on perceived utilitarian brand benefits unlike expected. There could be various reasons for this, including problems with the ad's appearance, general knowledge regarding the vegan label and possible environmental benefits of plant-based food products among others. Further investigation on this matter is needed. The reason why the effects on utilitarian environmental brand benefits with Kandai were significant however, could also depend on various reasons. It could be that when an advertisement of a typical household electronics product, such as television, includes such a label, people might automatically assume it must have some additional benefits. Further studies on the effects of the V-label in high-involvement product advertisement is encouraged as well.

The results for utilitarian environmental brand benefits and virtual nature experiences' effects on purchase intention were found to be positive. These results compliment various other studies (e.g., Schmuck et al., 2017) that have found similar results regarding the effects of perceived

utilitarian environmental brand benefits and virtual nature experiences on purchase intention. However, when testing the mediating role of brand attitude on purchase intention the results were significant also. These results suggest that positive brand attitude can have more important role in affecting purchase intention, meaning that the feelings generated by different advertisement appeals should be positive in order to positively affect brand attitude and thus purchase intention.

As many studies have suggested before, environmental involvement was found to have positive effects on perceived utilitarian environmental brand benefits as well as virtual nature experiences. However, the results showed that those effects were not dependable on the individual's level of environmental involvement showing that perceiving the V-label does not require higher level of environmental involvement as suggested in the hypothesis. This study, however, did not measure the different elements of environmental involvement separately and therefore it cannot be concluded if some of these elements may have a stronger effect than the other.

These results indicate that it may be more beneficial for brands to use the official V-Label rather than just stating the absence of animal derived ingredients in the product in order to create more positive image of the brand. This applies to both low and high-involvement product categories. This study also leaves open the possibility that presenting the product with the V-Label can automatically create cognitive responses that lead to enhanced perceived utilitarian environmental brand benefits regardless of if the person identifies as a vegan or not. Therefore, the usage of the label may be beneficial even when advertising products that are not directed just for vegans or that in general are not the type of products that are usually considered being able to be vegan. The enhanced effect on utilitarian environmental benefits may have some surprise factor in it as well. When a product includes labeling not often seen in such product category a subconscious reaction to this could be to perceive it as somehow positively different from the others. However, this is based on discussion and further investigation is needed to better understand the underlying factors affecting these responses.

What is interesting is that against the assumptions the V-Label did not enhance the advertisement responses with Plantay. There could be several reasons for this, for example person's individual thoughts about the taste of the product or not being familiar with such products, to mention a few.



Although the results leave some open questions the general conclusion is that V-label can function as a green product attribute and enhance the effects on brand attitude and through that affect purchase intention. More so, based on the results it seems that the combined appeal functions better than the functional appeal presenting only the V-Label and a slogan, also supporting the findings of Schmuck et al. (2017).

## 7.1 Limitations and future research

Vegan products have just recently started their conquest of the world and although a lot of studies have been made regarding the popularity and demand of the products, little is understood about how people perceive vegan product labeling and especially which are the most important reasons for people in choosing vegan products instead of their conventional rivals. This study contributes to understanding some of the perceptions generated by the vegan label in different product categories. However, it is understood that this study has some major limitations.

First, the population for the study is fairly small and therefore the results have limited generalizability. This also affects the internal and external validity of the study. Second, the products selected for the advertisement appeals were fictitious which could lead to confusion among participants as it may be difficult to build an opinion of a brand and a product with such little information and not having previous experience of it. However, this was done purposely in order to avoid participants having previous experience or perceptions related to the brand. Another limitation is related to the appeals themselves and the possibility that the appeals did not represent real-life advertisements well enough, and participants may have had certain perceptions of the ads per se.

In addition, this study only investigated environmental involvement as moderator on the perceived utilitarian environmental brand benefits and virtual nature experiences. The different elements of the environmental involvement were not analyzed separately and therefore it cannot be concluded which of the elements may have had the strongest effect. Future research should address this as well as to take into consideration other moderating factors such as ethical aspects. People choose vegan products for very different reasons, the reasons being the environment, ethical views or personal health among others. Therefore, different people may be more affected by different types of vegan advertisements. For that reason, it is suggested for future studies to use an instrument that measures ethical aspects and treat the obtained factor as the moderator for advertisement responses. In addition, studying how other types of advertisement appeals such as functional appeals with direct statements of the product's characteristics or even guilt appeals, would function between different populations in advertising vegan products is recommended.

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## 9 Annexes

### 9.1 Survey structure

Survey. Original untranslated questions.			
Question	Measured variable	Scale	Answer options
Indique su edad	Demographic	-	18-27 / 28-37 / 38-47 / 48-57, 58-67 / 68-77 / 78-87
¿Con qué género se identifica usted?	Demographic	-	Femenino / Masculino / No binario / Otros / Prefiero no responder
¿Cuál es su nivel educacional alcanzado?	Demographic	-	Sin estudios formales / Básica incompleta (primaria/preparatoria) / Básica completa (primaria/preparatoria) / Educación media incompleta / Educación media completa / Educación técnica incompleta / Educación técnica completa / Educación universitaria incompleta (carreras de 4 o más años) / Educación universitaria completa (carreras de 4 o más años / FFAA / Carabineros) / Educación de postgrado completa
Indique la región donde vive:	Demographic	-	Región Metropolitana de Santiago / Región de Arica y Parinacota / Región de Tarapacá / Región de Antofagasta / Región de Atacama / Región de Coquimbo / Región de Valparaíso / Región del Libertador General Bernardo O'Higgins / Región de Maule / Región de Ñuble / Región de Biobío / Región de Biobío / Región de los Ríos / Región de Los Lagos / Región de Aysén del General Carlos Ibañez del Campo / Región de Magallanes y la Antártica Chilena
Relacionado con el cuidado del medioambiente y la efectividad percibida del consumidor, indique su opinión sobre las siguientes aseveraciones:	Perceived Consumer Effectiveness	3 items / 7-point Likert scale (Muy en desacuerdo – Muy de acuerdo)	1.No hay mucho que pueda hacer un único individuo por el medioambiente. 2.Las acciones de conservación de una persona son inútiles mientras otras personas rechacen conservar. 3.Las acciones de conservación de un individuo para proteger el medioambiente son desesperadas si los otros rechazan la protección medioambiental.

Relacionado con su preocupación del medioambiente, indique su opinión sobre las siguientes aseveraciones:	Environmental Involvement Environmental Concern	4 items / 7-point Likert scale (Muy en desacuerdo – Muy de acuerdo)	<ol style="list-style-type: none"> <li>1.Me preocupa el medioambiente.</li> <li>2.El estado de la naturaleza afecta mi calidad de vida.</li> <li>3.Estoy dispuesto a hacer sacrificios para proteger el medioambiente.</li> <li>4.Mis acciones afectan al medioambiente.</li> </ol>
	Environmental Involvement Attitude Towards Green Products	4 items / 7-point Likert scale (Muy en desacuerdo – Muy de acuerdo)	<ol style="list-style-type: none"> <li>1.Me gustan los productos verdes.</li> <li>2.Me siento positivo hacia los productos verdes.</li> <li>3.Los productos verdes son buenos para el medioambiente.</li> <li>4.Me siento orgulloso cuando compro o uso productos verdes.</li> </ol>
	Environmental Involvement Green Purchase Behavior	6 items / 7-point Likert scale (Muy en desacuerdo – Muy de acuerdo)	<ol style="list-style-type: none"> <li>1.Me esfuerzo especialmente en comprar productos en envases biodegradables.</li> <li>2.Me transferiría de las marcas que uso habitualmente a marcas con productos de limpieza ambientalmente seguros, incluso si perdiera un poco el efecto de limpieza.</li> <li>3.He cambiado productos por razones medioambientales.</li> <li>4.Cuando tengo la opción de escoger entre dos productos similares, compro el menos dañino para el medioambiente.</li> <li>5.Me complace comprar productos verdes.</li> <li>6.Comprar productos verdes es la opción preferible.</li> </ol>

“Al ver el anuncio y pensando en los beneficios utilitarios medioambientales de la marca Plantay / Kandai, indique su opinión sobre las siguientes aseveraciones:”	Utilitarian Environmental Brand Benefits	2 items / 7-point Likert scale (Muy en desacuerdo – Muy de acuerdo)	<ol style="list-style-type: none"> <li>1."Plantay" respeta el medioambiente.</li> <li>2.Lече de "Plantay" es mejor para el medioambiente que las marcas de leche de origen animal.</li> </ol>
“Al ver el anuncio, piense en su experiencia de la naturaleza creada por la marca Plantay / Kandai e indique su opinión de las siguientes aseveraciones:”	Virtual Nature Experiences	2 items / 7-point Likert scale (Muy en desacuerdo – Muy de acuerdo)	<ol style="list-style-type: none"> <li>1."Plantay" me hace sentir cerca de la naturaleza.</li> <li>2."Plantay" me hace pensar en la naturaleza, campos, bosques y las montañas.</li> </ol>
“Ahora piense en su actitud hacia la marca Plantay / Kandai. ¿Cómo percibe usted la marca Plantay / Kandai? Indique sus sentimientos:”	Brand Attitude	5 items / 7-point Likert scale	<p>Poco atractivo – Atractivo</p> <p>Poco Agradable – Agradable</p> <p>Negativo – Positivo</p> <p>Aburrido – Interesante</p> <p>No recomendable – Recomendable</p>
¿Estaría usted interesado en comprar un producto de "Plantay" / "Kandai" en el futuro? ¿Qué tan probable es tal compra?	Purchase Intention	1 item / 7-point Likert scale	Poco probable – Probable

## 9.2 Advertisement Appeals – Plantay

Plantay Control Appeal



Plantay Functional Appeal



Plantay Combined Appeal

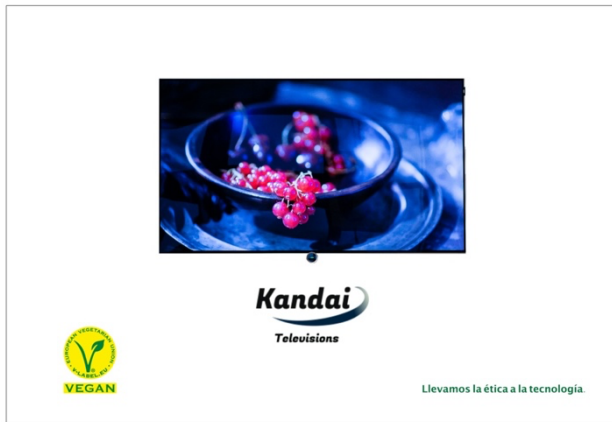


### 9.3 Advertisement Appeals – Kandai

Kandai Control Appeal



Kandai Functional Appeal



Kandai Combined Appeal

