

**UNIVERSITY OF TWENTE.**

# **The grass is always greener on the other side – but who says green takes it all?**

An exploratory study on how greenwashing affects purchase intention, word-of-mouth and brand credibility

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## **ABSTRACT**

*This study examined how greenwashing affects purchase intention, word-of-mouth and brand credibility, mediated by agent knowledge. By conducting an experiment (N = 111,) effects of (hidden vs. obvious) greenwashing on agent knowledge (present vs. non-present), were tested using a 2x2 experimental between-subjects design. Results show that greenwashing only has an effect on purchase intention, word-of-mouth, social word-of-mouth and credibility, when the consumer is exposed to an obvious greenwashed advertisement and previously informed with agent knowledge (information about greenwashing practices). With a mean age of 22, results show that most of the young adult consumers of Gen Y and Gen Z, might not be as sustainable and ethically aware and active, as previous studies have indicated. Theoretically, this study provides insight into how consumers are being affected by greenwashing and what this means for the role of marketing and corporate communications for organizations, in a world where environmental issues take their tolls.*

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# 1. INTRODUCTION

Due to the rise of global warming, green consumption has increasingly been given attention by consumers, as they turned to be more concerned about environmental developments and therefore more willing to choose ethical and sustainable products over non-green products (Chen & Chang, 2014). In fact, in 2014, GlobeScan surveyed more than 18,000 consumers all over the world, in which more than half of their participants claimed to be worried about environmental problems (GlobeScan, 2014). Additionally and more importantly, in one of Nielsen's latest reports, the global measurements and data analytics company, claimed that 2018 was the year of the ethical consumer (Nielsen, 2018). The prediction is made, that by 2021, these sustainable minded consumers will together spend up to 150 billion dollars on sustainable goods.

This rise of green consumerism had a significant impact on the Corporate Social Responsibility initiatives of organizations. This came to be as firms realized that this issue had to start taking place in their own agenda and had to start using this type of consumerism as a tool. Polonsky et al. (1998) concluded that 78% of the CEOs of the top 50 organizations in the UK, stated that these environmental activities were very important to them, whilst 82% said that they knew that using environmental issues as a tool, would be even more important in the future. As expected, throughout the years, organizations started to really put emphasis on 'green' in order to establish an image that is environmentally friendly. The important aspect here is, however, that these organizations focused and put effort into perceiving consumers, instead of actually changing policies (Baran & Kiziloglu, 2018).

As a result of the strive to meet the increasing demand for green products, organizations have been exaggerating claims of sustainable and environmental friendliness (TerraChoice, 2010). This increasingly popular phenomenon has gotten its own definition: Greenwashing. As consumers are willing to select more green products, organizations adopt greenwashing in order to enhance their brand images, loyalty and consequently, the purchase behavior (Chen et al, 2016). Greenwashing or green spin has been defined as "the act of misleading consumers regarding the environmental practices of organizations (firmlevel) or the environmental benefits of a product or service (product-level greenwashing)" (Delmas & Burbano, 2011, p.66). In summary, greenwashing is inherently a way for organizations to portray their products as sustainable or ethical, only for the sake of marketing and profit, when in fact, the claims are exaggerated or completely false.

Moreover, greenwashing does not take place in one specific sector. Every industry responds differently to the demand of sustainability, including laundry detergent, car sales, hotels, fashion, cosmetics and the oil- and gas companies. For example, Dutch Royal Shell has been one of the world's top polluters, contributing to dangerous consequences for the climate (Laville, 2019). In April, 2019, Shell introduced their new project, in which critique has been given that this gives the automobile drivers another excuse, without any feeling of guilt when spending money on a gas- and oil company (Van den Berg, 2019). Shell introduced their new campaign "Samen planten we 5 miljoen bomen"

(“Together we plant 5 million trees”) together with the Dutch forestry service . On Shell’s website, the words “natural solution” are being portrayed in a bold font. The media, however, is divided in being skeptical and optimistic, as the discourse is that at least Shell is trying to take future-focused steps, but still does not make up for the environmental pollution it creates, as it inherently is an oil- and gas company” (Kaye, 2019). Freek Bersch, campaign leader of the Dutch Environmental Defense, sees this project as rather greenwashed and states that Shell still annually invests 25-30 billion euros in gaining gas and oil, and argues, that as long Shell continues these practices, they largely contribute climate problems. What makes this project rather greenwashing, is the lack of information and structure given to the public (Mersbergen, 2019). Discourse has the critique that Shell is not clear about where exactly these trees are being planted, whether there are communities living at these location that will have to consent to it, nor gives out clear arguments towards the consumers.

Although gas- and oil companies are one of the top polluting industries, the fashion industry is known to be harmful too. Previous studies have shown, that out of all age-groups, today’s young adults from Gen Z and late Gen Y (born from 1990 to today) are most willing to pay extra for sustainable options and plan to increase this behavior in the future (Nielsen, 2015; Consumer Markets Report 2018). In the latest McKinsey & Company report on the influence of ethical consumers on fashion, authors Amed et al. state that nine in ten Generation Z consumers expect companies to act responsible and address environmental and social issues (2019). Additionally, today’s young adults spend more time roaming social media than older age-groups, and thus are being more exposed to fashion campaigns than campaigns from the oil- and gas industry (Vercic & Vercic, 2013). As a result, this study has chosen the fashion industry to focus on, in specific H&M.

The H&M Group is a large fashion retailer group including H&M, COS, & Other Stories, Monki, Cheap Monday and Weekday. In 2016, H&M released a sustainability report in which they explained how they change their DNA, by focusing on environmentally-friendly practices. As a fast fashion chain, this effort can be seen as a pleasant step towards a better future (Farmbrough, 2018). However, the way H&M has projected their conscious campaigns towards the consumer, has received backlash in the public discourse, with one of the main arguments that a fast fashion chain can never be sustainable by launching approximately 52 collections per year (Ross & Morgan, 2015). One way H&M included environmentally friendly creations, is through the Conscious Exclusive Collection launched in 2011. On their website, H&M claims to want to be the “leading change towards sustainable fashion”. However, the fast fashion chain does not give out about how their green materials are being made, and neither goes in-depth about where these materials actually came from. Although it may be recycled polyester, for example, the production of a fast fashion chain is not conscious nor fair trade, and travelled ‘dirty’ to the stores located all over the world. Another way H&M has introduced their green image, is by launching H&M’s World Recycle Week, which contains two issues that link to greenwashing. First, as a reward for bringing worn out or unwanted clothes, H&M gives away vouchers to consumers for their next purchase at H&M, leading to nudging consumers towards re-investing in a

fast fashion chain. And additionally, most of the clothes of fast fashion retailers, including H&M, entails polyester, because of its cheap price and production costs. Polyester is made from petroleum, which requires an energy-intensive process in which large amount of crude oil are needed and many emissions are released (Claudio, 2007). Although the latest Conscious collection of H&M contains so called natural fibers, this collection is just a fraction of all the clothing that do entail polyester and other fibers harmful to the environment. The second issue, is that many clothes produced and bought from all existing fast fashion chains, contain a mixture of various fibers, including synthetics (Ross & Morgan, 2015). The problem is, is that these garments cannot yet be recycled and converted into new garments. This results into only a small percentage of the H&M collected garment can be used to produce something new.

However, not every consumer responds the same way to modern greenwashing practices. The persuasion knowledge model, established by Friestad and Wright (1994), presumes that the knowledge consumers have, develops throughout the years, and correspondently growing with advertisement trends. More specifically, the agent knowledge, which is part of the persuasion knowledge model, is the consumer's beliefs of the characteristics or financial capability of the persuader. In turn, agent knowledge has an effect on corporate reputation (Nyilasy, Gangadharbatla & Paladino, 2013). In this study, the consumer's persuader is H&M.

The goal of this study is to contribute to the subject of greenwashing in a world where the need for more sustainability takes toll on corporate social responsibility and consumer behavior. This paper presents a quantitative, between-subjects research conducted, in a 2x2 design, in order to find an answer to the following research question:

*'To what extent does obvious greenwashing affect advertisement credibility and consumer intentions, and what effect has the moderating role of agent knowledge?'*

## **2. LITERATURE REVIEW**

### **2.1 (Green) Consumer Behavior**

During the last two decades, owing to the rising attention to global warming, environmental issues have gained more attention on a global notice. As a result, environmentalism has impacted the consumer in such a way, that more consumers started to embrace a more thoughtful and sustainable consumption, making them more willing to select green products that are environmentally friendly over conventional ones (Chen et al., 2015; Paul, Modi & Patel, 2016). For many modern day consumers it is no longer sufficient to satisfy personal needs only as central concern of consumption. Instead, environmental preservation has become a bigger concern; for some consumers even the primary concern. Hence, the modern, responsible consumer is willing to dive deeper into the product or service available, in order to assess the consequences of the purchase, in both positive and negative ways (Urzua, 2014). In the global survey of Nielsen (2015), the global measurement and data analytics company found that this responsible consumer behavior is specifically noticeable in late Generation Y (Millennials) and Generation Z; both generations count for the age groups born from around 1990 to today (Dimock, 2019). The Nielsen report concluded that 66% of the respondents were willing to pay more for a product or service that came from companies with a positive social and environmental impact, a rise of 16% from two years before. The top four sustainability purchasing drivers among the consumers in that study, were 'products made by a brand/company that I trust', 'the product is known for its health & wellness benefits', 'the products is made from fresh, natural and/or organic ingredients' and 'the product is from a company known for being environmentally friendly'. As a result of the rise of the ethical consumer, Nielsen suggests that brands use a marketing sustainability approach to compromise sales in mainly the following categories: baby food, coffee, tea and snacks. In addition to these findings, Sörqvist and colleagues (2015) state, that for the ethical consumer, organic and environmentally friendly products tend to be idealized and perceived as more positive than conventional alternatives. As organizations noticed the longing for such products, eco-labels became more popular during the last two decades, made to be used as attractive instruments to inform consumers about their environmentally friendly purchase decisions. Although eco-labels have been preferred by the consumer, the rise of these instruments have created a new way of false marketing. This false marketing, also called greenwashing, will be explained in chapter 2.3. Before this concept of greenwashing will be elaborated upon, the next chapter will explain the concept of Corporate Social Responsibility; the reason why organizations operate and act in society the way they do. By explaining CSR first, the reason behind greenwashing will be made clearer.

## **2.2 Corporate Social Responsibility (CSR)**

In the past, organizations were expected to lay and conquer the economic field, destined to focus on sole profits and their accountability towards their own shareholders. Although there were organizations that took green into account, it was nearly as much as the rise of the modern day shows. In the last two decades, more corporations and entities have embraced a shift in the way they operate and express themselves. This way of thinking had been shifted in such a way, that organizational entities perceived themselves no longer as working capitalist machines, but instead, important links of the chains of society. As a result, more organizations feel the need to take responsibility for the social and environmental impacts their business operations (can) cause. (Cornelissen, 2014; Caramela, 2018). This shift in thinking was a result of the pressure firms felt from numerous stakeholders to engage in social and environmental responsibility (Orlitzky, Siegel & Waldman, 2011). Benabou and Tirole (2009) likewise state, that although contributing time and money to good causes, either individually or as corporate entity, have been around throughout history and all societies, the movement is exponentially gaining attention due to the empowerment of civil society and equitable-trade/responsible-investment movement, amongst others. According to the authors, these two important movements in society have been held accountable due to various phenomena occurring in and with global society. First, being socially responsible is likely to be seen as a normal good. Second, due to technological advancements and digitalization, information about any organization has become much more accessible, easier and quicker to distribute. And third, the public has raised its awareness on the current states and risks of atmospheric pollution, such as global warming, at a fast rate. Take for example the Swedish teenager Greta Thunberg, chosen as Sweden's Women of the Year, who's concern and activist approach has led to numerous climate change strikes all over the world (Dongen, 2019). As a result of these factors, Orlitzky, Siegel and Waldman (2011) state that managers are being forced to determine how they could transform their organization, not only not as more socially responsible, but also as an ecologically sustainable competition, all whilst sustaining their economic position. Corporate Social Responsibility (CSR) has been described in slight various ways by an array of researchers, in such a way that some CSR advocates argue that there is a business case for good corporate behavior, whilst others argue the concept in terms of sacrificing some profit for the sake of being socially 'good' (Benabou & Tirole, 2009). However, although various researchers have established slight varieties of CSR, the World Business Council for Sustainable Development has been able to broadly define CSR as 'the continuing commitment by business to contribute to economic development while improving the quality of the workforce and their families as well as of the community and society at large' (2002). Nevertheless, although this description is broadly defined, it does not justify the important role and attention ecological sustainability has gained in recent years, which is likely due to the fact that this claim was made more than a decade ago. In a recent study of Gosselt, Rompay and Hasselt (2017), CSR is broadly described as a concept in which companies voluntarily incorporate social and environmental concerns in both their business operations and interactions with their stakeholders. With this broad concept of



CSR in mind, the act of (corporate) greenwashing will be explained and elaborated upon the next chapter.

### **2.3 Greenwashing**

Since the mid-80s, the term greenwash has gained attention, described as the practice of making overblown or false claims about the sustainability or environmental friendliness of an organizations' products or services (Dahl, 2010). However, recent years have shown a significant increase in awareness of global climate change and the negative effects of conventional consumerism. Because of the changing landscape of consumerism in which consumers are more concerned about environmental concerns, organizations realize that they need to adjust their marketing and PR strategies to make consumers believe that their products or services are ethically good (Chen et al., 2016). Zhang and colleagues (2018) add that organizations develop green marketing strategies to show existing and future consumers a 'good' corporate image and with that, enhance their CSR. With this in mind, organizations hope to enhance their brand images and improve customer satisfaction. However, green marketing can quickly become something called greenwashing, a spin-like concept described amongst others as 'intentionally misleading or cheating customers with false claims about their environmental actions and impacts to repair public reputation or further shape a good public image, a selective disclosure of positive information about a company's environmental performance, while failing to disclose negative environmental information' (Zhang et al., 2018, p. 741). However, many studies used the infamous report by TerraChoice (The Sins of Greenwashing, 2010) as the base of exploring the concept of greenwashing. In this study, approximately 98% of thousands of products researched with environmental claims, mislead consumers by having committed one or multiple methods of the following seven sins.

#### *Hidden Trade-Off*

When this claim is used, a product or service is claimed to be green based on very few attributes, whilst most of the product, service or the production costs actually are not green at all.

#### *No Proof*

An environmental claim that has no supportive background argumentation which can prove that the product or service is indeed green. This for example means that there are no certified third-party labels.

#### *Vagueness*

When this claim is being used, the product or service vaguely tries to mimic the fact that the product is green, but without clear signs (such as a very complicated ingredient list in combination with green packaging), the consumer is left confused on whether the product is green or not.

### *Worshipping False Labels*

A product or service that gives the impression through words or images that a certified third-party is involved to acknowledge the 'green' of the product, when in fact such endorsement does not exist.

### *Irrelevance*

When this claim is being used, the claim might be true, however the problem lays in the fact that this claim is unimportant or unhelpful for consumers who seek environmentally friendly products or services. For example, products that claim to leave out CFCs use irrelevance as greenwashing since CFCs are banned by law anyways.

### *Lesser of Two Evils*

When the claim might be true, but is being used as a distraction to mislead to consumer from realizing that a great deal or the entire product is harmful, such as organic cigarettes.

### *Fibbing*

Environmental claims that are simply false and fictitious.

Although organizations choose to greenwash in order to enhance their brand image and improve customer satisfaction, research has shown that they need to be careful for modern day consumerism. For example, a recent study from Chen et al., (2016) suggests that organizations need to realize that in order to enhance brand image, brand equity and customer satisfaction, the act of greenwashing needs to take a hold, since the study proved that greenwashing can actually harm one's reputation. In addition to harming one's reputation, greenwashing practices also have a negative impact on the interests of all stakeholders, including regulators and environmental protection departments (Zhang et al., 2018). In a previous study from Chen et al., (2015), results showed that greenwashing negatively relates to green brand image and green loyalty, which in turn could positively affect the green purchase intention. Additionally, Nyliasy, Gangadharbatla and Paladino (2014) investigated the effects of green advertising and a corporation's environmental performance on purchase intentions and brand attitudes, alike to the current study. Based on their results, Nyliasy and colleagues argue that consumer perceptions of greenwashing significantly negatively impact brand attitudes and purchase intention, ultimately affecting the financial business results of one's organization. On the bases of the theory and literature, this study tests the effects of different levels of greenwashing, including obvious and more hidden greenwashing, on brand attitude and purchase intention. The advertisements used in this study, including obvious and hidden greenwashing, can be categorized in the TerraChoice sins of 'Hidden Trade-Off', 'Vaguenes' and 'Lesser of Two Evils'. Details on the stimulus materials will be elaborated upon on in chapter 4.2.

## **2.4 Persuasion Knowledge Model (PMK)**

The Persuasion Knowledge Model is a model that significantly contributes to the fields of consumer behavior and marketing, as this model focuses on the central role of what effect a consumer's knowledge about persuasion plays in persuading him or her (Campbell & Kirmani, 2000). By focusing on this knowledge, organizations, advertisers and marketers, could gain greater insight into how consumers interpret and respond to their persuasion attempts. This model, derived from authors Friestad and Wright (1994), presumes that the knowledge people have, keeps developing throughout the years, and thus, grows with the advertisement trends. Boerman et al., add to that, that in general adults assumingly are more able to distinguish advertisements from non-commercial content, and additionally, are more capable of understanding the intention and tactics behind the advertisement (2018). According to these authors, adults generally are more able to form and stick to their own beliefs when it comes to persuasive messages, such as advertisements. They imply on their cognitive and attitudinal resistance strategies they have developed over time, in order to cope with certain persuasive messages.

The PKM brings three types of knowledge into the persuasion interaction: topic knowledge, persuasion knowledge and agent knowledge. First, topic knowledge is the consumers' knowledge about the topic of the product or service the advertisement is about: the topic of the message. Second, consumers' persuasion knowledge, is about the beliefs the consumer has of the marketer's tactics, the effectiveness of them, the marketer's persuasion goals and one's own coping tactics and coping goals. Lastly, the agent knowledge is about the consumer's beliefs of the characteristics or financial capability of the persuader. For example, previous studies have shown that consumers mostly obtain a more positive attitude and prefer the message of non-profit agent over a profitable organization (Nam & Hwan, 2018).

For the purposes of this study, the decision has been made to use agent knowledge as the moderator between the independent variable (greenwashing) and the two dependent variables (ad credibility and word-of-mouth and purchase intention). Agent knowledge, referring to the consumer's thoughts and beliefs about the persuasion agent, could be the traits, abilities, motives and or goals of the persuasion agent, in either a stereotypical way or specific towards the agent (Krimani & Campbell, 2000). Previous research has substantiated the negative relationship of greenwashing on corporate reputation and agent knowledge (Nyilasy, Gangadharbatla & Paladino, 2013). The purpose of using agent knowledge in this study, is to propose an answer to the questions: how do participants view H&M when, a: the participant sees a slight greenwashed advertisement without additional information about greenwashing, b: the participant sees a slight greenwashed advertisement with additional information about greenwashing, c: the participant sees a heavily greenwashed advertisement with no additional information about greenwashing, and d: the participant sees a heavily greenwashed advertisement with additional information about greenwashing. On the basis of the theory and literature, this study tests the moderating role of agent knowledge on the effects of greenwashing advertisement credibility and consumer intention (purchase intentions and word-of-mouth).

### 3. HYPOTHESES

This paper presents an experimental study of the effect of greenwashing (obvious vs. hidden) on advertisement credibility, purchase intention and word-of-mouth, moderated by agent knowledge from the persuasion knowledge model. Consumer intention is being evaluated by purchase intention and word-of-mouth, including word-of-mouth found on social media. In this study, 'obvious' greenwashed advertisements are seen as advertisements that depict strong green cues and/or exaggerating environmental claims. Contrary, 'hidden' greenwashed advertisements in this study, are seen as advertisements that depict little green cues and/or no exaggerating environmental claims. Examples of these types of advertisements that have been used in this study, will be elaborated upon in chapter 4.

#### 3.1 Purchase Intention

Previous research analyzing the effects of greenwashing has shown various negative consequences on consumer behavior. Based on various studies, the first dependent variable chosen for this research, is purchase intention. First of all, researchers Braga et al. (2019) analyzed the perception of the influence of greenwashing, in particular its effect on the purchase decision making of green products. By means of a quantitative survey, with a sample of 880 consumers in Sao Paulo, Brazil, the study showed that identifying a product in a misleading way, damages the image and lowers sales, market share and financial results. Additionally, Akturan (2018) incorporated the effects of brand equity, brand credibility, brand associations and purchase intention. By means of quantitative methodology, collecting data from 500 consumers, the study found positive and strong impact of the purchase intention of green consumption. Akturan concluded that, as greenwashing negatively affects brand associations and credibility, it indirectly influence the brand equity and purchase intention of consumers.

Based on the foregoing, the following hypotheses is proposed:

**H1a:** Obvious greenwashing has a more negative effect on purchase intention opposed to hidden greenwashing

#### 3.2.a Word-of-Mouth

The influence greenwashing has on the behavior of the consumer, can amongst others be analyzed by taking into account the role of word-of-mouth. Word-of-mouth refers to the communication between the actual or potential consumers and people or parties, either verbal or written (Anderson, 1998). For example, Zhang et al. (2018) explored how consumers' greenwashed perceptions would influence their purchase intentions, by taking into account the role of word-of-mouth and the moderating role of green concern. By means of a questionnaire survey, consisting of 553 consumers of batteries in China, the

study indicates that, besides a negative purchase intention, greenwashing also negatively impacts word-of-mouth. In addition, Chen, Lin and Chang studied the influence of greenwashing on green word-of-mouth, focusing on Taiwanese consumers with experience in purchasing electronic products. Their research results indicated that greenwash negatively affects green word-of-mouth, resulting into negative perceived quality and green satisfaction (2014). For this study's purpose, word-of-mouth is being divided into two different dependent variables: a: regular word-of-mouth, which reflects on sharing one's recommendations and opinions with others in person, and b: virtual word-of-mouth, which reflects on sharing messages and opinions via social media channels.

Based on the foregoing, the following hypotheses is proposed:

**H1b:** Obvious greenwashing has a more negative effect on word-of-mouth opposed to hidden greenwashing

### **3.2b Social Media WOM**

Previous studies have shown that information technologies, including social media, have been increasingly more important for political and social activism. In fact, social media has played such a significant role, that it has been able to influence governmental decision making (Almazan & Garcia, 2014). Throughout the years, the trend has been developed into a new kind of activism, called cyber activism, mostly viewed as slacktivism. Whilst activism embodies opposition shown in more physical forms, such as going on the streets to protest, slacktivism takes a more superficial and less time-consuming form, such as sharing or liking a post on social media. The idea of this type of activity is to 'raise awareness, produce change, or grant satisfaction to the person engaged in the activity' (Rotman et al., 2011). As mentioned before, Chen, Lin and Chang (2014) concluded that greenwashing negatively impacts (regular) word-of-mouth. Additionally, Gen Y and Gen Z are the modern-day ethical consumers, which spend more time on social media opposed to other age groups (Nielsen, 2018)

Based on the foregoing, the following hypotheses is proposed:

**H1c:** Obvious greenwashing has a more negative effect on social media word-of-mouth opposed to hidden greenwashing

### **3.3 Advertisement Credibility**

Chen (2010) defines green trust, an important factor for good credibility, as "a willingness to depend on a product, service, or brand based on the belief or expectation resulting from its credibility, benevolence, and ability about its environmental performance (p. 309). Furthermore, Musgrove, Choi and Cox (2018) examined various green marketing claims with corporate credibility in terms of

consumer skepticism amongst others. Their results showed that green marketing messages increase skepticism, unless these claims were actually substantiated. In a different context, Chen and Chang (2012) researched the influence of greenwashing on the consumers' trust, mediated by confusion and perceived risk. The results concluded that consumer confusion and perceived risk, negatively mediate on trust.

Based on the foregoing, the following hypothesis is proposed:

**H2:** Obvious greenwashing has a more negative effect on the advertisement credibility opposed to hidden greenwashing

### **3.4 Agent Knowledge**

Previous research on the effect of greenwashing on corporate reputation and agent knowledge has shown negative correlations. For example, Nyilasy, Gangadharbatla and Paladino (2013) explored the effects of green advertising and corporate environmental performance on purchase intentions and brand attitudes. The study concluded that, in the presence of green advertising (compared to no or corporate advertising) show lower and more unfavorable brand attitudes. As the Persuasion Knowledge Model describes personal knowledge that consumers have about the goals and the tactics of persuasion agents, the model has very useful and relevant for many scholars (Boerman et al., 2018). Agent Knowledge in specific, refers to the consumer's thoughts and beliefs about the persuasion agent. This could be the traits, abilities, motives and or goals of the persuasion agent in either a stereotypical way or specific towards the agent (Kirmani & Campbell).

Based on the foregoing, the following hypothesis is proposed:

**H3:** Obvious greenwashing has a more negative effect on purchase intention, word-of-mouth and advertisement credibility when the agent knowledge is high

## 4. METHOD

### 4.1 Experimental Design and Stimuli

The experiment follows a 2 (greenwashing: obvious vs. hidden) x 2 (agent knowledge: high vs low) design. To enhance the moderating effect of agent knowledge on the dependent variables, credibility purchase intention and word-of-mouth, this study incorporated advertisements from the fast fashion chain H&M. All research materials were in English. The stimulus materials consisted of two different H&M advertisements, two excerpts from news articles and one YouTube video. Stimulus materials consisted of real life brands and visuals, as De Jong, Harknink and Barth (2018) argued, that using artificial situations with fictitious companies, could lead to relatively superficial results.

The two excerpts that were presented in two conditions were presented to give participants more in-depth knowledge about the practicalities behind the fast fashion chain, consequently stimulating agent-knowledge. The excerpts, taken from [www.cbc.com](http://www.cbc.com) and [www.wellmadeclothes.com](http://www.wellmadeclothes.com) were copy-pasted and added up to 200 words in total. In order to avoid confusion or lack of concentration, the most important information fragments were underlined. This was done so that participants who did not want to read the entire text, still had the information needed to answer the following questions.

The first H&M advertisement condition, represented less obvious greenwashing. This was done, so that the participant would not connect the advertisement with “green” within the first seconds, per se, because of a different, more obvious cue. In this case, an already existing advertisement of the H&M Conscious campaign had been used. The image participants were asked to look at for 15 seconds, presented a model wearing the new collection, which took a fair amount of the entire picture, see Figure 1 and Appendix A. Next to that, the words “H&M Conscious” were depicted in a white and bold font.

Contrary, the second condition, presented the participants with a non-existing H&M Conscious advertisement, see Figure 2. However, the images and style were based on already existing H&M Conscious ad campaigns. The image of the two women standing in the woods on the left, is a screenshot of one of the latest released video campaign of the H&M Conscious label. The background and font on the right of the image were also based on real existing H&M advertisements. This advertisement has been edited using Adobe Photoshop, YouTube and Unsplash (a website for high quality non-copyright images).

The last stimulus material used, was for the sake of measuring the two word-of-mouth variables. On the 10<sup>th</sup> of April, 2019, YouTuber Kristen Leo uploaded a video called ‘Honest H&M Ad’. The video, which has gained over 200.000 views, 17.000 likes, and merely 160 dislikes, has been praised by subscribers and visitors as satire, but honest and eye-opening. Because Kristen has a major following, including 232.000 YouTube subscribers and over 55.000 Instagram followers, she is seen as an influencer, and creates discourse online. Her video has been used for the word-of-mouth variable, to see whether greenwashing has an effect on the (online) discourse of participants.



Figure 1. Stimulus materials for the variable greenwashing

#### 4.2 Sample and procedure

111 participants were recruited via requests sent via personal social media accounts (Instagram and Facebook), WhatsApp and Gmail. The age of respondents ranged between 18 and 35 years old with a mean of 22. Out of the total amount of participants, 70 females and 41 males completed the questionnaire. Participants who did not complete the survey by answering all questions given, were removed from the data set, which led to the downgrade of 183 participants to 111.

Participants were randomly assigned to one of the four conditions. For two out of the four conditions, participants were asked to carefully read two excerpts from news articles that explained the faults behind the green marketing of H&M, used to measure agent knowledge. Hereafter, participants were exposed to either one of the two possible green advertisements: one entailing obvious greenwashing cues or one entailing less obvious greenwashing cues, see Appendix A and B. After being exposed to the information and one of the advertisements, the questionnaire started. Participants were being asked about their opinion based on the context of agent knowledge, advertisement credibility and purchase intention. After these three sets, participants were asked to watch the satire video on H&M's marketing, made by the YouTuber Kristen Leo. After being asked to stop the video at 1:25 minutes, the participants were asked whether they knew the YouTuber and were asked questions based on the context of word-of-mouth and social media wom.

#### 4.3 Measures

This study used the 7-point Likert Scale, with 1 being "highly disagree" and 7 being "highly agree". The reliability and validity of this scale has been tested before by Newell and Goldsmith (2001).

##### *Reliability*

In order to test the reliability of the variables used, Cronbach's Alpha has been measured. In order for each variable to be reliable, the Cronbach's Alpha must be  $\alpha = .70$ . For Purchase Intention the Cronbach a was  $\alpha = .81$  (items = 5). Agent Knowledge initially received  $\alpha = .57$ , but by removing the item "I feel as if H&M acts Selfish", the reliability scaled up to  $\alpha = .77$  (items = 7). Credibility received a  $\alpha = .89$



(items = 5). Finally, Word-of-Mouth initially received a  $\alpha = .46$  due to the item ‘...I would share the message of Kristen Leo with others’ and scaled up to  $\alpha = .51$  after this item was deleted. To make sure this variable would still be reliable enough, the item ‘...I would share this video on my social media platforms’ was deleted to receive a Cronbach’s  $\alpha$  of  $\alpha = .70$  (items = 4). Lastly, Virtual Word-of-Mouth received a reliable Cronbach,  $\alpha = .71$  (items = 2).

#### *Purchase Intention*

To measure consumer intentions, this study developed two measures corresponding to the effect of greenwashing on their behavior. The first variable, purchase intention, was measured by a scale, inspired by the study of de Canniere, De Pelsmacker and Geuens (2010), in which the purpose was to investigate the relationship between perceived relationship quality, purchase behavior and purchase intention, moderated by relationship strength. In addition, this scale is also inspired by the green purchasing intentions variable of Zhang et al. (2018). In this study, purchase intention was measured by asking participants to indicate on a 7-point scale (1 = highly disagree, 7 = highly agree) to what extent they had the intention to visit an H&M store more and/or purchase one or more of their items. Two example of the scale items were “Intention to buy at least once at H&M during the upcoming summer season” and “I will purchase clothing from H&M because of its environmental concern”.

#### *Word-of-Mouth*

The scale for word-of-mouth is based on the study of Zhang et al. (2018), in which green word-of-mouth was measured by measuring the extent to which the participant would inform their relatives, friends or colleagues about the environmental information of the product. Word-of-mouth was measured by asking participants whether they would recommend H&M to others and their discourse behavior after watching the YouTube video of Kristen Leo. These questions had to be answered using a 7-point scale (1 = highly disagree, 7 = highly agree). Two examples of these questions were “I would share this video on my social media platforms” and “I would encourage others to purchase from this organization”.

#### *Social Media WOM*

In this study, Social Media WOM was measured, by asking participants whether they would share the video of Kristen Leo on their social media platforms and whether they would start a social media campaign against H&M. Measured using a 7-point scale (1 = highly disagree, 7 = highly agree). This scale is not based on a previous existing scale, but based on previous studies on social activism, known as slacktivism (Rotman et al., 2011; Almazan & Garcia, 2014).

### *Advertisement Credibility*

Chen (2010) measured green trust including five items, on which this paper's questions were inspired by. (will go more in detail). Advertisement credibility was measured by using a 7-point scale (1 = highly disagree, 7 = highly agree), asking the participants what they felt about either the advertisement with the given knowledge from articles (condition 1) or based on the advertisement solely (condition 2). Two examples of these questions were "I feel that H&M's environmental performance is reliable" and "I feel that H&M keeps promises and commitments for environmental protection".

### *Agent Knowledge*

As agent knowledge describes the way in which consumers think about and assess a persuasion agent, respondents were asked to assess H&M, using the Corporate Character Scale by Davies et al. (2003). This scale, which has been based on the personification approach, measures a firm's reputation from internal and external point-of-views. Additionally, this scale helps assessing a firm in a more personal way, asking respondents to think of the organization as a human being. Agent knowledge was measured by using a 7-point scale (1 = highly disagree, 7 = highly agree), asking the participants about their (personal) perception of H&M. Two examples of these questions were "I feel that H&M is corporate responsible" and "I feel that H&M is innovative".

## 5. RESULTS

### 5.1 Purchase Intention

*H1a: Obvious greenwashing has a more negative relationship with purchase intention opposed to hidden greenwashing*

*H3: Obvious greenwashing has a more negative relationship with purchase intention, word-of-mouth and advertisement credibility when the agent knowledge is high*

A factorial between group analysis of variance (ANOVA) was used to investigate the effects of Greenwashing on Purchase Intention, moderated by Agent Knowledge, in all four conditions.

The ANOVA revealed no statistically significant effect of Greenwashing on Purchase Intention,  $F(1, 107) = .969, p > .05$ . Additionally, the ANOVA neither revealed statistically significant effect of Agent Knowledge on Purchase Intention,  $F(1, 107) = 2.841, p > 0.05 (.095)$ .

However, the interaction effect of Agent Knowledge and Greenwashing showed a significant effect,  $F(1, 107) = 8.645, p < 0.05$ . This interaction indicated that the effects of Agent Knowledge on Purchase Intention depend on the type of Greenwashing, as illustrated in Figure 3. This correlation shows how there is barely difference between the purchase intention of participants, both who received agent knowledge ( $M = 3.88, SD = 1.27$ ) or not ( $M = 3.58, SD = 1.30$ ), in case of a hidden greenwashed advertisement. However, in case of the obvious greenwashed advertisement, participants who either received agent knowledge beforehand ( $M = 2.94, SD = 1.27$ ) or not ( $M = 4.05, SD = 1.19$ ), show a greater difference.

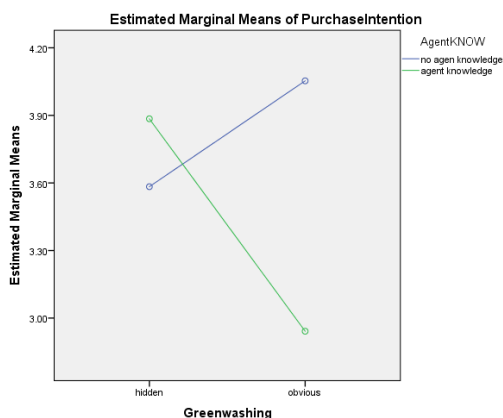


Figure 3. The effects of Greenwashing and Agent Knowledge on Purchase Intention

## 5.2 Word-of-Mouth

*H1b: Obvious greenwashing has a more negative relationship with word-of-mouth opposed to hidden greenwashing*

*H3: Obvious greenwashing has a more negative relationship with purchase intention, word-of-mouth and advertisement credibility when the agent knowledge is high*

A factorial between group analysis of variance (ANOVA) was used to investigate the effects of Greenwashing on Word-of-Mouth, mediated by Agent Knowledge, in all four conditions.

The ANOVA revealed no statistically significant effect of Greenwashing on Word-of-Mouth,  $F(1, 106) = .727, p > .05$ . Additionally, the ANOVA neither revealed statistically significant effect of Agent Knowledge on Word-of-Mouth,  $F(1, 106) = .731, p > 0.05$ .

Although, the interaction effect of Agent Knowledge and Greenwashing on Word-of-Mouth did not show a significant effect,  $F(1, 106) = 2.988, p > 0.05 (.087)$ , it is still worth mentioning. This interaction, with the indication of the effects of Agent Knowledge on Word-of-Mouth depended on Greenwashing, shows an effect similar to the other variable interactions of the study. As illustrated in Figure 4, this correlation shows that there is not as much difference between the Word-of-Mouth, both who received agent knowledge ( $M = 2.879, SD = .177$ ) or not ( $M = 2.708, SD = .207$ ), in case of a hidden greenwashed advertisement. However, in case of the obvious greenwashing, participants who received either agent knowledge beforehand ( $M = 2.879, SD = .188$ ) or not ( $M = 2.375, SD = .207$ ), show a much greater difference. It is important to note here, however, that although there are clear differences, the overall rankings were still low and did not exceed “somewhat disagree”.

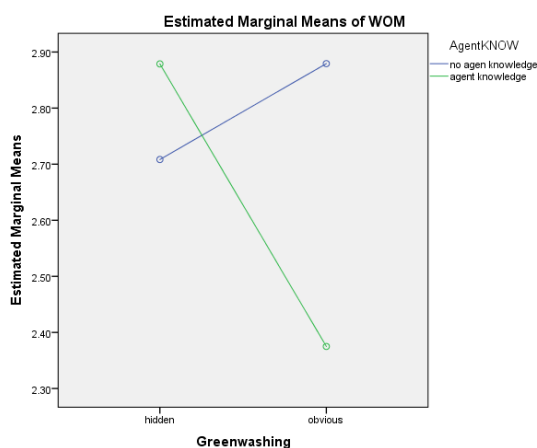


Figure 4. The effects of Greenwashing and Agent Knowledge on Word-of-Mouth

### 5.3 Social Media WOM

*H1c: Obvious greenwashing has a more negative relationship with social media word-of-mouth opposed to hidden greenwashing*

*H3: Obvious greenwashing has a more negative relationship with purchase intention, word-of-mouth and advertisement credibility when the agent knowledge is high*

A factorial between group analysis of variance (ANOVA) was used to investigate the effects of Greenwashing on Social Media WOM, mediated by Agent Knowledge, in all four conditions.

The ANOVA revealed no statistically significant effect of Greenwashing on Social Media WOM,  $F(1, 107) = 1.916, p > .05$ . Additionally, the ANOVA neither revealed statistically significant effect of Agent Knowledge on Social Media WOM,  $F(1, 107) = .824, p > 0.05$ .

Although, the interaction effect of Agent Knowledge and Greenwashing on Word-of-Mouth did not show a significant effect,  $F(1, 107) = .785, p > .05$ , it is still worth mentioning. This interaction, with the indication of the effects of Agent Knowledge on Word-of-Mouth depended on Greenwashing, shows an effect that is in line with the results of Credibility, described in the following paragraph. As illustrated in Figure 5, this correlation shows a clear difference between having prior knowledge on greenwash practices before exposure to an obvious greenwashed advertisement. Participants, who received agent knowledge and a hidden greenwashed advertisement ( $M = 2.52, SD = 1.35$ ) showed the same, low-level interest in Social Media WOM, as participants without agent knowledge ( $M = 2.52, SD = 1.37$ ). However, participants who were not exposed to agent knowledge beforehand and were exposed to an obvious greenwashed advertisement ( $M = 3.11, SD = 1.42$ ), were affected more by the YouTube video of Kristen Leo, than participants who already had received agent knowledge before the exposure ( $M = 2.64, SD = 1.32$ ). Nevertheless, it is important to note here that although these participants are more willing to share the message online and/or start a campaign against the practices of H&M, the overall rankings were still low, and did not exceed “somewhat disagree”.

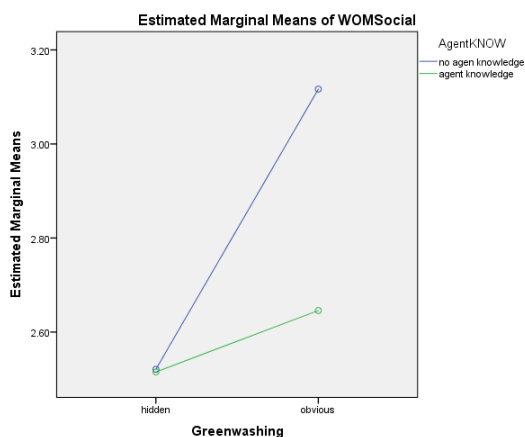


Figure 5. The effects of Greenwashing and Agent Knowledge on Social Media WOM

## 5.4 Credibility

**H2:** Obvious greenwashing has a more negative relationship with the advertisement credibility opposed to hidden greenwashing

**H3:** Obvious greenwashing has a more negative relationship with purchase intention, word-of-mouth and advertisement credibility when the agent knowledge is high

A factorial between group analysis of variance (ANOVA) was used to investigate the effects of Greenwashing on Credibility, mediated by Agent Knowledge, in all four conditions.

The ANOVA revealed no statistically significant effect of Greenwashing on Credibility,  $F(1, 106) = .467, p > .05$ . However, the ANOVA did reveal a statistically significant effect of Agent Knowledge on Credibility,  $F(1, 106) = 5.630, p > 0.05 (.095)$ .

Although the interaction effect of Agent Knowledge and Greenwashing did not show a significant effect,  $F(1, 106) = 3.471, p > 0.05$ , this interaction is still worth mentioning. The interaction effect showed a p-value of 0.065 and similar to previous interaction effects, this interaction shows the importance of the type of greenwashing, as this profoundly changes the dependent variables. This correlation shows how there is barely difference between the credibility participants have of H&M, both who received agent knowledge ( $M = 3.891, SD = .208$ ) or not ( $M = 4.008, SD = .244$ ), in case of a hidden greenwashed advertisement. However, in case of the obvious greenwashed advertisement, participants who either received agent knowledge beforehand ( $M = 3.304, SD = .249$ ) or not ( $M = 4.280, SD = .218$ ), show a greater difference, as seen in Figure 3.

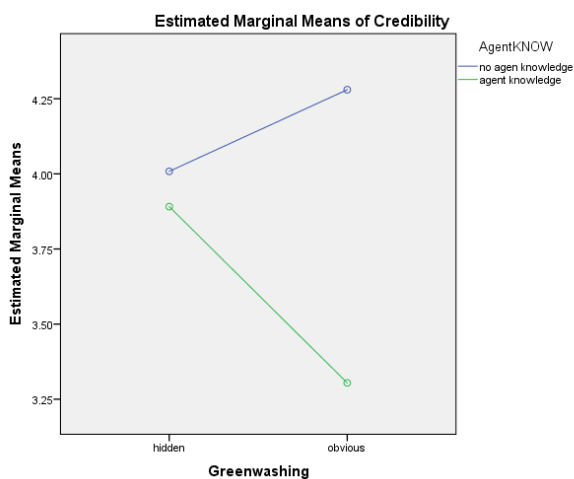


Figure 6. The effects of Greenwashing and Agent Knowledge on Credibility

## 6. DISCUSSION

With the rise of global warming, organizations feel the demand of the consumer for more eco-friendly labels and products. Currently, greenwashing – the act of depicting a greener image of the organization than is reality – has shown in previous studies to cause more negative consequences throughout latest years, amongst others due to the latest generation of ethical consumers. By getting a deeper understanding of the effects of greenwashing, this study aims to contribute to the field of marketing and corporate communications. This study examined the influence of greenwashing on purchase intention, word-of-mouth and credibility (of H&M based on the stimulus material), moderated by agent knowledge. Based on previous studies and this paper’s theoretical framework, several hypotheses were formulated. Although the results did not confirm all of the hypotheses, they did show interesting insights, both contradictory and similar to previous studies on the topic of greenwashing. One of the remarks of the results, is the similarity of three interaction effects seen below in Figure 6, excluding social media wom, which will be elaborated upon in the next paragraphs.

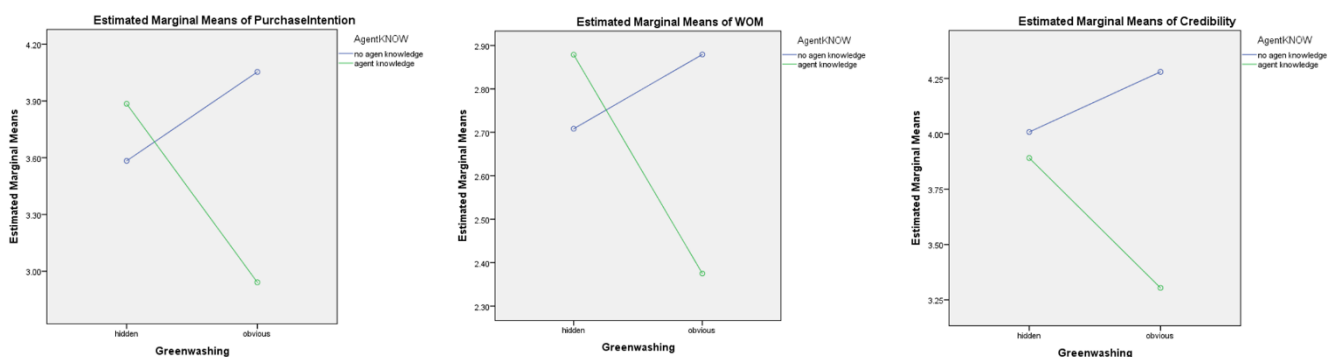


Figure 6. The similarity of the interaction effects on Purchase Intention, Word-of-Mouth and Credibility

### 6.1 Findings

#### *Purchase Intention*

The effect of greenwashing on purchase intention has shown no statistically significant effect, neither do the results show a statistically significant effect of agent knowledge as moderator (H1a & H3). In fact, contradictory to similar studies, Figure 1 shows that the purchase intention of consumers rises when the advertisement is highly greenwashed and the consumer has received no previous agent knowledge. Receiving information on greenwash practices has a great negative impact on purchase intention, however, this impact only occurs when the advertisement is obviously greenwashed. Previous studies depicted that obvious greenwashing would have a negative impact on purchase intention (Akturan, 2018; De Jong, Markink, & Barth, 2018; Braga et al., 2019). However the results of this study add to this, that agent knowledge plays an important role and has to be taken into account in future practices. In addition, the results go against the believe that the latest generations of young adult

consumers are more aware of sustainable brands and actively seek out to consume more ethically. If they were really that much aware of sustainability and would buy more ethically, why would they necessarily need information on greenwashing before seeing the obviously greenwashed advertisement? These participants' purchase intention rose when seeing an obviously greenwashed advertisement without previous knowledge. Is this because they simply did not care, or because they were actually clueless about greenwashing? It could be that the obvious greenwashed advertisement is visually much more attractive to the consumer's eye than the grey-colored, less obvious greenwashed advertisement, leading to higher purchase intent (when no agent knowledge is given). This argument – consumers being highly visual and sensitive to green cues - has occurred in previous research. For example, Spack et al. (2012) assessed the effect of green cues in advertising on participants' perceptions of credibility and purchasing intent, amongst others.

#### *Word-of-Mouth*

The effect of greenwashing on word-of-mouth has shown no statistically significant effect, neither do the results show a statistically significant effect of agent knowledge as moderator on word-of-mouth (H1b & H3). However, the interaction effect of agent knowledge and greenwashing on word-of-mouth shows a p-value of .087, which is slightly above the required value, but is worth mentioning due to a similar effect seen in the results of purchase intention. As seen in Figure 2, word-of-mouth has a very low value, regardless of any condition – values lay between 2.30 and 2.90. However, the figure shows that, just as seen with purchase intention, receiving agent knowledge, and thus information on greenwash practices, barely has any effect when the advertisement is hidden and less greenwashed. Only when the advertisement is obviously greenwashed, is when agent knowledge shows an influence: those with no agent knowledge, show lower word-of-mouth intentions when the advertisement is highly greenwashed, opposed to those who have received agent knowledge beforehand, meaning that those who had previous agent knowledge and were shown an obvious greenwashed advertisement, had less intentions to say good things about H&M after seeing the video of Kristen Leo. These results are in line with previous research, indicating that greenwashing has a negative impact on word-of-mouth (Chen, Lin, & Chang, 2014; Zhang et al., 2018).

#### *Social WOM*

The effect of greenwashing on social word-of-mouth has shown no statistically significant effect, neither do the results show a statistically significant effect of agent knowledge as moderator on social word-of-mouth (H1c & H3). Likewise, the interaction effect of agent knowledge and greenwashing showed very low significance: .337. Nevertheless, results show the effect of the YouTube video of Kristen Leo, as participants who had not received agent knowledge beforehand, feel a stronger need to share the message on social media. Opposed to this, participants who already were informed about



greenwash practices, were not motivated by the additional video to engage in extra social media activities regarding this topic of H&M.

### *Credibility*

The effect of greenwashing on credibility has shown no statistical significance (H2). However, the moderating effect of agent knowledge on credibility has shown statistical significance. As such, obvious greenwashing has a stronger negative effect on credibility than hidden greenwashing, the moment agent knowledge is involved. This is backed up by the interaction effect of greenwashing and agent knowledge, with a p-value of .065. As seen in Figure 3, the credibility of H&M lays around the same value in case of a hidden greenwashed advertisement, both when the participant received agent knowledge or not. However, in case of an obvious greenwashed advertisement, the credibility of H&M drops significantly when the participant has received agent knowledge beforehand. It is remarkable however, that participants who have not received agent knowledge and have been shown an obvious greenwashed advertisement, view H&M as more credible compared to participants who have shown a hidden greenwashed advertisement. Credibility only starts to play an important role, when the consumer is aware of greenwashing practices, before being exposed to an obvious greenwashed advertisement.

Yet again, these findings are contradicting previous studies, that have shown a negative correlation between greenwashing and credibility, including trust and reputation (Nyliasy, Gangadharbatla and Paladino, 2014; Chen et al., 2015; Chen and Chang, 2012). The results of this current study, show that the amount of 'green' cues in an advertisement has no strong negative effect on the perception of the consumer, in this case, the credibility of the brand. In addition, these findings also go against previous studies that have shown the motivation of the latest generations to be more aware and consume more ethically and sustainable.

## **6.2 Theoretical Implications**

With an age range of 18-35 and a mean of 22, majority of the participants are a mixture of the Gen Z and Gen Y generation, which has been found to be the leading future for ethical consumption (Harris & Arli, 2012; Lu, Bock, & Joseph, 2013; Duffett, 2017). A worldwide study of Nielsen, including 30.000 consumers, reported that these young adults of today's age, continue to be most willing to pay extra for sustainable options – almost three out of four respondents (2015). In addition, the annual Ethical Consumer Markets Report (UK), shows that out of all age groups, particularly these young adults turn towards sustainable options the most (Consumer Markets Report, 2018). The report revealed that 49% of all participants under 24, has avoided certain products or services that negatively impact the environment. Moreover, the study reports that in 2017, the second-hand clothes market in the UK alone, grew 22.5%.

Nevertheless, the results of this study have shown contradicting results. More specifically, the results show that purchase intention rises when the advertisement is highly greenwashed, and only

declines when agent knowledge is given beforehand and consumers are exposed to obvious greenwashing. Additionally, those who were shown an obvious greenwashed advertisement, had higher thoughts of credibility opposed to seeing a less obvious greenwashed advertisement, unless agent knowledge was given beforehand.

The fact that agent knowledge has to be given beforehand goes against previous studies on these latest generations, implying that they already have increasing awareness and actively seek out to consume more sustainable. The results of this study suggest the following, nevertheless. First, for organizations that participate in greenwashing, this means that they are able to get away with greenwashing practices if the green cues are minimum and the consumer has little to no agent knowledge before the exposure. H&M is therefore able to continue its greenwash practices, as long as the cues are limited and consumers are not aware of greenwashing practices. Whether this is the right thing to do for an organization, is rather an ethical issue to discuss and will not be elaborated upon in this report. Second, for organizations that are inherently eco-friendly and have the core value of creating change in this world, the suggestion is to always keep the consumer informed on the eco-friendly practices, amongst others by implementing green visuals. However, it is also advised for these truthful organizations to not exaggerate green cues as this could increase skepticism and harm the credibility, word-of-mouth and purchase intention, by creating the same feel as organizations that do greenwash. Instead, the suggestion for these organizations is, in addition to increasing awareness on the need for more sustainable and ethical consumption, to opt for more neutral colors, such as white, beige and pastel colors.

### **6.3 Limitations and Future Research**

Although this study has contributed to new insights on how greenwashing affects consumer intentions and brand credibility, it also has its limitations. A first limitation is that data were collected in a very short time-span; four days exactly. For future research, it is advised to take a more extensive time period to gain a bigger sample size, in order to more easily pinpoint out outliers and create a smaller margin of error.

Second, this study has used questionnaires as the only quantitative research method, and although this type of methodology has been widely and satisfied used in social and behavioral studies across the world, for future studies it is advised to make use of mixed methodologies. In the last two decades, this methodology, in which more than one type of method is being used in research, has increased in popularity in the social, behavioral and related sciences (Bergman, 2008). Schoonenboom and Johnson (2017) add that the overall goal of this methodology, is to strengthen and expand the study's conclusions, answering one's research questions by heightening knowledge and validity. For future studies that choose the topic of this current study, it would be interesting to combine questionnaires with interviews and real-life monitoring. Interviews would be a great addition, as it would provide more in-depth insights on the consumer's thoughts and act as a guidance to the questionnaire's results.

Additionally, using real-life monitoring could give the results of the research stronger validity and usefulness for real-life organizational practices. For example, research could additionally monitor the launch of a social media campaign, by tracking its discourse.

Third, the stimulus material in this study were mainly focused on green cues, including the words green, sustainable and green imaginary. For future studies that use agent knowledge, this paper suggests to incorporate more extensive stimulus material, in which for example actual claims and arguments are shown. For example, one stimulus material could involve information given about the production of a product, for example by giving extensive information about how the organization produces polyester, where it comes from and how they transport it. This stimulus material could be compared with another stimulus material (taking the example of 2x2 design) in which no additional information and arguments are given and instead, solely green cues and green claim are being made.

Fourth, this study focused on H&M, a fast fashion chain. Future studies could research whether the effects of agent knowledge differ depending on the industry chosen. For example, the results of this study could have differed, if the only difference of this research would have been the agent. For example, results could have differed if the fast fashion chain was replaced by an oil- and gas organization, such as Shell.

Lastly and perhaps most importantly, the results show that not necessarily all young adults are actively trying to become sustainable consumers and/or preach this behavior to others via social media. The results of this current study, show that agent knowledge has to be given beforehand, in order to have an effect on an obvious greenwashed advertisement. This means, that apparently and contradicting to previous research on ethical consumerism, young adult consumers still need to be informed about greenwash practices, as results show that only then, purchase intention, word-of-mouth and credibility are being affected. Future studies should therefore research more in-depth about the current situation of ethical consumption, based on Gen Y and Gen Z and explore what can be done in order to raise more awareness. This kind of research is necessary in order to create a change in behavior towards more ethical and sustainable (fashion) consumption.

## 7. CONCLUSION

Correspondingly to the rise of global warming, consumers turned increasingly more willing and motivated to buy ethical and sustainable products and services. As a result of these factors, organizations have been exaggerating claims of their sustainability and environmental friendliness, an act that has been given the term greenwashing. This study examined how greenwashing affects purchase intention, word-of-mouth and brand credibility, mediated by agent knowledge. By conducting an experiment (N = 111) effects were tested using a 2x2 experimental questionnaire design. Findings show that there is an interaction effect of greenwashing and agent knowledge on purchase intention, credibility, word-of-mouth and social media word-of-mouth. Results show, that greenwashing affects consumer behavior the most in a negative way, when the advertisement is highly greenwashed and the consumer has prior agent knowledge. Although this study might not have shown the results the hypotheses proposed, because of remarkable and unexpected results, the contradicting findings ask for more detailed research on the effects of greenwashing on consumer perceptions and behavior. The results of this study indicate that, although prior research on consumerism of latest Gen Y and Gen Z state that these young adults are more willing to actively seek out and buy more sustainable, they still need to be informed about greenwashing practices. This current study has resulted into the insight that most of these young adult consumers might not be as mindful and sharp-eyed, as prior research has indicated. In specific, future research should use a mixed-methodology approach, focusing on Gen Y and Gen Z. The future consumer that has to deal with a changing world, in which environmental issues increase and take their tolls, should be understood better. As a result, organizations could gain helpful insights for their (corporate) communications and create a change in consumer behavior, for the sake of the future well-being of the planet and all its habitants.

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## Appendix A: Stimuli 1a - Hidden Greenwashed H&M Ad



## Appendix B: Stimuli 1b – Obvious Greenwashed H&M Ad



## Appendix C: Survey

**Block: Introduction (1 Question)**  
**Standard: Block 1 (4 Questions)**

### **BlockRandomizer: 1 - Evenly Present Elements**

**Block: Block 4 (1 Question)**  
**Standard: Block 10 (0 Questions)**

### **BlockRandomizer: 1 - Evenly Present Elements**

**Block: Block 2 (2 Questions)**  
**Standard: Block 3 (2 Questions)**

**Standard: Block 5 (1 Question)**  
**Standard: Block 6 (1 Question)**  
**Standard: Block 7 (1 Question)**  
**Standard: Block 8 (1 Question)**  
**Standard: Block 9 (2 Questions)**  
**Standard: Block 12 (1 Question)**

Page Break

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### Start of Block: Introduction

INTRO Thank you for participating!

This questionnaire will approximately take 5 minutes.

Remember that there are no wrong answers, so please give your honest opinion.

Your data will be processed anonymously and will not be shared with other parties or people outside of this research.

Participating in this research is completely voluntary, which means you can opt out any time.

If you have any questions or concerns, feel free to contact the researcher (Nairi Gelici) via [n.gelici@student.utwente.nl](mailto:n.gelici@student.utwente.nl)

By clicking on the arrow below, you

- Voluntary participate in this study
- Are 18 years or older
- Have read the information above

### End of Block: Introduction

---

### Start of Block: Block 1

Q1 What is your age?

---

Q17 What is your gender?

- Female (1)
  - Male (2)
  - Other (3)
-

Q21 What is the highest degree or level of school you have completed?

- No school completed (1)
  - Secondary Education (VMBO) (2)
  - Secondary Education (HAVO) (3)
  - Secondary Education (VWO) (4)
  - MBO (5)
  - College (HBO) (6)
  - University (7)
- 

Q2 To what extent are you familiar with fashion chain H&M?

- Not at all (3)
- To a small extent (4)
- To some extent (5)
- To a moderate extent (6)
- To a great extent (7)
- To a very great extent (8)

End of Block: Block 1

---

Start of Block: Block 4

Q5 First, please read the following two excerpts from news articles about H&M: "...no matter how much Orange Fiber these retailers are consuming, they will never be truly sustainable – because the fast fashion business model is inherently unsustainable. About 85 per cent of unwanted textiles in North America end up in landfills — which amounts to more than 11 billion kilograms a year..." "...many of our clothes are made of blended fibres, so they don't break down easily and therefore, recycling will not work. It weakens the cotton and wool strand and gives you a lesser product. Of all of the material used to make its estimated half a billion garments a year, only 0.7 per cent is recycled material. "The reason

why H&M is focusing on textile recycling is that it's an easy sustainability win for them. It doesn't involve them changing their production model at all.."

End of Block: Block 4

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Start of Block: Block 10

---

Start of Block: Block 2

Q3 Please take the following 15 seconds to look at the campaign



---

Q15 Timing  
First Click (1)  
Last Click (2)  
Page Submit (3)  
Click Count (4)

End of Block: Block 2

---

Start of Block: Block 3

Q4 Please take the following 15 seconds to look at the campaign



Q16 Timing

First Click (1)

Last Click (2)

Page Submit (3)

Click Count (4)

End of Block: Block 3

---

Start of Block: Block 5

Q6 I feel as if H&M acts...

	Highly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
Pleasant (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Honest (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corporate Responsible (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ambitious (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovative (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sustainable (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selfish (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Casual (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 5

---

Start of Block: Block 6

Q7 I feel as if H&M's...

	Highly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Highly Agree (7)
promises and commitments for environmental protection are being kept (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
environmental reputation is generally reliable (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
environmental claims are trustworthy (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
environmental concerns meet my expectations (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
performance is dependable (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 6

Start of Block: Block 7



Q8 After seeing the advertisement...

	Highly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Highly Agree (7)
I have the intention to buy at least once at the retailer during the upcoming summer season (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will purchase clothing from this company because of its environmental concern (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to buy other items from this company because of its environmental performance (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am happy to purchase this company's items because they are environmentally friendly (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to buy less to no products from H&M (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 7

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Start of Block: Block 8

Q9

Please watch the video below until 1:25 and proceed to the final question.

End of Block: Block 8

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Start of Block: Block 9

Q10 To what extent did you know about the YouTuber Kristen Leo?

- Not at all (3)
- To a small extent (4)
- To some extent (5)
- To a moderate extent (6)
- To a great extent (7)
- To a very great extent (8)

Q11 After watching this video by Kristen Leo, I would...

	Highly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Highly Agree (7)
Recommend H&M to others (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourage others to purchase from H&M (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Say good things about H&M (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share this video on my social media platforms (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share the message of Kristen Leo with others (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would start a social media campaign against H&M (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 9

---

Start of Block: Block 12

Q20 Thank you for your time and participation!

If you would like to receive more information about the purpose of the study or its topic, feel free to email the researcher: [n.gelici@student.utwente.nl](mailto:n.gelici@student.utwente.nl)

Credits for SurveySwap: <https://surveyswap.io/sr/kXGeSaJSTFyxYoTL>

End of Block: Block 12

## Appendix D: Logbook

Concepts	Related terms	Smaller terms	Broader terms
Greenwashing	Green Marketing	Deceiving advertisement, exaggerating claims	Marketing and communications
Global warming	-	Rising temperatures	Environmental changes
Corporate Social Responsibility	CSR	Marketing, PR	Corporate Communications
Consumerism	Consuming, consumption	Buying, purchasing	-
Credibility	Trustworthiness, reputation, reliability	Validity	-
Word-of-Mouth	Sharing knowledge, sharing opinions, sharing messages, discourse	-	Communication
Activism	Demonstrating, demonstration	Slacktivism, opposition	-

	Date	Database	Search action + search technique	Total hits
1	17-3-2019	Scopus	“purchase intention AND greenwashing”	5
2	17-3-2019	Google Scholar	“CSR AND greenwashing”	13.500
3	17-3-2019	Google Scholar	“greenwashing AND reputation”	11.700
4	10-4-2019	Scopus	“greenwashing AND word-of-mouth”	2
5	10-4-2019	Google Scholar	“greenwashing AND wom”	11.300
6	10-4-2019	Google Scholar	“persuasion knowledge model”	383.000
7	16-3-2019	Google Scholar	“environmentalism AND millennials”	1.280
8	16-3-2019	Scopus	“ethical consumerism AND effects”	52
9	5-4-2019	Scopus	“greenwashing AND credibility”	11
10	21-6-2019	Google Scholar	“slacktivism”	4.040