



MASTER THESIS SUMMARY

# The impact of greenwashing on consumers' brand attitude.

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## **1. Main topic of the thesis**

The hype of “green” products and sustainability in developed countries throughout recent years is undeniable (The Economist Intelligence Unit, 2021). Google searches for sustainable products worldwide have increased by 71 % since 2016 (ibidem). Based on current estimates, more than a third of Germans are willing to pay a higher price for a product if it is environmentally friendly (Statista, 2021). The emergence of green products, companies and markets worldwide was followed by an emergence of greenwashing (GW) that created a trust problem on the consumer side (de Freitas Netto et al., 2020). A study conducted in the US and Canada looks at close to 5300 products that communicated a green image and found that more than 95% of these products were greenwashed (Terrachoice, 2010). GW significantly damages consumer attitudes towards brands and advertisements (Schmuck et al., 2018), affects consumer happiness (Szabo and Webster, 2020) and leads to customers’ inability to recognize the effects of their buying behavior and differentiate between legitimate- and deceptive claims (Horiuchi et al., 2009). Needless to say, that reputational damage and scandals related to GW also hurt companies by resulting in a negative image and ultimately lower sales (Akturan, 2018; Chen et al., 2020; Martinez et al., 2020; Newell et al., 1998). High levels of perceived deception result in lower levels of perceived corporate credibility, lower favorable attitudes towards the brand and lower buying intentions (Newell et al., 1998). GW makes consumers skeptical about sustainable initiatives in general, and this way forms a barrier to green marketing strategies (Chen and Chang, 2013), a problem referred to as green skepticism in literature. Aji and Sutkino (2015) and Akturan and Tezcan (2019) found empirical evidence that GW leads to green skepticism. Green skepticism lowers consumers’ intentions to buy green products (Goh and Balaji, 2016) and leads to negative word of mouth (Leonidou and Skarmeas, 2017). As a result of these effects, greenwashing is a problem that harms consumers, the environment, companies that engage in it and truly “green” companies which suffer from green skepticism as a result of GW scandals.

## **2. Literature review**

Our literature review shows that although plenty of research has been conducted on the effects of GW, the majority of literature treats GW as a unidimensional, static condition that either exists or does not exist, ignoring any potential differences in effects that might emerge from different types of GW. In the last four years, four studies (De Jong et al., 2020; Schmuck et al., 2018; Musgrove et al., 2018; Torelli et al., 2020) were conducted that started to take a first step towards a novel approach by differentiating either between the type of green claim, company, or macro-level that GW is initiated on when looking at its effects on consumers. The four following studies form the key points of orientation for this thesis.

De Jong et al. (2020) compare the effects of six different types of GW on financial performance, product- and service quality, and environmental performance as constructs of corporate reputation. Their classification of GW involves the categories “vocal green”, “partial” GW (also referred to as “half-lies”), “full” GW (also referred to as “lies”), “taking credit for following legal obligations” and “acting on own initiative”. Their findings show that half-lies and lies have similar negative effects on reputation in comparison to true green behavior. Taking credit for following legal obligations (referred to as “it’s the law stupid” in the five firm-level transgressions) has no significant effect on the chosen constructs of reputation. Only undeservedly taking credit in the case of true green behavior affects reputation negatively.

Schmuck et al. (2018) examine how GW affects consumers’ perceptions of GW and the resulting perceptions of brands and ads. They differentiate between vague claims and false claims and different images used in advertisements. They then compare these claims to

nondeceptive claims using data from two experimental studies conducted in Germany (N=300) and the United States (N=486). Their findings show that vague claims do not increase consumers' perception of GW, regardless of their environmental involvement: "Vague claims can even benefit consumers' attitudes towards brands" (ibidem, p. 136). On the other hand, false claims significantly enhance respondents' perception of GW and consequently negatively affect consumer attitudes towards the respective brands and ads. Although vague- and false claims are compared to each other in terms of their effect on perceived GW, the research design does not compare their direct effects on brand perception or ad perception. It assumes that changes in these two dependent variables are a result of the level of "perceived GW" and the "virtual nature experience" (the extent to which images used in an advertisement evoke feelings or sensations of being in nature). They find that associating GW claims with images of nature positively influences consumers' evaluation of brands and ads. This effect on the dependent variables is stronger than the effect of perceived GW on brand perception and ad perception.

Musgrove et al. (2018) analyze the effect of substantive- vs. posturing green marketing claims on different types of consumer perceptual variables in a scenario-based experimental design with 449 American consumers. Their six dependent variables are attitude toward the company, retail interest, patronage intentions, positive word of mouth, consumer skepticism, and expected service quality. Independent variables are likability, claim-type and trustworthiness, and the design of the experiment is 2 x 2 x 2 (substantive/ posturing green marketing claim, high/ low trustworthiness of the company, high/ low likability of the company). Their methodology differentiates between two categories of green marketing claims: substantive- and posturing green marketing claims. "[...] claims of actual changes in environmental behavior, be grouped as 'substantive', while image and environmental fact-based claims be grouped as 'posturing', since they do not require actual modification or 'real change' of the company's behavior. Substantive claims are more objective in nature, while posturing claims are more subjective" (ibidem, p. 280). Their findings indicate that substantive green marketing claims produce less skepticism, higher levels of patronage intent, retailer interest and more positive attitudes towards the respective firm compared to posturing claims. The effects on WOM and expected service quality were not significant when comparing both claim-types.

Torelli et al. (2020) criticize that previous literature analyzing the effects of GW only considers product-level GW or company-level GW. Based on this critique, in their experiment they test and compare product-level GW to firm-level GW while introducing two new levels of GW: Strategic-level GW and Dark-level GW. Strategic-level GW is defined as "misleading environmental communication concerning aspects related to the future firm's strategies (i.e., strategic public communication, corporate medium-long-term goals, strategic plan for improvement or implementation of technology/processes, report communication, and targeted extraordinary operations)" (ibidem, p. 409). Dark-level GW entails "misleading environmental communication finalized to hidden illegal activities (i.e., money laundering, criminal and/or mafia collusion, corruption, and investments with hidden aims)" (ibidem, p. 409). In their experiment, the authors measure the effects of these four different levels of GW on consumers' perceptions of corporate environmental responsibility and corporate greenwashing, as well as the intensity of consumers' reactions to an environmental scandal. The research design is a 4 x 2 experiment with 128 students from Italy that further differentiates between environmentally sensitive industries (ESIs) and non-ESIs. Results for the first dependent variable (consumer perception of corporate environmental responsibility) show that the four chosen categories of GW have significantly different influences. For both ESIs and non-ESIs, corporate-level GW results in the highest levels of perceived responsibility, followed by strategic-level GW. In ESIs product-level GW results in the lowest level of perceived responsibility, while in non-ESIs dark-level GW leads to the lowest level of perceived responsibility by consumers. Regarding consumers' perception of corporate GW, product-level GW in ESIs leads to the highest perception of GW, while in non-ESIs dark-level GW leads to the highest perception of GW.

Furthermore, the findings also reveal that the intensity of reaction to an environmental scandal differs based on the level of GW that the scandal is related to. For both ESIs and non-ESIs, dark-level GW triggered the strongest level of reactions from respondents while corporate-level GW triggered the weakest level of reaction.

From these four multidimensional GW studies, Musgrove et al. (2018) are the only researchers looking at the direct effects that two different types of GW (substantive claims and posturing claims) have on consumers' brand attitudes. Although their research design demonstrates a more differentiated approach than previous studies, a major limitation of their study is that they only use two broad categories based on claim-type and ignore which macro-level greenwashing practices (GWPs) are initiated on. We conclude our literature review by noting that existing studies analyzing the effects of GW on consumers fail to effectively differentiate between different types of GWPs in their research design, which limits the explanatory power of their results. De Jong et al. (2020) and Torelli et al. (2020) confirm this deficit by urging future researchers to extend existing GW typologies with additional levels of differentiation. This thesis addresses the identified research gap by introducing a new typology for greenwashing practices that differentiates GWPs based on their claim-type and macro-level of initiation. By doing so, we attempt to create a framework that is specific enough to account for differences between GWPs, yet categorical enough so that most concrete GWPs defined in theoretical literature (like "the seven sins of greenwashing") can be distinctively assigned to one of the categories. Using this typology of GWPs for the methodology and analysis, this thesis aims to be the first study exploring how different GWPs affect consumers' brand attitudes, that takes into consideration different claim-types and macro-levels of GWPs.

### **3. Purpose of the thesis**

The core premise of this thesis is that different kinds of GW have different effects on consumers. This research is one of the first studies to take a more differentiated approach to this topic by introducing a new typology that distinguishes between three different claim-types and two different macro-levels of GW, resulting in six distinct categories of GWPs. The goal of this research is to achieve a deeper understanding of how GW influences consumers by analyzing how different kinds of GW affect the brand attitude of consumers.

On the practical side, similar to researchers, companies lack in-depth insight into how consumers evaluate and react to different GWPs. Companies have a strong interest in avoiding the impression- and act of GW since, besides the reputational damages caused by GW scandals, this impression lowers consumers' brand attitudes and purchase intentions toward their brand and thus ultimately results in lower profits (Szabo and Webster, 2020). A deeper knowledge of how consumers process and evaluate information related to GW can help companies avoid GW. Based on a profound understanding of GW, firms can adjust their product development, marketing strategies and processes in ways that reduce the risk of triggering strongly negative cognitive responses, negative word of mouth (WOM) and boycotts from potential customers. Additional helpful insights for companies can be derived from the comparison of different customer segments regarding their reaction to GW that takes place in this study.

### **4. Research question**

Based on the research goal, the research question this study attempts to answer is: "How do different greenwashing practices influence consumers' brand attitudes?". By answering this research question, we attempt to contribute to a better understanding of the problem of GW in general. To guide the analysis of our data we construct seven hypotheses based on existing literature. Table 1 shows the hypotheses that are tested within this study.

**Table 1** Hypotheses

H1	Different GWPs have significantly different effects on consumer brand attitudes.
H2	False greenwashing affects brand attitude more negatively than vague greenwashing.
H3	Product-level GWPs affect brand attitude more negatively than firm-level GWPs.
H4	Hidden-information GW affects brand attitude more negatively than vague- and false GW.
H5	University students react more critical to GWPs than non-student consumers.
H6	Green Consumers react more critical to GWPs than traditional consumers.
H7	Women react more critical to GWPs than men.

## 5. Research design and Methodology

As a theoretical framework for studying our research question, we develop a typology of GWPs primarily based on the integration of the frameworks from Delmas and Burbano (2011), Schmuck et al. (2018) and the addition of a new claim-type (hidden-information claims). The purpose of this typology is to create a tool for differentiating GWPs that enables us to compare the effects different kinds of GW have on consumers. The six types of GWPs that our classification differentiates between are false GW on product-level (F-PL), vague GW on product-level (V-FL), hidden-information GW on product-level (HI-PL), false GW on firm-level (F-FL), vague GW on firm-level (V-FL) and hidden-information GW on firm-level (HI-FL). Concrete examples for these types of GW (that are used to construct example scenarios for our survey questionnaire) are extracted from “The seven sins of greenwashing” by Terrachoice (2010), Scanlans (2017) “New sins of greenwashing” and Bruno (1992) & Berrone’s (2016) framework of “Five firm-level transgressions”.

With the help of an anonymous online survey, we expose 389 German participants to the six different scenarios of GW identified in the typology established earlier as independent variables. The measurement instruments are designed to measure the effect of specific GWPs on respondents’ brand attitude as the dependent variable. Through a set of questions, we group participants into the categories “Green consumer/ traditional consumer”, “Student/ non-student”, and “male/ female”, which enables us to compare different groups of respondents. Furthermore, in addition to measuring respondents brand attitudes with Likert scales, we ask open questions to gather qualitative data that help us understand respondents’ reasons for indicating certain brand attitudes.

## 6. Methods used for validation of the design

To test the internal reliability and validity of our data, (in addition to testing the survey) we run a series of statistical tests in SPSS. We begin by testing the data for normality of distribution, using the Shapiro-Wilk test. To test the two items that we use for measuring brand attitude for internal consistency and reliability, we calculate Cronbach’s  $\alpha$  using a reliability analysis for the answers to all six GW scenarios.

To test H1 (Different GWPs have significantly different effects on consumer brand attitudes), we conduct a dependency analysis that reveals whether brand attitude scores resulting from different GWPs differ significantly from each other. According to University of Zurich (2021), the appropriate test for a related sample with more than two repeated measurements and an interval scaled outcome variable is the repeated measures ANOVA. To adjust the results of this model for multiple comparisons, we conduct a Bonferroni post-hoc test.

For testing H2-H4, we conduct a dependency analysis that compares the effects different GWPs have on brand attitude based on their claim-type (vague, false, hidden-information) and macro-

level of initiation (product-level/ firm-level). Since, in this case, we have an interval scaled dependent variable and more than two independent variables, the appropriate test for H2, H3 and H4 is a two-way repeated-measures ANOVA according to University of Zurich (ibidem). Similar to H1, we use a Bonferroni post-hoc test to adjust the resulting significance values. H5-H7 require a comparison of different groups of respondents in terms of how GW affects their brand attitudes. To test H5-H7, we conduct Mann-Whitney U tests, which allows us to compare different populations of respondents to each other for every GW scenario separately. To take into consideration the resulting  $\alpha$  error accumulation of this approach, we use a Bonferroni-Holm adjustment for the significance values.

## 7. Results, conclusions and recommendations

Table 2 summarizes the results of our analysis.

**Table 2** Results

Hypothesis	Result
H1: Different GWPs have significantly different effects on consumer brand attitudes	Supported*
H2: False greenwashing affects brand attitude more negatively than vague greenwashing	Supported
H3: Hidden-information GW affects brand attitude more negatively than vague- and false GW	Rejected
H4: Product-level GWPs affect brand attitude more negatively than firm-level GWPs	Rejected
H5: University students react more critical to GWPs than non-student consumers	Rejected
H6: Green consumers react more critical to GWPs than traditional consumers	Rejected
H7: Women react more critical to GWPs than men	Rejected

\*Only exceptions: F-PL – F-FL, and HI-PL – V-FL

The central finding of this study is that different greenwashing practices have significantly different impacts on consumers, depending on two dimensions of greenwashing practices: Their claim-type and the macro-level they are initiated on. Our finding questions the generalizability of the majority of existing studies in this area, which analyze the effects of GW on consumers without differentiating between different kinds of greenwashing. More importantly, our results raise the question of whether this type of research should continue to view GW as a one-dimensional umbrella term for all GWPs. If different GWPs have different effects on consumers, which is the case according to our results, researchers need to differentiate between GWPs accordingly when investigating their effects on consumers. Out of the 15 pairs of GWPs that we compare, only two pairs do not show a statistically significant difference (HI-PL & V-FL; F-PL & F-FL). In the case of false GW (F-PL & F-FL), this observation seems plausible as both example scenarios show extreme, deliberate and obvious forms of consumer betrayal through lies and broken promises. A potential explanation for this result is that when a case of GW is extreme, deliberate and obvious, it affects brand attitude so negatively that respondents do not further differentiate between product-level and firm-level in their judgment. In the case of HI-PL and V-FL, we can not definitively explain why this particular pair does not show a statistically significant difference. However, considering that many respondents are unable to

recognize vague GW and hidden-information GW as GW/ deception, this result might reflect a lack of knowledge and expertise by the same group of respondents to differentiate between HI-PL and V-FL effectively. Also, this result can be caused by our choice of example scenarios, as the two example scenarios we constructed for HI-PL and V-FL might be perceived too similarly by participants.

To answer our research question, we conclude that different greenwashing practices have significantly different effects on consumer brand attitudes based on the claim-type they use and the macro-level they are initiated on. False GWP, in general, have the strongest negative effect on brand attitude, while vague GWs have the least negative effect and can potentially have a positive effect. Hidden-information GW and vague GW are less obvious and more difficult to detect for most respondents, which is a potential explanation for why they affect brand attitude less negatively (partially even positive) than false GW. Our findings indicate that the more obvious and explicit a GWP is recognizable as betrayal and lying to consumers, the more negatively it tends to affect brand attitude. Also, except for false GW, GWPs related to an entire firm are evaluated more negatively than GWPs associated with a single product. In terms of brand attitude, in many cases, respondents are more affected by the truthfulness- and type of green claim used by a company than their actual environmental performance. The specific background of a consumer can play a role in how V-PL, V-FL and F-PL are perceived and evaluated in some instances. However, HI-PL, HI-FL and F-FL seem to be assessed by our respondents similarly regardless of their gender, student status and green-consumerism.

For companies, our results particularly underline the importance of avoiding the act- and impression of false GW, as this type of GWP appears to have the most negative effect on brand attitude. Companies are recommended to do so, by managing all their green claims for specificity, transparency and truthfulness. On the government side our findings are alarming: The majority of respondents in our sample react positively (partially extremely positively) to firms engaging in vague greenwashing practices that make broad and unsubstantiated green claims without actually acting sustainably. Our findings show that a substantial amount of consumers lack the information and expertise to recognize vague GW and hidden-information GW as greenwashing. This is especially problematic since previous research indicates that, in practice, greenwashing firms use vague- and hidden-information claims substantially more often than false claims (Terrachoice, 2007). The government needs to either educate consumers better or regulate unsubstantiated green claims by companies more strictly in order to address this issue. As a primary goal of the agency of consumer protection and government regulation is to protect customers, this goal should extend to protecting them from corporate deception and manipulation.



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