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THE EFFECTS OF GREENWASHING ON PURCHASING INTENTION AND PERCEIVED QUALITY BY THE CONSUMER

Bruna Geraldo da Silva
Universidade do Vale do Itajaí
Tijucas - Brazil

Franciane Reinert Cé
University of Wisconsin, Stevens Point
Plover, Wisconsin, USA

Purpose: This paper proposes to analyze greenwashing influence on purchase intention and to understand how its effects can cause a halo effect on the other sectors of the organization that are not directly linked to sustainability, such as perceived product quality, moderated by the consumer level of involvement with the product.

Methodology: An experiment 2x2 between-subject design was conducted (with greenwashing x without greenwashing) x (high involvement x low involvement). The experiment was conducted online and the scenarios consisted of a fictitious automobile shopping website.

Findings: Based on the analysis of the 134 observations collected, it was possible to support the negative influence of the practice of greenwashing on purchase intention and perceived product quality. When the participants realized that they were being deceived about a product of great importance to them, they reacted strongly negatively toward the organization.

Theoretical and Methodological Contributions: This study contributed to the extension of knowledge regarding greenwashing theories, the influence of consumer involvement with the product and the theoretical model applied. The reaction identified through the involvement with the product expands knowledge regarding the Elaboration Probability Model since both scenarios led to the rejection.

Originality: This paper complements the understanding regarding the halo effect caused by greenwashing. Overall, it demonstrates that high involvement with a product manifests negative attitudes toward the organization, through a reduction in the purchase intention and attribution of low quality when greenwashing is verified.

Keywords: Greenwashing. Green marketing. Product involvement. Purchase intention. Perceived quality.

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Introduction

Every time a purchase decision is made (or not) about a certain product or service, there is a possibility that this decision contributes to a more or less sustainable consumption pattern. Thus, the entire purchase decision has repercussions on society, whether through ethical implications, resources, or waste (Young *et al.*, 2009). In this sense, the growth of consumer awareness and environmental concern is seen, given their exposure to the increased deterioration of the environment (Kautish and Sharma, 2019).

Throughout the 80s and 90s, green marketing was born to meet this need and develop goods that do not harm the environment (Tandon and Sethi, 2017). Green marketing presents outstanding benefits to society and the environment but also provides excellent benefits to companies (Rodrigues *et al.*, 2013). Given this advantage, many organizations started to invest in environmental campaigns to conquer the market and also raise awareness among consumers (Guimarães et al., 2015). However, some organizations, with a focus only on attracting consumers, use claims that appear to be environmentally friendly but instead use vague and fake terms (Parguel et al., 2011), hindering the understanding and trust by the consumer concerning the veracity of green products (Chen and Chang, 2013; Nygaard and Silkoset, 2022; Sun and Chi, 2022).

This practice of deceiving the consumer using fake sustainable attributes or appeals on the products or processes is known as greenwashing (Delmas and Burbano, 2011; Lyon and Montgomery, 2015). A market survey conducted by Making Effective Sustainability Claims (2016) checked the products in retail stores, and it was found that 95% of the products used some form of greenwashing, whereas 70% of the products contained green appeals that could not be proven and 65% contained vague terms such as "eco-friendly" or "earth-friendly". In a recent market research by Changing Market Foundation (2024) to assess the use of synthetic fibres and transparency among well-known clothing brands. The report highlights that 39% of products contained a sustainable claim, but 59% of the claims were not in line with regulations. The study concluded that greenwashing is a hot trend among the brands. Companies such as H&M, ASOS and M&S were the worst offenders, with 96%, 89% and 88% of false claims, respectively.

Many studies have tried understanding how greenwashing occurs and the consumer response to these practices. Studies analyze the relationships and effects of greenwashing, associating this variable with green confidence (Aji and Sutikno, 2015; Chen and Chang, 2013), purchase intention (Akturan, 2018; Chen *et al.*, 2019; Jong *et al.*, 2017; Leonidou and

Skarmeas, 2017; Lu *et al.*, 2022; Nguyen *et al*., 2019; Nyilasy *et al*., 2013; Sun and Chi, 2022; Zhang *et al*., 2019), consumer response of the ad or brand (Andreoli *et al*., 2024; Majláth, 2017; Schmuck *et al*., 2018), word-of-mouth marketing (Chen *et al*., 2013; Leonidou and Skarmeas, 2017), financial performance (Du, 2015; Jong *et al*., 2019; Walker and Wan, 2012; Wu and Shen, 2013) and perceived environmental performance (Gosselt *et al*., 2017; Jong *et al*., 2019; Walker and Wan, 2012; Wu and Shen, 2013).

In general, studies related to greenwashing that seek to analyze purchase intention focus on showing the effects of green products (Akturan, 2018; Chen *et al*., 2019; Nguyen *et al*., 2019; Zhang *et al*., 2019). Few are those that portray the effect on the intention to purchase the actual product of the ad with greenwashing (Jong *et al*., 2017), that is, the direct effect on the product in question. Su and Shi (2022) highlight the limitations to the causal implications of variables caused by the survey method. Thus, they reinforce the need to explore the issue of purchase intention through experimental designs.

Additionally, the authors argue that greenwashing can cause a halo effect. That is, the consumer can judge the organization negatively based on this attitude and thus judge other important indicators (Jong *et al*., 2019). Hence, the product's perceived quality can be influenced by greenwashing practices (Chen *et al*., 2013). However, little is known about the effect of greenwashing on the perceived quality by consumers of the organization's activities (Jong *et al*., 2019). It is crucial to explore the topic in order to better understand how the practice of greenwashing affects companies and sectors of the economy through consumer behavior (Lu *et al.*, 2022). However, there is still a need for a better understanding of consumer behavior in relation to greenwashing given their involvement with a certain product or market.

The involvement with a product is pointed out as a central aspect of the understanding of a consumption pattern (Odekerken-schröder *et al*., 2003). However, knowledge about this implication remains uncertain in the literature. Therefore, the authors emphasize the need to investigate the involvement between the consumer and the product to allow a broader understanding of the relationship between greenwashing practices and consumer responses (Nguyen *et al*., 2019; Schmuck *et al*., 2018). Margariti et al. (2024) verify the need for more understanding of consumer motivations regarding the practice of greenwashing by product category, thus requiring new researches to focus on specific products and not generic open questions.

Thus, to fill these gaps and contribute to the development of greenwashing literature, the present study aims to investigate the relationship between greenwashing, purchase intention,

and perceived quality, incorporating the moderating role of the level of consumer involvement with the product. To meet the objective, this study has a section of literature review to support the hypotheses, followed by a description of the method to test the assumptions raised. The results obtained and the discussion of it is presented. To sum up, the conclusions are presented, as well as limitations and suggestions for future research.

Greenwashing

According to Berglind and Nakata (2005), the adoption of pro-environmental and social behavior strengthens customer loyalty to the brand, as well as increases sales, as these attitudes show that organizations are, in a way, giving back the society. However, some organizations focus only on attracting consumers and taking advantage provided by green marketing, using claims that appear environmentally friendly but use vague, dubious, and sometimes false terms (Budinsky and Bryant, 2013; Parguel *et al*., 2011). This practice adopted by some organizations can be called greenwashing.

Studies about greenwashing have had considerable growth since 2005; throughout this period, authors focused mainly on seeking definitions for the concept and the motivators that lead to this practice and its effects. Initially, authors considered this practice as "corporate misinformation" (Laufer, 2003; Ramus and Montiel, 2005). However, over the years, authors began to provide more in-depth definitions of the term. Thus, Delmas and Burbano (2011) defined greenwashing as deceiving consumers about the company's environmental practices or a green product. Like Berrone (2016), the authors define this practice as a contrast between positive green communication and the low environmental performance of the company or product.

Nevertheless, Lyon and Maxwell (2011) adopt the concept of greenwashing as selective disclosure, in which a company develops a positive image by selecting information to be communicated to its audience, that is, presenting positive actions the company is engaged with, related to the social and environmental spheres, and at the same time, omitting negative information.

However, this definition was considered broad since many situations can be related to a misleading way of communicating the company's environmental performance (Lyon and Montgomery, 2015). To show that, Andreoli *et al.* (2022) based on the TerraChoice report 2010 classified actions that can be considered greenwashing as seven sins, such as false, vague claims, not verifiable, irrelevant, and mandatory by law.

Recently, de Freitas Netto *et al*. (2020) listed four main typologies of greenwashing mentioned in the last ten years. As a result, it is considered claims at the product and company levels. These are textual claims of ecological benefits to developing a misleading message to the consumer, which may appear in a certain product or at the company level, referring to some process or technique used. Furthermore, the study highlights the execution of greenwashing at the product or company level, defined by evoking images, colors, or sounds of nature to convey a misleading ecological image of the product or company.

Delmas and Burbano (2011), on the other hand, elaborated a framework to identify the motivators that lead to the practice of greenwashing. The authors highlighted external motivators (consumers and investors), organizational motivators (organizational structure), and individual motivators (cognitive tendencies of human beings). Jong *et al.* (2019) point out that studies highlight the effects resulting from the company's greenwashing practices and that they do not provide any benefits but rather negative effects on the organization's overall performance.

Purchase intention

Consumer behavior is the actions people take when they obtain, consume or use goods or services. Usually referred to as the study of "why people buy." From this perspective, it is highlighted to understand first why people choose certain products and brands to launch successful strategies (Blackwell *et al*., 2005).

Purchase intention is a very complex variable and can be affected by several factors, such as price, promotion, relevance, trust, and even environmental concerns (Hopkins, 2009; Kim and Choi, 2005; Lee Weisstein *et al*., 2014). Notably, purchase intentions tend to translate into purchasing behavior (Chandon *et al*., 2005). In this way, companies invest in campaigns aimed at sustainability to make consumers' attitudes toward the brand more favorable. For example, the BP company invested massively in these campaigns and later experienced the biggest oil spill scandal in the Gulf of Mexico, which contradicts the position adopted by the organization (Team, 2012). This type of contradiction induces a feeling of betrayal on the part of the consumer, causing them to reduce their intention to buy ecological products from a certain company (Sun and Shi, 2022).

It was found significant differences in the purchase intention towards truly green organizations and those who practice greenwashing (Jong et al., 2017). When consumers realize that the organizational communication is inconsistent with its current environmental

performance, they tend to be more cautious about purchasing green products in general (Zhang *et al*., 2018). Thus, a negative relationship between greenwashing and purchase intentions is verified. Authors such as Akutaran (2018), Zhang *et al*. (2018), and Nguyen *et al*. (2019) point out that the practice of greenwashing can negatively affect consumers' probability of purchasing a product that promotes its environmental benefits in the future.

Alternatively, Nyilasy *et al*. (2013) found that the interaction between low environmental performance and the dissemination of a green advertisement was insignificant in the purchase intention variable. Furthermore, Guerreiro and Pacheco (2021) studied how greenwashing perceptions influence buying behavior and concluded that this practice has no direct effect on purchase intention.

Given this uncertainty that hovers over the relationship between the practice of greenwashing and the purchase intention of the product in the ad, this study aims to clarify whether the purchase intention is affected when the consumer confirms that the organization is practicing greenwashing to obtain an advantage over its competitors. In this way, it is assumed that:

H1: If the organization practices greenwashing, consumers' purchase intentions will decrease.

Perceived quality

The perceived quality of a product can be described as the consumer's opinion about a product's or service's advantages (Zeithaml, 1987). Thus, it is highlighted that the perceived quality, due to its subjective characteristic, differs from the actual/objective quality of the product. Perceived quality occurs at an abstract level, whereas the actual quality is based on the consumer's judgment according to the experience regarding the product (Rowley, 1998).

The concept of perceived quality differs from perceived value, although it is often used synonymously (Wang *et al*., 2020). The perceived value is related to the customers' evaluation of what is fair or deserved by the perceived cost of the offer (Yang and Peterson, 2004). On the other hand, perceived quality is a global judgment or attitude related to the excellence of the product or service (Parasuraman *et al*., 1988). Perceived quality is a variable of great importance for organizations, as it can increase consumer satisfaction with the product and increase confidence in the brand (Parasuraman *et al*., 1988).

The greater environmental awareness among society led Chen and Chang (2013) to highlight the need to analyze the perceived green quality of products. Based on Zeithaml (1987),

the perceived green quality can be described as the consumer's judgment regarding the product's or service's environmental superiority or excellence. In this way, Chen *et al*. (2013) emphasize that greenwashing is negatively related to the perceived green quality among consumers of electronic products.

Overall, greenwashing effects beyond the perception related to the organization's environmental performance. Hence, Jong *et al*. (2019) seek to analyze the effects of greenwashing practices on the perception of products and service quality. The results highlighted that even though greenwashing is not directly related to the quality of the product and service, consumers assume that such unethical behavior links with other aspects of an organization's reputation. Thus, causing a halo effect of the negative influence of greenwashing on other constructs (Jong *et al*., 2019). Similarly, Lu et al. (2022) emphasize the positive relation between perceived greenwashing and perceived financial risk, showing that greenwashing affects the perception of cost-benefit in relation to the purchase of a given product, therefore the perceived monetary benefit by consumers decreases. For this reason, it is assumed that:

H2: If the organization practices greenwashing, consumers' perceived quality will decrease.

Involvement with the product

Involvement can be defined as the personal relevance of a product based on each consumer's values, interests, and needs (Zaichkowsky, 1985). Involvement differs from person to person, resulting in an individual characteristic of each consumer. This characteristic is not only related to price but to personal issues, status, or even arising from the needs of a particular moment (Bloch and Richins, 1983). As products symbolize different things for each individual, O'Cass (2000) concludes that consumers tend to develop different connections with each product.

Therefore, it can be said that there are products in which consumers have high involvement and those in which they have low involvement. Mittal (1989) points out that involvement can be classified by the relevance of the product and the duration of the relevance throughout use. When the consumer has a high involvement with a particular product, individuals are motivated to analyze and understand the meaning of the information (Warrington and Shim, 2000). On the other hand, low consumer involvement with a particular product is related to low purchase motivation, such as buying bread (Ahmed *et al*., 2004).

Thus, it is of great importance to the marketing field to understand the effects of consumer involvement with a product, as it plays a relevant part in explaining decision-making for goods or services (Nagar, 2015). The influence of greenwashing may not be the same for products with high or low involvement (Schmuck *et al*., 2018).

Furthermore, Akturan (2018) found that greenwashing is negatively associated with the dependent variables in both high and low-involvement scenarios. Still, in the case of high-involvement products, the strength of the association is higher. In another study, Jong *et al*. (2017) analyzed the effects of greenwashing practices on different types of products, perfumes, and detergents. Consumers were confronted with contradictory information about the organization. As a result, the authors concluded that no significant difference was found between the responses, not even an interaction between the type of greenwashing and the product type.

The Elaboration Likelihood Model according to Petty and Cacioppo (1986) proposes that consumers can evaluate the advertisement through the central or peripheral processing route of the brain. The model assumes that the highly involved consumer processes the ad via the central route and thus has a greater ability to judge the ad's message. The Model suggests that highly engaged consumers are motivated to process the message they are exposed to, given the relevance of the product and category to them. Interestingly, highly involved consumers can also be persuaded by emotion, exploring feelings such as pride or nostalgia in advertisements (Tucker *et al*., 2012).

Therefore, based on what was previously reported, the following hypotheses were elaborated:

H3: If there is high consumer involvement with the product, then the negative influence of greenwashing on purchase intention will be intensified.

H4: If there is high consumer involvement with the product, then the negative influence of greenwashing on the perceived quality will be intensified.

Method

An experiment was carried out to test the hypotheses. In this way, it will be possible to verify the influence of greenwashing on purchase intention and perceived product quality and the influence of consumers' involvement with the product in this relationship. As mentioned, the study analyzed the effects of the independent variable, greenwashing, and the moderating

variable, involvement. Thus, a 2x2 between-subjects design (with greenwashing x without greenwashing) x 2 (high involvement x low involvement) was adopted.

The procedure adopted is similar to that of Nyilasy *et al*. (2013), Leonidou and Skarmeas (2017), Jong *et al*. (2017), Gossett *et al*. (2017), Jong *et al*. (2019) and Chen *et al*. (2019). In the same way, this article seeks to verify consumers' responses when the organization communicates a green benefit of a certain product and a third party contradicts the environmental benefits presented throughout a product review, thus proving the greenwashing practiced by the organization. Then, the evaluation of this material was carried out by the participants. The material used was in the format of a fictitious website about an automobile purchase.

Thus, the manipulation of the greenwashing scenario consisted of the presentation of a website with lies and vague terms, as the sevens sins elucidated by Andreoli *et al.* (2022) based on Terrachoice report 2010, that cannot be technically proven such as "eco-friendly," "benefits for you and the environment," and "emission zero." The control scenario consisted of a website presentation with specific and technical terms concerning the environmental benefits provided, which can be verified its authenticity in test reports. As for the review, in the design with greenwashing, it was confirmed that the organization was lying and hiding information about its environmental performance, while in the design without greenwashing, the accuracy, clarity, and integrity of the information provided by the organization was confirmed. Both systems relied on the same background images, car images, colors, fonts, and font sizes to ensure that none of these factors influenced each participant differently, as presented in the Appendices.

In addition to greenwashing manipulation, information related to product specifications was presented to bring reality to the experiment. According to Gossett *et al*. (2017), experiments that emphasize only sustainable characteristics in advertisements do not convey reality because, in the real scenario, numerous information about the product is inserted. Brands or names of well-known organizations were also not used to avoid possible biases arising from the participant's preference for a particular brand or company. The price was also not included to avoid comparisons with other items on the market since this was not the study's objective.

Studies firstly pre-defined the products to be used, such as household appliances and cleaning products or perfume and detergent, and thus measured the differences between the effects obtained. However, each consumer can have different type of involvement with a given product/service or category (O'cass, 2000). According to Zaichkowsky (1994) these connections distinguish between high, medium and low. Therefore, the manipulation regarding

consumer involvement with the product was checked through the scales inserted in the instrument, which were converted into a qualitative variable (-1 SD (standard deviation) and +1 SD) for the analysis.

The automobile was chosen as the product because of the strong presence of greenwashing among industries in the field and the presence in researches (Andreoli *et al*., 2024; Dixon, 2020). The involvement with automobiles may be situational for some, while it is personal for others and even physical for some people. Depending only on the consumer, and their main concern and need in relation to the product (Rahman, 2017). To measure the involvement of each participant regarding the automobile it was used the scale of Zaichkowsky (1994), known as PII (Personal Involvement Inventory), composed of 10 items. Then the data were divided into participants with greater involvement in the product and less involvement.

Among the other variables, purchase intention was measured using a Likert-like scale of Lepkowska-White *et al*. (2003), consisting of three items. The perceived quality was measured using a Likert-like scale of Fombrun *et al.* (2000) containing four items used in the corporate reputation coefficient. Environmental knowledge was used as a control variable; it was measured through multiple choice questions with seven correct answers developed by Schmuck *et al*., (2018). An attention check was also adopted throughout the experiment.

An attention check was carried out to verify that the respondents read and paid attention to the information provided. As well as Parguel *et al.* (2015), this study asked what the total grams of carbon dioxide per mile that the car in the advertisement emits as reported. In the scenario with greenwashing, the total reported was 410 grams per mile, while in the scenario without greenwashing it was 0 grams per mile.

Then, the data collection instrument initially consisted of a consent form, followed by the presentation of the manipulated scenarios. Followed by the questions regarding the variable of the research interest, purchase intention and perceived quality. Subsequently, the participants were asked about their involvement related the automobile, and then the attention check was carried out, moving on to the presentation of questions related to the control variable, environmental knowledge. Next, the debriefing was asked, that is, asking whether the participants had any difficulties throughout the research and whether they understood the main reason for the research. Lastly, the profile of the respondents was asked.

The study carried out a pre-test with 58 participants and used the Laufer (2003) scale to verify the participants' perception of manipulation. Afterward, the treatment was adapted to avoid any doubts about the greenwashing practice represented in the advertisement. Thus, the

experiment was carried out online. To ensure random distribution and allocation of each subject in one of the scenarios, the Qualtrics software was used to elaborate the instrument and the Amazon Mechanical Turk platform, Mturk, for distribution. These participants were recruited at Masters level, Americans, with 90% approval and with more than 1000 tasks performed. The participants are called Workers and are paid for carrying out these tasks.

Regarding the sample size of this research, the Central Limit Theorem points out that a sample larger than 30 cases (n>30), the distribution of sample means can be approximated to a normal distribution. Thus, Hernandéz *et al.* (2014) suggest that at least 30 cases should be collected per experimental group to obtain a normal distribution. As this experiment has a 2x2 design, the minimum sample quantity would be 120 cases.

Regarding the analyzes used to obtain the results, first a characterization of the sample is presented. Aftewards, a Chi-square test is performed to check whether there is a significant difference in relation to demographic variables between the groups (with greenwashing x without greenwashing). To test the hypotheses, firstly Cronbrach's Alpha was verified, with the aim of analyzing the internal consistency of the scales used, followed by the ANOVA. The spotlighting method was used to analyze moderation, in which the result of involvement was converted into a qualitative variable, and -1 SD (standard deviation) and +1 SD were used as central elements of the distribution of the two newly generated groups (Prado *et al*., 2014).

Results

The data presented in this section refers to the characterization of the individuals who participated in the experiment. It was collected in 188 cases; however, 50 participants were excluded for not getting right the attention check question about the amount of carbon dioxide emitted by the vehicle ad. It was concluded that they did not pay attention and therefore did not answer the questions with the necessary information regarding the study and the manipulation. In addition to these cases, 4 participants were excluded for exceeding the maximum time stipulated of 45 minutes to complete the questionnaire. No participant was excluded because of the debriefing, as in no case was the real purpose of the study understood. Thus, the results referring to the 134 cases analyzed are presented below.

Concerning the distribution of the data, it was found that most of the participants were male, corresponding to 80 respondents. Regarding age, the predominant age group of participants is between 31 and 40 years old. Concerning the participants' level of education, it

can be seen that the majority have a degree, adding up to 50% of the respondents in the dataset. As for the respondents' current professional situation, it was found that most participants work full-time. Finally, the annual income informed by the participants, the majority is in the range of U$ 50,000.00 to U$ 100,000.00, equivalent to 40% of the sample.

When stratifying by group, considering the manipulation (with greenwashing) and control (without greenwashing) groups, it was possible to notice similarities between the samples. Thus, to check whether there were significant differences between the groups, chi-square tests were carried out, which obtained the following results: the variables gender (p=0.459), age (p=0.866), professional status (p=0.206) and level of education (p=0.413). Therefore, it is concluded that the variables were not significant, demonstrating that the distribution characteristics of the groups are similar. However, the income variable was significant (p=0.027), that is, a difference in distribution between the groups. It was not possible to identify the reason for this event, given the random distribution requested through the software used. Due to this unexpected result, it was necessary to check whether annual income influenced the dependent variables, however, the relationship did not prove to be significant.

To test the control variable, environmental knowledge, a One-Way ANOVA was performed, which did not identify any statistically significant results between groups ($F(1,132) = 0.44$, $p = 0.51$, $\eta 2 = 0.0033$), demonstrating that there were no differences regarding the environmental knowledge of the participants between the groups. To sum up, the environmental knowledge about the level of involvement of the participants with the study product was analyzed to verify possible interferences in the proposed relationship. Thus, the non-significance (p=0.88) of this relationship was verified. Through the random distribution of participants, it was possible to control this individual variable so that there would not be a direct effect in any treatment.

The H1 aims to investigate whether the presence of greenwashing is negatively related to the individuals' purchase intention. Initially, it was found that $\alpha = 0.963$, thus obtaining a satisfactory level of internal reliability of the instrument. In addition, all items on the scale had a factor loading above 0.95. Then, the ANOVA was in line with what was expected; that is, the presence of greenwashing in the ad led to a decrease in the participants' intention to buy the ad product. There was then a significant effect of the practice of greenwashing on purchase intention ($F(1, 132) = 64.43$, $p < .01$, $\eta 2 = .33$). Thus, finding support for hypothesis 1 of the study.

Consequently, H2 aims to test the negative influence of the presence of greenwashing on the perceived quality of a given product. First, Cronbach's Alpha test resulted in $\alpha = 0.943$, in which the factor loading of the scale items presented values above 0.90. Thus, it was found significant relation ($F(1, 132) = 87.72$, $p < .01$, $\eta 2 = .40$), which means that it is possible to reject the null hypothesis and accept that the practice of greenwashing negatively influences the perception of participants in relation to the quality of the product in question.

Hypotheses 3 and 4 seek to investigate whether the consumer's involvement with the product can intensify the negative effects already confirmed in hypotheses 1 and 2. Based on the tests performed, it is possible to verify that the interaction between greenwashing and involvement is significant in the purchase intention ($F(3,131) = 22.55$, $p <.001$). Thus, it was observed that the high involvement of the consumer with the product intensifies the negative relationship between the practice of greenwashing and purchase intention.

The same procedures were performed to test hypothesis 4, which aims to understand whether consumers who are more involved with the product tend to more intensely attribute poor quality to the product when there is a practice of greenwashing. Thus, hypothesis 4 was supported ($F(3,131) = 32.41$, $p<.001$), confirming the interaction of involvement and greenwashing on the perceived quality of the product.

Thus, Table I below synthesizes the hypotheses, results, and conclusion, whether it was supported or not.

Table I

Hypotheses Results

Hypotheses	**Interaction**	**P-value**	**Conclusion**
H1	GW -> INT	0,0000	Supported
H2	GW -> PQ	0,0000	Supported
H3	GW#EN -> INT	0,0000	Supported
H4	GW#EN -> PQ	0,0000	Supported
Criteria		**<0,05**	

Font: Elaborated by the authors (2021).

Discussion

As seen in the increased concern of society regarding the environment, future generations, and the well-being of all, organizations are engaging in environmentally friendly practices; in addition to providing these benefits, they also gain a competitive advantage over their competitors. However, the practices adopted and communicated are often used to obtain

this advantage and do not benefit the parties involved, society, and the environment. Thus, the hypotheses of this study aim to demonstrate the consumer's reaction to this practice, called greenwashing.

Firstly, this study aimed to test whether the consumer verifies that a certain organization is practicing some type of greenwashing, they would decrease their purchase intention in relation to your product. The hypothesis was confirmed, as predicted by theory and previous studies. Although not every intention extends to behavior, this is a highly predictive variable of consumer buying behavior (Chandon *et al*., 2005). In this way, the company that practices greenwashing may be negatively affected, as consumers tend to reduce their will to consume the products.

The second hypothesis of the study tested whether the presence of greenwashing influenced the perceived quality of the product. This analysis goes beyond the company's sustainable premises, analyzing quality in all aspects of the products offered. With the confirmation of hypothesis 2, it was revealed that greenwashing negatively affects the environmental performance of the organization, that is, the consumers' perception in relation to its superiority and excellence compared to the competition.

Jong *et al*. (2019) highlighted that the effects of greenwashing extended beyond the company's environmental responsibility. Thus, the present study corroborates the halo effect proposed in an incipient way by the authors. That is, the possibility for consumers to evaluate the practice of greenwashing and, based on this unethical conduct, judge other important indicators of the organization.

Involvement is a variable that has been shown to influence green purchasing behaviors (Nagar, 2015). Thus, consumers' intentions and perceptions differ according to the degree of involvement, that is, low or high (Atkinson and Rosenthal, 2014; Coşkun *et al*., 2017). Concerning the moderation proposed, the influence of this interaction was verified in the variables of purchase intention and perceived quality regarding the practice of greenwashing and the involvement with the product. These results support hypotheses 3 and 4, which tested whether participants with greater involvement with the product would react more intensively to greenwashing than those with low involvement.

This study improves the survey pointed out by Akutaran (2018) and suggests that the participants with greater involvement attribute more negative attitudes in relation to the probability of purchase and the perceived quality. Rahman (2017) has partially confirmed the effects of involvement on behavioral intentions, however in this study verifies that highly

involved participants reacted more strongly negatively to the organization's attitudes. This reaction fits along with what is proposed by the Elaboration Likelihood Model. That is, the highly involved consumer processes the ad through the central route and thus has a greater ability to judge the message of the ad.

In practice, similar behaviors are found, in which the practice of greenwashing reveals negative consumer attitudes toward the organization. When analyzing the scandal of Volkswagen due to all the repercussions and media prominence, Topal *et al*. (2019) investigated the likes, comments, and shares made on the company's Facebook homepage between 2012 and 2017 and found a drastic drop in the engagement from the fourth quarter of 2015 right after the emissions scandal occurred.

When an organization practice greenwashing, the purpose of green marketing in obtaining a competitive advantage through concern and appreciation for environmental issues is nullified. Once consumers realize that the company is deceiving them, they tend to decrease their purchase intention as well as perceived quality of the product. In other words, the implications of the practice of greenwashing are not limited only to the sustainable image of the organization, but rather to the general quality of the products promoted and consumers' purchase intention, as demonstrated in this study by the halo effect confirmed.

Consumers have the ability to demand new positions or sustainable practices from the organizations. Faced with countless natural disasters and climate change, consumers are increasingly engaging in environmental preservation practices, together with NGOs and the media pressing, demanding and imposing themselves on the organizations to adopt these attitudes as well (Toussaint *et al*., 2021), which makes them more aware of the environment, corroborating the negative attribution of the participants verified in the results. This change in consumer buying behavior is fundamental, as it cannot depend exclusively on changes in the organizations' production practices to promote sustainability (Kemper and Ballantine, 2019).

In addition to these theoretical and managerial implications highlighted throughout the study, this research also aims to elucidate the need of regulations and supervision in relation to green marketing in order to prevent and punish those who practice greenwashing.

Conclusion

This article aimed to analyze the effect of greenwashing practices on purchase intention and on the perceived quality by the consumer through four hypotheses tested through an experimental study.

The objectives proposed by the study were achieved, verifying that the participants were influenced by the presence of greenwashing, which led to a reduction in purchase intention and a decrease in the perceived quality of the product. The moderation proposed throughout the work proved to be significant, suggesting that the highly involved individual attributes negative attitudes toward the organization through a drastic reduction in the intention to consume the product and the low quality perceived when the consumer verifies that the organization is practicing greenwashing.

The empirical contributions serve as a basis for marketing management, which can use the knowledge developed to improve its strategies. By practicing greenwashing, the purpose and target of green marketing to obtain a competitive advantage through the concern and valuing of the environmental issue are nullified, regarding from the moment that consumers realize that the company is deceiving them, they judge the organization negatively. The implications of the practice of greenwashing are not limited to the organization's sustainable image.

This article also expanded the view of the literature regarding the effects caused by the practice of greenwashing, indicating that, in fact, participants negatively attribute the organization. The present study also obtained important results for the outcome of interactions related to involvement. Through the Elaboration Likelihood Model, this study expands the knowledge developed by Akturan (2018) in relation to the effects of involvement related to the practice of greenwashing and differs from it by confronting the effects caused by low and high involvement.

Although the choices made throughout this study are in accordance with the objective proposed here, there are limitations in the development of the research. A limiting factor for the study was the sample size; in addition to this, the fact that the study is based on respondents imagining themselves in a situation may be considered a limitation. Another point was carrying out the data collection during the Covid-19 pandemic period, in which participants may be more inattentive due to all the uncertainties and difficulties of the moment.

As discussed, this article demonstrates that the practice of greenwashing only entails unfavorable consumer attitudes toward the organization. Thus, the results are found to generate new possibilities for research questions and are intended to encourage studies about the practice of greenwashing, as well as to expand the frontiers of knowledge.

As a suggestion for future studies, there is a need to expand experimental research about the influence of other types of greenwashing, especially images and colors used to symbolize

some connection with the environment. It is also suggested that further research is to analyze ways to regulate the actions taken by organizations in order to prevent the occurrence of greenwashing. In addition, new variables and interactions can be explored, such as the interference of the adoption of well-known brands and organizations, with a large national representation compared to smaller ones or even a national organization compared to a foreign one.

Authors' contribution

Contribution	Geraldo da Silva, B	Reinert Cé, F
Conceptualization	X	---
Methodology	X	X
Software	X	----
Validation	X	X
Formal analysis	X	X
Investigation	X	X
Resources	X	----
Data Curation	X	X
Writing - Original Draft	X	----
Writing - Review & Editing	X	X
Visualization	X	X
Supervision	X	X
Project administration	X	X
Funding acquisition	----	----

References

Ahmed, Z. U., Johnson, J. P., Yang, X., Kheng Fatt, C., Sack Teng, H., & Chee Boon, L. (2004). Does the country of origin matter for low-involvement products? *International Marketing Review*, *21*(1), 102–120. https://doi.org/10.1108/02651330410522925

Aji, H. M., & Sutikno, B. (2015). The Extended Consequence of Greenwashing: Perceived Consumer Skepticism. *International Journal Of Business And Information*, *10*, 433–468.

Altura, U. (2018). How do greenwashing affect green branding equity and purchase intention? Empirical research. *Marketing Intelligence & Planning*, *36*(7), 809–824. https://doi.org/10.1108/mip-12-2017-0339

Andreoli, T., Costa, E., & Prearo, L. (2022). Julgamento dos Consumidores Acerca da Prática do greenwashing: Desenvolvimento E Validação de Escala. *Brazilian Business Review*, *19*(5), 508–524. https://doi.org/10.15728/bbr.2022.19.5.3.pt

Andreoli, T., Minciotti, S., & Batista, L. (2024). Atenção e Ceticismo: Influência na Avaliação de Anúncio com Greenwashing. *Brazilian Business Review*. https://doi.org/https://doi.org/10.15728/bbr.2023.1539.pt

Atkinson, L., & Kim, Y. (2014). "I Drink It Anyway, and I Know I Shouldn't": Understanding Green Consumers' Positive Evaluations of Norm-violating Non-green Products and Misleading Green Advertising. *Environmental Communication*, *9*(1), 37–57. https://doi.org/10.1080/17524032.2014.932817

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. https://doi.org/10.1080/00913367.2013.834803

Berglind, M., & Nakata, C. (2005). Cause-related marketing: More buck than bang? *Business Horizons*, *48*(5), 443–453. https://doi.org/10.1016/j.bushor.2005.04.008

Berrone, P. (2016). *Green Lies: how greenwashing can destroy a company (and how to go green without the wash).* Createspace Independent.

Blackwell, P., Miniard, W., & Engel, J. F. (2005). Comportamento do consumidor (9th ed.). Pioneer Thomson Learning.

Bloch, P. H., & Richins, M. L. (1983). A Theoretical Model for the Study of Product Importance Perceptions. *Journal of Marketing*, *47*(3), 69–81. https://doi.org/10.1177/002224298304700308

Budinsky, J., & Bryant, S. (2013). "It's Not Easy Being Green": The Greenwashing of Environmental Discourses in Advertising. *Canadian Journal of Communication*, *38*(2). https://doi.org/10.22230/cjc.2013v38n2a2628

Chandon, P., Morwitz, V. G., & Reinartz, W. J. (2005). Do Intentions Really Predict Behavior? Self-Generated Validity Effects in Survey Research. *Journal of Marketing*, *69*(2), 1–14. https://doi.org/10.1509/jmkg.69.2.1.60755

Changing Markets Foundation (Ed.). (2024, January 10). Synthetics Anonymous: Fashion Brands' addiction to Fossil Fuels . Changing Markets. https://changingmarkets.org/report/synthetics-anonymous-fashion-brands-addiction-to-fossil-fuels/

Chen, H., Bernard, S., & Rahman, I. (2019). Greenwashing in hotels: A structural model of trust and behavioral intentions. *Journal of Cleaner Production*, *206*, 326–335. https://doi.org/10.1016/j.jclepro.2018.09.168

Chen, Y. S., & Chang, C. H. (2013). Towards green trust. *Management Decision*, *51*(1), 63–82. https://doi.org/10.1108/00251741311291319

Chen, Y.-S., Lin, C.-L., & Chang, C.-H. (2013). 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. https://doi.org/10.1007/s11135-013-9898-1

Coşkun, A., Vocino, A., & Polonsky, M. (2017). Mediating Effect of Environmental Orientation on Pro-Environmental Purchase Intentions in a Low-Involvement Product Situation. Australasian Marketing Journal, 25(2), 115–125. https://doi.org/10.1016/j.ausmj.2017.04.008

de Freitas Netto, S. V., Sobral, M. F. F., Ribeiro, A. R. B., & Soares, G. R. D. L. (2020). Concepts and forms of greenwashing: a systematic review. *Environmental Sciences Europe*, *32*(1). https://doi.org/10.1186/s12302-020-0300-3

Delmas, M. A., & Burbano, V. C. (2011). The Drivers of Greenwashing. *California Management Review*, *54*(1), 64–87. https://doi.org/10.1525/cmr.2011.54.1.64

Dixon, L. (2020). Autonowashing: The Greenwashing of Vehicle Automation. *Transportation Research Interdisciplinary Perspectives*, *5*, 100113. https://doi.org/10.1016/j.trip.2020.100113

Du, X. (2014). How the Market Values Greenwashing? Evidence from China. *Journal of Business Ethics*, *128*(3), 547–574. https://doi.org/10.1007/s10551-014-2122-y

Fombrun, C. J., Gardberg, N. A., & Sever, J. M. (2000). The Reputation QuotientSM: A multi-stakeholder measure of corporate reputation. *Journal of Brand Management*, *7*(4), 241–255. https://doi.org/10.1057/bm.2000.10

Gossett, 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. https://doi.org/10.1007/s10551-017-3512-8

Guerreiro, J., & Pacheco, M. P. (2021). How green trust, consumer brand engagement and green Word-of-Mouth mediate purchasing intentions. Sustainability, 13(14), 7877. https://doi.org/10.3390/su13147877

Guimarães, C., Viana, L. S., & Costa, S. (2015). Os desafios da consciência ambiental: o marketing verde em questão. *Cadernos de Aulas Do LEA*, *4*, 94–104.

Hernandez, M; Basso, K; Brandão, M. Pesquisa Experimental em Marketing. Revista Brasileira de Marketing, [S.L.], v. 13, n. 2, p. 98-117, 23 maio 2014.

Jong, M. D. T., Harkink, K. M., & Barth, S. (2017). Making Green Stuff? Effects of Corporate Greenwashing on Consumers. *Journal of Business and Technical Communication*, *32*(1), 77–112. https://doi.org/10.1177/1050651917729863

Jong, M. D. T., Huluba, G., & Beldad, A. D. (2019). Different Shades of Greenwashing: Consumers' Reactions to Environmental Lies, Half-Lies, and Organizations Taking Credit for Following Legal Obligations. *Journal of Business and Technical Communication*, *34*(1), 38–76. https://doi.org/10.1177/1050651919874105

Kautish, P., & Sharma, R. (2019). Determinants of pro-environmental behavior and environmentally conscious consumer behavior: An empirical investigation from an emerging market. *BUSINESS STRATEGY & DEVELOPMENT*, *3*(1), 112–127. https://doi.org/10.1002/bsd2.82

Kemper, J. A., & Ballantine, P. W. (2019). What do we mean by sustainability marketing? *Journal of Marketing Management*, *35*(3–4), 277–309. https://doi.org/10.1080/0267257x.2019.1573845

Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *Advances In Consumer Research*, *32*, 592–599.

Laufer, W. S. (2003). Social Accountability and Corporate Greenwashing. *Journal of Business Ethics*, *43*(3), 253–261. https://doi.org/10.1023/a:1022962719299

Lee Weisstein, F., Asgari, M., & Siew, S. W. (2014). Price presentation effects on green purchase intentions. *Journal of Product & Brand Management*, *23*(3), 230–239. https://doi.org/10.1108/jpbm-06-2013-0324

Leonidou, C. N., & Skarmeas, D. (2015). Gray Shades of Green: Causes and Consequences of Green Skepticism. *Journal of Business Ethics*, *144*(2), 401–415. https://doi.org/10.1007/s10551-015-2829-4

Lepkowska-White, E., Brashear, T. G., & Weinberger, M. G. (2003). A Test of Ad Appeal Effectiveness in Poland and The United States - The Interplay of Appeal, Product, and Culture. *Journal of Advertising*, *32*(3), 57–66. https://doi.org/10.1080/00913367.2003.10639136

Lu, X., Tong, S., Zhou, X., Shen, C., & Fang, B. (2022). How Does Young Consumers' Greenwashing Perception Impact Their Green Purchase Intention in the Fast Fashion Industry? An Analysis from the Perspective of Perceived Risk Theory. Sustainability, 14(20), 13473. https://doi.org/10.3390/su142013473

Lyon, T. P., & Maxwell, J. W. (2011). Greenwash: Corporate Environmental Disclosure under Threat of Audit. *Journal of Economics & Management Strategy*, *20*(1), 3–41. https://doi.org/10.1111/j.1530-9134.2010.00282.x

Lyon, T. P., & Montgomery, A. W. (2015). The Means and End of Greenwash. *Organization & Environment*, *28*(2), 223–249. https://doi.org/10.1177/1086026615575332

Majláth, M. (2017). THE EFFECT OF GREENWASHING INFORMATION ON AD EVALUATION. *European Journal of Sustainable Development*, *6*(3). https://doi.org/10.14207/ejsd.2017.v6n3p92

Making Effective Sustainability Claims. (2016). UL. https://www.ul.com/insights/making-effective-sustainability-claims

Margariti, K., Hatzithomas, L., & Boutsouki, C. (2024). Elucidating the gap between green attitudes, intentions, and behavior through the prism of greenwashing concerns. Sustainability, 16(12), 5108. https://doi.org/10.3390/su16125108 Mittal, B. (1989). Measuring Purchase-decision involvement. *Psychology and Marketing*, *6*(2), 147–162. https://doi.org/10.1002/mar.4220060206

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. https://doi.org/10.1080/08911762.2015.1114692

Nguyen, T. T. H., Yang, Z., Nguyen, N., Johnson, L. W., & Cao, T. K. (2019). Greenwash and Green Purchase Intention: The Mediating Role of Green Skepticism. *Sustainability*, *11*(9), 2653. https://doi.org/10.3390/su11092653

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. https://doi.org/10.1007/s10551-013-1944-3

Nygaard, A., & Silkoset, R. (2022). Sustainable development and greenwashing: How blockchain technology information can empower green consumers. *Business Strategy and the Environment*, *32*(6), 3801–3813. https://doi.org/10.1002/bse.3338

O'Cass, A. (2000). An assessment of consumers product, purchase decision, advertising and consumer involvement in fashion clothing. *Journal of Economic Psychology*, *21*(5), 545–576. https://doi.org/10.1016/s0167-4870(00)00018-0

Odekerken-Schröder, G., De Wulf, K., & Schumacher, P. (2003). Strengthening outcomes of retailer–consumer relationships. *Journal of Business Research*, *56*(3), 177–190. https://doi.org/10.1016/s0148-2963(01)00219-3

Parasuraman, A. P., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. Journal Of Retailing, 64(1), 12–44.

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. https://doi.org/10.1007/s10551-011-0901-2

Parguel, B., Benoit-Moreau, F., & Russell, C. A. (2015). Can evoking nature in advertising mislead consumers? The power of 'executional greenwashing.' *International Journal of Advertising*, *34*(1), 107–134. https://doi.org/10.1080/02650487.2014.996116

PETTY, E.; CACIOPPO, T. The Elaboration Likelihood Model of Persuasion. Advances In Experimental Social Psychology, [S.L.], p. 123-205, 1986.

Prado, P. H. M., Korelo, J. C., & Silva, D. M. L. D. (2014). Análise de Mediação, Moderação e Processos Condicionais. *Revista Brasileira de Marketing*, *13*(4), 04–24. https://doi.org/10.5585/remark.v13i4.2739

Ramus, C. A., & Montiel, I. (2005). When Are Corporate Environmental Policies a Form of Greenwashing? *Business & Society*, *44*(4), 377–414. https://doi.org/10.1177/0007650305278120

Rodrigues, A., Gonçalves, E., Costa, A., Nora, E. S., & Rezende, D. C. (2013). Marketing Verde e Consumo Consciente: Segmentando o Mercado de Lavras/MG. *Espacios*, *34*(4), 12–25.

Rahman, I. (2017). The Interplay of Product Involvement and Sustainable Consumption: An Empirical Analysis of Behavioral Intentions Related to Green Hotels, Organic Wines and Green Cars. Sustainable Development, 26(4), 399–414. https://doi.org/10.1002/sd.1713

Rowley, J. (1998). Quality measurement in the public sector: Some perspectives from the service quality literature. *Total Quality Management*, *9*(2–3), 321–333. https://doi.org/10.1080/0954412989171

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. https://doi.org/10.1080/00913367.2018.1452652

Sun, Y., & Shi, B. (2022). Impact of Greenwashing perception on consumers' green purchasing Intentions: A Moderated mediation model. Sustainability, 14(19), 12119. https://doi.org/10.3390/su141912119

Tandon, S. M., & Sethi, V. (2017). An Analysis of the Determinants of Consumer Purchase Behavior Towards Green FMCG Products. *IUP Journal of Marketing Management*, *16*(3).

Team, T. (2012, July 6). *BP Goes For Public Relations Makeover To Get Beyond Gulf Spill*. Forbes. https://www.forbes.com/sites/greatspeculations/2012/02/07/bp-goes-for-public-relations-makeover-to-get-beyond-gulf-spill/?utm_source=dlvr.it&utm_medium=twitter#6f4e131b13fa

Topal, B., Nart, S., Akar, C., & Erkollar, A. (2019). The effect of greenwashing on online consumer engagement: A comparative study in France, Germany, Turkey, and the United Kingdom. *Business Strategy and the Environment*, *29*(2), 465–480. https://doi.org/10.1002/bse.2380

Toussaint, M., Cabanelas, P., & González-Alvarado, T. E. (2021). What about consumer choice? The influence of social sustainability on consumer's purchasing behavior in the Food Value Chain. *European Research on Management and Business Economics*, *27*(1), 100134. https://doi.org/10.1016/j.iedeen.2020.100134

Tucker, E. M., Ripon, N. J., Lee, E. M., & Reece, B. B. (2012). Consumer Receptivity to Green Ads. *Journal of Advertising*, *41*(4), 9–23. https://doi.org/10.1080/00913367.2012.10672454

Walker, K., & Wan, F. (2011). The Harm of Symbolic Actions and Green-Washing: Corporate Actions and Communications on Environmental Performance and Their Financial Implications. *Journal of Business Ethics*, *109*(2), 227–242. https://doi.org/10.1007/s10551-011-1122-4

Wang, J., Tao, J., & Chu, M. (2020). Behind the label: Chinese consumers' trust in food certification and the effect of perceived quality on purchase intention. *Food Control*, *108*, 106825. https://doi.org/10.1016/j.foodcont.2019.106825

Warrington, P., & Shim, S. (2000). An empirical investigation of the relationship between product involvement and brand commitment. *Psychology and Marketing*, *17*(9), 761–782.

Wu, M. W., & Shen, C. H. (2013). Corporate social responsibility in the banking industry: Motives and financial performance. *Journal of Banking & Finance*, *37*(9), 3529–3547. https://doi.org/10.1016/j.jbankfin.2013.04.023

Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology and Marketing*, *21*(10), 799–822. https://doi.org/10.1002/mar.20030

Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2009). Sustainable consumption: green consumer behavior when purchasing products. *Sustainable Development*, n/a. https://doi.org/10.1002/sd.394

Zaichkowsky, J. L. (1985). Measuring the Involvement Construct. *Journal of Consumer Research*, *12*(3), 341. https://doi.org/10.1086/208520

Zaichkowsky, J. L. (1994). The Personal Involvement Inventory: Reduction, Revision, and Application to Advertising. *Journal of Advertising*, *23*(4), 59–70. https://doi.org/10.1080/00913367.1943.10673459

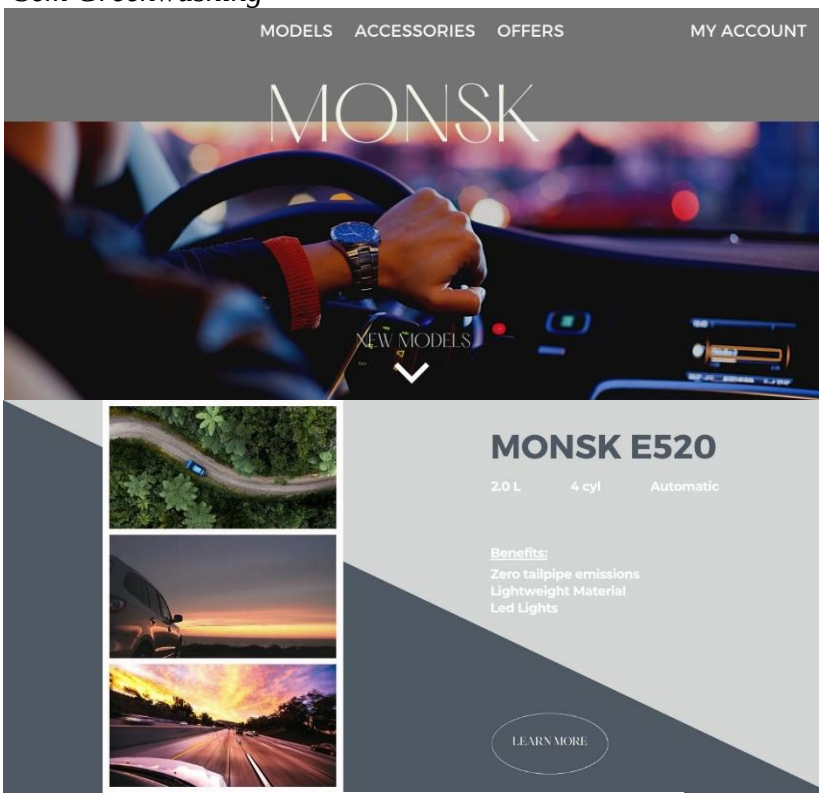
Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, *52*(3), 2–22. https://doi.org/10.1177/002224298805200302

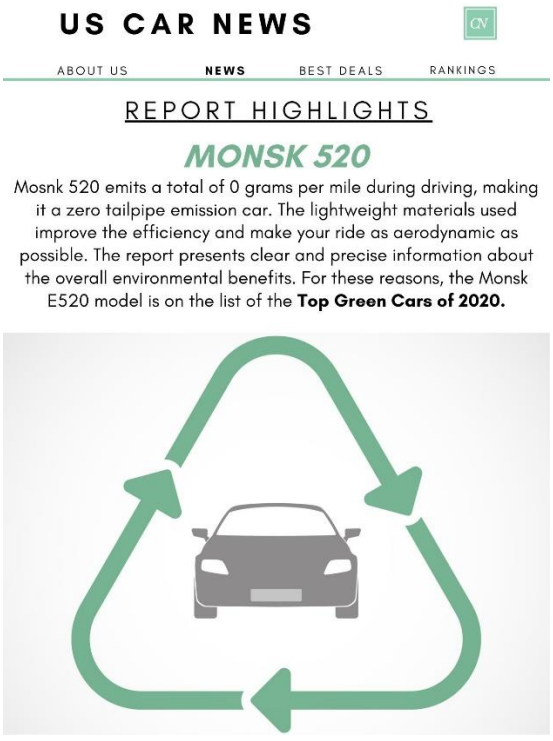
Zhang, L., Li, D., Cao, C., & Huang, S. (2018). The influence of greenwashing perception on green purchasing intentions: The mediating role of green word-of-mouth and the moderating role of green concern. *Journal of Cleaner Production*, *187*, 740–750. https://doi.org/10.1016/j.jclepro.2018.03.201

Apêndices

Cenário 1

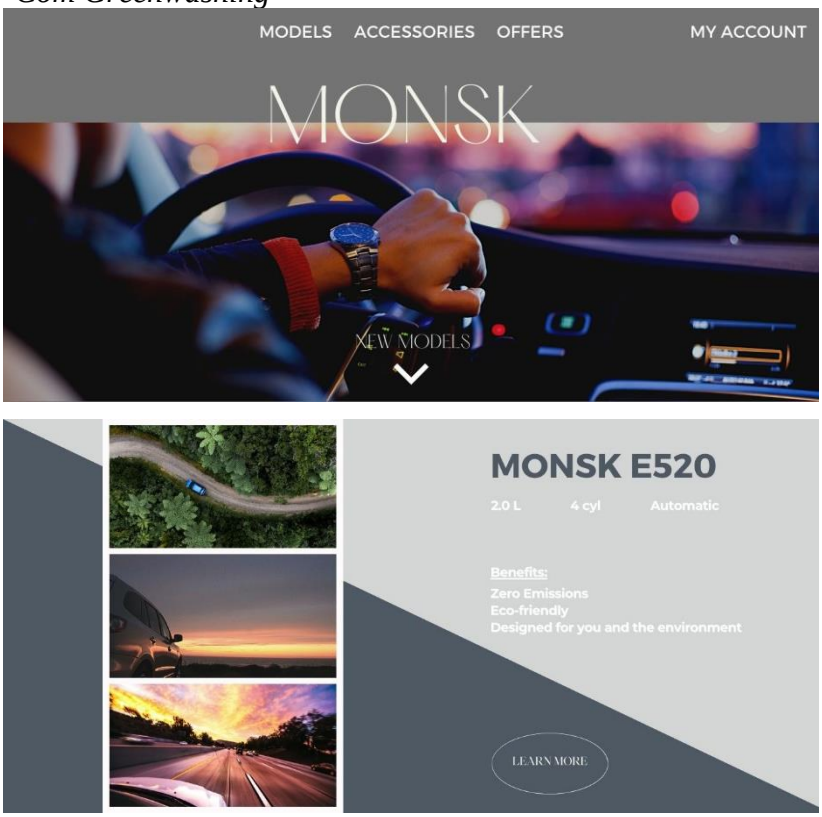
Sem Greenwashing





Cenário 2

Com Greenwashing



Appendices – scales of the instrument

Dependent variables

Purchase Intention & Perceived Quality

Variable	Authors	Statements
Purchase Intention	Lepkowska-White, Brashear e Weinberger (2003)	INT_1 If I were looking for this type of product my likelihood of purchasing the product in the ad would be high.
		INT_2 If I were to buy this type of product, the probability that I would consider buying the product in the ad would be high.
		INT_3 If had to buy this type of product, my willingness to buy the product in the ad would be high
Perceived Quality	Fombrun, Gardberg e Sever (2000)	QP_1 Stands behind its products and services.
		QP_2 Develops innovative products and services.
		QP_3 Offers high quality products and services.
		QP_ 4 Offers products and services that are a good cost benefit

Moderating variable

Product Involvement by Zaichkowsky (1994)

Unimportant	( )	( )	( )	( )	( )	( )	( )	Important
Boring	( )	( )	( )	( )	( )	( )	( )	Interesting
Irrelevant	( )	( )	( )	( )	( )	( )	( )	Relevant
Unexciting	( )	( )	( )	( )	( )	( )	( )	Exciting
Means nothing	( )	( )	( )	( )	( )	( )	( )	Means a lot to me
Unappealing	( )	( )	( )	( )	( )	( )	( )	Appealing
Mundane	( )	( )	( )	( )	( )	( )	( )	Fascinating
Worthless	( )	( )	( )	( )	( )	( )	( )	Valuable
Uninvolving	( )	( )	( )	( )	( )	( )	( )	Involving
Not needed	( )	( )	( )	( )	( )	( )	( )	Needed

Control Variable – Environmental Knowledge based on Schmuck, Matthes e Naderer (2018).

1. Which symbol(s) represent(s) a certified eco-label for environmentally friendly products?

2. What does it mean if the following symbol appears on packaging? (Check all that apply)

( ) The production of this product does not cause any harm to plants; This is an official seal to indicate environmentally friendly products;
( ) The production of this product is environmentally friendly;
( ) This is not an official sign to indicate environmentally friendly products;
( ) Don't know

3. To the best of your knowledge, what is the single most important source of air pollution on this planet?
( ) Cigarette smoke;
( ) Automobiles;
( ) Heavy industry;
( ) Power Stations;
( ) Don't know

4. Under most recycling products, which of these items cannot be recycled? (Check all that apply)
( ) Magazines, catalogues, and books;
( ) Newspapers;
( ) Batteries;
( ) Plastic bottles;
( ) Energy-saving bulbs;
( ) Don't know