

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN
PURCHASING INTENTIONS:
THE MEDIATING ROLE OF GREEN TRUST, CONSUMER BRAND
ENGAGEMENT AND GREEN WORD-OF-MOUTH AND THE
MODERATING ROLE OF PRODUCT INVOLVEMENT

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Abstract

The growing attention to environmental problems all over the world made the market for green products to dramatically increase in recent years, turning green marketing in an important approach for firms to gain competitive advantage. However, as more companies are becoming aware of this competitive advantage, greenwashing behaviours started emerging, and consumers are becoming more sceptical towards companies green initiatives. Thus, this study explores whether and how consumers' greenwashing perceptions influence their green purchasing intentions, by integrating the mediating role of green trust, consumer brand engagement, green word-of-mouth and the moderating role of product involvement. The research object of this study focuses on the answers of 302 consumers and utilizes partial least squares structural equation modelling to undertake an empirical study. The results indicate that consumers' greenwashing perceptions do not have a direct negative impact on green purchasing intentions, but that this relationship is mediated by green trust and green word-of-mouth. Furthermore, a multi-group analysis also shows that product involvement moderates this relationship, as well as the mediators. Low involvement products appeared to experience stronger effects in comparison to high involvement products. Hence, this study suggests that companies should promote green initiatives that are clear, transparent and coherent, rather than greenwashing, in order to ensure better and long-lasting relationships with consumers and increase sales.

Key-words: green marketing; greenwashing; green trust; green word-of-mouth; green purchasing intentions; consumer brand engagement; product involvement.

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

Resumo

A crescente atenção dada aos problemas ambientais por todo o mundo fez com que o mercado de “produtos verdes” aumentasse drasticamente nos últimos anos, transformando o marketing verde numa abordagem importante para as empresas, que lhes confere vantagem competitiva. Contudo, à medida que mais empresas se estão a aperceber desta vantagem, comportamentos de *greenwashing* começaram a surgir, tornando os consumidores mais céticos em relação às iniciativas ambientais corporativas. Assim, este estudo explora se e de que modo a perceção de *greenwashing* influencia as intenções de compra de “produtos verdes”, integrando o papel mediador da confiança verde, *engagement* com a marca, *word-of-mouth* verde e o papel moderador do envolvimento com o produto. O objeto de investigação desta pesquisa centra-se nas respostas de 302 consumidores e utiliza modelação de equações estruturais com *partial least squares* para realizar um estudo empírico. Os resultados indicam que a perceção de *greenwashing* não tem um impacto negativo direto sobre as intenções de compras verdes, mas que esta relação é mediada pela confiança verde e pelo *word-of-mouth* verde. Para além disso, uma análise multi-grupos demonstra também que o envolvimento com o produto modera essa relação, bem como os seus mediadores. Produtos de baixo envolvimento parecem ter efeitos mais fortes em comparação com produtos de alto envolvimento. Assim, este estudo sugere que as empresas deverão promover iniciativas ambientais que sejam claras, transparentes e coerentes, invés de arriscarem em *greenwashing*, de modo a garantir relações fortes e de longo-prazo com os consumidores e aumentar os níveis de vendas.

Palavras-chave: marketing verde; *greenwashing*; *word-of-mouth* verde; intenções de compra verde; confiança verde; *engagement* do consumidor; envolvimento com o produto.

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

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1. Introduction

With the rising call of attention to climate change and to environmental problems and risks, responsible environmental attitudes from consumers and society have increased, and consequently consumers started privileging brands and products who embraced this environmental cause and who look for to have a minimum negative impact on the environment (Chen, 2010; Chen & Chang, 2013). In fact, consumers are becoming more aware and concerned about environmental problems and this is reflecting in their buying behaviours (Chen & Chang, 2013; Leonidou & Skarmeas, 2017; Zhang et al., 2018). Being aware of this, companies are adopting green policies, creating green products and communicating it to the public through green marketing (Atkinson & Rosenthal, 2014; Ramus & Montiel, 2005).

A report by European Commission in 2015 estimated that the global market size for green products was around \$6 trillion at the time (Single Market for Green Products, 2015, cit. in Goh & Balaji, 2016). Furthermore, the market for green products is also estimated to grow at around 13% annually (Green Can be Cool and Profitable, 2014, cit. in Goh & Balaji, 2016). In fact, Corporate Social Responsibility (CSR) communication expenses have developed to become the third-largest budget item for company communication departments in large companies (Parguel, et al., 2011).

However, with the emergence of green marketing, also emerges green scepticism and the concept of greenwashing (Leonidou & Skarmeas, 2017). The questions are if companies are correctly implementing green marketing in order to meet the expectations of this more informed and demanding green consumers, and how greenwashing and green scepticism are impacting businesses nowadays in a society that is increasingly environmental concerned. Can perceived greenwashing have a profound impact on brand-consumer relationships? And if yes, to what extend? (Chen & Chang, 2013; Leonidou & Skarmeas, 2017; Zhang et al., 2018).

It is known that a growing number of consumers consider CSR issues and ethical conducts when making their purchasing decisions (Brouwer, 2016). In fact, consumers are becoming more demanding on this subjects and expect firms to be environmentally responsible, which may lead them to punish companies who are not and putting at risk companies' efforts to build and sustain long-term relationships with them (Brouwer, 2016).

Thus, greenwashing is a very fertile topic and academic attention to this is rapidly increasing (De Jong, et al. 2018). However there is much more to be done in the greenwashing literature and many paths that can still be explored.

1.1 Relevance of the topic

Today, greenwashing has been taking growing attention from companies, consumers, society and academics (De Jong, et al., 2018). This has become such a relevant topic nowadays because it threatens the green market, and even the global development of more sustainable societies (De Jong, et. al., 2018). This happens because by perceiving and being aware of greenwashing claims, consumers turn to be more sceptical towards green products, including the ones that are really green (Brouwer, 2016; Chen et al., 2014; Leonidou & Skarmeas, 2017). This topic is relevant not only economically but also socially, since the green scepticism often leads to the mistrust of all green initiatives, making companies suffer from a decline in the green markets, and also leads to the discredit of the green movement in general (Chen et al., 2014).

Research on the harmful impacts of greenwashing in both companies and society can also have implications regarding politics and regulation, since the lack of regulation in this area constitutes a main driver. In fact, regulation of greenwashing is extremely limited, and there is no mandatory disclosure of environmental practices and no third-party auditing of the information that is reported, which makes easy for corporations to engage and to “get away” with greenwashing practices (Delmas & Burbano, 2011; Diryana & Kurniawan, 2015).

In short, the impacts of greenwashing is a relevant topic, with social, economic and political influences and effects these days. Unexpectedly, considering the prevalence and relevance of greenwashing nowadays in corporations, the empirical research into its effects on consumers and on their attitudinal outcomes remain scarce. (De Jong et al., 2018; Schmuck, et al., 2018).

This research proves to be relevant because it intends to study greenwashing with the focus on the impact on the consumer. It is relevant to study greenwashing from a consumer’s perspective because consumers are key-stakeholders for companies, being vital to understand how they perceive greenwashing in different contexts, in order to effectively design better marketing and business strategies (Brouwer, 2016).

1.2 Problem Statement

Existing literature points towards the fact that marketing practitioners lack insight on the outcomes of greenwashing perception from a consumer's perspective (Zhang et al. 2018, Du, 2015). With this research it is intended to study the consequences of greenwashing from the perspective of consumers, a fertile topic that is not fully explored at the moment. Existing research has mainly focused on the concept, practice and drivers of greenwashing. However, its impacts on consumers' green purchasing intentions has not been much explored (Zhang, et al., 2018).

Even though the negative relationship between greenwashing perception and green purchasing intention has already been established in the literature (Atkinson & Rosenthal, 2014; Chen, et al., 2014; Leonidou, et al., 2013; Zhang, et al., 2018), there are also unexplored variables that intermediate this relationship and context variables that can cause this relationship to change. There is clearly lack of study on variables that can explain the reason why (mediators) greenwashing perception significantly influences green purchasing intention, and even on the context variables that may affect and moderate this relationship.

Extant marketing research has paid attention to exploring the issues of brand trust, engagement, word-of-mouth and purchasing intentions, however these issues have not been widely discussed from a green marketing perspective, and even less have been related to greenwashing. Thus, to this date, empirical studies integrating mediators and moderators of the greenwashing perception–green purchasing intention relationship are limited.

1.3 Research Purpose

The purpose of this study is to explore whether greenwashing perceptions influence consumers' green purchasing intentions in the context of high and low involvement products. This research proposes an integrated research model and focus the attention on the moderating role of product involvement and the mediating role of green trust, consumer brand engagement and green word-of-mouth.

This study distinguishes from the existing literature on greenwashing and green purchase intentions (Zhang et al., 2018, De Jong, et al. 2018, Chen, 2010) by introducing product involvement as a moderator of all the relationships in the model, and consumer brand

engagement as a direct mediator and indirect mediator through green word-of-mouth and green trust. Also, the indirect mediation of green trust through consumer brand engagement and green word-of-mouth has also not been studied until this moment.

Thus, this research intends to help to contribute to the green marketing literature by introducing new concepts and variables to the greenwashing perception-green purchasing intention relationship, in order to understand what mediates it and how it can oscillate depending on context variables such as product involvement - intending to provide relevant contributes for the green marketing literature and for marketing and management disciplines.

1.4 Research Questions

1. To what extent is the relationship between greenwashing perception and green purchasing intentions mediated by green trust, consumer brand engagement and green word-of-mouth?
2. How does product involvement moderate the relationship between greenwashing perception and green purchasing intentions and its mediators?

1.5 Research Outline

This master dissertation is structured in six main Chapters.

The first chapter identifies the topic of the thesis. It describes the research problem and topic relevance, and also includes the research purpose, as well as the research questions and the thesis structure.

The second chapter consists on the literature review exploring the concepts of Corporate Social Responsibility, Green Marketing and Greenwashing. Concepts of Product Involvement, Green Trust, Green Word-of-mouth and Consumer Brand Engagement are also explored. Throughout the exploration of these topics research hypothesis are developed and explained in this chapter.

In chapter three the full research model is presented and defined.

The fourth chapter covers the research methodology, including the research approach, methods of data collection and structure of the questionnaire. It also includes information about the sample and methods used for data measurement and scales.

Chapters five will present the results of the research, followed by their discussion and assessment of the validity of the research hypotheses.

Lastly, chapter six will include the main conclusions of the research, as well as theoretical and practical implications, ending with the research's limitations and recommendations for future research.

2. Literature Review and Hypothesis development

2.1. Corporate Social Responsibility

Society is gradually becoming aware that the impacts of marketing and business actions extend beyond the company itself and its direct consumer. Thus, companies are being pressured to start evaluating the ethical, environmental, legal, and social impacts of their activities on the environment and society as a whole (Kotler & Keller, 2012). In addition, activist organizations and NGO's are much more aggressive and active on pressuring companies to be more social responsible (Porter & Kramer, 2006).

At the same time, more and more people take in consideration CSR and environmental aspects in their buying-decision process (Leonidou, et al., 2013). Furthermore, people are also relying on information about a company's social and environmental performance to help them decide which companies to invest in and work for (Kotler & Keller, 2012). Therefore, the businesses that are able to come up with innovate solutions in a socially responsible way are most likely to succeed in this social responsible and environmental era. (Kotler & Keller, 2012).

Corporate Social Responsibility can be described as “ (...) *the concept of companies voluntarily incorporating environmental and social concerns in both their business operations and their interaction with stakeholders*” (Gosselt, et al., 2017: 1). The reasoning behind CSR is the fact that companies' actions sometimes threaten and have unfavourable impacts on the environment. Therefore, companies must have large responsibilities on environmental issues (Baran & Kiziloglu, 2018). With this responsibility comes the implementation of social responsible actions and communication that should go beyond the firm's interests: “*Marketing is not an end in itself. It is not the exclusive province of business management. Marketing must serve not only business but also the goals of society. It must act in concert with broad public interest. Since marketing does not end with the buy– sell transaction, its responsibilities extend well beyond making profit*” (Lazer, 1969, cit. in Parguel et al., 2011: 24)

In fact, companies started recognizing that engaging in CSR practices would allow them to strengthen relationships with consumers, as well improving corporate reputation and financial results (Gosselt et al., 2017). This way, the number of companies adopting CSR strategies has increased so much that CSR communication expenses have developed to become the third-largest budget item for company communication departments in large

companies (Parguel, et al., 2011). In fact, CSR is becoming a common and mainstream practice by most firms (Skarmeas & Leonidou, 2013).

De Jong, et al. (2018) propose three main motives for companies to adopt CSR policies: 1. to contribute to society, 2. to generate financial or other benefits, 3. to meet social expectations and alleviate stakeholder pressures. In fact, research shows that adopting CSR and communicating CSR activities and policies has a positive impact on companies' image, reputation, as well as increasing consumer purchase intentions and helping building loyalty, which can even serve as a buffer in times of crisis (De Jong et al., 2018). Besides that, other factors and benefits, such as evolving employee goals and ambitions, tighter government legislation and pressure, higher investors interest and less media scrutiny, are also driving an increasingly number of companies to incorporate CSR in their business strategies (Kotler & Keller, 2012).

A good example of a brand who has successfully incorporated CSR in its identity and business strategies is The Body Shop. In 2016, in its 40th birthday, The Body Shop launched a CSR strategy entitled "Enrich, Not Exploit", which included the ambitious goal to be *"the world's most ethical and truly sustainable global business"*. The strategy comprises three pillars: "Enrich Our People," "Enrich Our Products" and "Enrich Our Planet." Within these pillars are a series of 14 goals set for 2020 that include, helping *"40,000 economically vulnerable people access work around the world"*, *"Reducing year on year the environmental footprint of all our product categories"* and *"Powering 100 percent of stores with renewable or carbon balanced energy"*¹. Furthermore, the company who is also well-known for its fight against animal testing in the cosmetics industry, launched a large global campaign in 2018, which gathered more than 8 million signatures².

Therefore, brands like The Body Shop are using social responsibility as one of their biggest competitive advantage, differentiating themselves from their competitors, building consumer preference, and achieving notable financial results (Kotler & Keller, 2012).

However, firms have to be intentional and careful when communicating their CSR activities. Actually, ethics programs are seen as less effective when people recognise them as simply a way to fulfil corporations' self-interest purposes, as protecting top management from responsibility or benefiting the firm's reputation (Laufer, 2003).

¹ Source: <https://www.thebodyshop.com/en-us/about-us/our-commitment>

² Source: <https://www.thebodyshop.com/en-us/about-us/against-animal-testing>

Therefore, consumers develop more scepticism towards CSR, when they believe that egoistic and stakeholder-driven motives are behind firm's social responsible actions (Nyilasy, et al., 2013; Skarneas & Leonidou, 2013). In reality, when companies exaggerate in their CSR communication, stakeholders tend to question the firm's motives and start getting sceptical towards it (Skarneas & Leonidou, 2013).

The existence of inconsistent CSR information could jeopardize the image of the company, causing consumers to distrust the company affecting their attitudes and behaviours negatively (Gosselt et al., 2017). *"Because being green carries potential benefits for corporations, greenwashing has emerged as CSR's evil twin"*. (De Jong et al., 2018: 79). Therefore, because consumers perceive that some companies are not completely honest when communicating their CSR policies and activities, they start having trouble in distinguishing between social responsible and irresponsible firms (Skarneas & Leonidou, 2013). Researches have concluded that strong ethical culture and credible ethical leadership are determinant factors for ethics programs to be perceived as effective by the public (Trevino et al., 1998; Weaver et al., 1999, cit. in Laufer, 2003).

2.2 Green Marketing

2.2.1 Emergence of Green Consumerism

Since the early 1990's, with the rising concerns of environmental problems and risks, responsible environmental attitudes from consumers and society have increased, and consumers started privileging brands and products who produce a minimum negative impact on the environment (Chen, 2010; Chen & Chang, 2013). A Washington Post/ABC News/Stanford University poll in 2007 found that 94% of respondents were "willing" to change personal behaviours in order to help the environment, with 50 percent saying they were "very willing." (Kotler & Keller, 2012). In fact, consumers are starting to give more attention and importance to sustainable issues, and consequently being more conscious of their purchases and their impact on the environment (Guyader, et al., 2017). Therefore, they are sending strong environmental signals via their purchase behaviours and companies started reacting to this (Chen & Chang, 2013; Guyader et al., 2017). In fact, green products evolved from being designed only to small niche markets to start being introduced in mass markets (Cheng et al., 2018).

With this beginning trend, companies started feeling pressured and forced to change their behaviours and to develop new business models in order to comply with the society's growing environmental concern and the popularity of the green trend (Chen, 2010). They also started realizing that by passing an image of environmental concern and social responsibility they could gain a competitive advantage (Zhang, et al., 2018). In fact, in 2010, 60 major global firms used social media to establish sustainability dialogs with their stakeholders (Du, 2015). By 2012, that number grew to 176 firms, showing that companies are becoming aware of the importance of sustainability concerns for stakeholders and for the market (Bowen & Aragon-Correa, 2014; Du, 2015).

It is undeniable that due to this growing popularity of environmentalism concern in the world, the market for green products and green products sales has dramatically increased in recent years (Chen, 2010). Companies are looking forward to take advantage of the green trend by creating more environmentally and socially responsible products and services (Chen & Chang, 2013; Nyilasy, et. al, 2013), which led a greater number of companies to develop green marketing strategies and products labelled as "eco", "environmentally friendly", "green", "earth-friendly", and "sustainable" (Chen & Chang, 2013; Du, 2015; Leonidou & Skarmeas, 2017; Zhang et al., 2018).

The market for green products has definitely increased, with some consumers being willing to pay a higher price for green products (Chen, 2010). Actually, according to some studies, products containing eco-labels increase the consumers' willingness to pay the premium price and enhances their green purchasing intention (Chekima et al., 2016). Another study conducted by Chekima et al. (2016), also found that respondents were willing to pay an additional price of up to 20% to 30% more for green products. Furthermore, they discovered that the higher the income levels, along with positive attitude towards the environment, the lower the consumer's' sensitivity toward premium price.

The emergence and rise of green consumerism can be associated with the new social, cultural and economic trends, which caused this market to grow. One of the major trends worth noting is the concerns of the baby boom and millennial generation regarding living longer, healthier lives, which is leading them to value and prioritize environmental issues (Ginsberg & Bloom, 2004).

2.2.2 The Green Consumer

It was commonly assumed that most consumers are not willing to sacrifice their needs or desires just to be or to buy green (Ginsberg & Bloom, 2004). However, recently, this tendency has started to change. Actually, a greater number of consumers have changed their purchasing behaviour towards green products, started rewarding companies that have environmental programs (Nielsen, 2011, cit. in Guyader et al., 2017), and 50% of global consumers say they are willing to pay the called “green premium” for green products (Chen, 2010; Guyader et al., 2017).

Shrum, et al. (2013: 72) define the green consumer as “*anyone whose purchase behaviour is influenced by environmental concerns*”. Also, Laroche, et al. (2001) identified several factors classified into five categories that may influence consumers’ environmental concern and disposition to pay more for environmentally friendly products: demographics, knowledge, values, attitudes and behaviour. Still, most authors agree that knowledge, values and/or attitudinal factors are more significant in explaining ecologically friendly behaviour than demographics (Laroche et al., 2001; Shrum et al., 2013).

Consumers with a favourable environmental attitude (recycling, saving water and electricity, etc.) are more prone to make environmentally conscious consumption decisions. Also, social approval, confidence on the positive impact of their green purchase, along with a personal norm of being morally responsible to protect the environment are important factors that greatly influence their green purchase intentions (Chekima et al., 2016)

Green consumers are characterized by being interested in new products, paying close attention to detail and actively seeking and exchanging product information with others (Shrum et al., 2013). Besides that, they commonly are careful in their shopping habits, especially regarding price sensitiveness and are not prone to impulsive buying (Shrum, et al., 2013). Also, they tend to consider themselves to be opinion leaders and, as mentioned before, like to exchange product information with others, being able to easily spread either positive or negative word-of-mouth (Shrum et al., 2013).

Although some studies concluded that education level did not relate with positive green consumer behaviour, several other studies state that a higher education in fact increases awareness of sustainability issues, which consequently may lead to positive green consumption behaviour (Chekima et al., 2016). Recent studies found also that women

tend to be more ecologically conscious than men, and more likely to have higher intention to purchase green products (Chekima et al., 2016; Laroche et al., 2001).

However, there are different types of green consumers, being important to distinguish and segment this different “shades of green” (Ginsberg & Bloom, 2004). According to a 2002 Roper report (cit. in Ginsberg & Bloom, 2004), we can divide consumers into five segments regarding their level of green concern or predisposition to buy green products. First, the “true blue greens”, these are individuals who have strong environmental values and are over four times more prone to buy environmental-friendly products and to boycott products of companies that are not environmentally conscious. Second, “greenback greens”, they are not as active and their environmental values are not as strong as the previous segment, nonetheless they are more willing than the average consumer to purchase green products. Third, “sprouts”, these individuals believe and support environmental causes in theory but not in practice. If buying a green product will mean some type of inconvenience or spending more money, it is very unlikely that they will purchase this kind of products. However, they can be persuaded to buy green if appealed to appropriately. Forth, the “grouzers”, this type of consumers tend to be uninformed and not sensitive to environmental issues and even cynical about their personal ability to effect change. They believe that green products are too expensive and do not perform as well as conventional products. Lastly, the “basic browns”, which are individuals that are so caught up with daily concerns that they do not care and are not interested on environmental and social problems.

A relevant and important feature that is common to green consumers, which should attract managers’ attention, is their lack of brand loyalty, when compared to less green consumers. This is explained by their attitude to actively seek for information, which means they will be always looking for new products (Shrum et al., 2013). Additionally, green consumers were found to be more sceptical towards advertising in general, this way advertisers must be very careful when making green claims, in order to avoid greenwashing, and consequent greenwashing perception by these consumers (Shrum et al., 2013).

2.2.3 Green Marketing Development

Green marketing has become one of the emerging tendencies in the field of marketing, and its concept has been widely accepted and applied in practice. (Chen, 2010). The

emergence of this type of marketing started coming into prominence in the late 1980s and early 1990s and its big development can be attributed to several factors such as, companies starting believing they have a moral obligation to be more socially and environmentally responsible, pressure from stakeholders and governments and also from the industry and competitors (Polonsky, 1994; Papadas, et. al, 2018).

In fact, it can be argued that marketing is partly responsible for most of the environmental issues that often arise from consumption and over-consumption, and that the current environmental problems require the inclusion of macro-issues into consumer, firm and governments' micro-behaviours (Polonsky, 2011). It cannot be ignored that benefits such as higher profitability, increased market share and competitive advantage are also attracting more companies into adopting green marketing strategies (Kinoti, 2011; Papadas, et. al, 2018).

Academics have been referring to green marketing using a variety of terms such as green marketing, ecological marketing, environmental marketing and responsible marketing. Thus, it is not a concept easy to define (Polonsky, 2011). In fact, green marketing is a wide concept which includes *“all marketing activities that are developed to stimulate and to sustain consumers' environmental friendly attitudes and behaviours”* (Chen, 2010: 308). What all definitions have in common is the idea of minimizing environmental harm. The key idea is to create value for consumers and society, as well as for the natural environment (Polonsky, 2011).

One of the first definitions for Green Marketing was developed in 1975 by the American Marketing Association (AMA) that defined it as *“the study of the positive and negative aspects of marketing activities on pollution, energy depletion and nonenergy resource depletion”* (cit. in Polonsky, 1994: 2).

Polonsky (1994: 2) later developed a broader definition of the concept and described green marketing as *“consisting of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment”*. This means that the main goal of green marketing must be to limit natural resources use, while satisfying consumers' needs, as well as achieving the organizations' financial and selling objectives (Polonsky, 1994).

Green marketing is often associated with terms such as “environmentally-friendly”, “recyclable”, “biodegradable”, “refillable”, among many others. Yet, green marketing embodies much more than merely product attributes. It can include also industrial goods,

services, changes to the production process, packaging changes and communication alterations (Polonsky, 1994). Among the key green marketing strategies are green product strategies, green logistic strategies, post-consumer recycling, green pricing strategies and green promotion strategies (Kinoti, 2011).

The challenge for companies is to develop business practices and products that are environmentally-friendly, while meeting, at the same time, consumer's needs and requests (Ginsberg & Bloom, 2004). The aim of green marketing and green advertisement must be to clearly, or implicitly, establish a link between a product and the environment, as well as encouraging green lifestyles and improving the socially responsible corporate image (Reis & Paço, 2012).

Chen (2010) pointed out five main reasons for companies to develop green marketing: 1. compliance with environmental pressures; 2. obtaining competitive advantage; 3. improving corporate image; 4. seeking new markets or opportunities; and 5. enhancing product value. Green marketing can help to achieve competitive success (Papadas et al., 2018), as well as improving green brand image, green satisfaction, and green trust which leads to enhanced green brand equity (Chen, 2010). Brand equity represents the preference, attitude, and purchase behaviour of customers regarding a certain brand. Therefore, it consists in a combination of associations developed between the characteristics of a brand and the benefits perceived from its customers (Chen, 2010). Enhancing green brand equity can provide a competitive advantage to the brand because it gives it the power to capture a greater market share in the green sector and to sell its products with higher profit margins (Chen, 2010). Actually, literature suggest that green ads using images of nature can evoke positive emotional responses, such as "the feeling of a warm glow" that, consequently, leads to positive brand perceptions (Wonneberger & Matthes, 2014).

Nevertheless, adopting green marketing also comes with challenges. One of the big challenges for companies who practice green marketing is incorporating their environmental vision into their corporate strategies, rather than only seeking to promote their green brands solely (Chen, 2010). Hence, the adoption of green marketing practices can become a new way of brand positioning (Chen, 2010).

Marketing managers must also take in consideration that a large part of consumers are not willing to compromise on important product attributes such as convenience, price, performance and quality. This way, green products should not differ much on these attributes in comparison with conventional products, in order to earn consideration from

the vast majority of consumers (Ginsberg & Bloom, 2004). Since not all consumers are the same, regarding their degree of environmental concern, marketers may have the necessity to segment the market into different “shades of green”, as have been mentioned before, and adopt marketing and communication strategies accordingly (Ginsberg & Bloom, 2004).

Also, the fact that environmental benefits are intangible and difficult to measure or quantify, plus the high cost to implement green marketing strategies in the short term, can arise as big constraints for companies to adopt green marketing strategies. Furthermore, the temptation to greenwash by using false or misleading green claims can constitute one of the major threats for green marketing credibility and future (Kinoti, 2011).

However, it is important to acknowledge that every company is different and the adoption of green marketing will be more effective if managers realize that a one-size-fits-all strategy does not exist. This way, for every specific case it is important to study how substantial is the green consumer segment for the company, and if by improving on perceived greenness the company would financially benefit from it (Ginsberg & Bloom, 2004).

2.2.4 Green Marketing Scepticism

The sudden emergence and use of green marketing led also to the appearance of greenwashing and consequently of scepticism when consumers feel that firms are not being honest, and are using green marketing only to benefit and profit (Nyilasy et al., 2013; Zhang et al., 2018). In fact, a report by GFK (2013, cit. in Goh & Balaji, 2016) reveals that 39% of the consumers did not believe environmental claims to be true.

Green scepticism is a hot and important topic for managers and academics, since scepticism can be responsible for diminishing the positive impact of communication. The exploration of this topic is relevant since it can help design better communications strategic and improve their effects among consumers (Reis & Paço, 2012).

Green claims should be clear, true and accurate. The problem with green marketing, and green advertising specifically, is that some companies choose to use ambiguous, unclear, or even manufactured claims to attract and appeal to green consumers (Reis & Paço, 2012). This way, consumers are not only confused about green ads, but also suspicious of them (Shrum et al., 2013). The unclear definition of broad concepts as “eco-friendly”, “biodegradable”, “green” and many others attached to product labels, are generating

confusion among consumer and increasing distrust regarding green products (Reis & Paço, 2012). When consumers perceive ambiguous and deceptive claims, this could affect their relationship with the brand and their purchasing intentions (Chen & Chang, 2013). Firms are also feeling increasingly pressured to report more information about their environmental impacts, specially firms with high visibility or known for causing more environmental damage (Marquis, et al., 2016). However, the problem here is to know if the growing disclosure of environmental practices aims to increase corporate transparency, or if it is merely a symbolic action. Are firms providing the full and honest picture, or are they providing only selective information in order to manage the public impression? (Bowen & Aragon-Correa, 2014; Marquis et al., 2016).

The multiple interpretations, delimitations, and dimensions of the concept of corporate sustainability, makes difficult to distinguishing between real environmental progress and corporate environmental symbolism - and consequently are not helping to limit corporate greenwashing (Gosselt et al., 2017).

Literature suggests that higher-performing firms are less likely to engage in selective disclosure because they have less to hide and, in fact, by disclosing their environmental performance they can gain a competitive advantage. On the other hand, poorly performing firms are more prone to selective disclosure because they want to report only the environmental indicators that may enhance their reputations (Marquis et al., 2016).

Being green scepticism (and greenwashing) a big threat to the development of green marketing (Chen, et al., 2014), a large concern for marketing managers should be to understand why there is scepticism and why are so many people still suspicious of green claims (Reis & Paço, 2012) and how they can solve or minimize these issues.

2.3. Greenwashing

2.3.1 Concept

Corporations are motivated to communicate their commitment to environmental protection and sustainable development, since they are aware that this is a way to better their image and reputation, and even to improve stakeholder relations and possibly increase market shares (Brouwer, 2016; Ramus & Montiel, 2005). However, as more and more companies are becoming aware of this competitive advantage and making claims about environmental and sustainable practices, a more sceptical public started wondering

if this communication is just an easy way to profit, and whether green products offer significant environmental benefits over non-green products (Atkinson & Rosenthal, 2014; Nyilasy et al., 2013; Ramus & Montiel, 2005).

As green consumerism develops and the demand for green products is increasing, so are greenwashing practices (Chen & Chang, 2013; Diryana & Kurniawan, 2015; Leonidou & Skarmeas, 2017). In fact, more than 75% of the S&P 500 companies regularly disclose information about their environmental policies and performance on their websites, and approximately 98% of products with environmental claims mislead consumers by some sort of greenwashing (Zhang et al., 2018: 1). Regarding environmental advertising, researchers have distinguished two main types of misleading claims that can deceive consumers: 1. false appeals - perceptibly false claims based on objective evidence, and 2. vague appeals - overly broad or poorly defined claims that create an false impressions (Schmuck et al., 2018).

The emergence of the term “greenwash” reflects an increasing consciousness that some corporations are setting a leadership position and managing their reputations with the general public, financial community and regulators by assuming an ethical and social responsible position, when no real ethical commitment exists (Laufer, 2003).

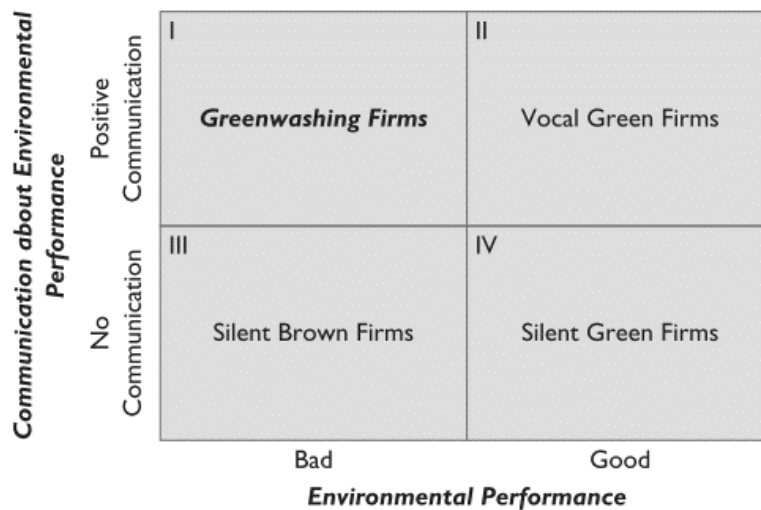
There are several definitions of the greenwashing concept over the literature. Webster’s New Millenium Dictionary of English defines greenwashing as “*The practice of promoting environmentally friendly programs to deflect attention from an organization’s environmentally unfriendly or less savory activities*” (Lyon & Maxwell, 2006: 8). Also, the Concise Oxford English Dictionary (10th Edition) defines the concept as “*desinformation disseminated by an organization so as to present an environmentally responsibility promulgated by or for an organization etc. but perceived as being unfounded or intentionally misleading*” (Lyon & Maxwell, 2006: 8). Lyon and Maxwell (2006) argue that the manipulation of information and disinformation used to mislead the public emphasized in those definitions is not the main feature regarding corporate greenwashing. In its turn, the main specificity concerning corporate greenwashing, and that draws more attention to activists, is the presentation of positive information out of context that will deceive individuals who lack background information about the company’s full range of activities (Lyon & Maxwell, 2006).

Zhang et al. (2018: 740) also present their idea of greenwashing as “*a firm’s over-communication about their environmental performance*” similarly with Delmas and Burbano (2011: 65) who defines it as “*the intersection of two firm behaviours: poor*

environmental performance and positive communication about environmental performance”.

Furthermore, Delmas and Burbano (2011) categorize firms regarding their environmental performance - being called “brown” firms the ones with poor environmental performance, and “green” firms the ones with good environmental performance-, and by the way they communicate about their environmental performance – “vocal” and “silent”. This way, we are facing greenwashing when a “brown” firm decides not to remain silent about its bad environmental performance, and instead chooses to be vocal and communicate it in a positive light Delmas and Burbano (2011).

Exhibit 1 - "A Typology of Firms based on Environmental Performance and Communication". Source: Delmas & Burbano, 2011



A good example of this is Volkswagen and its emissions scandal. In 2015 the Environmental Protection Agency (EPA) discovered the presence of a “defeat device” in Volkswagen cars in which the installed software enabled to detect when the cars were being tested, thus emitting less CO₂ than normal and enabling the emission of nitrogen oxide pollutants up to 35 times above what is legally allowed in the US. Volkswagen admitted to having installed this engine on almost 500,000 cars, that were sold in the United States between 2009 and 2015 (Siano, et al., 2017). This is one of the biggest cases of greenwashing in the last years, since this was discovered after Volkswagen’s marketing campaign named “Clean Diesel” which highlighted and publicised its cars' low emissions (Siano, et al., 2017). Also, according to the company’s reports, Volkswagen was committed to establish itself as a company leader in environmental sustainability, with

particular reference to the reduction in CO₂ emissions (Siano et al., 2017). This greenwashing scandal had serious consequences for the company with the loss of trust and loyalty from consumers and other stakeholders (Siano et al., 2017). After the scandal the sales of Volkswagen dropped worldwide (Mansouri, 2016) and Volkswagen's stock crashed 22% in just one day on the Frankfurt Stock Exchange (Siano et al., 2017).

Therefore, companies should be aware of greenwashing damaging consequences and avoid green false and misleading claims, in order to prevent future scandals and reputational damage. This way, all green marketing claims must be true and should clearly and objectively indicate and explain environmental benefits and characteristics, explain how environmental benefits are reached, make sure that making comparative differences is justified, and only use meaningful terms and images (Polonsky, 1994)

2.3.2 Main Drivers

As mentioned before, capital markets for green products and services are in expansion and there is an increased perception that being “green” constitutes a competitive advantage for companies. This awareness also leads to a greater number of companies trying to get those benefits through greenwashing - by misleading and not being completely honest about their environmental performance or the environmental benefits of their products/services (Delmas & Burbano, 2011).

Delmas & Burbano (2011) distinguished four main reasons that lead companies to greenwashing actions. First, the non-external market drivers, that mainly consist of activists, non-governmental organizations and media pressure. Second, the external market drivers, which consists on big demands and pressure from consumers and investors. Additionally, competitors in the sector are also a huge greenwashing driver, because some firms adopt greenwashing practices in order to gain competitive advantage, or at least appear as environmentalist as their competitors. In fact, the more common green practices are within a particular industry, more likely is for non-green companies within that industry to greenwash (Delmas & Burbano, 2011). Thirdly, there are organizational drivers that can contribute to greenwashing. The firm's structure and culture are determinant organizational factors that can drive firms to greenwash. Lastly, organizational inertia is a factor that can also influence greenwashing activities, and it is mostly present on larger and older organizations. Therefore, being this inertia characterized by resistance towards organizational change, and strong maintenance of the

existing structure and functions, it may be argued that newer and smaller firms are more prone to implement greenwashing in comparison to older larger firms (Delmas & Burbano, 2011).

However, there is a need to acknowledge that not every sector is capable to produce environmentally responsible and green products. It is a fact that some firms operate in industries that inevitably will harm the environment by their nature. In those cases, for those companies it may be better to leave environmental sustainability and responsibility out of their corporate communication strategies, instead of trying to perceive a deceitful image and to engage in greenwashing actions, that may harm their image in the eyes of the consumer (Baran & Kiziloglu, 2018).

By knowing that it could bring harmful consequences, it would be expected that all firms in general would avoid greenwashing. However, the lack of regulation in this area constitutes a main driver of greenwashing. In fact, regulation of greenwashing is extremely limited, and there is no mandatory disclosure of environmental practices and no third-party auditing of the information that is reported, which makes easy for corporations to “get away” with greenwashing practices (Delmas & Burbano, 2011; Diryana & Kurniawan, 2015).

2.3.3 Consequences

Since greenwashing has been linked as a main cause for consumer scepticism towards CSR (Goh & Balaji, 2016), there is the concern that its prevalence will threaten the effectiveness of genuine companies' CSR policies and possibly compromise global sustainable development (Chen, et al., 2014; De Jong, et al., 2018).

Greenwashing practices have attracted the attention specially from environmental organizations and consumer groups who criticize companies for false advertising and misleading environmental claims, with the purpose to create false “green” images in the minds of the public (Ramus & Montiel, 2005).

The growing interest about environmental issues by consumers and the limited regulation and control of greenwashing makes the public more alert to greenwashing cases. Thus, although companies cannot be held legally responsible, NGO's and media are contributing to the reputational damage of greenwashing firms. This way, environmental associations and NGO's are gaining more power, and are monitoring and spreading information about greenwashing cases, looking to hold the companies accountable. The

media is also interested in exposing greenwashing cases, since it is a hot topic that captures the public interest. Larger and well-known firms, as well as oil and utilities industries are the main targets, since they are more likely to gather public attention (Delmas & Burbano, 2011; Du, 2015).

Greenwashing is a threat to the green market. By perceiving and being aware of greenwashing claims, consumers turn to be more sceptical towards green products, including the ones that are really green (Brouwer, 2016; Chen et al., 2014; De Jong et al., 2018; Guyader et al., 2017; Leonidou & Skarmeas, 2017). This would also have a social impact, since the scepticism often leads to the mistrust of all green initiatives, making not only companies suffer from a decline in the green markets, but also the global development of more sustainable societies (Chen et al., 2014; De Jong et al., 2018).

Greenwashing perception can have deep negative effects on consumer confidence in green products and on investors' confidence, impacting negatively on socially responsible investing capital market. This way, greenwashing is risky when stakeholders start questioning firm's environmental claims and being reluctant to reward companies for environmental-friendly performance (Delmas & Burbano, 2011; Du, 2015; Nyilasy et al., 2013). Besides that, perception or suspicion of greenwashing can damage consumers' attitudes towards the company (Parguel et al., 2011), and even cause consumers to revolt against the company (de Vries, et al., 2015).

Several studies suggest that greenwashing might have negative effects on consumers (De Jong et al., 2018), having negative effects on green trust (Chen & Chang, 2013; Diryana & Kurniawan, 2015), green word-of-mouth (Chen et al., 2014; Zhang et al., 2018) and green purchasing intentions (Atkinson & Rosenthal, 2014; Chen et al., 2014; Nyilasy et al., 2013; Zhang et al., 2018).

To combat the greenwashing effects, companies have to make more trustworthy and less ambiguous green claims, proving that their efforts are authentic and genuine (Chen et al., 2014; Leonidou & Skarmeas, 2017).

2.4 The Impact of greenwashing perception on green purchasing intention

It has been asserted that CSR performance influences consumers' purchasing intentions (Parguel et al., 2011). The perception of good environmental performance leads to a better perception of the brand or product, as well as a higher intention to purchase it (Brouwer,

2016). In contrast, poor CSR performance perception (e.g. greenwashing) can lead to negative impacts on consumers' attitudes towards the brand (Parguel et al., 2011).

Since this research is focused on green marketing, it is intended to study if greenwashing perception will impact green purchasing intention specifically.

Green purchasing intentions refers to the chance that a consumer will buy a particular product in consequence of his or hers environmental concern, and represents the extent to which consumers are willing to purchase products and services from companies that they perceive as being environmentally friendly (Zhang et al., 2018). However, there is no certainty that these consumers will, in all situations, choose ethical companies for their purchases. In fact, there are various variables that can influence their green purchasing intentions (Leonidou et al., 2013). This way, green purchasing intentions can be conditioned by various factors such as one's green concern, product involvement, and product price (Akturan, 2018).

Regarding the influence of perceived greenwashing, various authors have discussed that when consumers realize that a firm is greenwashing, they tend to be more sceptical and, consequently, are less likely to buy from those firms products (Atkinson & Rosenthal, 2014; Chen, et al., 2018; Nyilasy et al., 2013; Zhang et al., 2018)

Thus, these findings are replicated by predicting:

H1: Greenwashing perception is negatively related to green purchasing intentions.

2.5 Mediating role of green trust, consumer brand engagement and green word-of-mouth

2.5.1 Green trust

Trust is an essential ingredient in the success of relationships with stakeholders. Brand trust is based on consistency, competency, honesty, and responsibility perceived by the consumer regarding a specific brand (Chen, 2010).

As mentioned before, when referring to green products and to green marketing specifically, due to a growing scepticism there is a common tendency to distrust this green products and green marketing and advertising in general. This scepticism arises because consumers commonly feel that brands are over-exaggerating their green benefits or

misleading them with highly vague and confusing claims (greenwashing), with the sole purpose to profit with people's environment concern (Nyilasy et al., 2013; Reis & Paço, 2012; Shrum et al., 2013; Zhang et al., 2018). This green scepticism indicates very low levels of green trust.

Although the relation between green trust and its effects on consumer behaviour is already studied in the literature, Sharma, et al. (2017) state that the broader dimension of green trust and its antecedents have been remained under-researched and that there is a need to better explore the variables that can influence green trust in the context of purchasing intentions. Some studies have discussed that greenwashing negatively influences green trust (Chen & Chang, 2013; Diryana & Kurniawan, 2015), however this study intends to fill a gap in the literature by studying its mediating effect in the relationship between greenwashing perception and green purchasing intentions.

Green trust is defined by Chen (2010: 312) as "*willingness to depend on a product, service, or brand based on the belief or expectation resulting for its credibility, benevolence, and ability about its environmental performance*". Several studies have been empirically confirming that there is a positive association between the companies' business ethics and consumer trust, and that business ethics can have a key role in establishing trusty long-term relationships (Leonidou et al., 2013). This way, when consumers are faced with greenwashing claims from certain companies, they may not be willing to establish long-term relationships with them (Chen & Chang, 2013; Diryana & Kurniawan, 2015; Zhang et al., 2018). Also, when in the presence of misleading and confusing green claims, and exaggeration of environmental value of products, consumers tend not to trust the company and the company's products anymore (Chen, 2010).

According to this analysis, the following hypothesis is proposed:

H2: Greenwashing perception is negatively related to green trust.

According to Chen and Chang (2012), in this environmental era, companies should invest on their green image and in improving green trust with consumers, in order to increase their green purchase intentions. In fact, some authors have already established the positive relationship between green trust and green purchasing intentions (Chen & Chang, 2012; Sharma, et al., 2017).

Green trust has an influence on green purchasing intentions because consumers tend to associate themselves with trustful ethical companies and distance themselves from

companies who adopt doubtful ethical practices (Leonidou et al., 2013). This way, perceptions of greenwashing damage consumers' green trust and attitudes towards a company and consequently their green purchasing intentions, (Chen & Chang, 2013; Schmuck, et. al., 2018). Zhang et al. (2018) state that this lack of trust generated by perceived greenwashing can ultimately lead to reduction of consumers' green purchasing intentions, assuming green trust as a mediator of the relationship between greenwashing perception and green purchasing intention.

That said, in order to increase consumers' green purchasing intentions, companies should avoid actions that may lead to green scepticism, and focus on developing good relationships with consumers and building green trust (Leonidou et al., 2013).

Thus, the following hypothesis is proposed:

H3: Green trust is positively related to green purchasing intentions.

2.5.2 Consumer Brand Engagement

The concept of consumer brand engagement (CBE) is a recent hot topic in strategic marketing and branding (Leckie, et al., 2016). Companies are focusing on it because they are becoming aware of the potential beneficial consequences that a long-term two-way valuable relationship with the consumer can have on consumer marketplace behaviour (Dwivedi, 2015; Hollebeek, 2011a). This way, building CBE is, nowadays, one of managers' top priorities (Dwivedi, 2015). In fact, CBE has been associated with higher advertising effectiveness (Brodie, et al., 2011), increased trust, rapport, commitment and customer satisfaction (Hollebeek, 2011b), and arises as a business strategy that aims to improve corporate performance, by creating competitive advantage, consumer loyalty and, ultimately, increasing sales and financial results (Abbas, et al., 2018; Brodie, et al., 2011).

CBE is a multidimensional concept that is dependent of the context and on the consumer expression of relevant cognitive, emotional and behavioural dimensions, such as absorption (cognitive), dedication (emotional), vigour and interaction (behavioural) towards the brand (Abbas et al., 2018; Brodie et al., 2011; Hollebeek, 2011b). Thus, it can be defined as *“the level of an individual customer’s motivational, brand-related and context-dependent state of mind characterised by specific levels of cognitive, emotional and behavioural activity in direct brand interactions”* (Hollebeek, 2011b: 790). This

engagement and strong deep connection with the brand takes the customer “*beyond the transactional sphere*” (France et al., 2016: 5).

CBE is considered a psychological state because it goes beyond the merely manifestation of behaviours, since it also involves cognitive and emotional responses (Abbas et al., 2018). The two-way interaction in the relationship between the subject (consumer) and object (brand) is one of the main characteristics of CBE, where the consumer is a crucial factor to the creation engagement because they are no longer passive audiences, but active players (Hollebeek, 2011a; Leckie et al., 2016). In fact, Brodie et al. (2011: 253) addressed CBE as “*an interactive experience and value co-creation within marketing relationships*”.

There are not many studies relating CBE and greenwashing. However, it is known that high levels of engagement sometimes can make consumers more willing to forgive a brand for misconduct (Wallace, et al., 2014). The question is: to what extent are they willing to forgive?

In a recent study, Abbas, et al. (2018) concluded that perceived CSR influences CBE. In fact, they acknowledged that perceived CSR developed trust among consumers and made them more willing to develop relationships with the brand, since trust is considered an essential element of the engagement process. In fact, when consumers consider the brand reliable, they are more likely to engage and be loyal to that brand (Abbas et al., 2018). So, it can be questioned what would happen if consumers perceive greenwashing behaviour, since the perception of greenwashing includes the acknowledgement of misleading, confusing and exaggerated claims with the aim of intentionally misleading consumers. This can be conflicting with brand self-expression (Leckie et al., 2016) and brand self-congruity (France et al., 2016), that are main drivers of CBE.

Thus, following Abbas et al. (2018) reasoning: if perceived CSR develops trust and consequently promotes higher CBE, it can be expected that perceived greenwashing will have the opposite effect by decreasing consumer’s trust, and consequently lowering CBE. Thus, by assuming that trust is positively related to CBE (H5), and proposing that greenwashing perception is negatively related to green trust (H2), it can be suggested that perceived greenwashing will have a negative impact on CBE directly.

According to this analysis, the following hypothesis is proposed:

H4: Greenwashing perception is negatively related to consumer brand engagement.

Trust is so important to be developed since it makes consumers more willing to establish relationships with the brand. In fact, when consumers consider the brand reliable and trustworthy, they are more likely to engage, commit and be loyal to that brand (Abbas et al., 2018; Chen, 2010)

This relationship between trust and CBE can be bidirectional since trust can also be seen as a CBE consequence in the case of new customers interacting with a specific for the first time. (Brodie, et al., 2011). However, in common and familiar brands, brand trust have been suggested in the literature as an antecedent to CBE. (Hollebeek, 2011b).

Being this research focused on green marketing, the goal is to study the relationship between green trust, specifically, and CBE. Studies of CBE in the green marketing field are very scarce and to this date there were no studies found that studied or established a relationship between green trust and consumer brand engagement. Thus, in order to fill this gap and according to previous research establishing brand trust as a CBE antecedent (Abbas et al., 2018; Chen, 2010; Hollebeek, 2011b; Brodie, et al., 2011), and assuming that green trust would have the same effect, the following hypothesis is proposed:

H5: Green trust is positively related to consumer brand engagement.

This way, it is always beneficial for brands to adopt strategies that promote CBE and to avoid behaviours that might make consumers to question the brand's reliability and integrity. High levels of CBE will help to improve brand usage intent, brand loyalty intentions and brand performance (Dwivedi, 2015; France et al, 2016). France et al. (2016) also state that in future researches, it would be beneficial to study the influence of CBE on actual customer behaviour. In this research, in light of green marketing specifically, it is intended to study the influence of CBE on consumer behaviours such as green word-of-mouth (WOM) and green purchasing intentions.

However, as stated before, there is a gap in the green marketing literature concerning CBE and no studies were found relating this concept with greenwashing perception and its outcomes, such as green trust, green WOM and green purchasing intention.

When talking about purchasing intentions, and specifically green purchasing intentions, it would be expected that consumers who are more engaged with a certain brand, would also be more prone to buy or have the intention to buy products of that brand, including green ones.

This way, this research proposes that high levels of CBE will lead to higher green purchasing intentions. Thus, the following hypothesis was formulated:

H6: Consumer brand engagement is positively related to green purchasing intentions.

Besides higher purchasing intention, high levels of engagement can also promote repeated buying, resisting brand-switching and spreading positive WOM (Abbas et al., 2018; Dwivedi, 2015).

Consumers engage in WOM so they can communicate and discuss their experiences (positive or negative) with friends, relatives and colleagues, in order to exchange information and improve decision-making (Skarmeas & Leonidou, 2013). WOM has a great impact on consumers' decision making because people look for it to avoid or diminish uncertainty of their purchases (Zhang et al., 2018).

Engaged consumers tend to believe, trust, and have pride and passion for the brand (Brodie et al., 2011), and to develop a sense of belonging that makes them brand advocates, who like to spread positive WOM (Abbas et al., 2018; Wallace et al., 2014). High brand engagement makes the consumer more interested in supporting the brand and recommending and discussing its products or services with others. In fact, positive WOM is one of the main manifestations of CBE (Abbas et al., 2018).

When talking in light of green marketing, the concept of green WOM arises and it can be defined as *“the extent of to which a customer would infer friends, relatives, and colleagues about positive environmental messages of a product or a brand”* (Chen, et al., 2014: 2414). Since the aim of this research is to test hypothesis in light of green marketing and the impact of perceived greenwashing perception, the intention is to test the impact of CBE on green WOM, specifically.

Thus, the following hypothesis is proposed:

H7: Consumer brand engagement is positively related to green word-of-mouth.

2.5.3 Green Word-of-mouth

Consumers spread positive WOM when there are high levels of satisfaction, emotional involvement, and high levels of commitment and loyalty (Skarmeas & Leonidou, 2013).

However, when consumers have a bad experience (e.g. perceived greenwashing) they can also spread negative WOM, through complaints and rumours (Zhang, et al., 2018).

In fact, brand trust also can have an important effect on consumer's relational and behavioural outcomes towards a brand. According to Matos, et al. (2008), a positive relationship between trust and positive WOM has been established in empirical findings. Papista & Dimitriadis (2019) have also related brand trust, as well as commitment, love, intimacy and self-connection, with positive WOM.

However, and according to Sichtmann (2007) the studies focused on brand trust have not fully explored the impact of trust on WOM behaviour. Yet, he suggests that when a consumer trusts a certain brand, the risk of giving bad advice and disappointing another person decreases, being the consumer more disposed to recommend and say good things about the brand to others. Thus, he proposed that trust in a brand positively influences the WOM behaviour (Sichtmann, 2007).

Lengthening these conclusions to the concepts of green trust and green WOM, specifically, it can be assumed that when a consumer does not trust a brand's green intentions, claims and/or actions it would be expected that they would not be willing to spread positive WOM regarding that brand's green actions. In fact, in a research conducted by Skarmeas & Leonidou (2017) it was found that green scepticism was associated with negative WOM.

According to this analysis, these findings are replicated by predicting:

H8: Green trust is positively related to green word-of-mouth.

Since consumer satisfaction is positively associated with positive WOM, with the arising environmental concerns and sustainability trend, companies are starting privileging consumer satisfaction towards sustainability, in order to increase positive green WOM (Chen et al., 2014). Companies that show environmental concern and develop green strategies tend to be "rewarded" by consumers through positive green WOM (Zhang et al., 2018).

This way, some companies feel tempted to engage in greenwashing activities, so they can effortlessly achieve this consumer satisfaction towards sustainability (Chen et al., 2014). However, when consumers perceive greenwashing it can have an undesired adverse effect, since it has been established that perceived greenwashing negatively affects green WOM (Chen et al., 2014), and that negative experiences tend to have a stronger impact

and to stay longer in consumer's memories (Skarmeas & Leonidou, 2013). Actually, when consumers are aware that a company's green actions and communication are not fully transparent and that the company intends to mislead consumers through greenwashing, they stop spreading positive green WOM, or even start spreading negative green WOM so they can warn others (Chen et al., 2014, Skarmeas & Leonidou, 2013, Zhang et al., 2018). In a study by Chen et al. (2014) it was concluded that greenwashing negatively relates to green WOM and green perceived quality and green satisfaction have been presented as two partial mediators on this relationship. In this study green trust and CBE are also proposed as mediators of this relationship.

In reality, the impact of perceived greenwashing on green WOM can constitute a big threat for companies if consumers turn to negative green WOM - especially in this social media era, since a larger number of people can become sceptical towards the company's green intentions and boycott by stop purchasing its products (Zhang et al., 2018). In fact, it is recommended to companies to reduce or avoid completely greenwashing activities in order to improve green WOM (Chen et al. 2014).

Thus, according to this analysis the following hypothesis is proposed:

H9: Greenwashing perception is negatively related to green word-of-mouth.

The great significance of WOM for managers is the fact that it is consumer-dominated and considered by consumers as more reliable than traditional company-generated communications (e.g. advertising), which are progressively losing credibility and effectiveness (Prendergast, et al., 2010).

Before making a purchase, consumers search about the product with the purpose of reducing perceived risk. Nowadays, consumers rely on the internet as a source of information, since it enables real-time consumer-to-consumer interactive share of experiences and opinions (Prendergast et al., 2010). Since high levels of credibility are attributed to WOM, consumers consider other consumers opinions in their purchase decision process. In the case of green marketing, when consumers are confused about green products, they are more likely to trust and purchase the ones with better green WOM (Chen et al., 2014). In fact, WOM communication can influence consumer risk taking, short-term and long-term product opinions and purchase decisions (Prendergast et al., 2010). According to Zhang et al. (2018), green WOM is significantly positively related with green purchasing intentions.

Thus, these findings are replicated by predicting:

H10: Green word-of-mouth is positively related to green purchasing intentions.

2.6 The moderating effect of product involvement

Products have been classified by academics and marketing and advertising professionals based on their function - utilitarian vs. hedonic, and level of involvement - low vs. high (Kong & Zhang, 2014).

Involvement is such a rich concept with multiple dimensions, which should be examined as a multi-dimensional construct (Quester & Lin Lim, 2003). It can commonly be confused with CBE, however while CBE is a result from an interaction with the brand, involvement derives from the relevance or value of a product group for the consumer (Parihar, et al., 2019).

Since product involvement constitutes a complex and multi-dimensional construct (Quester & Lin Lim, 2003), in order to develop a comprehensive consumer's involvement profile, Kapferer and Laurent (1985, 1993) purpose five of what they call antecedents or facets of involvement, in which they will measure the consumer's position for each:

1. Interest: the personal interest a person has in a product category, its personal meaning or importance.

2. Pleasure: the ability to provide pleasure and enjoyment.

3. Sign: the degree to which it expresses the person's self.

4. Risk importance: the perceived importance of the potential negative consequences associated with poor choice of products.

5. Risk probability: the perceived probability of making a poor choice.

(Kapferer & Laurent, 1993: 359)

These five dimensions will be determinant in the consumer buying-decision behaviour (Quester & Lin Lim, 2003). Low-involvement purchases are characterized by requiring little information processing and hold little relevance and little perceived risk. On the other hand, high-involvement purchases are known to hold higher relevance and higher perceived risk, which makes the consumer more willing to invest time and energy in seeking information through all available sources and on the decision-making process (Schiffman & Kanuk, 1991, cit. in Lada, et. al, 2014; Nagar, 2015)

Thus, different levels of involvement will impact on the time and effort to make a decision and search for information, the number of brands examined, and also the way consumers receive advertising communication (Kapferer & Laurent, 1985; Quester & Lin Lim, 2003). This last aspect is particularly important for this research. According to (Kapferer & Laurent, 1985), in the case of high-involvement purchases consumers tend to be active receiving advertising communication, and passive in cases of low-involvement purchases.

In the specific case of green advertising, over the literature it has been stated that green purchase intention, as well as consumers' brand perceptions and decision-making process can vary for low and high involvement products (Akturan, 2018). According to Suh & Yi (2006) attitudes towards an ad have more effect on brand attitudes and brand loyalty, specifically, when product involvement is high. Consumers are more likely to notice green advertising in high-involvement products than in low-involvement (Nagar, 2015). In fact, in the case of low-involvement products, green advertising does not significantly affect brand image and therefore do not affect intention to purchase either. The opposite happens with high-involvement products. (Nagar, 2015).

Taking this into account, it can be questioned if the same happens when consumers perceive greenwashing in advertising. High-involvement products have an associated higher perceived risk and relevance and because of that, consumers put more effort and time in searching for information and have a more rigorous evaluation criteria intention (Kapferer & Laurent, 1985; Nagar, 2015; Quester & Lin Lim, 2003). Furthermore, in high-involvement purchases consumers are also more attentive to green advertising, which can have an impact on brand image and, consequently, on purchasing intention (Nagar, 2015). Also, being high-involvement products more expensive and valuable to the consumer, the awareness of being deceived or lied to by the brand will generate a stronger negative effect on brand's credibility and brand association, in comparison with low-involvement products (Akturan, 2018).

Thus, being consumers in high-involvement purchases more rigorous, attentive and selective (Kapferer & Laurent, 1985; Nagar, 2015; Quester & Lin Lim, 2003) it can be argued that they will have a more negative response to perceived greenwashing and consequently on the green purchasing intention and other brand related outcomes such as green trust, CBE and green WOM.

The influence of product involvement has been widely studied in the context of brand loyalty (Parihar et al., 2019; Quester & Lin Lim, 2003; Suh & Yi, 2006), however its

influence on concepts such as brand trust, CBE and WOM has not been widely studied, and, as far as the author is aware, and even less explored in the greenwashing and green marketing literature. Thus, this research intends to fill this gap proposing product involvement as a moderator of relationships between greenwashing perception, green trust, CBE, green WOM and green purchasing intentions. This lack of research on the subject calls for more attention to the proposition that product involvement can work as moderator that influences greenwashing perception outcomes and the relationships between them. The present research argues that product involvement moderates the aforementioned relations in this chapter. Therefore, this study hypothesizes the following:

H11. Stronger effects will occur in the results of the above hypotheses (H1 - H10) in the case of high involvement products.

Thus, in order to summarize the proposed hypothesis:

H1: Greenwashing perception is negatively related to green purchasing intentions.

H2: Greenwashing perception is negatively related to green trust.

H3: Green trust is positively related to green purchasing intentions.

H4: Greenwashing perception is negatively related to consumer brand engagement.

H5: Green trust is positively related to consumer brand engagement.

H6: Consumer brand engagement is positively related to green purchasing intentions.

H7: Consumer brand engagement is positively related to green word-of-mouth.

H8: Green trust is positively related to green word-of-mouth.

H9: Greenwashing perception is negatively related to green word-of-mouth.

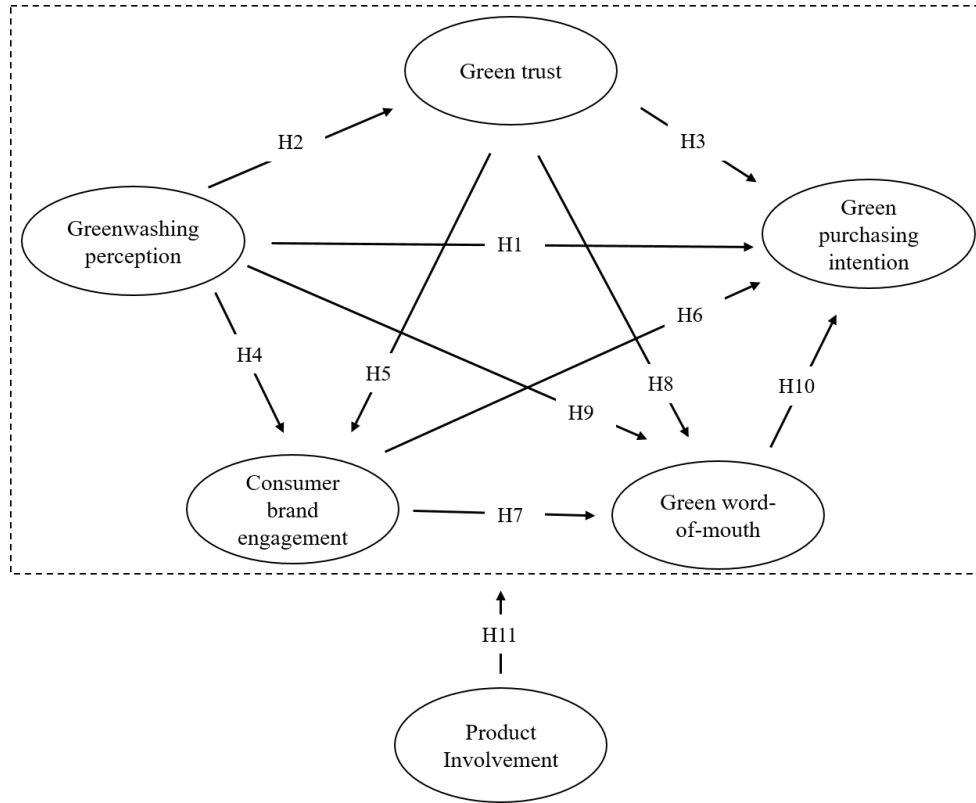
H10: Green word-of-mouth is positively related to green purchasing intentions.

H11: Stronger effects will occur in the results of H1-H10 in the case of high involvement products.

3. Research Model

According to the information collected in the previous chapter and the proposed hypothesis, the following research model was developed:

Exhibit 2- Proposed research model



This model pretends to illustrate the variables that possibly mediate and moderate the relationship between greenwashing perception and customers’ purchasing intentions. Through this model, this investigation has the objective to analyse the impact of greenwashing perception on customers’ purchasing intentions, focusing on green trust, consumer brand engagement, and green word-of-mouth as mediators of this relationship. Furthermore, this research proposes product involvement as a moderator of the whole model.

4. Methodology

4.1 Research Approach

This investigation aims to uncover patterns and produce general conclusions by testing the proposed hypothesis based on the literature. Thus, a quantitative research will be conducted in order to enable quantitative predictions. Besides, a quantitative research allows to gather information from a larger sample, to measure data, generalize results and reveal patterns (Malhotra et al., 2007).

Since the unit of analysis in this research is the consumer and its behaviour, the questionnaire survey method was chosen to test the proposed hypotheses.

In this investigation 2 green ads (one for high involvement and other for low involvement product) are used, in order to be able to check whether the findings of this research would apply to different levels of product involvement.

4.2 Data collection and sample

4.2.1 Questionnaire Development

The questionnaire was designed and the data collected in Qualtrics Survey Software. Since this investigation aims to test the model with different levels of product involvement, two questionnaires were designed with the exact same questions - only differing on the brand, product and green ad.

One questionnaire was about the brand Nestlé and bottled water (low-involvement product) and the other was about the brand Apple and notebooks (high-involvement product). Also, both green ads in the questionnaires were real ads and both have been at some point associated to greenwashing pointed by consumers, media or competitors. The ads were originally in English but were translated to Portuguese for this questionnaire.

In Qualtrics it was created a single link for both questionnaires and participants using that link would be randomly assigned to one of the two surveys. This way, it was assured that equal numbers of participants were allocated to each survey.

The questionnaire was divided in three parts: product, green ad and consumer profile. The first part of the questionnaire starts by presenting the product and brand on which the whole questionnaire will be based. Being Nestlé and Apple very well-known brands it

was important to find if previous judgements on both brand could affect respondents answers. This is, if there were strong feelings of brand love, or even brand hate, the results could be biased. This way, brand love was used as a control variable and was measured for both brands in order to find if there were significant differences between them.

Thus, the questionnaire started by testing the level of brand love (control variable) and of product involvement, in order to test if the levels of product involvement significantly differed between the two chosen products. Given this order of questions, the participants' brand love and product involvement scores were not biased by the green ad and possible greenwashing perception.

Thus, in the second part of the questionnaire the green ad is presented and respondents were asked once again to evaluate statements in order to measure the research model variables: greenwashing perception, green trust, green word-of-mouth, green purchasing intentions, and consumer brand engagement.

The last part of the questionnaire is dedicated to the consumer profile. This part is important for gathering information and demographics that can possible influence opinions and behaviours. Thus, in the first question it was asked if the respondent was responsible for the decisions at the time of purchase. Next, the consumer's green concern was measured, and finally, it finishes with basic demographic information such as gender, age and education, who will also act as control variables.

4.2.2 Data measurement and scales

The questions in the questionnaire were developed based on scales found in the literature, in order to measure each of the variables of the model. The exhibit below shows the number of items of each scale and associates each variable with its respective scale's author.

Exhibit 3 – Scales authors and number of items

Variable	Scale's Author	N ^a of items
Product Involvement	Kapferer & Laurent (1993)	16
Greenwashing Perception	Zhang, Li, Cao & Huang (2018)	4
Green Trust	Chen (2010)	5
Green Word-of-Mouth	Zhang, Li, Cao & Huang (2018)	4
Green Purchasing Intention	Chen & Chang (2012)	3
Consumer Brand Engagement	Abbas, Gao & Shah (2018)	6
Brand Love (control variable)	Bagozzi, Batra, & Ahuvia (2017)	3
Green Concern (control variable)	Zhang, Li, Cao & Huang (2018)	4

All of the items of the above scales were measured according a 5 point Likert scale from: 1 - Strongly disagree to 5 - Strongly agree.

Brand love and green concern (Exhibit 3), as well as questions on the consumer's age, gender and level of education were used as control variables. Regarding the demographic variables, gender was measured between "female" and "male". Age was measured and divided in four groups ("1" to "4" denotes 18-25 years old, 26-35 years old, 36-49 years old and over 50 years old, respectively). Education was measured and divided in six groups ("1" to "6" denotes 9th grade, High school degree, Technical Professional degree, Bachelor Degree, Master Degree, PhD, and Doctoral Degree, respectively).

All the data collected from both questionnaires was uploaded directly to IBM SPSS 25 Statistics and jointed in a single file, separating the results by brand. Next, it was imported to SmartPLS 3, since the analysis will done by using a partial least square structural equation modelling (PLS-SEM) in order to test the model.

The PLS-SEM enables a more appropriate causal-predictive analysis among all of the constructs in a relatively complex model (Henseler et al., 2009; Hair, et al., 2012). Also, since this research analyses two groups of approximately 150 respondents each, and normal distribution cannot be assured, PLS-SEM has proven to be more suitable to analyse models with these conditions in comparison to the covariance-based SEM (CB-SEM) (Henseler et al., 2009).

4.2.3 Pre-test

Before implementing the questionnaire, a pilot test was conducted. With this pilot test it was assessed if the questionnaire needed any revisions or changes before being actually implemented, for example: if some concepts were not well explained, if there were doubts in a certain question/topic, if the green ads examples were understood, if there were any redundant questions, etc. Also, it was important to be certain that the chosen products and ads were suitable for this research objectives.

This way, it was intended to test if the levels of product involvement differed between the two chosen products (bottled water and notebook), and if the differences were significant. The scale of involvement (Kapferer & Laurent, 1993) is constituted by 5 constructs: interest, pleasure, sign, risk importance and risk probability, being all constituted by 3 items and the last one with 4 items. This way, in order to access if the levels of involvement were significantly different between the two products an independent t-test

was conducted for all the constructs. The level of product involvement was significantly different between the two products in all the five constructs: interest ($t = -2.863, p = .009$), pleasure ($t = -3.027, p = .006$), sign ($t = -13.022, p = .000$), risk importance ($t = -2.592, p = .017$) and risk probability ($t = -3.499, p = .002$). Thus, the results showed that consumers express different levels of involvement for each product, which makes them suitable to test the moderating effect of the product involvement in the model.

Furthermore, brand love was also measured and used as a control variable, in order to find if there were significant differences of brand love levels between the brands that could potentially influence the results. Once more, an independent t-test was conducted and concluded that there were no significant differences on the levels of brand love between this two brands ($t = -.405, p = .690$). This way it is known that already established feelings for the chosen brands were not much different between the two.

Regarding the scales used in the pre-test, their reliability was tested by assessing the Cronbach's α values, which confirmed all scales had good levels of internal consistency, with all the values above .70 (Hair, et al., 2010).

This pilot test was conducted to 23 individuals and no suggestions/doubts/critics were pointed out by the respondents.

4.2.4 Sample

The research object of this research concentrates on Portuguese consumers who are responsible for their own purchases. In this study, a convenience sample was used and links to the online questionnaire were published on Facebook groups and other social media channels using snowball sampling.

It was registered a total of 348 respondents, with 302 valid responses, which yields an effective response rate of 87%. Among these valid questionnaires, 57.9 percent of the respondents were women while 42.1 percent of the respondents were men. Other demographic information on the respondents are presented in Table 1.

Green concern was also measured through a scale with 4 items with answers ranging from 1 to 5 - being 1 indicative of very low green concern and 5 very high green concern.

In general, respondents showed high levels of green concern ($M = 3.98, SD = .04$).

However, some interesting finds can be retrieved just using demographic information.

Levels of green concern significantly differ ($t = 4.08, p = .000$) between women and men, being women ($M = 4.11, SD = .685$) more environmentally concerned comparing to men

($M=3.79$, $SD= .693$). This findings help strengthen previous research which states that women are more environmentally concerned than men (Chekima et al., 2016; Laroche et al., 2001).

Also, regarding age, surprisingly respondents with ages between 36-49 ($M=4.06$, $SD= .648$) and 50+ ($M= 4.14$, $SD= .54$) showed higher levels on green concern. Regarding education respondents with Bachelor ($M=4.02$, $SD= .688$) and Master ($M=4.08$, $SD= .726$) degrees showed higher levels of green concern compared to other respondents, which similarly to Chekima et al. (2016) demonstrates that higher education is related to increased awareness of sustainability issues. However, green concern did not significantly differed between age groups ($F = 2.006$, $p. = .105$) and education levels ($F = 1.731$, $p. = .113$).

Table 1- Demographic information

N = 302	Demographic	%
Gender	Female	57.9
	Male	42.1
Age	18-25	34.8
	26-35	21.5
	36-49	30.5
	50+	13.2
	Education	9 th grade
	High school degree	20
	Technical Professional degree	6
	Bachelor Degree	51
	Master Degree	19
	PhD, Doctoral Degree	2
Purchasing decision	Responsible	90.7
	Not responsible	9.3

5. Results and discussion

The analysis of the results uses a partial least square structural equation modelling (PLS-SEM) with SmartPLS 3 to test the model. These research evaluates the research model in two steps: the outer model (measurement model) and the inner model (structural model) (Henseler, et al., 2015). To test the hypotheses, bootstrapping re-sampling with 5,000 samples was used.

5.1 Preliminary control checks

Similarly to what was done in the pre-test, knowing that Nestlé and Apple are very well-known brands it was important to find if previous judgements and feelings for both brands could have affected respondents answers. Brand love has been positively associated with brand loyalty, brand commitment and to brand repurchase intentions (Batra, et al., 2012; Bıçakcıoğlu, et al., 2018; Carroll & Ahuvia, 2006), thus brand love (Bagozzi, et al., 2017) was measured for both brands in order to find if there were significant differences between them. An independent t-test was conducted and concluded that there were no significant differences on the levels of brand love between the two brands ($t = -1.734$, $p = .084$). This way, it is known that already established feelings for the used brands were not much different between the two and did not influence the results.

Furthermore, being this research conducted for two groups (low involvement vs. high involvement product) it is important, again similarly to the pre-test, to check if the products showed significant different levels of product involvement. Thus, in order to access if the levels of involvement were significantly different between the two products an independent t-test was conducted for all the 5 product involvement constructs (Kapferer & Laurent, 1993). The level of product involvement showed to be significantly different between the two products in all the five constructs: interest ($t = -6.817$, $p = .000$), pleasure ($t = -9.199$, $p = .000$), sign ($t = -5.702$, $p = .000$), risk importance ($t = -11.463$, $p = .000$) and risk probability ($t = -12.280$, $p = .000$). Thus, the results showed that consumers expressed different levels of involvement for each product, which makes the results suitable to test the moderating effect of the product involvement in the model.

Also, being the sample different for the two groups it is important to check if there were any significant differences in the sample that could potentially influence the results and conclusions. This way, differences between the sample of both groups regarding age,

gender, education and green concern (Zhang et al., 2018) were assessed. The results of the independent t-tests showed that there were no significant differences on age ($t = .605$, $p = .545$), gender ($t = -.275$, $p = .784$), education ($t = -.655$, $p = .513$) and green concern ($t = 1.363$, $p = .174$) between the two groups. Thus, it can be concluded that the samples characteristics of both groups are statistically similar.

5.2 Measurement Model

This research considers three aspects to evaluate the measurement model: convergent validity, internal consistency reliability and discriminant validity. Specific results are presented in Table 2.

The outer loadings are all above .70 (Hair, et al., 2010) varying from .769 to .952, being all statistically significant ($p < .001$). One indicator for the greenwashing perception construct (GWP2) was deleted from the original model since the removal of its low outer loading (.674) led to an increase in the composite reliability and average variance extracted (Hair, et al., 2010).

Furthermore, the Cronbach's alpha and composite reliability of the constructs were all well above the recommended levels of .70 (Hair, et al., 2010), which indicates that the model is internally reliable. Also, the average variance extracted (AVE) of all constructs was above .50, suggesting that each has convergent validity (Hair, et al., 2010).

Table 2- Reliability and validity test for the complete data

Constructs	Items	Outer Loadings	Cronbach's α	CR	AVE
Greenwashing perception	GWP1	.859	.834	.900	.750
	GWP3	.851			
	GWP4	.888			
Green trust	GTRUST1	.917	.955	.965	.848
	GTRUST2	.952			
	GTRUST3	.944			
	GTRUST4	.888			
	GTRUST5	.903			
Consumer brand engagement	CBE1	.769	.919	.936	.711
	CBE2	.820			
	CBE3	.888			
	CBE4	.869			
	CBE5	.844			
	CBE6	.864			
Green word-of-mouth	GWOM1	.957	.967	.976	.911
	GWOM2	.968			
	GWOM3	.958			
	GWOM4	.935			
Green purchasing intention	GP1	.933	.921	.950	.864
	GP2	.944			
	GP3	.911			

Table 3- Discriminant validity of the constructs. Fornell–Larcker criterion analysis and HTMT ratios.

	CBE	GPI	GWOM	GTRUST	GWP
CBE	.843				
GPI	.581 (.626)	.929			
GWOM	.527 (.554)	.788 (.834)	.954		
GTRUST	.524 (.547)	.723 (.770)	.756 (.786)	.921	
GWP	-.370 (.407)	-.566 (.643)	-.602 (.665)	-.669 (.746)	.866

Notes: Note: Greenwashing Perception (GWP), Green trust (GTRUST), Consumer brand engagement (CBE), Green word-of-mouth (GWOM), Green purchasing intention (GPI). | HTMT ratios are in the parentheses. The diagonal elements in bold are the square roots of the variance between the constructs and their measures (AVE).

In order to establish discriminant validity, according to the Fornell-Larcker criterion, the square root of AVE of all constructs needs to be greater than its highest correlation with any other construct (Henseler, et al., 2015). In this research the square root of AVE of all constructs is higher than the correlation with any other construct (Table 3), which suggests discriminant validity. Discriminant validity can also be established by Heterotrait-Monotrait (HTMT) ratio criterion (Henseler et al., 2015). The ratios are all

lower than .850 which indicates satisfactory discriminant validity within the data (Henseler et al., 2015).

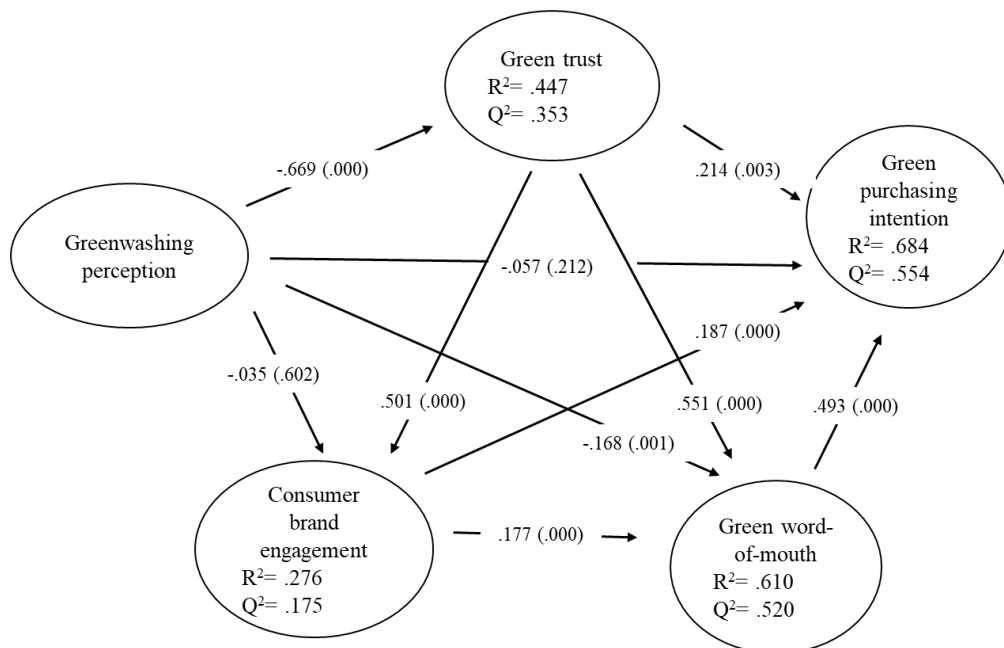
Furthermore, this research uses variance inflation factors (VIFs) to identify the multicollinearity in the indicators. According to Hair, et al. (2010) a VIF value < 10 is considered acceptable. In this model, the VIF values are all below 10 ranging from 1.817 to 9.426, with only one slightly above (10.146). This values indicate a lack of concern for potential multicollinearity.

5.3 Structural Model

An analysis of the structural model fit reveals that the proposed model fits the data well (SRMR = 0.053, NFI = 0.894) (Henseler et al, 2015).

The evaluations of the structural model examine the R² estimates, Stone-Geisser's Q² value, effect size (f²), path coefficients (β), and p-values, presented in detail in both Exhibit 4 and Table 4.

Exhibit 4 – Research model with PLS-algorithm and bootstrapping results



Note: The values correspond to the path coefficients. P-values are in the parentheses.

Table 4- Structural Model Results

Hypothesized relationship	Proposed effect	Path coefficient	f ²	Results
GWP → GPI	Negative	-.057	.005	H1: Not supported
GWP → GTRUST	Negative	-.669**		H2: Supported
GTRUST → GPI	Positive	.214*	.049	H3: Supported
GWP → CBE	Negative	-.035		H4: Not supported
GTRUST → CBE	Positive	.501***		H5: Supported
CBE → GPI	Positive	.187***	.076	H6: Supported
CBE → GWOM	Positive	.177***		H7: Supported
GTRUST → GWOM	Positive	.551***		H8: Supported
GWP → GWOM	Negative	-.168**		H9: Supported
GWOM → GPI	Positive	.493***	.300	H10: Supported

Variance explained: GTRUST (R² = .447), CBE (R² = .276), GWOM (R² = .610) and GPI (R² = .684)
 Predictive validity: GTRUST (Q² = .353), CBE (Q² = .175), GWOM (Q² = .520) and GPI (Q² = .554)

Note: *** p < .001 **p<.01 * p<.05

The model predicts a 68.4% of the variance in green purchasing intention, 61% of the variance in green WOM, 44.7% of the variance in green trust and 27.6% of the variance in CBE, which all indicate moderate predictions (Henseler, et al., 2009).

Furthermore, the effect size (f²) of greenwashing perception, green trust, CBE and green WOM in relation to green purchasing intentions suggests weak effect size at the structural level whereas green WOM in relation to green purchasing intention has a medium effect size (Cohen, 1988).

Also, all of the dependent variables' Stone–Geisser's Q² are larger than zero (Henseler et al., 2009), and therefore confirm the model's predictive validity.

All of the proposed paths are statistically significant, except for the paths of the main effect from the greenwashing perception to green purchasing intentions ($\beta = -.057, p = .212$), and from greenwashing perception to consumer brand engagement ($\beta = -.035, p = .602$). Overall, the analysis supports all of the hypotheses except 1 and 4. Also, none of the considered control variables showed to be statistically significant (Exhibit 8).

Regarding hypothesis 4 (GWP → CBE), it is rejected since greenwashing perception does not significantly influences CBE directly ($\beta = -.035, p = .602$), contrarily to what was predicted. However, as stated in Chapter 2, despite of acknowledging that greenwashing behaviour conflicts with main drivers of CBE such as with brand self-expression (Leckie, et al., 2016) and brand self-congruity (France et al., 2016), it is also known that high

levels of engagement sometimes can make consumers more willing to forgive a brand for misconduct (Wallace, et al., 2014). This can be an explanation of why greenwashing perception does not affect CBE directly. However, greenwashing perception significantly affects CBE indirectly through green trust ($\beta = -.335, p = .000$) (Table 33). This confirms the idea discussed previously that when consumers consider a brand reliable, they are more likely to engage with that brand (Abbas, et al., 2018).

Furthermore, concerning the main effect of the model - hypothesis 1 (GWP \rightarrow GPI) - this hypothesis was also rejected ($\beta = -.057, p = .212$). Thus, and contrarily to other studies (Chen et al., 2018; Zhang et al., 2018), greenwashing perception does not negatively impact greenwashing perception directly. However, this conclusion strengthens the purpose and relevance of this research regarding the need to analyse and discover relevant mediators and moderators for this relationship. This way, a mediation analysis was conducted, in order to understand what variables fully or partial mediate this relationship.

5.4 Mediation Analysis

This research follows Cepeda-Carrion et al. (2018) for the mediation analysis. The bootstrapping procedure was used to compute 97.5% confidence intervals for the indirect effects.

We can talk about full mediation when the direct effect is not significant, but the indirect effect is significant. (Cepeda-Carrion et al., 2018). In this case, the direct effect (GWP \rightarrow GPI) is not significant ($\beta = -.057, p = 0.212$). However, Table 5 shows all the indirect effects of this relationship, proving that the majority of the indirect effects are significant. By analysing the indirect effect results it can be settled that CBE is not a mediator of the relationship ($\beta = -.007, p = .620$), which was already known since hypothesis 4 was rejected. Thus, it is not a mediator, not even when adding green WOM (effect 4) ($\beta = -.003, p = 0.617$). When green trust is added (effect 7), the mediation becomes significant but still weak ($\beta = -.029, p = .003$). Thus, CBE has proven to not be a good mediator since it does not mediate the main relationship, and weakens all the effects when added (effect 4, 5 and 7). Once more, this happens because greenwashing perception is not significantly related to CBE.

In fact, CBE showed weaker relationships within the model compared to all other variables. These results may be attributed to the fact that CBE is the only construct in the

model not related with green features, thus this may be why it did not explained satisfactorily the relationships between the other variables.

Nevertheless, green WOM is a mediator of the relationship ($\beta = -.083, p = .003$). This mediation is expected since hypothesis 9 and 10 were supported. This corroborates finds by Zhang et al. (2018), and the previously presented idea that consumers when aware of misleading and deceiving actions such as greenwashing, tend to stop spreading positive green WOM and even start spreading negative green WOM about a brand (Chen et al., 2014, Skarmeas & Leonidou, 2013, Zhang et al., 2018). Plus, being high levels of credibility attributed to WOM, consumers are likely to consider other consumers opinions in their purchase decision process. Thus, if negative WOM is being spread about a certain brand due to greenwashing activities, the intention to buy from that brand will decrease. Furthermore, green trust is also a mediator (effect 3) of the relationship ($\beta = -.143, p = .004$), and becomes stronger when adding green WOM ($\beta = -.182, p = .000$), which revealed to be the strongest mediation effect in de model (effect 6). This mediation by green trust is also expected since H2 and H3 were supported. Similarly to Chen & Chang (2013) and Diryana & Kurniawan (2015), this research also establishes the negative relation between greenwashing perception and green trust. Consumers when faced with greenwashing tend not to trust the company and the company's products anymore and may not be willing to establish long-term relationships with them (Chen, 2010). Consequently, confirming the relation between green trust and green purchasing intentions (H3), this lack of green trust generated by perceived greenwashing will impact negatively green purchasing intentions, since consumers tend to associate themselves with trustful ethical companies (Leonidou et al., 2013). This relationship becomes stronger when adding green WOM because this research confirms that green trust is positively associated to green WOM (H8). Thus, when a consumer trusts a certain brand, he/she will be more disposed to recommend and say good things about the brand to others (Sichtmann, 2007). Therefore, when a consumer perceives greenwashing, he/she will tend to distrust the brand and its products (Chen & Chang, 2013; Diryana & Kurniawan, 2015), will consequently talk and warn other consumers about it (Papista & Dimitriadis, 2019; Sichtmann, 2007), and as result his/her intention to buy from that brand will decrease (Chen et al., 2014; Zhang et al., 2018).

Overall, given that the direct effect between greenwashing perception and green purchasing intentions is not significant, and both the indirect and the total indirect effects are significant (except for effect 1 and 4), full mediation can be defended (Cepeda-Carrion

et al., 2018). This is also supported by applying the variance accounted for (VAF) index (Table 5). When the VAF has an outcome above 80%, a full mediation can be assumed (Cepeda-Carrion et al., 2018). Thus, it can be concluded that 89.9% of the total effect is due to the seven mediation effects jointly.

Also, results demonstrate that the confidence interval of all indirect effects (except effects 1 and 4) does not contain 0, and thus suggests mediation is established (Cepeda-Carrion et al., 2018). However, for effects 1 and 4 the indirect effect is not significant and thus there is no mediation effect.

Table 5- Mediation Analysis Results

Effect	Indirect effect	CI Indirect		VAF	Result
		2.5%	97.5%		
(1) GWP → CBE → GPI	-.007 ^{nsig}	-0.037	0.016	1.2%	No mediation
(2) GWP → GWOM → GPI	-.083*	-0.143	-0.035	14.7%	Full mediation
(3) GWP → GTRUST → GPI	-.143*	-0.241	-0.046	25.2%	Full mediation
(4) GWP → CBE → GWOM → GPI	-.003 ^{nsig}	-0.017	0.008	0.5%	No mediation
(5) GWP → GTRUST → CBE → GPI	-.063**	-0.100	-0.031	11%	Full mediation
(6) GWP → GTRUST → GWOM → GPI	-.182**	-0.252	-0.122	32.2%	Full mediation
(7) GWP → GTRUST → CBE → GWOM → GPI	-.029*	-0.050	-0.013	5.1%	Full mediation
Total indirect effect	-.509**	-.597	-.425	89.9%	
Total effect =: -566					

Note: H1: GWP → GPI path coefficient: -.057 p-value = .208 | The ** and * indicate p-values less than 0.001, 0.01 respectively. | VAF: variance accounted

5.5 Multi-group Analysis (MGA)

After studying mediation effects, this research intends to test product involvement moderation effect in the model, in order to test hypothesis 11.

This research uses a permutation test for a multi-group analysis (MGA) to detect the potential differences between products with different levels of involvement. The low product involvement group is constituted by 155 participants, and the high product involvement group is constituted by the other 147 participants.

The analysis follows the three steps in the MICOM test (Henseler, et al., 2016), in order to measure the invariance of the composites.

The MICOM test results supports configured invariance (step 1) and compositional invariance (step 2) for all the constructs. However, in order to establish full invariance, constructs must pass the step 3, by assessing the composites' equality of mean values and variances across the groups (Henseler, et al., 2016).

In order to conclude full measurement invariance for the composites, all the constructs must fall within the 95% confidence interval and have permutation p-values greater than .05 for both equality of mean and variance (Henseler, et al., 2016). Thus, green purchasing intention shows full measurement invariance (pmean = .067, pvariance= .251). However, results show partial invariance for CBE (pmean < .05), green WOM (pmean = .003), green trust (pvariance = .037) and greenwashing perception (pvariance = .003), since these constructs did not meet the guidelines in the third step for establishing full invariance. Therefore, only partial invariance is confirmed for CBE, green WOM, green trust and greenwashing perception.

Additionally, Table 6 shows that all of the constructs show satisfactory reliability and validity, with AVEs higher than .50 and CR results all higher than .70 (Hair, et al., 2010).

Table 6 – Reliability and validity results for different product involvement groups

Constructs	Low involvement product (n = 155)			High involvement product (n = 147)		
	A	CR	AVE	α	CR	AVE
CBE	.906	.927	.682	.919	.937	.713
GPI	.930	.956	.878	.908	.942	.845
GWOM	.971	.978	.919	.961	.972	.895
GTRUST	.956	.966	.851	.953	.964	.843
GWP	.854	.911	.774	.799	.881	.712

Furthermore, the results of the PLS-MGA test (Table 7) show that the paths from greenwashing perception to green purchasing intention, from green trust to CBE, from CBE to green WOM and from green trust to green WOM are all statistically different between the groups, which partially supports hypothesis 11. H11 is partially supported since product involvement moderates H1, H5, H7 and H8, however, contrarily to what was previously predicted, with stronger effects in in the case of low involvement products (except H8).

Table 7- MGA Results

	Hypothesis	β_{low}	β_{high}	Permutation p-value
GWP → GPI	H1	-.136*	.040	.976
GWP → GTRUST	H2	-.667***	-.666***	.513
GTRUST → GPI	H3	.213*	.169	.369
GWP → CBE	H4	.010	-.046	.340
GTRUST → CBE	H5	.617***	.392***	.044
CBE → GPI	H6	.180*	.231***	.714
CBE → GWOM	H7	.265***	.078	.018
GTRUST → GWOM	H8	.441***	.658***	.977
GWP → GWOM	H9	-.192**	-.143*	.690
GWOM → GPI	H10	.415***	.618***	.936

Note: p-Values that are bold indicate a significant difference on this path relation. β_{low} represents the path coefficients in the low involvement group. β_{high} represents the path coefficients in the high involvement group. The ***, **, and * indicate p-values less than 0.001, 0.01, and 0.05 respectively

Starting with greenwashing perception to green purchasing intentions, the relationship proved to be negative and significant in the case of low involvement product, but non-significant in the case of high involvement product - versus the previous prediction that the effects would be stronger in the case of high involvement products. These findings contradict Nagar (2015), who settled that in the case of low-involvement products, green advertising did not significantly affect brand image and intention to purchase. Also, the effect of green trust on CBE proves to be stronger in low involvement products, and CBE to green WOM proved to be only significant in low product involvement case, going against the prediction that stronger effects would occur in high product involvement cases (Nagar, 2015; Suh & Yi, 2006).

As mentioned before, to this moment, there is no research found focusing on product involvement in a greenwashing context. Thus, research focused on green and general advertising and product involvement (Nagar, 2015; Suh & Yi, 2006) was used as a basis to formulate H11, being the effects extrapolated to the greenwashing advertisement case. However, giving this contradictory results it becomes clear that greenwashing ads and general ads and green ads have different outcomes in cases of low and high involvement products. Thus, in order to understand and rationalize this unforeseen results, there is a need to look for alternative literature regarding product involvement and brand attitudes. It can be discussed that these unexpected results giving stronger effects to low involvement products can be attributed to the fact that low product involvement can be associated to lower brand commitment and loyalty and lower resistance to brand-switching (Quester & Lin Lim, 2003; Shukla, 2004). In the case of the bottle of water (low involvement product), when consumers perceive greenwashing, and being all the

facets of involvement (interest, pleasure, sign, risk importance and risk probability) low in this case, the effort of brand-switching will be very low and with little risk associated (Quester & Lin Lim, 2003; Shukla, 2004), which will make it easier for consumers to stop purchasing or switch brand once they perceive greenwashing. This can explain why greenwashing perception affects green purchasing intentions directly on low product involvement, but not in high involvement products.

Also, it may be important to consider that green performance or green attributes may not be as important to consumers compared to other product and brand attributes (e.g price, brand familiarity) (Schuitema & Groot, 2014). Looking to the five antecedents of involvement (Kapferer & Laurent, 1993), it can be argued that personal interest and importance given to a product category, the pleasure given by that product, as well as the ability to express the person's self through the product, can all be more important factors for consumers compared to green performance and attributes. In fact, a study conducted by Schuitema & Groot (2014) found that green attributes of products were taken more into account in lower priced products and particularly important after egoistic product attributes met consumers' self-interests.

In the specific case of this research the risk importance and probability associated to buying a notebook is much higher than in a bottle of water (Table 25). The potential negative consequences associated with poor choice of products, associated with the perceived probability of making a poor choice are probably weighting in consumer's decisions (Kapferer & Laurent, 1993). Thus, consumers may weight a lot of other factors besides green performance and attributes when buying a notebook, compared to a bottle of water (Schuitema & Groot, 2014). Even if they perceive greenwashing in the case of the notebook, if they already know the brand and if they like the product characteristics, it may be more unlikely for them to try to look for other alternative solely because of the firm's poor green performance (and especially if environmental matters are not a big concern). In fact, high product involvement has been associated to higher brand commitment and to lower brand-switching behaviour (Quester & Lin Lim, 2003; Shukla, 2004).

This can mean that for high product involvement greenwashing perception is not enough to directly explain green purchasing intentions and other variables may be needed to explain this relationship in the high product involvement context. Thus, to test this, indirect effects were analysed and showed that in high product involvement greenwashing perception significantly affects green purchasing intentions through green trust and CBE

(GWP → GTRUST → CBE → GPI) ($\beta = -.060$, $p = .008$), and stronger through green trust and green WOM (GWP → GTRUST → GWOM → GPI) ($\beta = -.271$, $p = .000$). In fact, as seen in Table 7, the effect of green trust in green WOM (H8) is the only effect significantly stronger in high involvement products, as predicted in H11.

In sum, it can be discussed that it is easier for consumers and that they are more willing to punish companies for greenwashing when the relevance and perceived risk probability of the product are lower. In high involvement products, consumers tend to have a more rigorous evaluation criteria intention (Kapferer & Laurent, 1985; Nagar, 2015; Quester & Lin Lim, 2003), yet green performance and attributes does not seem to weight a lot in this decision conditions. Consumers may be more worried with product characteristics such as price, quality, performance, brand familiarity, status and hedonic value, and perceived greenwashing may not be seen as an equally important factor in the decision to purchase a high involvement product to the point of making the effort of switching brands (Schuitema & Groot, 2014).. This can suggest that consumers will be more attentive and thoughtful on matters of green performance and greenwashing in the case of low involvement products.

Therefore, H11 is partially supported since product involvement is a moderator of the model, however with stronger effects in the model in the case of low involvement products instead of high involvement products, as initially predicted.

6. Conclusions

6.1 Theoretical Implications

There is few research discussing how green purchase intentions are being influenced in the context of increasing greenwashing activities nowadays, and how this is affecting companies and consumers relationships. The results of this study demonstrated that green advertising efforts can easily backfire, especially when they are misleading and discrepant with real environmental performance, making greenwashing a significant barrier to the progress of green marketing.

This research explored the influence mechanism of greenwashing perception on green purchasing intentions by considering the mediating role of green trust, CBE, green WOM and the moderating role of product involvement. With the collection of 302 questionnaire from Portuguese consumers, it was found that greenwashing perception does not negatively impact greenwashing perception directly. However, this relationship was found to be mediated by green trust and green WOM. CBE has proved not to be a significant mediator, which may be due to the fact that CBE does not comprise green features, similarly to all the other variables. It only mediates the relationship when added to green trust or green WOM.

In fact, it was verified that greenwashing has five ways to negatively affect consumers' green purchasing intentions. The first way is that greenwashing would negatively influence green purchasing intentions indirectly through green trust. The second way is that greenwashing would negatively influence green purchase intentions indirectly via their green WOM. Third, it would impact the relationship negatively indirectly through green trust together with CBE. Forth, through green trust together with green WOM. Lastly, the negative effect occurs through green trust together with CBE and green WOM. This study also gives important contributions for the study of greenwashing, since it has recognised product involvement as a significant moderator of the model, and moderating also the greenwashing perception - green purchasing intentions relationship. In fact, it was concluded that in the case of low involvement products there is a direct negative significant effect between greenwashing perception and green purchasing intentions. The same does not happen in the case of high involvement product, since this relationship only happens when mediated by green trust together with CBE, and by green trust together with green WOM. In fact, in general, stronger effects in the model's relationships

occurred in the case of low involvement products. This can lead to the conclusion that consequences of greenwashing are stronger in the context of low involvement products. This may be due to the fact that consumers may consider several of other factors besides green attributes and performance when purchasing a high involvement product, compared to a low involvement ones (Schuitema & Groot, 2014). In the case of the latter, the effort of brand-switching may be lower and with little risk associated (Kapferer & Laurent, 1993; Quester & Lin Lim, 2003; Shukla, 2004), which will make it easier for consumers to switch brands once they perceive greenwashing .

6.2 Managerial implications

This research figures out that there are three shortcomings of greenwashing, since greenwashing activities would affect green trust, green WOM and green purchasing intentions. Therefore, this study recognises that companies need to decrease their greenwashing behaviours, in order to increase green purchasing intentions. In addition, if companies plan to improve their consumers' green purchasing intentions, they have to increase their green trust and green WOM. Thus, companies will benefit by removing greenwashing activities and by developing green trust and promoting positive green WOM with their consumers, in order to achieve higher sales, better relationships with consumers and meet their environmental expectations.

One of the big challenge for companies nowadays is to raise green trust in a context of growing popularity of greenwashing practices. This way, companies should incorporate environmental concern and responsibility in their core values, and communicate their green efforts and attributes consistently and coherently with the company's overall strategies and actions. Companies should avoid spreading misleading green ads or environmental messages with the solely purpose to insert themselves in this new "green trend". In fact, this can be more damaging if consumers perceive that environmental concern does not fit the company's core values, identity and overall activity, and that it may be just an easy path to profit. Thus, consumers need to trust companies' green efforts and motivations, and the better way to accomplish this is by communicating green efforts in a clear and honest way, embedding this environmental concern and responsibility in the company's core values and identity.

In addition, the significant mediating effect of green WOM also suggest that companies need to strengthen green WOM to encourage green purchasing intentions. By maintain

good levels of green trust, consumers will be willing to spread more green WOM and consequently buy more products from that brand. In this technological and social media era, managers should be attentive and monitor social platforms where they can get insights of what is being said about their brand or product, and even collect suggestions for green improvements. By knowing what consumers feel and what they share about the products environmental features or performance, it enables managers to develop and adjust better strategies to maintain consumers happy and meet their environmental expectations.

The proven moderation effect of product involvement in this research also helps managers to understand what kind of products are more susceptible to be affected by greenwashing perception. In the case of low involvement products, consumers have revealed to be less tolerant when confronted with greenwashing attitudes. Therefore, companies must pay special attention when dealing with low involvement products, since consumers are more willing to punish greenwashing behaviour by stopping purchasing products from that brand or by switching brands, in the context of low-involvement products. Thus, when dealing with low involvement products, managers should be even more cautious of using greenwashing, since the outcomes can be more direct and severe comparing with high involvement products. However, this does not mean that companies should not care about greenwashing in the case of high involvement products. As stated before, greenwashing perception has effects on green purchasing intentions through green trust together with CBE, and through green trust together with green WOM. Thus, green advertisements and corporate environmental strategies should avoid greenwashing in both low and high involvement products, consequently avoiding damaging consumer's green trust, CBE and the spreading of negative WOM, and ultimately green purchasing intentions.

6.3 Limitations and Future Research

Although this research makes a clear contribution to research on the effects of greenwashing, it is also subject to several limitations.

First, this research intended to study whether and how greenwashing perception affects green purchasing intentions, testing the mediating role of CBE, green trust and green WOM and the moderating role of product involvement. However, other possible mediating and moderating effects would be helpful to better understand this relationship, such as green scepticism, brand loyalty and brand love.

Also, future research can take in consideration the importance of green features compared to other products attributes (e.g price, quality, accessibility, brand familiarity) in the consumers' green purchasing intention criteria. Various studies discuss green concern, however general concern with environmental issues does not give insights about the importance of green attributes to consumers and if they are willing to make the effort to look for other more environmental concerned brands when faced with greenwashing.

Furthermore, regarding the green ads used in the questionnaire, only two products were included in this research. It was attempted to use diverse products by focusing on a low versus high product involvement. However, future research could focus on a broader range of products or brands. For example, it would be interesting to use green ads with brands with significant different levels of brand love (Bagozzi, et. al, 2017), in order to test the possible moderation effect of brand love in the greenwashing perception – green purchasing intention relationship.

Lastly, this study mainly focuses on the Portuguese context, which may not allow to expand the conclusions to other countries with different characteristics and environmental conditions. Therefore, future research could expand the focus of the study to different cultural and environmental realities.

Bibliography

- Abbas, M., Gao, Y., & Shah, H. 2018. CSR and Customer Outcomes: The Mediating Role of Customer Engagement. *Sustainability*, 10(4243).
- Akturan, U. 2018. How does greenwashing affect green branding equity and purchase intention? An empirical research. *Marketing Intelligence and Planning*, 36(7): 809–824.
- Atkinson, L., & Rosenthal, S. 2014. Signaling the Green Sell: The Influence of Eco-Label Source, Argument Specificity, and Product Involvement on Consumer Trust. *Journal of Advertising*, 43(1): 33–45.
- Bagozzi, R. P., Batra, R., & Ahuvia, A. 2017. Brand love: development and validation of a practical scale. *Marketing Letters*, 28(1).
- Baran, T., & Kiziloglu, M. 2018. Effect of greenwashing advertisements on organizational image. *Organizational Culture and Behavioral Shifts in the Green Economy*, 59-77.
- Batra, R., Ahuvia, A., & Bagozzi, R. P. 2012. Brand Love. *Journal of Marketing*, 76(2): 1–16.
- Bıçakcıoğlu, N., İpek, İ., & Bayraktaroğlu, G. 2018. Antecedents and outcomes of brand love: the mediating role of brand loyalty. *Journal of Marketing Communications*, 24(8): 863–877.
- Bowen, F., & Aragon-Correa, J. A. 2014. Greenwashing in Corporate Environmentalism Research and Practice: The Importance of What We Say and Do. *Organization and Environment*, 27(2): 107–112.
- Brodie, R. J., Hollebeek, L. D., Juric, B., & Ilic, A. 2011. Customer Engagement: Conceptual Domain, Fundamental Propositions, and Implications for Research. *Journal of Service Research*, 14(3): 252–271.
- Brouwer, A. 2016. Revealing Greenwashing: A Consumers' Perspective. Paper presented at *International Conferences on Internet Technologies & Society (ITS), Education Technologies (ICEduTECH), and Sustainability, Technology and Education (STE)*. Melbourne: International Association for Development of the Information Society.
- Carroll, B. A., & Ahuvia, A. C. 2006. Some antecedents and outcomes of brand love. *Marketing Letters*, 17(2): 79–89.
- Cepeda-Carrion, G., Nitzl, C., & Roldán, J. 2018. Mediation Analyses in Partial Least Squares Structural Equation Modeling: Guidelines and Empirical Examples. *Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications*.
- Chekima, B., Azizi, S., Syed, W., Wafa, K., Aisat, O., et al. 2016. Examining green consumerism motivational drivers: does premium price and demographics matter to green purchasing? *Journal of Cleaner Production*, 112: 3436–3450.
- Chen, Y.-S. 2010. The Drivers of Green Brand Equity: Green Brand Image, Green Satisfaction, and Green Trust. *Journal of Business Ethics*, 93(2): 307–319.
- Chen, Y.-S., & Chang, C.-H. 2013. Greenwash and Green Trust: The Mediation Effects

- of Green Consumer Confusion and Green Perceived Risk. *Journal of Business Ethics*, 114(3): 489–500.
- Chen, Y.-S., Huang, A.-F., Wang, T.-Y., & Chen, Y.-R. 2018. Greenwash and green purchase behaviour: the mediation of green brand image and green brand loyalty. *Total Quality Management & Business Excellence*, 3363: 1–16.
- Chen, Y.-S., Lin, C.-L., & Chang, C.-H. 2014. The influence of greenwash on green word-of-mouth (green WOM): the mediation effects of green perceived quality and green satisfaction. *Quality & Quantity*, 48(5): 2411–2425.
- Chen, Y., & Chang, C. 2012. Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, 50(3): 502–520.
- Cheng, Z. H., Chang, C. T., & Lee, Y. K. 2018. Linking hedonic and utilitarian shopping values to consumer skepticism and green consumption: the roles of environmental involvement and locus of control. *Review of Managerial Science*, (70): 1–25.
- Cohen, J. 1988. *Statistical power analysis for the behavioral sciences* (Second). Hillsdale, Nj: Lawrence Erlbaum Associates.
- De Jong, M. D. T., Harkink, K. M., & Barth, S. 2018. Making Green Stuff? Effects of Corporate Greenwashing on Consumers. *Journal of Business and Technical Communication*, 32(1): 77–112.
- de Vries, G., Terwel, B. W., Ellemers, N., & Daamen, D. D. L. 2015. Sustainability or profitability? How communicated motives for environmental policy affect public perceptions of corporate greenwashing. *Corporate Social Responsibility and Environmental Management*, 22(3): 142–154.
- Delmas, M. A., & Burbano, V. C. 2011. The Drivers of Greenwashing. *California Management Review*, 54(1): 64–87.
- Diryana, I., & Kurniawan, G. I. 2015. Brand Equity of Green Products through Customer Trust and Customer Value. In M. Buchory, HA and Cahyandito (Ed.), *Proceedings Of The International Conference On Economics And Banking 2015*, 5: 372–378. Paris, France: Atlantis Press.
- Du, X. 2015. How the Market Values Greenwashing? Evidence from China. *Journal of Business Ethics*, 128(3): 547–574.
- Dwivedi, A. 2015. A higher-order model of consumer brand engagement and its impact on loyalty intentions. *Journal of Retailing and Consumer Services*, 24(C): 100–109.
- France, C., Merrilees, B. and Miller, D. (2016), An integrated model of customer-brand engagement: drivers and consequences, *Journal of Brand Management*, 23(2): 119-136.
- GfK, 2013. The Environment: Public Attitudes and Individual Behaviour d a Twenty-year Evolution. Retrieved February 2019, from: http://www.scjohnson.com/Libraries/Download_Documents/SCJ_and_GfK_Roper_Green_Gauge.sflb.ashx.
- Ginsberg, J. M., & Bloom, P. N. 2004. Choosing the Right Green Marketing Strategy. *MIT Sloan Management Review*, 46(1): 79-84.
- Goh, S. K., & Balaji, M. S. 2016. Linking green skepticism to green purchase behavior. *Journal of Cleaner Production*, 131: 629–638.

- Gosselt, J. F., van Rompay, T., & Haske, L. 2017. Won't Get Fooled Again: The Effects of Internal and External CSR ECO-Labeling. *Journal of Business Ethics*, 155(2): 413-424.
- Green can be cool and profitable. (2014). Retrieved February 2019, from: <http://www.environmentalleader.com/2014/07/15/green-can-be-cool-and-profitable>.
- Guyader, H., Ottosson, M., & Witell, L. 2017. You can't buy what you can't see: Retailer practices to increase the green premium. *Journal of Retailing and Consumer Services*, 34(January): 319–325.
- Hair, J. F., Black, W. C., Barbin, B. J., & Anderson, R. E. 2010. *Multivariate Data Analysis* (7th ed.). New York: Pearson Education Limited.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433.
- Henseler, J., Hubona, G., & Ray, P. A. 2015. Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1): 2–20.
- Henseler, J., M Ringle, C., & Sarstedt, M. 2016. Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3): 405–431.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. 2009. The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20 (January): 277–319.
- Hollebeek, L. 2011a. Exploring customer brand engagement: definition and themes. *Journal of Strategic Marketing*, 19(7): 555–573.
- Hollebeek, L. 2011b. Demystifying Customer Brand Engagement : Exploring the Loyalty Nexus. *Journal of Marketing Management*, 27 (7-8): 785–807.
- Kapferer, J., & Laurent, G. 1985. Consumer Involvement Profiles : A New Practical Approach to Consumer Involvement. *Journal of Advertising Research*, 22: 48–58.
- Kapferer, J., & Laurent, G. 1993. Further evidence on the consumer involvement profile: Five antecedents of involvement. *Psychology & Marketing*, 10(4): 347–355.
- Kinoti, M. W. 2011. Green marketing Intervention Strategies and Sustainable Development : A Conceptual Paper. *International Journal of Business and Social Science*, 2(23): 263–273.
- Kong, Y., & Zhang, L. 2014. When does green advertising work? The moderating role of product type. *Journal of Marketing Communications*. 20(3): 197-213.
- Kotler, P., & Keller, K. 2012. *Marketing Management* (14th ed.). Pearson Education, Inc.
- Lada, S., Md Sidin, S., & Teoh, K. 2014. Moderating Role of Product Involvement on the Relationship Between Brand Personality and Brand Loyalty. *Journal of Internet Banking and Commerce*, 19(2).
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. 2001. Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18(6): 503–520.

- Laufer, W. S. 2003. Social Accountability and Corporate Greenwashing. *Journal of Business Ethics*, 43(3): 253–261.
- Lazer, W. (1969). Marketing's changing social relationships. *Journal of Marketing*, 33(1), 3–9.
- Leckie, C., Nyadzayo, M. W., & Johnson, L. W. 2016. Antecedents of consumer brand engagement and brand loyalty. *Journal of Marketing Management*, 32(5–6): 558–578.
- Leonidou, C. N., & Skarmeas, D. 2017. Gray Shades of Green: Causes and Consequences of Green Skepticism. *Journal of Business Ethics*, 144(2): 401–415.
- Leonidou, L. C., Kvasova, O., Leonidou, C. N., & Chari, S. 2013. Business Unethicality as an Impediment to Consumer Trust: The Moderating Role of Demographic and Cultural Characteristics. *Journal of Business Ethics*, 112(3): 397–415.
- Lyon, T. P., & Maxwell, J. W. 2006. Greenwash: Corporate Environmental Disclosure Under Threat of Audit. *Journal of Economics and Management Strategy*, 20(1): 3–41.
- Malhotra, N., & Birks, D. (2007) *Marketing Research: an applied approach* (3rd European Edition), Harlow, UK. Pearson Education.
- Mansouri, N. 2016. A Case Study of Volkswagen Unethical Practice in Diesel Emission Test. *International Journal of Science and Engineering Applications*, 5(4): 211–216.
- Marquis, C., Toffel, M. W., & Bird, Y. 2016. Scrutiny, Norms, and Selective Disclosure: A Global Study of Greenwashing. *Organization Science*, 27(2): 483–504.
- Matos, C. A. De, Alberto, C., & Rossi, V. 2008. Word-of-mouth communications in marketing: a meta-analytic review of the antecedents and moderators. *Journal of the Academy of Marketing Science*, (36): 578–596.
- Nagar, K. 2015. Modeling the Effects of Green Advertising on Brand Image: Investigating the Moderating Effects of Product Involvement Using Structural Equation. *Journal of Global Marketing*, 28(3–5): 152–171.
- Nielsen, 2011. The “green” gap between environmental concerns and the cash register. Retrieved February 2019, from: <http://www.nielsen.com/us/en/insights/news/2011/the-green-gap-between>.
- Nyilasy, G., Gangadharbatla, H., & Paladino, A. 2013. Perceived Greenwashing: The Interactive Effects of Green Advertising and Corporate Environmental Performance on Consumer Reactions. *Journal of Business Ethics*, 125(4): 693–707.
- Papadas, K. K., Avlonitis, G. J., Carrigan, M., & Piha, L. 2018. The interplay of strategic and internal green marketing orientation on competitive advantage. *Journal of Business Research*, 104(November 2017): 632–643.
- Papista, E., & Dimitriadis, S. 2019. Consumer – green brand relationships: revisiting benefits, relationship quality and outcomes. *Journal of Product & Brand Management*, 28(2): 166–187.
- Parguel, B., Benoît-Moreau, F., & Larceneux, F. 2011. How Sustainability Ratings Might Deter “Greenwashing”: A Closer Look at Ethical Corporate Communication. *Journal of Business Ethics*, 102(1): 15–28.

- Parihar, P., Dawra, J., & Sahay, V. 2019. The role of customer engagement in the involvement-loyalty link. *Marketing Intelligence and Planning*, 37(1): 66–79.
- Polonsky, M. J. 1994. An Introduction To Green Marketing. *Electronical Green Journal*, 1(2)
- Polonsky, M. J. 2011. Transformative green marketing: Impediments and opportunities. *Journal of Business Research*, 64(12): 1311–1319.
- Porter, M. E., & Kramer, M. R. 2006. Strategy and Science: The link between competitive advantage and Corporate Social Responsibility. *Harvard Business Review*, 84(12): 78 – 92.
- Prendergast, G., Ko, D., Yin, V. Y. S., Prendergast, G., & Ko, D. 2010. Online word of mouth and consumer purchase intentions. *International Journal of Advertising*, (29:5): 687–708.
- Quester, P., & Lin Lim, A. 2003. Product involvement/brand loyalty: Is there a link? *Journal of Product & Brand Management*, 12(1): 22–38.
- Ramus, C. A., & Montiel, I. 2005. When are corporate environmental policies a form of greenwashing? *Business and Society*, 44(4): 377–414.
- Reis, R., & Paço, A. 2012. Factors Affecting Skepticism Toward Green Advertising. *Journal of Advertising*, 41(4): 147–155.
- Roper ASW, "Green Gauge Report 2002" (New York: Roper ASW, 2002).
- Schiffman, L. G., & Kanuk, L. L. (1991). *Consumer behavior* (2nd ed.). New Jersey. Prentice Hall.
- Schmuck, D., Matthes, J., & Naderer, B. 2018. Misleading Consumers with Green Advertising? An Affect–Reason–Involvement Account of Greenwashing Effects in Environmental Advertising. *Journal of Advertising*, 47(2): 127–145.
- Schuitema, G., & Groot, J. 2014. Green consumerism: The influence of product attributes and values on purchasing intentions. *Journal of Consumer Behaviour*, 15(14): 57–69.
- Sharma, N., Lal, M., & Sharma, C. S. 2017. Green trust in green purchase intentions: a study of antecedents and consequents. Conference paper, *Proceedings of the 2017 Annual Conference of the Emerging Markets Conference Board January 5-7, 2017*, Noida, India.
- Shrum, L. J., Mccarty, J. A., & Lowrey, T. M. 2013. Buyer Characteristics of the Green Consumer and Their Implications for Advertising Strategy Buyer Characteristics of the Green Consumer and Their Implications for Advertising Strategy. *Journal of Advertising*, (February 2015): 37–41.
- Shukla, P. 2004. Effect of product usage, satisfaction and involvement on brand switching behaviour. *Asia Pacific Journal of Marketing and Logistics*, 16(4): 82–104.
- Siano, A., Vollero, A., Conte, F., & Amabile, S. 2017. “More than words”: Expanding the taxonomy of greenwashing after the Volkswagen scandal. *Journal of Business Research*, 71: 27–37.
- Sichtmann, C. 2007. An analysis of antecedents and consequences of trust in a corporate brand. *European Journal of Marketing*, 41(9–10): 999–1015.

- Single Market for Green Products. (2015). Retrieved February 2019, from: https://ec.europa.eu/environment/eussd/smgp/facts_and_figures_en.html.
- Skarmeas, D., & Leonidou, C. N. 2013. When consumers doubt, Watch out! The role of CSR skepticism. *Journal of Business Research*, 66(10): 1831–1838.
- Suh, J.-C., & Yi, Y. 2006. When Brand Attitudes Affect the Customer Satisfaction-Loyalty Relation: The Moderating Role of Product Involvement. *Journal of Consumer Psychology*, 16(2): 145–155.
- Trevino, Linda, Kenneth D. Butterfield and Donald L. McCabe. 1998. The Ethical Context in Organizations: Influences on Employee Attitudes and Behaviors, *Business Ethics Quarterly* 8, 447–476.
- Weaver, G., Trevino, L.K., Gibson, D., & Toffler, B. 1999. Managing Ethics and Legal Compliance: What works and what hurts. *California Management Review*, 41 (2): 131-151
- Wallace, E., Buil, I., & de Chernatony, L. 2014. Consumer engagement with self-expressive brands: Brand love and WOM outcomes. *Journal of Product and Brand Management*, 23(1): 33–42.
- Wonneberger, A., & Matthes, J. 2014. The Skeptical Green Consumer Revisited : Testing the Relationship Between Green Consumerism and Skepticism Toward Advertising. *Journal of Advertising*, 43(2): 115–127.
- Zhang, L., Li, D., Cao, C., & Huang, S. 2018. The influence of greenwashing perception on green purchasing intentions: The mediating role of green word-of-mouth and moderating role of green concern. *Journal of Cleaner Production*, 187: 740–750.

Annexes

Annex A – Green Advertisements

Exhibit 5 - High involvement product ad – translation to PT

A família de notebooks mais ecológica do mundo.

Altamente recicláveis e ainda mais energeticamente eficientes, os novos notebooks MacBook Pro foram projetados a pensar no meio ambiente.



View a PDF of Apple's Environmental Status Report for:
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Exhibit 6 - Low involvement product ad – translation to PT

Taking the Lead Together.




97% of Canadians have access to municipal recycling programs. Thanks to your recycling efforts and our industry's commitment, most water bottles avoid landfill sites and are recycled.

Recycling makes a difference and at Nestlé, we're committed to meeting your expectations for being a responsible industry leader. We work with governments all across Canada to develop recycling programs that increase participation levels, reduce litter and generate more revenue for municipalities.


Our Commitment Speaks Volumes

- Nestlé Pure Life water bottles are 100% recyclable PET plastic.
- Nestlé Waters Canada and its industry partners fund a minimum of 50% of the cost of all municipal recycling programs in Canada.
- We are dedicated to finding new ways of reducing our packaging impact. Over the last 5 years, we've successfully reduced our plastic by 30%, paper labels by 20% and corrugate by 65%.
- Bottled water is the most environmentally responsible consumer product in the world. This is true whether measured by water volume, plastic usage or carbon footprint when compared to other consumer packaged goods.

Be Assured, Nestlé Pure Life is a Healthy, Eco-Friendly Choice.



Assumindo a Liderança Juntos.



“Graças aos seus esforços a nível da reciclagem e ao compromisso da nossa indústria, a maioria das garrafas de água evitam os aterros e são recicladas.”

“Nos últimos 5 anos, reduzimos com sucesso o nosso plástico em 30%, etiquetas de papel em 20% e ondulação da embalagem em 65%”

“Água engarrafada é o produto de consumo mais ambientalmente responsável do mundo.”

“Tenha a certeza, Nestlé Pure Life é uma escolha Saudável e Amiga do Ambiente.”

Annex B – Questionnaire

Exhibit 7 – Questionnaire (in Portuguese)



O presente questionário enquadra-se numa investigação no âmbito da dissertação de Mestrado em Gestão de Empresas, realizada no ISCTE-IUL.
 É garantida a confidencialidade e o anonimato de todos os dados recolhidos, que apenas serão utilizados no presente trabalho de investigação académico.
 Solicita-se que responda de forma espontânea e sincera a todas as questões.

Muito obrigada pela sua colaboração!



O questionário terá por base a seguinte marca e respetivo produto:



Avalie as seguintes afirmações, de acordo com aquilo que sente em relação a esta marca (Apple).

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
Esta marca reflete algo verdadeiro e profundo sobre quem eu sou como pessoa.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu dou por mim a desejar esta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me emocionalmente ligado/a a esta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irei usar esta marca durante um longo período de tempo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Suponha que a marca deixaria de existir, até que ponto sentiria ansiedade?

Nenhuma | | Muita

Por favor, expresse os seus sentimentos e avaliações gerais em relação à marca.

Negativo | | Positivo

Avalie as seguintes afirmações, em relação a este tipo de produto (notebooks/computadores portáteis).

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
O tipo de notebook que compro é extremamente importante para mim.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenho realmente muito interesse neste tipo de produto.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Não dou grande importância a este tipo de produto.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu gosto realmente muito de comprar este tipo de produto.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sempre que compro este tipo de produto, é como se estivesse a dar um presente a mim próprio/a.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gosto muito de usar este tipo de produto.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O notebook que uma pessoa compra diz muito sobre ela.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O notebook que uma pessoa compra reflete o que ela é.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O notebook que eu compro reflete o tipo de pessoa que eu sou.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Não é muito importante quando alguém comete um erro ao comprar este tipo de produto.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
É muito irritante comprar o computador errado.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ficaria aborrecido/a comigo mesmo/a, se descobrisse que fiz a escolha errada quando comprei este tipo de produto.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando estou à frente da secção deste produto, sinto-me sempre indeciso/a em relação ao que escolher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando compra um notebook, nunca pode ter bem a certeza se fez a escolha certa ou não.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A escolha deste tipo de produto é difícil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando compra um notebook, nunca tem completamente certeza em relação à sua escolha.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Anúncio Publicitário

A família de notebooks mais ecológica do mundo.

Altamente recicláveis e ainda mais energeticamente eficientes, os novos notebooks MacBook Pro foram projetados a pensar no meio ambiente.



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THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Por favor, avalie as afirmações que se seguem com base no anúncio da marca.

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
O produto induz em erro através de palavras relacionadas com as suas características ambientais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O produto induz em erro através de recursos visuais ou gráficos relacionados com as suas características ambientais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O produto está associado a uma reivindicação ecológica/sustentável vaga ou aparentemente improvável.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O produto aumenta ou exagera a sua verdadeira funcionalidade ecológica/sustentável.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Por favor, avalie as afirmações que se seguem com base no anúncio da marca.

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
Na sua opinião, os compromissos ambientais desta marca são, geralmente, confiáveis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Na sua opinião, a performance ambiental desta marca é, no geral, de confiança.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Na sua opinião, os pressupostos ambientais desta marca são de confiança.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A preocupação ambiental desta marca vai ao encontro das suas expectativas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Esta marca mantém promessas e compromissos com vista à proteção ambiental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Por favor, avalie as afirmações que se seguem com base no anúncio da marca.

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
Eu recomendaria este produto a outros devido à sua imagem ambiental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu recomendaria este produto a outros devido à sua funcionalidade ambiental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu encorajaria outros a comprar este produto por ser um produto amigo do ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu diria coisas boas acerca do produto a outros devido à sua performance ambiental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Por favor, avalie as afirmações que se seguem com base no anúncio da marca.

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
Irei comprar os produtos desta empresa devido à sua preocupação com questões ambientais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estou disposto/a a comprar produtos desta empresa no futuro devido à sua performance ambiental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fico feliz por comprar produtos desta empresa por esta ser amiga do ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Por favor, avalie as afirmações que se seguem com base no anúncio da marca.

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
Estou apaixonado/a por usar produtos desta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu consigo continuar a usar produtos desta marca por períodos muito longos.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me entusiasmado/a ao interagir com produtos desta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenho orgulho nos produtos desta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me absorvido/a quando interajo com produtos desta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me feliz quando estou a interagir com produtos desta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Habitualmente, sou eu o/a responsável pelas compras que realizo e pelas decisões no momento de compra.

- Sim
- Não

Avalie as seguintes afirmações em relação à sua preocupação ambiental.

	1- Discordo totalmente	2- Discordo	3- Não concordo nem discordo	4- Concordo	5- Concordo totalmente
Estou preocupado/a com o agravamento da qualidade do meio ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O ambiente é uma grande preocupação para mim.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sou apaixonado/a por questões de proteção ambiental.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequentemente penso em como as condições ambientais podem ser melhoradas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sexo

- Feminino
- Masculino

Idade

- 18-25
- 26-35
- 36-49
- 50+

Habilitações Literárias

▼

4 anos de escolaridade (1º ciclo do ensino básico)

6 anos de escolaridade (2º ciclo do ensino básico)

9 anos de escolaridade (3º ciclo de ensino básico)

12º ano (ensino secundário)

Curso tecnológico/profissional/outros (nível III)

Bacharelato

Licenciatura

Mestrado

Doutoramento

Annex C – Pre-test results*Table 8 – Reliability test (pre-test)*

Reliability Analysis		
Scale	Cronbach alpha	N of items
Product Involvement	0,937	16
Greenwashing Perception	0,833	4
Green Trust	0,955	5
Green Word-of-Mouth	0,974	4
Green Purchasing Intention	0,907	3
Consumer Brand Engagement	0,938	6
Brand Love (control variable)	0,897	6
Green Concern (control variable)	0,872	4

Table 9 – Involvement - product group statistics (pre-test)

Group Statistics					
Involvement construct	Product	N	Mean	Std. Deviation	Std. Error Mean
Interest	Bottled water	11	2,5758	1,01205	0,30514
	Notebook	12	3,7500	0,95479	0,27562
Pleasure	Bottled water	11	2,3030	0,91232	0,27507
	Notebook	12	3,4722	0,93699	0,27049
Sign	Bottled water	11	1,6061	0,49031	0,14783
	Notebook	12	4,3611	0,52143	0,15052
Risk importance	Bottled water	11	2,8485	0,88649	0,26729
	Notebook	12	3,7778	0,83283	0,24042
Risk probability	Bottled water	11	2,1818	0,82984	0,25021
	Notebook	12	3,3333	0,74874	0,21614

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 10 – Involvement - product independent sample t-test (pre-test)

Independent Sample Test											
		Levene's Test for Equality of Variances		test-t for Equality of Mean							
		Z	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Interest	Equal variances assumed	0,021	0,885	-2,863	21	0,009	-1,17424	0,41011	-2,02710	-0,32138	
	Equal variances not assumed			-2,856	20,543	0,010	-1,17424	0,41119	-2,03053	-0,31796	
Pleasure	Equal variances assumed	0,008	0,929	-3,027	21	0,006	-1,16919	0,38625	-1,97245	-0,36594	
	Equal variances not assumed			-3,031	20,913	0,006	-1,16919	0,38578	-1,97167	-0,36671	
Sign	Equal variances assumed	0,041	0,842	-13,022	21	0,000	-2,75505	0,21157	-3,19503	-2,31507	
	Equal variances not assumed			-13,058	20,982	0,000	-2,75505	0,21098	-3,19383	-2,31627	
Risk importance	Equal variances assumed	0,001	0,969	-2,592	21	0,017	-0,92929	0,35848	-1,67480	-0,18379	
	Equal variances not assumed			-2,585	20,518	0,017	-0,92929	0,35950	-1,67799	-0,18060	
Risk probability	Equal variances assumed	0,199	0,660	-3,499	21	0,002	-1,15152	0,32910	-1,83591	-0,46712	
	Equal variances not assumed			-3,483	20,245	0,002	-1,15152	0,33064	-1,84068	-0,46235	

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 21 – Brand Love – brand group statistics (pre-test)

Group Statistics					
	Brand	N	Mean	Std. Deviation	Std. Error Mean
Brand Love	Nestlé	11	2,7424	0,84118	0,25362
	Apple	12	2,9028	1,03830	0,29973

Table 12 – Brand Love - brand independent sample t-test (pre-test)

Independent Sample Test										
		Levene's Test for Equality of Variances		test-t for Equality of Mean						
		Z	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Brand Love	Equal variances assumed	2,365	0,139	-0,405	21	0,690	-0,16035	0,39636	-0,98464	0,66393
	Equal variances not assumed			-0,408	20,712	0,687	-0,16035	0,39264	-0,97758	0,65687

Annex D – Sample characterization results

Table 13 – Age frequency

		Age			
		Frequency	Percent	Valid Percent	Cumulative percent
Valid	18-25	105	34,8	34,8	34,8
	26-35	65	21,5	21,5	56,3
	36-49	92	30,5	30,5	86,8
	50+	40	13,2	13,2	100,0
	Total	302	100,0	100,0	

Table 14 – Education frequency

		Education			
		Frequency	Percent	Valid Percent	Cumulative percent
Valid	9 th grade	7	2,3	2,3	2,3
	High school degree	59	19,5	19,5	21,9
	Technical Professional degree	17	5,6	5,6	27,5
	Bachelor Degree	155	51,3	51,3	78,8
	Master Degree	58	19,2	19,2	98,0
	PhD, Doctoral Degree	6	2,0	2,0	100,0
	Total	302	100,0	100,0	

Table 15 – Gender frequency

		Gender			
		Frequency	Percent	Valid Percent	Cumulative percent
Valid	Female	175	57,9	57,9	57,9
	Male	127	42,1	42,1	100,0
	Total	302	100,0	100,0	

Table 16 – Green concern mean

Statistics	
N	302
Mean	3,9752

Green concern: Gender, age, education

Table 17 – Green concern – gender group statistics

		Group statistics			
		N	Mean	Std. Deviation	Std. Error Mean
Green concern	Female	175	4,1129	0,68527	0,05180
	Male	127	3,7854	0,69274	0,06147

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 18 – Green concern - gender independent sample t-test

		Independent Sample Test									
		Levene's Test for Equality of Variances		test-t for Equality of Mean							
		Z	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Green concern	Equal variances assumed	0,028	0,866	4,080	300	0,000	0,32742	0,08025	0,16950	0,48534	
	Equal variances not assumed			4,073	269,926	0,000	0,32742	0,08039	0,16916	0,48569	

Table 19 – Green concern - age descriptive

Descriptive									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	
					Lower Bound	Upper Bound			
18-25	105	3,8810	0,77684	0,07581	3,7306	4,0313	2,00	5,00	
26-35	65	3,9038	0,73646	0,09135	3,7214	4,0863	2,00	5,00	
36-49	92	4,0598	0,64766	0,06752	3,9257	4,1939	2,50	5,00	
50+	40	4,1438	0,53973	0,08534	3,9711	4,3164	3,00	5,00	
Total	302	3,9752	0,70608	0,04063	3,8952	4,0551	2,00	5,00	

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 20 – Green concern - age ANOVA

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,058	3	1,019	2,066	0,105
Within Groups	147,006	298	0,493		
Total	150,064	301			

Table 21 – Green concern - Education descriptive

Descriptive								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
9 th grade	7	3,5000	0,47871	0,18094	3,0573	3,9427	3,00	4,00
High school degree	59	3,9619	0,69762	0,09082	3,7801	4,1437	2,00	5,00
Technical Professional degree	17	3,6324	0,79607	0,19308	3,2231	4,0417	2,50	5,00
Bachelor Degree	155	4,0152	0,68835	0,05658	3,9034	4,1270	2,00	5,00
Master Degree	58	4,0819	0,72606	0,09534	3,8910	4,2728	2,50	5,00
PhD, Doctoral Degree	6	3,9583	0,43060	0,17579	3,5064	4,4102	3,50	4,50
Total	302	3,9752	0,70608	0,04063	3,8952	4,0551	2,00	5,00

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 22 – Green concern - Education ANOVA

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5,104	6	0,851	1,731	0,113
Within Groups	144,960	295	0,491		
Total	150,064	301			

Annex E – Preliminary control checks

Table 23 – Brand Love – brand group statistics (full sample)

Group Statistics					
	Brand	N	Mean	Std. Deviation	Std. Error Mean
Brand Love	Nestlé	155	2,6430	0,79238	0,06365
	Apple	147	2,8254	1,02598	0,08462

Table 24 – Brand Love - brand independent sample t-test (full sample)

Independent Sample Test											
		Levene's Test for Equality of Variances		test-t for Equality of Mean							
		Z	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Brand Love	Equal variances assumed	17,208	0,000	-1,734	300	0,084	-0,18239	0,10518	-0,38936	0,02459	
	Equal variances not assumed			-1,722	274,594	0,086	-0,18239	0,10588	-0,39083	0,02606	

Table 25 – Involvement - product group statistics (full sample)

Group Statistics					
Involvement construct	Product	N	Mean	Std. Deviation	Std. Error Mean
Interest	Bottled water	155	2,8409	1,02939	0,08268
	Notebook	147	3,6009	0,89955	0,07419
Pleasure	Bottled water	155	2,4495	0,90101	0,07237
	Notebook	147	3,4218	0,93578	0,07718
Sign	Bottled water	155	2,0430	0,91698	0,07365
	Notebook	147	2,6780	1,01766	0,08394
Risk importance	Bottled water	155	2,8108	0,82355	0,06615
	Notebook	147	3,8027	0,66753	0,05506
Risk probability	Bottled water	155	2,3371	0,79344	0,06373
	Notebook	147	3,4286	0,74866	0,06176

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Table 26 – Involvement - product independent sample t-test (full sample)

Independent Sample Test											
		Levene's Test for Equality of Variances		test-t for Equality of Mean							
		Z	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Interest	Equal variances assumed	6,551	0,011	-6,817	300	0,000	-0,76005	0,11149	-0,97944	-0,54065	
	Equal variances not assumed			-6,842	298,031	0,000	-0,76005	0,11109	-0,97867	-0,54143	
Pleasure	Equal variances assumed	0,034	0,853	-9,199	300	0,000	-0,97231	0,10570	-1,18031	-0,76430	
	Equal variances not assumed			-9,190	297,538	0,000	-0,97231	0,10580	-1,18053	-0,76409	
Sign	Equal variances assumed	3,257	0,072	-5,702	300	0,000	-0,63499	0,11136	-0,85414	-0,41585	
	Equal variances not assumed			-5,686	292,814	0,000	-0,63499	0,11167	-0,85477	-0,41522	
Risk importance	Equal variances assumed	14,097	0,000	-11,463	300	0,000	-0,99197	0,08654	-1,16227	-0,82167	
	Equal variances not assumed			-11,526	292,970	0,000	-0,99197	0,08606	-1,16135	-0,82259	
Risk probability	Equal variances assumed	0,361	0,548	-12,280	300	0,000	-1,09147	0,08889	-1,26639	-0,91656	
	Equal variances not assumed			-12,298	299,994	0,000	-1,09147	0,08875	-1,26612	-0,91682	

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Table 27 – Demographics (Age, Gender, Education) - product independent sample t-test

Independent Sample Test											
		Levene's Test for Equality of Variances		test-t for Equality of Mean							
		Z	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Age	Equal variances assumed	2,782	0,096	0,605	300	0,545	0,074	0,123	-0,167	0,316	
	Equal variances not assumed			0,607	299,893	0,545	0,074	0,123	-0,167	0,316	
Gender	Equal variances assumed	0,298	0,586	-0,275	300	0,784	-0,016	0,057	-0,128	0,097	
	Equal variances not assumed			-0,275	298,979	0,784	-0,016	0,057	-0,128	0,097	
Education	Equal variances assumed	0,226	0,635	-0,655	300	0,513	-0,115	0,175	-0,460	0,230	
	Equal variances not assumed			-0,655	299,499	0,513	-0,115	0,175	-0,460	0,230	

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Table 28 – Green concern - product independent sample t-test

		Levene's Test for Equality of Variances		test-t for Equality of Mean						
		Z	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
Green concern	Equal variances assumed	0,228	0,634	1,363	300	0,174	0,11066	0,08117	-0,04908	0,27041
	Equal variances not assumed			1,361	295,912	0,175	0,11066	0,08131	-0,04936	0,27069

Annex F – PLS Algorithm results

Table 29 – Model Fit

	Saturated Model	Estimated Model
SRMR	0,053	0,053
d_ULS	0,649	0,649
d_G	0,398	0,398
Chi-Square	725,529	725,529
NFI	0,894	0,894

Table 30 – Multicollinearity Statistics (VIF)

	VIF
CBE1	2,050
CBE2	2,240
CBE3	3,333
CBE4	2,791
CBE5	2,618
CBE6	3,054
GPI1	3,871
GPI2	4,403
GPI3	2,785
GWP1	1,817
GWP3	1,948
GWP4	2,078
TRUST1	5,793
TRUST2	9,426
TRUST3	6,291
TRUST4	3,285
TRUST5	3,821
WOM1	7,586
WOM2	10,146
WOM3	7,273
WOM4	4,665

Annex G – Bootstrapping results*Table 31 – Outer Loadings and p values*

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
CBE1	0,769	0,767	0,030	25,314	0,000
CBE2	0,820	0,819	0,023	35,696	0,000
CBE3	0,888	0,887	0,016	56,290	0,000
CBE4	0,869	0,869	0,019	45,758	0,000
CBE5	0,844	0,843	0,027	31,465	0,000
CBE6	0,864	0,863	0,019	46,668	0,000
GPI1	0,933	0,932	0,009	102,253	0,000
GPI2	0,944	0,944	0,008	119,122	0,000
GPI3	0,911	0,911	0,014	67,076	0,000
GWP1	0,859	0,858	0,022	39,231	0,000
GWP3	0,851	0,850	0,024	35,691	0,000
GWP4	0,888	0,888	0,014	62,443	0,000
TRUST1	0,917	0,916	0,024	38,270	0,000
TRUST2	0,952	0,952	0,007	133,947	0,000
TRUST3	0,944	0,944	0,007	131,948	0,000
TRUST4	0,888	0,888	0,015	57,622	0,000
TRUST5	0,903	0,903	0,013	68,135	0,000
WOM1	0,957	0,957	0,006	155,657	0,000
WOM2	0,968	0,968	0,005	193,999	0,000
WOM3	0,958	0,958	0,007	140,457	0,000
WOM4	0,935	0,935	0,013	69,696	0,000

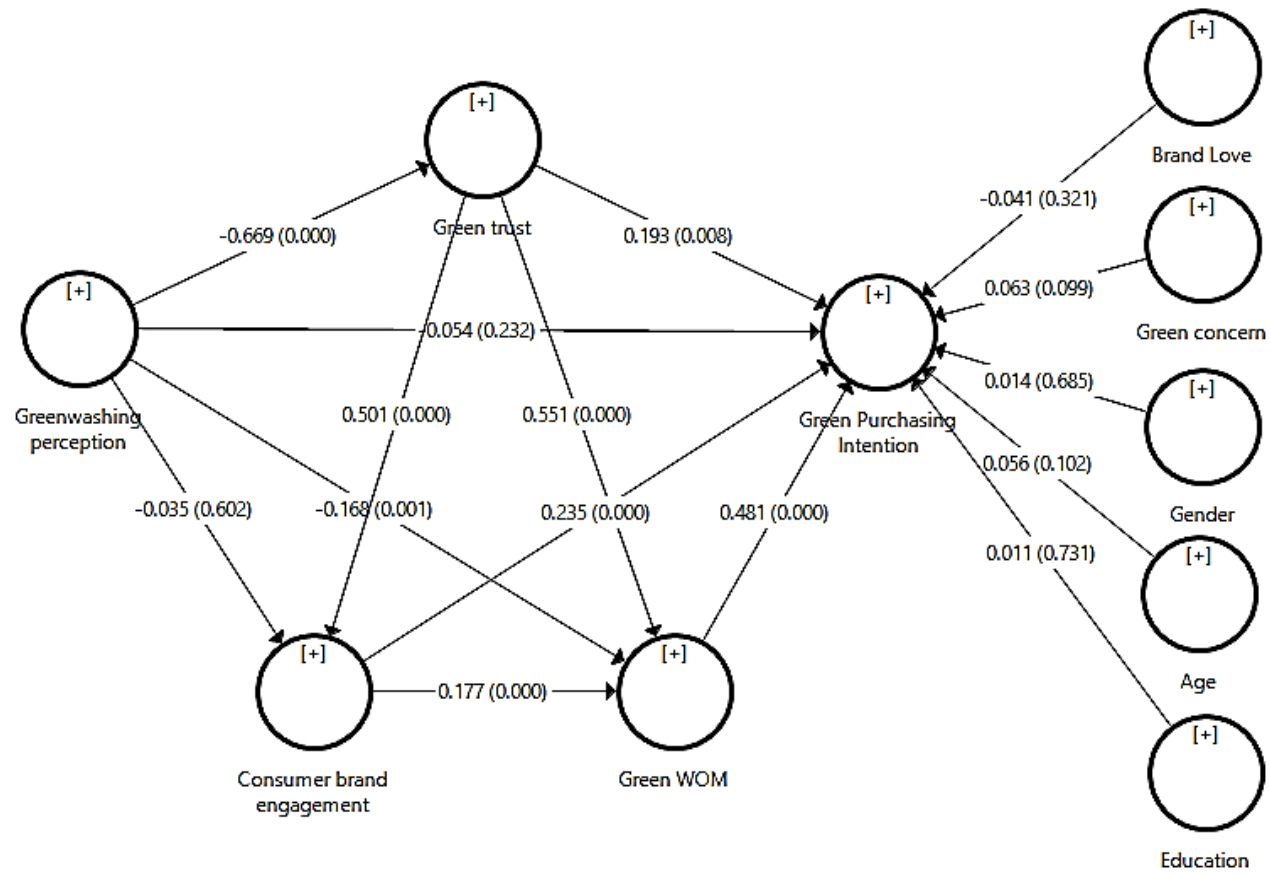
THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 32 – Path coefficients and p values

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Consumer brand engagement → Green Purchasing Intention	0,187	0,186	0,044	4,239	0,000
Consumer brand engagement → Green WOM	0,177	0,177	0,044	3,989	0,000
Green WOM → Green Purchasing Intention	0,493	0,495	0,070	7,095	0,000
Green trust → Consumer brand engagement	0,501	0,501	0,068	7,401	0,000
Green trust → Green Purchasing Intention	0,214	0,211	0,072	2,955	0,003
Green trust → Green WOM	0,551	0,547	0,056	9,889	0,000
Greenwashing perception → Consumer brand engagement	-0,035	-0,036	0,067	0,522	0,602
Greenwashing perception → Green Purchasing Intention	-0,057	-0,058	0,046	1,249	0,212
Greenwashing perception → Green WOM	-0,168	-0,171	0,049	3,399	0,001
Greenwashing perception → Green trust	-0,669	-0,670	0,052	12,971	0,000

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Exhibit 8 – Control variables effects



THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 33 – Specific indirect effects (complete)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Greenwashing perception → Green trust → Consumer brand engagement	-0,335	-0,335	0,050	6,656	0,000
Green trust → Consumer brand engagement → Green Purchasing Intention	0,094	0,093	0,025	3,811	0,000
Greenwashing perception → Green trust → Consumer brand engagement → Green Purchasing Intention	-0,063	-0,062	0,017	3,699	0,000
Greenwashing perception → Consumer brand engagement → Green Purchasing Intention	-0,007	-0,007	0,013	0,496	0,620
Green trust → Consumer brand engagement → Green WOM → Green Purchasing Intention	0,044	0,044	0,015	2,996	0,003
Greenwashing perception → Green trust → Consumer brand engagement → Green WOM → Green Purchasing Intention	-0,029	-0,029	0,010	2,985	0,003
Consumer brand engagement → Green WOM → Green Purchasing Intention	0,087	0,088	0,026	3,322	0,001
Greenwashing perception → Consumer brand engagement → Green WOM → Green Purchasing Intention	-0,003	-0,003	0,006	0,501	0,617
Green trust → Green WOM → Green Purchasing Intention	0,272	0,271	0,050	5,470	0,000

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Greenwashing perception → Green trust → Green WOM → Green Purchasing Intention	-0,182	-0,181	0,033	5,454	0,000
Greenwashing perception → Green WOM → Green Purchasing Intention	-0,083	-0,085	0,028	3,008	0,003
Greenwashing perception → Green trust → Green Purchasing Intention	-0,143	-0,141	0,050	2,879	0,004
Green trust → Consumer brand engagement → Green WOM	0,088	0,088	0,025	3,513	0,000
Greenwashing perception → Green trust → Consumer brand engagement → Green WOM	-0,059	-0,059	0,017	3,475	0,001
Greenwashing perception → Consumer brand engagement → Green WOM	-0,006	-0,007	0,012	0,505	0,613
Greenwashing perception → Green trust → Green WOM	-0,368	-0,366	0,041	9,086	0,000

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 34 – Specific indirect effects (low involvement product)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Greenwashing perception → Green trust → Consumer brand engagement	-0,411	-0,413	0,068	6,018	0,000
Green trust → Consumer brand engagement → Green Purchasing Intention	0,111	0,109	0,043	2,598	0,009
Greenwashing perception → Green trust → Consumer brand engagement → Green Purchasing Intention	-0,074	-0,073	0,030	2,499	0,012
Greenwashing perception → Consumer brand engagement → Green Purchasing Intention	0,002	0,000	0,015	0,112	0,911
Green trust → Consumer brand engagement → Green WOM → Green Purchasing Intention	0,068	0,070	0,029	2,332	0,020
Greenwashing perception → Green trust → Consumer brand engagement → Green WOM → Green Purchasing Intention	-0,045	-0,047	0,020	2,303	0,021
Consumer brand engagement → Green WOM → Green Purchasing Intention	0,110	0,114	0,044	2,493	0,013
Greenwashing perception → Consumer brand engagement → Green WOM → Green Purchasing Intention	0,001	0,001	0,010	0,110	0,912
Green trust → Green WOM → Green Purchasing Intention	0,183	0,183	0,061	3,015	0,003

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Greenwashing perception → Green trust → Green WOM → Green Purchasing Intention	-0,122	-0,122	0,040	3,053	0,002
Greenwashing perception → Green WOM → Green Purchasing Intention	-0,080	-0,083	0,036	2,217	0,027
Greenwashing perception → Green trust → Green Purchasing Intention	-0,142	-0,135	0,069	2,055	0,040
Green trust → Consumer brand engagement → Green WOM	0,163	0,164	0,045	3,636	0,000
Greenwashing perception → Green trust → Consumer brand engagement → Green WOM	-0,109	-0,109	0,032	3,458	0,001
Greenwashing perception → Consumer brand engagement → Green WOM	0,003	0,002	0,022	0,117	0,907
Greenwashing perception → Green trust → Green WOM	-0,294	-0,288	0,058	5,091	0,000

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 35 – Specific indirect effects (high involvement product)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Greenwashing perception → Green trust → Consumer brand engagement	-0,261	-0,261	0,075	3,502	0,000
Green trust → Consumer brand engagement → Green Purchasing Intention	0,090	0,090	0,033	2,716	0,007
Greenwashing perception → Green trust → Consumer brand engagement → Green Purchasing Intention	-0,060	-0,060	0,023	2,656	0,008
Greenwashing perception → Consumer brand engagement → Green Purchasing Intention	-0,011	-0,011	0,026	0,398	0,690
Green trust → Consumer brand engagement → Green WOM → Green Purchasing Intention	0,019	0,018	0,016	1,171	0,242
Greenwashing perception → Green trust → Consumer brand engagement → Green WOM → Green Purchasing Intention	-0,013	-0,012	0,011	1,172	0,241
Consumer brand engagement → Green WOM → Green Purchasing Intention	0,048	0,046	0,038	1,266	0,205
Greenwashing perception → Consumer brand engagement → Green WOM → Green Purchasing Intention	-0,002	-0,003	0,007	0,319	0,750
Green trust → Green WOM → Green Purchasing Intention	0,407	0,401	0,065	6,255	0,000

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Greenwashing perception → Green trust → Green WOM → Green Purchasing Intention	-0,271	-0,267	0,047	5,802	0,000
Greenwashing perception → Green WOM → Green Purchasing Intention	-0,088	-0,094	0,049	1,819	0,069
Greenwashing perception → Green trust → Green Purchasing Intention	-0,113	-0,112	0,061	1,865	0,062
Green trust → Consumer brand engagement → Green WOM	0,031	0,029	0,026	1,188	0,235
Greenwashing perception → Green trust → Consumer brand engagement → Green WOM	-0,020	-0,019	0,017	1,187	0,235
Greenwashing perception → Consumer brand engagement → Green WOM	-0,004	-0,005	0,011	0,316	0,752
Greenwashing perception → Green trust → Green WOM	-0,439	-0,434	0,058	7,516	0,000

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 36 – Total indirect effects

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Consumer brand engagement → Green Purchasing Intention	0,087	0,088	0,026	3,322	0,001
Consumer brand engagement → Green WOM					
Green WOM → Green Purchasing Intention					
Green trust → Consumer brand engagement					
Green trust → Green Purchasing Intention	0,409	0,408	0,056	7,342	0,000
Green trust → Green WOM	0,088	0,088	0,025	3,513	0,000
Greenwashing perception → Consumer brand engagement	-0,335	-0,335	0,050	6,656	0,000
Greenwashing perception → Green Purchasing Intention	-0,509	-0,509	0,044	11,590	0,000
Greenwashing perception → Green WOM	-0,434	-0,431	0,040	10,824	0,000
Greenwashing perception → Green trust					

THE IMPACT OF GREENWASHING PERCEPTION ON GREEN PURCHASING INTENTIONS

Table 37 – Total effects

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Consumer brand engagement → Green Purchasing Intention	0,274	0,274	0,045	6,073	0,000
Consumer brand engagement → Green WOM	0,177	0,177	0,044	3,989	0,000
Green WOM → Green Purchasing Intention	0,493	0,495	0,070	7,095	0,000
Green trust → Consumer brand engagement	0,501	0,501	0,068	7,401	0,000
Green trust → Green Purchasing Intention	0,623	0,619	0,060	10,414	0,000
Green trust → Green WOM	0,639	0,635	0,055	11,640	0,000
Greenwashing perception → Consumer brand engagement	-0,370	-0,371	0,052	7,087	0,000
Greenwashing perception → Green Purchasing Intention	-0,566	-0,567	0,049	11,491	0,000
Greenwashing perception → Green WOM	-0,602	-0,602	0,047	12,738	0,000
Greenwashing perception → Green trust					

Annex H – Permutation test results

Table 38 – MICOM Step 2

	Original Correlation	Correlation Permutation Mean	5.0%	Permutation p-Values
Consumer brand engagement	0,999	0,999	0,998	0,199
Green Purchasing Intention	1,000	1,000	1,000	0,379
Green WOM	1,000	1,000	1,000	0,975
Green trust	1,000	1,000	1,000	0,698
Greenwashing perception	0,999	0,999	0,998	0,420

Table 39 – MICOM Step 3 – Part I

	Mean - Original Difference (low involvement_group)- (high involvement_group)	Mean - Permutation Mean Difference (low involvement_group)- (high involvement_group)	2.5%	97.5%	Permutation p-Values
Consumer brand engagement	-0,546	0,001	-0,233	0,239	
Green Purchasing Intention	-0,209	0,001	-0,227	0,226	0,067
Green WOM	-0,327	0,001	-0,222	0,229	0,003
Green trust	-0,194	0,000	-0,223	0,226	0,087
Greenwashing perception	0,203	0,000	-0,220	0,219	0,070

Table 40 – MICOM Step 3 – Part II

	Variance - Original Difference (low involvement_group) - (high involvement_group)	Variance - Permutation Mean Difference (low involvement_group)- high involvement_group)	2.5%	97.5%	Permutation p-Values
Consumer brand engagement	-0,102	-0,001	-0,329	0,325	0,538
Green Purchasing Intention	0,156	-0,001	-0,270	0,261	0,251
Green WOM	0,258	-0,001	-0,284	0,282	0,072
Green trust	0,330	-0,002	-0,320	0,308	0,037
Greenwashing perception	0,444	-0,002	-0,291	0,278	0,003

Annex I – Multi-group Analysis (MGA) results

Table 41 –Multi-group path coefficients and p values

	Path Coefficients Original (low involvement_gr oup)	Path Coefficients Original (high involvement_gr oup)	t-Values (low involvement_gr oup)	t-Values (high involvement_gr oup)	p-Values (low involvement_gr oup)	p-Values (high involvement_gr oup)
CBE → GPI	0,180	0,231	2,640	4,105	0,008	0,000
CBE → GWOM	0,265	0,078	4,048	1,299	0,000	0,194
GWOM → GPI	0,415	0,618	4,037	7,870	0,000	0,000
GTRUST → CBE	0,617	0,392	7,849	3,561	0,000	0,000
GTRUST → GPI	0,213	0,169	2,091	2,038	0,037	0,042
GTRUST → GWOM	0,441	0,658	5,150	9,308	0,000	0,000
GWP → CBE	0,010	-0,046	0,119	0,410	0,905	0,682
GWP → GPI	-0,136	0,040	1,997	0,681	0,046	0,496
GWP → GWOM	-0,192	-0,143	2,745	2,021	0,006	0,043
GWP → GTRUST	-0,667	-0,666	9,085	10,809	0,000	0,000