

Original Article

Attention and skepticism to greenwashing: analysis of influence on consumer behavior

Atenção e ceticismo ao *greenwashing*: análise da influência no comportamento do consumidor

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ABSTRACT

Purpose: The goal was to assess the influence of greenwashing on consumer behavior, according to the levels of attention and skepticism involved in receiving and processing the stimulus.

Design/methodology/approach: The method consisted of a hypothetical-deductive approach, performed through an experiment (n=151) with a 2 (attention or pre-attention) x 2 (skepticism or non-skepticism) factorial design, with the presentation and subsequent evaluation of a fictional advertising image with greenwashing.

Findings: It was observed that the situation of greater consumer criticality occurred with the presence of both attention and skepticism, the opposite also being true, that is, lesser criticality (or greater vulnerability) of consumer was detected when both attention (pre-attention) and skepticism were absent. These results were found in the three investigated variables: green associations, image evaluation, and judgment about the greenwashing practice.

Research implications: It has, as a contribution, not only the investigation of fairly unexplored constructs but also the combination and study in a connected way, bringing to the discussion the cognitive processes involved in the reception, processing, registration, and recovery of stimuli, especially in relation to the process of attention, and linking them to the practice of greenwashing.

Practical implications: Managing implications can be seen from three main perspectives: organization, consumers, and government, all related to the importance and need for greater awareness.

Originality/value: The study provided an unprecedented understanding of the role of two important cognitive processes (attention and skepticism) in consumer behavior in reaction to the practice of greenwashing.

Keywords: Cognitive process; Pre-attention; Greenwashing; Skepticism; Consumer behavior

RESUMO

Objetivo: O objetivo foi avaliar a influência do *greenwashing* no comportamento do consumidor, de acordo com os níveis de atenção e de ceticismo envolvidos na recepção e no processamento do estímulo.

Método: O método consistiu em uma abordagem hipotético-dedutiva, realizada por meio de um experimento (n=151) com desenho fatorial 2 (atenção ou pré-atenção) x 2 (ceticismo ou não ceticismo), com a apresentação e posterior avaliação de uma peça publicitária fictícia com *greenwashing*.

Resultados: Observou-se que a situação de maior criticidade do consumidor ocorreu com a presença tanto da atenção quanto do ceticismo, sendo o inverso também verdadeiro, ou seja, detectou-se menor criticidade (ou maior vulnerabilidade) do consumidor quando a atenção (pré-atenção) e o ceticismo estavam ausentes. Esses resultados foram encontrados nas três variáveis investigadas: associações verdes, avaliação da imagem e julgamento sobre a prática de *greenwashing*.

Implicações da pesquisa: Tem-se como contribuição não apenas a investigação de construtos pouco explorados, mas também a combinação e o estudo de forma conectada, trazendo à discussão os processos cognitivos envolvidos na recepção, processamento, registro e recuperação de estímulos, em especial em relação ao processo da atenção, e vinculando-os à prática de *greenwashing*.

Implicações gerenciais: As implicações gerenciais podem ser vistas a partir de três perspectivas principais: organização, consumidores e governo, todas relacionadas à importância e à necessidade de maior conscientização.

Originalidade/valor: O estudo proporcionou uma compreensão inédita do papel de dois importantes processos cognitivos (atenção e ceticismo) no comportamento do consumidor em reação à prática de *greenwashing*.

Palavras-chave: Processos cognitivos; Pré-atenção; *Greenwashing*; Ceticismo; Comportamento do consumidor

1 INTRODUCTION

The population, in general, has become increasingly concerned with environmental issues, what ends up permeating also the purchase decision process, with consumers that are more aware and concerned about the environmental issues (Andreoli, Lima, & Prearo, 2017; Gonçalves, Santos, Kieling, & Tezza, 2022). Such consumers start to be aware and demand more from more environmentally responsible organizations, capable of decreasing its action impact in the environment (Matthes, Wonneberger, & Schmuck, 2014; Andreoli, Lima, & Prearo, 2017; Gonçalves, Santos, Kieling, & Tezza, 2022).

To keep up with this trend, green marketing use has increased significantly within organizations (Matthes, Wonneberger, & Schmuck, 2014; Andreoli & Santos,

2022). Green marketing stands out, thus, as a new value proposition, based not only in consumer market servicing, but also for socio-environmental responsibility (Andreoli, Lima, & Prearo, 2017; Andreoli & Santos, 2022).

Nevertheless, it can also be observed that some organizations, to keep up with this trend and to seize the benefits of the green image, ended up adopting the green marketing in an irresponsible or even unreal fashion (Budinsky & Bryant, 2013; Andreoli, Crespo, & Minciotti, 2017). Therefore, a practice to disseminate a green speech arises, without actual backup or evidence (Andreoli, Crespo, & Minciotti, 2017; Netto, Sobral, Ribeiro & Soares, 2020). This practice of selling an ecologically correct image, when it is not actually real, is known as greenwashing (Andreoli, Crespo, & Minciotti, 2017; Netto, Sobral, Ribeiro & Soares, 2020; Andreoli, Costa & Prearo, 2022).

Due to the widespread of greenwashing cases, increasingly more disseminated by the media, an impact in green practice credibility in organizations has been noticed overall, increasing the consumer skepticism concerning that (Albayrak, Caber, Moutinho, & Herstein, 2011; Nyilasy, Gangadharbatla & Paladino, 2014). This consumer skepticism can impact significantly all sustainable market (Markham, Khare, & Beckman, 2014), as it limits consumer demand concerning more environmentally responsible practices by the organizations (Netto, Sobral, Ribeiro, & Soares, 2020).

However, the skepticism, as well as the other receiving subject defense mechanisms, stands out as a conscious process, subject to activation only when the reception and the processing happen also in aware fashion, as it is the case of the attention (Bornstein & D'Agostinho, 1994; Yoo, 2008). For example, if the consumer indeed pays attention to the appeals characterized as greenwashing, it will be possible to activate the skepticism concerning them, if and when he/she wants.

Nevertheless, the appeals made by the organizations are not always processed by the individuals in attentive fashion, with attention focus aimed specifically at them (Janiszewski, 1993; Shapiro, MacInnis, & Heckler, 1997), and, the opposite, happens. That is, it is estimated that most of these releases are processed consciously, by means of

pre-attention (Fang, Singh, & Ahluwalia, 2007; Yoo, 2008). That becomes more evident, due to the widely known cognitive resource limited capacity, and the environment trend increasingly saturated with information, also worsened by the trend of fostering people to engage in multiple tasks at the same time (Andreoli, Veloso, & Batista, 2016).

As abovementioned, the paper sets as purpose assessing the influence of greenwashing on consumer behavior, according to the levels of attention and skepticism involved in receiving and processing the stimulus. For that matter, the method adopted was a hypothetical-deductive approach, performed with an experiment (n=151) with factorial design 2 (attention/pre-attention) x 2 (skepticism present/not).

2 THEORETICAL FRAMEWORK

The theoretical framework is divided in two main discussions: the attention process, with pre-attention and attention, and subsequent consequences, and greenwashing.

2.1 Attention process and its consequences

The attention process can happen, basically, in two stages: pre-attention and attention (Rossini & Galera, 2008; Wu, 2014; Andreoli, Veloso, & Batista, 2016).

Pre-attention stands out as a processing that happens in parallel, i.e., by means of general analysis of every stimulus available to sensory organs is performed, along and at the same time (Janiszewski, 1993). Thus, there is not, in pre-attention, a concern with differentiating stimulus, and they are all indistinctly processed. Another characteristic is that it happens automatically, and it is not required intentional effort of individuals, preventing also their control (Wolfe, Treisman, & Horowitz, 2003; Ryu, Lim, Tan, & Han, 2007). As it is a faster and more general coding process, pre-attention works by demanding few cognitive resources (Yoo, 2008).

As the environment is swept as a whole, by analyzing relevant and irrelevant stimulus, pre-attention creates a general record and stores it, what can be used

for future reference (Janiszewski, 1993; Wu, 2014). Thus, pre-attentive processing interferes in assessments after the previous exposure to stimulus, influencing how it is perceived, assessed and interpreted, and the way the record will be stored and how will be rescued (Lee & Labroo, 2004; Andreoli *et al*, 2016).

The attention, on the other hand, can be defined as a consciously oriented answer to specific target stimulus (Yoo, 2008). Thus, the attention consists of possession taken by the mind of some information available in the environment, clearly and vividly, so that there is a future reception. Likewise, De Weerd (2003) conceives the attention as a processing by means of which a limited information quantity, extracted within several stimuli present in the environment, is processed actively and consciously. Thus, it can be inferred, based on such definitions, the attention selectivity feature, i.e., the attention an active and effective focus process refers to in some selected information, what implies, on the other hand, in ignoring the other stimuli, not considered relevant (De Weerd, 2003; Chan & Hayward, 2013).

Consequently, the attention selectivity enables a better usage of cognitive resources, that have, by nature, a limited capacity. As Kahneman (2012, p.32) explains, cognitive resource and attention limitation can be claimed by using the expression 'pay attention', that clarifies how attention is a limited 'budget' resource. Thus, in attentive processing, subjects aim, consciously, their attention focus to specific stimulus, and then they have full knowledge of information being issued, and of the content being received (Andreoli, Veloso, & Batista, 2016). It is relevant to point out that, in every case, stimuli that are not selected and are not within attention focus, are still being processed, but unconsciously, in pre-attentive form (Andreoli, Veloso, & Batista, 2016).

Consequently, the information recorded depends on the processing complexity employed by the subject and the rescue form required, and such storage can happen basically in two ways, conceived as explicit or implicit memory (Yoo, 2008). Explicit memory is characterized when there is a conscious rescue of some remembrance of a past moment, i.e., when the subject starts – intentionally – a previously stored

information recovery process (Shapiro & Krishnan, 2001; Lee & Labroo, 2004). As it is a conscious rescue, that depends on the subject intention, the explicit memory is assigned to more complex and detailed processes, that demand higher cognitive capacity, as is the case of conscious processing, with aimed attention focus (Yoo, 2008). On the other hand, it is argued that the explicit memory is not evident in processing with lower cognitive capacity, as in the case of pre-attention, as the record happens in unconscious fashion (Chatterjee, 2012).

The implicit memory stands out for automatic rescue of previously stored information (Shapiro, MacInnis, & Heckler, 1997). Therefore, unlike explicit memory, the implicit memory does not demand from the subjects a conscious information remembrance or an explicit return of the relevant experience (Lee & Labroo, 2004). As the environment is swept as whole, the brain creates and stores a mental representation of the stimuli analyzed, that work as a certain preparation, so that future stimuli are processed (Janiszewski, 1993). This mental representation or pre-activation formation is conceived as a priming effect, that denotes previous exposure influence in subsequent processing, increasing the subject capacity or the easy felt by it, or even incrementing the chance of using the stimuli seen (Sternberg, 2000; Pacheco, Damacena & Bronzatti, 2015).

It is worth noting that the priming process can happen with conscience or not of the previous exposure to specific stimuli, but it necessarily happens when the subject is not conscious of the effect of such previous exposure in subsequent behavior (Bargh & Morsella, 2008; Pacheco, Damacena, & Bronzatti, 2015). In other words, in priming effect, the subject can even be conscious of the relation of this stimulus with the behavior after the exposure.

Moreover, the stimulus assessment can also undergo interferences due to previous exposure, whether conscious or unconscious. Because of the previous exposure, the brain registers a mental representation of the stimuli viewed, enabling the subjects to experience more easily to process again this stimulus in a future

moment, or access them more easily when required to be rescued from the memory (Andreoli, Veloso, & Batista, 2016).

That enables the stimuli to be assessed more positively by the subjects, even if it happens unconsciously (Ryu, Lim, Tan, & Han, 2007; Guerreiro, Rita, & Trigueiros, 2015). Consequently, the next time the subject is exposed again to the stimulus; it is probable that he/she experiences intimacy and proximity feelings, judging that such stimulus is somehow familiar, even if the why cannot be justified (Janiszewski, 1993; Andreoli, Veloso, & Batista, 2016).

This familiarity sense, added to preference for stimulus, enables that it is incorporated to the subject consideration set, what increases, on the other hand, the chance of the stimulus to be estimated in a future decision-making moment (Shapiro, MacInnis, & Heckler, 1997; Holden & Vanhuele, 1999). Thus, it can be said that, as the stimulus is activated in the memory and its access is enabled, the probability that such stimulus is included in the subject consideration set increases, making it an option for a future decision (Andreoli, Veloso, & Batista, 2016).

There are three arguments that reinforce this idea (Macdonald & Sharp, 2003; Campbell & Keller, 2003). Firstly, there is a natural attempt of subjects to minimize the efforts involved in decision making. Thus, as a stimulus that seems somehow more positive or familiar is selected, the subjects manage not only to expedite the relevant decision process, decreasing the time used in it, but also make it more efficient, using the cognitive resources better. Secondly, there is a subject trend that, when they are exposed to stimuli considered familiar, they update the previous knowledge about them. Finally, in cases of previous preference, the risk perceived by subjects about the stimuli is lower, what enables that the probability of a more favorable processing to stimulus is higher.

Nevertheless, there is a defense in which, overall, the subject judgment is more favorable when the processing is unconscious (pre-attention) than when it happens consciously (attention) (Bornstein & D'Agostinho, 1994; Chatterjee, 2012; Andreoli, Veloso, & Batista, 2016). That is justified because, in pre-attention, as the subjects

are not conscious of the previous exposure, they cannot justify the easy felt in the processing, and they cannot explain why considering the stimulus in more favorable way, as more positive or familiar (Janiszewski, 1993; Shapiro, MacInnis, & Heckler, 1997). On the other hand, in attentive processing, as the subjects have the conscience of the previous exposure to stimulus, it is possible that they engage in a conscious correction process of positive assessment, interpreting and reviewing the fluency felt in processing and the stimulus favorable judgment (Bornstein & D'Agostinho, 1994; Andreoli, Veloso, & Batista, 2016).

Besides this conscious correction process, there are also another two possible defense mechanisms to be used by the subjects in stimulus reception: resistance and counter-argumentation (Eagly & Chaiken, 1993). The resistance refers to the subject capacity to resist or reject specific information that is being issued, closing against possible persuasion attempts. The counter-argumentation is characterized by a subject active engagement, that is willing to raise or produce arguments that contradict the information received, weakening or even refuting such attempts.

Such abovementioned defense mechanism arrangement is also evidenced by the processing level used. As the pre-attention happens unconsciously, automatically and uncontrollably, the subject is incapable of resisting or even counter-arguing the information processed, being subject to such processing effects, mentioned above (Janiszewski, 1993; Yoo, 2008). That does not happen in attention, as, by being conscious of the exposure, the subject has the possibility of actuating such mechanisms. Thus, it is developed as first hypothesis:

H1: Higher criticality of the subject about greenwashing is related to attentive processing.

2.2 Greenwashing

Greenwashing is a term created in 1990, that refers to the expression whitewash, that means a process of hiding someone's errors and mistakes, making

that one's reputation remains clean (Andreoli, Crespo, & Minciotti, 2017). In this sense, greenwashing denotes a greenwashing of products or the organization itself, so that, then, they look ecologically correct, but not necessarily being so (Andreoli, Crespo, & Minciotti, 2017; Andreoli, Costa, & Prearo, 2022).

In other words, the greenwashing action stands out when the organization uses any feature or highlights any benefit aimed at environment and/or environmental problematic but fails at proving the veracity (Nyilasy, Gangadharbatla, & Paladino, 2014; Andreoli, Costa, & Prearo, 2022). Thus, greenwashing can be seen as a publicity stunt, a misinformation, an intentional action of confusing or deceiving consumers with false claims on organization environmental posture, disguising or masking the product or organizational image (Parguel, Benoît-Moreau, & Larceneux, 2011; Andreoli, Crespo, & Minciotti, 2017; Netto, Sobral, Ribeiro, & Soares, 2020).

Greenwashing can be understood, then, as a wrongful attempt of practicing green marketing, and enjoying the benefits, basing merely on promotional variable adequacy to ecological demands, that starts selling an incoherent image to the rest of the market process, without proper re-adequacy of the other marketing compound components (Andreoli, Costa, & Prearo, 2022). Consequently, the mere promotion of an ecologically correct image, without proper backup, is not only a limited and insufficient action but also more importantly, an irresponsible and lying practice (Nyilasy, Gangadharbatla, & Paladino, 2014; Netto, Sobral, Ribeiro, & Soares, 2020).

Similar conceptions are proposed by other authors. Carbone and Moatti (2011), for instance, define greenwashing as a green communication despite a green action, characterized by cosmetic actions, of simple makeup. Similarly, Matejek and Gossling (2014) characterize greenwashing as symbolic actions, despite substantial actions. In this sense, Walker and Wan (2012) argue that greenwashing is the difference between symbolic actions, disseminated by organizations, and substantial actions performed. Moreover, within a more legal bias, Lovato (2013) explores the term as an environmental sustainability concept used merely as market appeal form, which meaning is fallaciously symbolic.

The greenwashing issue is strengthened by the evidence that several environmental actions disseminated by the organizations, increasingly more widespread by the media, are not backed up or evidenced (Andreoli, Costa, & Prearo, 2022). Despite the increasing greenwashing practice adoption by the organizations, such expression is not backed up by the scientific production, and there are not many papers that approached this theme. A bibliometric analysis performed by Andreoli, Crespo and Minciotti (2017) about the theme identified only 42 papers related to greenwashing, searched in the country's main Administration events (Semead, EnAnpad and EMA) and in the most widely acknowledged scientific databases of the world (Proquest, Web of Science, Capes, Scopus, Scielo and Spell). This analysis also enabled identifying the theme's current feature, which discussion evolved indeed from 2007, as well as its relevance, as most papers have been published in journals with Qualis 2014 high rating in Administration, Accounting Sciences and Tourism (Andreoli, Crespo, & Minciotti, 2017).

However, out of 42 papers surveyed, the authors highlighted that only 17 discuss the theme, and the others either simply mention the term (19), or discuss it superficially (2), or, yet approach it as background (4). It is interesting point out that the 17 papers that discuss the theme, with the proper theoretical grounding, they are also more current and relevant, and most of them published from 2012 (Andreoli, Crespo, & Minciotti, 2017).

The author analysis concerning the theoretical referential of such 17 papers highlighted that among the main themes that support the discussions, besides greenwashing itself, the issues of organization environmental, socio-environmental or sustainable responsibility, as well as sustainability, that appear in at least half of the papers. Thus, the authors show an attempt of the articles to contextualize greenwashing as an organization reply (even if it is wrongful and intentionally fallacious) to new demands of the current competitive context, matching to what was mentioned here. More current, a systematic review of the topic corroborates previous discussions,

mapping and analyzing 67 academic articles aimed at investigating the practice of greenwashing (Netto, Sobral, Ribeiro, & Soares, 2020).

Because of greenwashing practice, the consumer awareness on green practice in general has raised, as several organizations state they protect and are concerned with the environment but fail to show and evidence their words in practice (Chen & Chang, 2014; Du, 2014). That is especially critical as one considers that, according to the report published by Terra Choice Institute, almost 98% of the products analyzed that used green appeals in 2009 had, somehow, an attempt of deceiving the consumer (Terra Choice, 2009).

Firstly, there is consumer initial pre-disposition to question whether the organizations are using the environment only as façade to their own interests, such as benefitting from an environmental responsibility image (Chen & Chang, 2013; Rahman, Park, & Chi, 2015). What is more, as they observe deceiving cases, the consumers have become increasingly more critical and suspicious concerning green appeal use by the organizations (Netto, Sobral, Ribeiro, & Soares, 2020; Andreoli, Costa, & Prearo, 2022).

So, the skepticism can be characterized as a consumer disbelief, that damages the relation between advertising and purchase intent, how it impacts this purchase intent negatively (Rahman, Park, & Chi, 2015). Concerning green appeals adopted by the organizations, the consumer skepticism enables not only a questioning on such disclosure authenticity or credibility (Lyon & Montgomery, 2013; Du, 2014), but also so that there is a judgment of it as not real or not worthy to be trusted (Guo, Tao, Li, & Wang, 2017). Thus, skepticism is a relevant green purchase behavior definer, influencing negatively purchases declared and green product purchase and consumption intents (Albayrak, Caber, Moutinho, & Herstein, 2011; Braga Junior, Melo, & Silva, 2016).

Nevertheless, skepticism, as well as the other receiving subject defense mechanisms, is acknowledged as conscious, available to be used in highest level processing, and in the case of attentive processing (Bornstein & D'Agostinho, 1994;

Yoo, 2008). Other processing, on the other hand, like unconscious ones, as in the case of pre-attention, prevent that skepticism and other defense mechanisms are activated by the higher subject (Bornstein & D'Agostinho, 1994; Yoo, 2008).

This discussion, at first, adds more validity to the first hypothesis surveyed, that concerns a lower consumer criticality concerning pre-attention. Moreover, it is also extended to skepticism influence, that must have contrary influence, i.e., it is expected that higher criticality is found when the skepticism is present:

H2: Higher consumer criticality concerning greenwashing is related to skepticism presence.

Because of this discussion, a more holistic hypothesis – capable of interconnecting this study two points – deserves investigation, as follows:

H3: The consumer highest criticality situation is the one that attention and skepticism are present.

3 METHODOLOGICAL PROCEDURE

The study adopted a hypothetical-deductive approach, performed with an experiment with factorial design 2 (attention or pre-attention) x 2 (skepticism or non-skepticism), being two the independent variables: aimed attention level in greenwashing processing, handled with the participant central focus aiming request, and participant skepticism, handled as a previous message to ad exhibition (priming). Such handling has been adjusted according to the results achieved with a pre-test (n=143), being displayed below.

The procedure adopted consisted in presenting an ad with greenwashing, followed by this material assessment by the participants, being carried out in the online (remote) format. The material adopted was an ad about a new automotive vehicle, that promises carbon gas emission reduction, developed by this study. Thus, it was chosen, intentionally, not to disclose any brand in the relevant ad, to prevent possible related

biases. Also in an intentional manner, the choice of a high engagement product is justified by the tendency that the assessments are more expressive.

Table 1 – Manipulations Experiment 2x2

	Attention	Pre-attention
Priming skepticism	“Pay close attention to environmental appeals , specifically” and “According to the University of Brazil (2016), more than 90 out of every 100 advertisements served by organizations have false content! So, watch out! Companies lie in their ads”	“Pay close attention to product’s technical information , specifically” and “According to the University of Brazil (2016), more than 90 out of every 100 advertisements served by organizations have false content! So, watch out! Companies lie in their ads”
Priming no skepticism	“Pay close attention to environmental appeals , specifically” and “According to the University of Brazil (2016), more than 90 out of every 100 advertisements served by organizations have true content! Then, believe! Companies tell the truth in their ads”	“Pay close attention to product’s technical information , specifically” and “According to the University of Brazil (2016), more than 90 out of every 100 advertisements served by organizations have true content! Then, believe! Companies tell the truth in their ads”

Source: Elaborated by the authors

The ad base was audiovisual pieces disseminated to release of a supposedly ecological car, that made similar claims, and intentionally produced according to Terra Choice (2009) report guidance, that performs a green disclosure mapping that has been performed by the organizations, to highlight the main greenwashing evidence present in them. Suches evidence are called ‘greenwashing seven sins’, as follows: concealed, trade-off; lack of proof; inaccuracy; irrelevance; lesser of two hells; fake labels; and lie. It is worth noting that it is an acknowledged substantial report, and it has been referred to in several papers, including Pope and Wæraas (2015), Andreoli, Costa and Prearo (2022), among others.

Thus, the material was developed in order to show the greenwashing practice as it has been performed by the organizations currently, explaining in them several greenwashing evidences, according to the abovementioned report, including: fake environmental certification seal (also fictitious, created to the study); appeal with the

saying ‘100% ecological’ without proof, exacerbated and highly unlikely, or even not credible due to the relevant product; reference to nature, environment and natural, and suggestive images and explicit sentences; limited environmental benefit (only carbon gas emission reduction). Different aspects related to environmental theme have also been inserted in a table with the product technical file, containing six basic pieces of information, including engine, power, transmission, fuel, warranty and price.

The participants were chosen by convenience, comprising a non-probabilistic sample with 151 subjects, with random distribution among groups. The sample power selected was calculated by means of the program G-power, with family F test, ANOVA omnibus one-way, that resulted in a very high power (0.88), to a medium magnitude effect (0.3) and 5% significance level. Consistent with the experimental method, the focus was on the internal validity of the results.

Figure 1 – Material adopted

ADENTRE À ERA DA NATUREZA

Transforme seu espaço, reconecte-se ao natural

UM NOVO CONCEITO EM AUTOMÓVEL

Reduz em mais da metade a emissão de CO2
Mesmo motor, mesma potência

100% ECOLÓGICO



FICHA TÉCNICA

Motor: 1.6l

Potência: 114cv

Transmissão: Manual

Combustível: Flex

Garantia: 3 anos

Preço: a partir de R\$40 mil



O MEIO AMBIENTE AGRADECE

Source: Elaborated by the authors

The data collection instrument has been validated by an expert board, formed by five PhD professors, with relevant work in market area research, concerning their knowledge and expertise contribution in this review. Only after that, the instrument was considered capable to application. The expert board method is very useful to assess data collection instruments, method that uses searches to validate most appropriate information to develop or improve the questionnaires used to data collection. This is the reason why the researchers use expert board decisions to validate their data collection instruments.

Such instrument was comprised, initially, by a consent term followed by questions related to metrics.

At first, the green associations were surveyed by means of an open question, that requested free assignment of two characteristics about the image seen previously. This question was tabulated in two ways: first, in terms of mentioning some green attribute, categorically, regardless of order; and second, exploring the main mentions made, through a content analysis, basically in the sense of identifying which answers were related to the environmental aspect and how, classifying them according to the common similarity, both in writing and in meaning.

The image assessment was performed by means of a scale with seven features, that were introduced in random form for each participant (quality, cost-benefit, positive image, ecologically correct, environmental responsibility, purchase intent and consumption intent), to which the respondents had to provide a grade, in a 0 to 10 scale. The greenwashing practice judgment has also been checked by means of the scale developed and validated by Andreoli, Costa and Prearo (2022), comprised by thirteen assertions, presented randomly to each participant, to which the respondents had to provide a grade in a 0 to 10 scale.

The attention treatment handling test was investigated by means of explicit memory of green appeals present in the ad, also verified in an open question, requesting the forced approach of environmental appeals presented, tabulated by quantifying

the correct mention(s) (from 0 to 5). The skepticism treatment handling test was investigated by means of skepticism scale adaptation (adapted from Romeiro, 2009, p. 11), comprised by four assertions, and presented randomly to each participant, to which the respondents had to provide a grade, in a 0 to 10 scale. Finally, there was the respondent profile (gender, marital status, age, education and average family income).

To test the hypotheses provided by this study, different data analysis techniques were used, including ANOVA one-way to one-dimensional analysis and ANOVA by General Linear Model (GLM) to multi-varied analyses, including Tukey post hoc test. Exploratory factorial analyses were also performed to validate the scales used, what enabled a subject rating score in the metrics assessed (unique factor). In supplementary fashion, Pearson correlation test was also used.

4 DATA PRESENTATION AND ANALYSIS

The sample (n=151) consisted of most female respondents (70.6%), single women (67%) and with higher education level, concentrated in complete higher education (37.3%) and post-graduation (31.4%). There was a major variation in respondent age, between 18 and 67 years of age, resulting in an average 38-year-old age (SD=14.86). The variation was also found in relation to the income declared, distributed, mainly, within two intermediate ranges (36.3% of R\$2,489 to R\$6,220 and 28.4% of R\$6,221 to R\$12,440). The most widely used answering media was the mobile telephone (66.7%), and the remaining ones used a desk computer or notebook.

Overall, concerning the free association of taxes related to image viewed, it was seen that 85.5% of the participants mentioned at least some green aspect in their answers, while the minority mentioned at least two different aspects related to this topic. Accounting such references, 300 attributes were totaled, highlighting environmental aspects, that were mentioned 183 times, compared to the reference to another 117 attributes not related to the environmental issue, resulting, thus, in a

ratio higher than half of the cases (61%). That means that most participants assign to the image some aspect related to the environmental topic, although they associate this attribute to miscellaneous ones, not related to the former. As a result, it seems that the participants indeed bought the green image disseminated, suggesting an expressive influence capacity of green appeals adopted in the publicizing.

By performing a content analysis of the references presented by the participants, it was observed that, out of 300 attributes referred to, the term 'ecological' and alike ('ecology', 'ecologically correct' or '100% ecological') were the most widely mentioned ones, 55 times. Next, references to environment and nature (47), referred to separately (35), or related to their care/protection/concern/preservation (12). The terms related to CO2 emission, one of the main benefits offered in the ad, were mentioned 24 times, in various forms (including emission reduction, less CO2, less pollution, clean air, among others). The terms 'sustainable' or 'sustainability' were mentioned 22 times. On the other hand, among the attributes not related to the environmental issue, the terms 'economy/economic' stand out, as well as 'flex' fuel, both with 13 references each, followed by 'price' and engine.

Figure 2 – Green Association Analysis Summary

<p>Attributes mentioned – Declaring at least one green attribute at 85.5%</p> <p>Mentioned attribute accounting – 300, 187 green and 113 miscellaneous</p> <p>Most frequent green attributes: Ecological and alike (55) / Environment and nature (47)</p> <p>CO2 emission reduction (24) / Sustainable/sustainability (22)</p>
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Source: Elaborated by the authors

Thus, besides the fact the green attribute reference was more significant, compared to the reference to any other attributes, this reference was also more homogeneous, as several green appeals were repeated frequently, enabling their rating. That was not repeated for non-green appeals, that were more varied and not very congruent.

As image assessment, an answer exploratory factorial analysis was performed (n=103) in the seven attributes. By assessing KMO (=0.874), MSA (>0,81), communality (>0.68) and average variance extracted (=75.69), the results pointed out a one-dimensional scale, as recommended by Hair Jr, Black, Babin and Anderson (2009). Thus, overall, the image assessment achieved a result between intermediate and positive, with the best averages observed in relation to environmental responsibility (7.5), ecologically correct (7.5) and positive image (7.2) attributes. Gathering such seven attributes in a general image assessment scale ($\alpha=0.945$), average assigned by the participants (6.7), also presented a positive trend. So, the ad seemed to be efficient concerning good image dissemination, especially in environmental aspects.

A different result was found in the participant judgment concerning greenwashing practice, which assertion averages remained between intermediate and unfavorable (2.7 and 4.8). By gathering such assertions in a general scale ($\alpha=0.915$), the average assigned by the participants, consequently, was low (3.7), implying a deteriorated belief concerning organization environmental practices and disseminations.

It is interesting to point out that the averages originated from participant judgment related to greenwashing practice were lower than the skepticism declared by them, which three-assertion average remained in intermediate level (between 5.1 and 5.5), and one of them dropped to the unfavorable level (3.3). The skepticism general scale ($\alpha=0.844$) achieved a practically intermediate average (4.8). Thus, one can argue that the consumer skepticism remains at a mediocre level, and the judgment performed about greenwashing practice is more evident.

What is more, the image general image showed a positive and moderate correlation with general judgment concerning the greenwashing practice ($R=0.404$, $p<0.001$), and negative and weak concerning general skepticism ($R=-0.195$, $p=0.048$). I.e., there is a trend that, the more positive the respondents assess the image, the more favorable will be the judgment they make about greenwashing practice by the organizations, and the lower the skepticism felt by them concerning green appeals

disseminated. Thus, there seems to be a contagious effect of good assessment of trust image that respondents feel concerning green practices in general.

Moreover, the general judgment about the greenwashing practice, also showed negative and weak correlation with general skepticism ($R=-0.360$, $p<0.001$), pointing out a trend that, the more skeptical a participant is whenever making a statement about green appeals, the less favorable will be his/her judgment concerning the greenwashing practice. That shows the skepticism relevance as consumer defense mechanism, especially concerning the possible dissemination and proliferation of greenwashing practice.

4.1 One-dimensional Analyses

At first, it was aimed at checking differences related to **attention handling**, comparing the groups that paid attention to environmental appeals ($n=74$) and the ones that processed in pre-attentive form ($n=76$). This treatment handling test was verified by means of comparing the correction reference quantity of the environmental appeals exposed in the ad, rating the answers in ordinal form, as no correct reference, one correct reference or two or more correct ones. A significant difference was verified by Chi-Square ($X^2=7.59$, $p=0.023$), and it is higher for the attention group, compared to the pre-attention one. So, as expected, an association between green appeal references and attention handling was present.

A significant difference was observed concerning free attribute reference related to the image viewed ($F=5.787$, $p=0.017$), that was higher in terms of green attributes to pre-attention case ($M=1.22$, $SD=0.41$), compared to the attention ($M=1.08$, $SD=0.27$). Thus, even though in both cases there seem to be environmental appeal viewing influence in green associations that the participants made with the image, a better result was observed in the pre-attention case, compared to the attention one. Later, it is worth noting that there was an exact division between the number of attributes mentioned, and each group is responsible for 150 references. By comparing them

with the most mentioned attributes, it could be seen an approximate distribution between both handlings, with pre-attention superiority in some terms, as in the case of references to ecological aspects (55 pre-attention references, compared to attention 24 references), CO2 emission reduction (24 times, compared to 16), and sustainability (22 times, compared to 12).

Secondly, significant differences were found concerning image assessment, in relation to some attributes, including quality ($F=11.142$, $p=0.001$), positive image ($F=9.803$, $p=0.002$), ecologically correct ($F=6.369$, $p=0.013$) and environmental responsibility ($F=4.786$, $p=0.031$), concerning general image assessment ($F=6.281$, $p=0.014$). In all cases, better assessments were observed concerning pre-attention, compared to attention. Moreover, there was only one assertion of judgment scale about greenwashing practice - 'The organizations never have the intention of misleading the consumers with irrelevant information' - presented a significant difference ($F=4.262$, $p=0.042$), also more favorable when the processing was pre-attentive than when it was attentive. Some profile variables also present significant difference, including age ($F=7.479$, $p=0.007$), education ($F=5.133$, $p=0.026$), income ($F=4.062$, $p=0.047$) and answer media ($F=6.742$, $p=0.011$).

In a second moment, the differences related to **skepticism handling** were verified, comparing the groups with skepticism presence ($n=78$) to the ones with absence ($n=73$). The handling was assured, evidencing a significant difference in participant general skepticism variable ($F=7.220$, $p=0.008$), higher in skepticism presence ($M=5.43$, $SD=2.48$) than in its absence ($M=4.12$, $SD=2.5$).

Green association variable did not present significant difference among groups in this treatment. Nevertheless, significant differences were identified concerning almost every image assessment attribute, except for consumption intention. Thus, quality ($F=5.150$, $p=0.025$), cost-benefit ($F=4.431$, $p=0.008$), positive image ($F=7.797$, $p=0.006$), ecologically correct ($F=8.024$, $p=0.006$), environmental responsibility ($F=9.578$, $p=0.003$) and purchase intention ($F=3.757$, $p=0.055$), attributes, as well as the image general

assessment ($F=7.958$, $p=0.006$), presented, all of them, more positive assessments concerning skepticism absence, compared to its presence.

Also, six judgment scale assertions concerning greenwashing practice presented significant differences, all with more favorable judgment concerning skepticism absence, compared to its presence. Likewise, the general judgment concerning the greenwashing practice was statistically different ($F=9.267$, $p=0.003$), more favorable in skepticism absence ($M=4.35$, $SD=1.98$) than its presence ($M=3.22$, $SD=1.75$). Concerning profile variables, only the age presented significant difference ($F=24.852$, $p<0.001$). Thus, it is believed that results found enable the validation of the first two hypotheses of this study, in which the individual's greater criticality towards greenwashing was related to both attentive processing and the presence of skepticism.

4.2 Multi-varied analysis

One of General Linear Model (GLM) assumptions is the dependent variable correlation, which, as presented in the general analysis, was identified between the image assessment and the judgment concerning greenwashing practice. Moreover, as the groups had different sizes and the homoscedasticity assumption was not fully assured, even though the variable set homoscedasticity was adequate, Pillai's Trace metric was adopted, which is more solid to such cases (Tabachnick & Fidell, 2001). Thus, a multi-varied GLM was performed with the three dependent variables, handling (four groups), income (rated in two groups), education (rated in two groups), marital status and gender factors, as well as general skepticism and age co-variables. As a result, a general model was achieved with significant differences concerning not only handling ($F=2.633$, $p=0.007$, $\eta^2=0.136$ and $\text{power}=0.937$), focus of this study, but also concerning marital status ($F=4.806$, $p=0.005$, $\eta^2=0.231$ and $\text{power}=0.878$) and general skepticism co-variable ($F=4.012$, $p=0.013$, $\eta^2=0.200$ and $\text{power}=0.807$).

In case of handling ($F=2.633$, $p=0,007$, eta squared=0.136 and power=0.937), at first, the green association variable did not present significant difference between treatments. Nevertheless, such difference was verified as ANOVA is performed with green association variable rated in green attribute referred (yes) or no ($F=4.663$, $p=0.004$), and group 4 – Pre-attention without skepticism ($M=1.02$) responded for associations more related to environmental issue, compared to 3 – Attention without skepticism ($M=1.33$). That is, the attention level isolated influence, found in one-dimensional analysis, remained in this analysis.

At second, concerning image general assessment variable ($F=8.162$, $p<0.001$, eta squared=0.329 and power=0.987), significant differences were found among the four experimental groups, and the best results were verified in groups 4 – Pre-attention without skepticism ($M=8.659$, $SD=0.538$), 3 – Attention without skepticism ($M=6.805$, $SD=0.592$), 2 – Pre-attention with skepticism ($M=6.141$, $SD=0.505$) and 1 – Attention with skepticism ($M=4.824$, $SD=0.508$), respectively. In this case, it can be argued that influences from both handlings were viewed, with apparent skepticism superiority concerning aimed attention level.

Finally, greenwashing practice judgment variable presented significant difference ($F=5.168$, $p=0.003$, eta squared=0.237 and power=0.903) in group 4 – Pre-attention without skepticism ($M=4.618$, $SD=0.434$), compared to group 1 – Attention with skepticism ($M=2.561$, $SD=0.409$), and to group 3 – Attention without skepticism ($M=3.626$, $SD=0.477$). That is, to this variable, both opposite groups stood out, pointing out, as expected, a joint influence capacity. Secondly, an apparent superiority of attention influence was observed, differentiating both groups where skepticism was absent. Thus, the results found not only validate the hypotheses discussed previously, but also do so concerning the more general third hypothesis, in which the presence of both attention and skepticism configures the consumer's most critical situation.

Table 2 – Multi-Varied Analysis Found Result Summary

Green associations (ANOVA $F=4.663$, $p=0.004$)	4- Pre-attention without skepticism ($M=1.02$) and 3- Attention without skepticism ($M=1.33$)
Image general assessment (GLM $F=8.162$, $p<0.001$)	4- Pre-attention without skepticism ($M=8.659$, $SD=0.538$), 3- Attention without skepticism ($M=6.805$, $SD=0.592$), 2- Pre-attention with skepticism ($M=6.141$, $SD=0.505$) and 1- Attention with skepticism ($M=4.824$, $SD=0.508$)
Greenwashing practice judgment (GLM $F=5.168$, $p=0.003$)	4- Pre-attention without skepticism ($M=4.618$, $SD=0.434$), 1- Attention with skepticism ($M=2.561$, $SD=0.409$) and 3- Attention without skepticism ($M=3.626$, $SD=0.477$)

Source: Elaborated by the authors

It is interesting noting that the marital status also presented significant difference ($F=4.806$, $p=0.005$, $\eta^2=0.231$ and $\text{power}=0.878$), to both image general assessment images ($F=6.369$, $p=0.015$) and judgment related to greenwashing practice ($F=12.172$, $p=0.001$), both cases with better result when the respondents were married ($M=7.102$, $SD=0.448$ and $M=4.228$, $SD=0.361$, respectively), compared to when they were single ($M=6.103$, $SD=0.355$ and $M=2.785$, $SD=0.361$, respectively).

Significant differences were also found related to general skepticism co-variable ($F=4.012$, $p=0.013$, $\eta^2=0.200$ and $\text{power}=0.807$). In this case, negative correlations were verified with image general assessment ($R=-0.195$, $p=0.048$) and moderate with judgment concerning greenwashing practice ($R=-0.360$, $p<0.001$). That is, the higher the participant general skepticism, the lower (worse) tend to be the image general assessment and the judgment related to greenwashing practice that enabled to corroborate, again, the hypotheses related to skepticism influence.

4.3 Result discussion

Overall, a high green attribute association with image could be observed, which was more significant and homogeneous than the other attributes mentioned not related to the environmental issue. Likewise, the image assessment was also favorable, especially concerning environmental aspects, implying a significant influence capacity

of green appeals used. It is relevant noting that this happened despite an intermediate skepticism and a very critical judgment of the participants concerning greenwashing practice. That is, even if it seems to be a deteriorated practice of the participants concerning green appeal adoption and dissemination, they end up buying the green image idea themselves, in terms of association and image assessment.

These results agree with some studies that also found such inconsistencies, with participants buying the green image, despite the fact they declare themselves as critics of that (Andreoli, Lima & Prearo; Andreoli & Nogueira, 2021). However, on the other hand, others question that they supported the capacity of participants to identify the greenwashing practice and mine occasional positive effects of it in their assessments (Markham, Khare & Beckman, 2014; Guo, Tao, Li & Wang, 2017).

By analyzing the correlations found among such variables, a trend could be seen that, the more positively respondents assess the image, the more favorable the judgment about greenwashing practice by the organizations, and the lower will be the skepticism felt by them concerning green appeals disseminated. On the other hand, there is a trend that, the more skeptical a participant declares to be concerning green appeals, the less favorable his/her judgment will be concerning greenwashing practice. Thus, the results imply, at first, a contagious effect of good image assessment in the trust that the respondents feel concerning organization green practices (Gonçalves, Santos, Kieling & Tezza, 2022). Secondly, the skepticism relevance is indicated as consumer defense mechanism, as it enables higher criticality in the judgment that the participants perform concerning greenwashing practices by organizations (Guo, Tao, Li & Wang, 2017; Rahman, Park & Chi, 2015; Braga Junior, Melo & Silva, 2016).

The abovementioned green image 'buying' was influenced by both handlings performed. Concerning attention, pre-attention accounted for the best results in terms of green associations, image assessment and greenwashing practice judgment. Concerning skepticism, the best results were observed in its absence in terms of image assessment and greenwashing practice judgment. By comparing the four groups, in

case of green association variable, only the influence by attention handling was verified, when skepticism was absent. More importantly, more positive assessments were reported by Pre-attention without skepticism group, in terms of image assessment and greenwashing practice judgment, while, on the other hand, worse assessments were provided by Attention with skepticism group. Such results show the influence of two independent variables in individual and crossing form, exposing that the subject, on the one hand, has higher criticality in the cases that the processing is attentive and the skepticism is present, and, on the other hand, it is less critical in the opposite situation, adding support to the three hypotheses presented.

Concerning general skepticism, influence on image general assessment and greenwashing practice judgment variables was verified, with a trend that, the higher the participant general skepticism, the lower (worse) tend to be the image general assessment and greenwashing practice judgment, that enables corroborating, again, the hypothesis related to skepticism influence and its relevance as consumer defense mechanism (H2). The table below presents the formulated hypothesis validation summary.

Table 3 – Hypotheses surveyed and results found

Construct	Hypotheses	One-dimensional	GLM
Attention process	H1: Higher subject criticality concerning greenwashing is related to attentive processing.	Validated	Validated
Skepticism	H2: Higher consumer criticality concerning greenwashing is related to skepticism presence.	Validated	Validated
GENERAL	H3: The consumer highest criticality situation is the one that attention and skepticism are present.	-	Validated

Source: Elaborated by the authors

5 FINAL CONSIDERATIONS

The paper objective was analyzing the greenwashing influence in consumer behavior, according to attention and skepticism levels involved in receiving and

processing the stimulus. Thus, it was seen that the situation with of greater consumer criticality occurred with the presence of both attention and skepticism, with the opposite also true, that is, less criticality was detected when both attention (pre-attention) and skepticism were absent.

It is worth noting that such results were obtained in exacerbated situations, when the instructions and the material product itself were intentionally extreme, a fact that does not necessarily happen in day by day. That is, an instruction with very solid information on skepticism was adopted, and an extremely green ad was used, and considerably contradictory, as it is a product easily associated with pollution. Thus, if the greenwashing positive influence was verified even in such situations, one should imagine it will be even more present in organization usual practices, that are subtler and milder.

Thus, the paper contribution not only on studying constructs not very explored individually, but also blending them and discussing them in interconnected form, what had not happened before, although that had already been considered a current research priority (Gangadharbatla & Paladino, 2014; Andreoli, Crespo & Minciotti, 2017). What is more, managing implications can be seen from three main perspectives: organization, consumers and government.

At first, a greater organizational awareness is important concerning greenwashing problematic and the consequences of the greenwashing problematic and this practice consequences to the green market in general. That means a reflection on green practice adoption and dissemination is mandatory by the organizations, to work effectively in environmentally conscious and responsible form. Otherwise, the green market intent itself of obtaining competitive edge by means of environmental issue concern and valuing will be lost, due to possibility that such actions can be seen and non-credible by the market, generalizing and trivializing all the relevant efforts.

That is, it is worth reminding that greenwashing practice implications are not limited only to organizations that admittedly committed them, but they also reach all organizational scope that adopts the green issue as a feature, even if correctly. Thus,

there is the risk that the development of all sustainable market is impacted, limiting its potentiality or even damaging its legitimacy. Yet, consequently, one can question all organization consideration range related to environmental responsibility.

Secondly, considering the difficulty of organizational awareness, on its own, the consumer role in this process stands out. That is, it is not enough to blame solely the organizations on the environmental problematic, as well as all responsibility of reconciling with it and solving it (Andreoli & Prearo, 2022). It is also not enough state one's concern and that one values environmental responsibility efforts by the organizations, if the purchase and consumerism behavior does not match this speech.

Thus, the consumer greater education and awareness is essential, not only concerning the environmental issue problematic, in general, but also its relevance as questioning and influencing agent, indeed engaged. As manufacturing chain end and organization effort target/end destination, the consumer has the capacity of demanding new postures or practices to them. Therefore, as they search for and adopt more environmentally engaged purchase and consumerism patterns, educated and aware consumers will manage to push changes in organizations towards more effectively sustainable performances.

Finally, public policy relevance should also be highlighted, especially in two directions: education and protection. So, are also need consumer and organization awareness actions concerning everything mentioned so far, i.e., environmental issue problematic, every agent engagement and positioning need, green marketing responsibility and greenwashing practice extreme consequences.

Despite the results achieved, concerning not every support found, this study limitations must be considered, especially the ones related to methodological procedure. Thus, it should be highlighted this is a study with procedure and materials specifically developed to such purposes. Meanwhile, it is reiterated that the study focus was the result internal validity, being limited, then, to this study enforcement specific context.

Therefore, there are plenty of future study recommendations. New variables can be explored, including the issue of product relevance and consumer engagement level, analyzing occasional differences among known/unknown products of high/low engagement or good/services. Likewise, the brand and organization adoption interference can be researched, by comparing strong/weak brands, of reliable/questionable reputation, or national/foreign organizations.

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4. Theoretical foundation / Literature review	√	
5. Definition of methodological procedures	√	
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8. Analysis and interpretation of data	√	
9. Critical revision of the manuscript	√	√
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