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**An experimental study about the effects of misleading and deceptive  
environmental claims in advertising**

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## **Abstract**

- Title:** Greenwashing - An experimental study about the effects of misleading and deceptive environmental claims in advertising.
- Supervisors:** Annika Hallberg and Jeanette Hauff
- Authors:** Jacob Krafft and Rei Saito
- Background:** Swedish consumers are becoming more environmentally conscious and the demand for green products and services has increased significantly in recent years. Striving to meet consumers demand for green products, there are several instances where companies use deceptive or misleading environmental claims, also known as greenwashing.
- Purpose:** The purpose of this thesis is to measure how greenwashed ads affect consumers' perceived deception, attitude towards an ad and purchase intentions.
- Method:** A deductive research approach with a quantitative method and an experimental research design.
- Conclusion:** A greenwashed ad increases consumers purchase intentions and greenwashing does not negatively affect the attitudes of consumers. Consumers' desire to look green seems to be greater than the willingness to critically review companies' environmental claims. Without a well-functioning marketing legislation or/and well-educated consumers there is little incentive for companies to stop greenwashing.
- Recommendations:** In further research it is recommended that a more diverse sample is used to be able to better generalize the findings on the Swedish population. It would also be interesting to examine a high involvement product under similar conditions. Further, it would be of interest to investigate if consumers' response to greenwashing is affected by their environmental involvement. Finally, it would be of value if future research also included underlying reasons and deeper behavioral aspects connected to greenwashing.
- Key words:** Greenwashing, False advertising, Green marketing, Consumer attitude.

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# 1. Introduction

## 1.1 Background

The demand for green products and services have increased significantly in recent years. In Sweden, the demand for organic food increased by 12 percent in 2013 compared to the previous year (Statistiska centralbyrån, 2014). Several companies in Sweden are experiencing a significant increase in demand for environmentally friendly products. For example, the demand for organic beer and wine have almost doubled and Sweden's largest food chain, ICA, has reported a 43 percent sales increase of green products (Forsberg, 2014). Swedish consumers are becoming more environmentally conscious and companies today use both communicational and structural changes in order to appear environmentally friendly in the eyes of consumers (Futerra, 2012).

Today, it is not enough for a brand to just be functional or emotionally appealing. Consumers also expect a social responsibility from businesses. To create a successful brand in the consumer product industry, companies usually have to include an environmental dimension it (Kotler, 2011). In 2014, more than half of 18,000 surveyed consumers from all over the world said they were worried about environmental problems (GlobeScan, 2014). Consumers in most countries also showed an increased concern about environmental issues compared to previous years. In a study by the American PR firm Edelman (2012) they examined consumers' attitude towards corporate social responsibility promises. The study included 8,000 consumers in 16 countries. Regardless of country, it showed that consumers believe that environmental responsibility has become increasingly important. In addition, 85 percent of the consumers are willing to change brand or their own behavior to help improve the environment.

Striving to meet consumers demand for green products, there are several instances where unwarranted and exaggerated claims of sustainability and environmental friendliness have incurred (TerraChoice, 2010). The companies' quest to quickly meet increased consumer demand for green products have given rise to the term greenwashing, which has grown rapidly over the last years and is becoming increasingly controversial. *Greenwashing* in this study is defined as misleading or deceptive environmental claims that are either vague, false, omits important information or a combination of these (Carlson et. al, 1993). For example over 90 percent of all consumer products in North America are in some way guilty of greenwashing, either in branding, marketing or packaging (Terrachoice, 2010).

There are among some consumers a distrust for corporate communication regarding environmentally friendly and green products. Rather than actually following their communicated environmental message, there are suspicions that companies are trying to paint a responsible and green image towards the consumers without making major changes, hence the term greenwashing (Darnall et. al, 2012; Jones et. al, 2008).



To clarify how greenwashing is used in the real world to market products and services, an example of a greenwashed advertisement campaign is included below (see box 1.1). Shell is one of several companies that have used greenwashing. That even big companies like Shell uses greenwashing in their marketing campaigns' raises several questions about the term and its consequences. What role does communication and design of advertisements play when consumers make their consuming choices? Can companies really use greenwashed messages and irrelevant claims to increase purchase intentions and gain a more environmentally friendly image?

*Box 1.1 Shell's "Don't throw anything anyway. There is no away" ad*



Source: The Guardian, 2007

Shell started a marketing campaign in the spring of 2007 in various European magazines and newspapers. In the ad, they claim that they use their own waste (carbon dioxide) to grow plants (Friends of the Earth Europe, 2009). Shell's own data shows that they produced over 100 million tons of greenhouse gases in 2007, which makes it the most carbon intensive oil company in the world (Shell, 2007; Friends of the Earth Europe, 2009). Only at one refinery, Pernis in the Netherlands, does Shell recycle carbon dioxide for growing plants. According to Shell, this saves 350,000 tons of carbon dioxide each year, which is about 0.35 percent of Shell's total created emissions (Shell, 2007).

## **1.2 Purpose**

The purpose of this thesis is to measure how greenwashed ads affect consumers' perceived deception, attitude towards an ad and purchase intentions.

## **1.3 Defining the purpose**

Previous research indicates that greenwashing works, since consumers accept deceptive environmental ad claims in their desire to protect the environment (Newell et. al, 1998; Yi, 1990; Khandelwal & Bajpai, 2011). Consumers who do not perceive an ad as deceptive will also establish a more positive attitude towards the ad. In the latest published survey by the Swedish Environmental Protection agency regarding the general public's view on climate change (Naturvårdsverket, 2009), it was shown that 69 percent of consumers prefer buying products from an environmentally friendly company. According to previous research it is also suggested that consumers with a more favorable attitude towards an ad will have a higher purchase intention towards the advertised product. (Newell et. al, 1998; Yi, 1990; Khandelwal & Bajpai, 2011)

Striving to meet consumer demand for green products, there are several instances where unwarranted and exaggerated claims of sustainability and environmental friendliness have been incurred (TerraChoice, 2010). Today, many companies are able to bypass marketing legislation and use greenwashed claims in their advertising without punishment (Eltell & Åberg, 2012). Research by Carlson et. al (1993) identify different types of greenwashing and show that organizations frequently use misleading and deceptive environmental claims in advertising. The question is if greenwashing in advertising is a viable marketing strategy. Therefore, the current thesis focuses on to which extent consumers are affected by greenwashed ads.

## **1.4 Research questions**

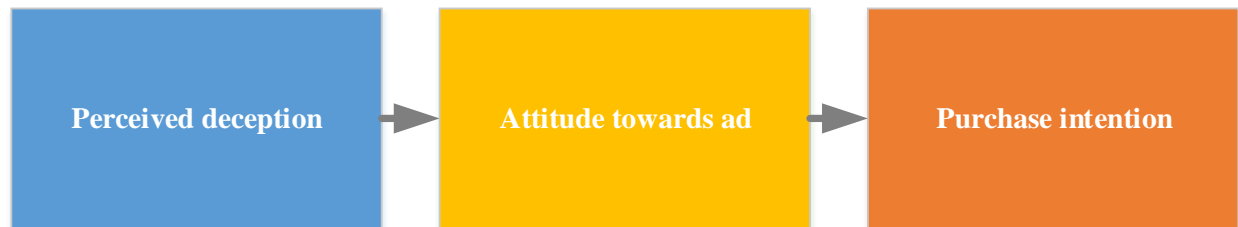
Do consumers perceive a greenwashed ad claim as deceptive?

Do consumers have a more favorable attitude towards a greenwashed ad?

Do consumers have a higher purchase intention for a product that is promoted in a greenwashed ad?

A model is included to show the presumed relationship between the research questions (see model 1.1).

### Model 1.1 The presumed relationship model



This model is based on Newell et. al, 1998; Yi, 1990; Khandelwal & Bajpai, 2011

### 1.5 Delimitations and perspective

This study examines how greenwashing in an ad can affect consumers' perceived deception, attitude towards an ad and purchase intentions. The purpose of this thesis is not to take a position for or against the use of greenwashing, but to describe and measure the effects of the phenomenon. The thesis does not intend to answer underlying reasons or deeper behavioral aspects connected to greenwashing. Nor has it the intent of explaining why consumers possess different degrees of commitment to the environment. The discussion of whether a company can be considered as environmentally friendly or not and how this could be measured will not be a part of this study. The essay will not treat subjects that breach the framework of existing laws.

## 2. Theoretical framework

If one look at the amount of environmentally related claims in advertisement today, surprisingly little academic research have been published on the effects of greenwashing in Sweden. With 89 percent of the consumers in Sweden claiming themselves to be environmentalists (Naturvårdsverket, 2009), and a massive increase in greenwashed products on the store shelves every year (Terrachoice, 2010), it is of interest to examine the effect greenwashed advertisement has on consumers. We have found no previous research in this topic regarding the Swedish consumers, and deem that it is an area that needs to be researched further.

### 2.1 Definition of green

Environmentally friendly or *green* products are broadly defined as products “that will not pollute the earth and are less harmful to the environment than the standard alternatives in terms of polluting the earth or depleting natural resources, and/or can be recycled or conserved” (Shamdasani et. al 1993, p. 488)

For consumers, being green involves a lifestyle of minimal environmental impact, or in the best case, choices that benefit the environment. In choosing to minimize the damage on the environment, consumers are faced with many decisions (Banerjee et. al, 1995). For example, one person can choose to ride the bus to work instead of taking the car, while another person takes the bicycle. These choices represent different degrees of greenness, but they both represent an active assessment of environmental impact and a behavioral change in the consumers purchasing

choice. Being green is about a continuous effort, which can be both shallow and deep, to minimize the environmental impact.

## **2.2 Green advertising**

Companies try to show that they care for environmental issues by using several strategies. One of these strategies is green advertisement. The notion of green advertising started in the 1970s, with a recession caused by an oil price hike and environmental damages that had been ignored for years. In a very short period of time people were faced with the fact that resources were not endless and that using them also had major consequences for the environment. Companies tried to follow this green trend and responded to consumers concern by communicating green messages in their marketing. (Haytko and Matulich 2008)

Banerjee et. al (1995) define green advertising as any ad that meets one or more of the following criteria:

- (1) Explicitly or implicitly addresses the relationship between a product/service and the biophysical environment.
- (2) Promotes a green lifestyle with or without highlighting a product/service.
- (3) Presents a corporate image of environmental responsibility.

Pranee (2010) states that green advertising must be legal and honest, and oblige to all environmental regulations and policies. In practice, companies do not always comply with these statements and still manages to follow the set regulations in their field of advertisement (Eltell & Åberg, 2012).

### *2.2.1 Skepticism towards green advertisement*

With the increase of green advertising, there is also a growing confusion among consumers regarding the green claims used in many ads. One major reason for the confusion is the lack of generally accepted definitions of common claims advertisers use, such as “bio-degradable”, “environmentally friendly”, “ozone friendly” and so on (Paço and Reis, 2012). Usually, consumers do not have enough knowledge to understand the information that these and similar claims are based on and even though guidelines are becoming more specific, environmental product claims continue to be vague and questionable (Newell et. al, 1998; Stokes, 2007). In contrast, consumer are likely to ignore the message altogether if a green ad is perceived as too technical or descriptive (Paço & Reis, 2012).

The difficulty of finding out what is true and false in green advertising have created a general skepticism among consumers. This cynicism has made it hard for real environmentally friendly companies to communicate their contribution to the environment, which in some cases discourages the development of truly green products. In fact, if consumers stop believing the environmental benefits ads and labels explain, the effort of using green communication in

marketing may be lost. Skeptical consumers might in fact unconsciously hamper the development of environmentally friendly products. (Paço & Reis, 2012)

If an advertisement is perceived as environmentally misleading or greenwashed by consumers, they perceive it as deceptive (Newell et. al, 1998). Therefore, consumers who identify an advertisement as greenwashed should perceive it as more deceptive than a neutral ad. The question is if consumers can detect the greenwashed claims.

### **2.3 Green or Greenwashed advertising claims**

Marketers use many different types of claims in green advertising to successfully reach environmentally conscious consumers (Banerjee et. al, 1995). There has been a vast increase in green advertising in recent years. From 2009 to 2010, the number of green products in North America went up by 73 percent and the trend shows no sign of stopping (Terrachoice, 2010).

Carlson et. al (1993) classify environmental advertising claims using a matrix where the environmental claims are divided into five different types:

- (1) Product orientation: focuses on attributes of a product (e.g., biodegradable).
- (2) Process orientation: internal production techniques or disposal methods within a company (e.g., only uses recyclable materials).
- (3) Image orientation: associates the organization with environmental cause (e.g., committed to save the oceans).
- (4) Environmental fact: an independent statement about the environment at large or its condition (e.g., the rainforests are being destroyed).
- (5) Combination of the claims above.

Quite often the term greenwashing is used in a broad and vague concept, and attempts to define the phenomenon are somewhat different. Delmas and Burbano (2011) define greenwashing as “the intersection of two firm behaviors: poor environmental performance and positive communication about environmental performance” (p. 65). Carlson et. al (1993) categorizes greenwashed ads into four misleading or deceptive categories of environmental advertising claims:

- (1) Vague/Ambiguous: A vague or broad claim without a clear meaning (e.g., “environmentally friendly product”).
- (2) Omission: The claim omits important information (e.g., “product contains no sodium nitrite”, but in fact contains other environmentally harmful chemicals).
- (3) False/Outright lie: A fabricated or incorrect claim.
- (4) Combination of the types above.

The definition made by Carlson et. al (1993) of environmental advertising and greenwashing is still highly relevant and applied today (Nyilasy et. al, 2014; Futerra, 2012; Terrachoice, 2010). The research made by Carlson et. al (1993) identifies different types of greenwashing and indicated that organizations frequently use misleading and deceptive environmental claims in advertising. What they do not address in their research is the question regarding the extent to which consumers are affected by the greenwashed ads.

## **2.4 Why companies use greenwashed advertisement**

According to Delmas and Burbano (2011), there are mainly four underlying reasons why companies choose to use greenwashing:

- **The firm character**

Expectations from competitors and customers to positively highlight their environmental performance are a strong driver of greenwashing. For example, consumer products have a greater pressure from consumers than the service industry to operate environmentally friendly and green marketing is here much more frequent.

- **Incentive structure and ethical climate**

Managers with high financial goals often use unethical methods to achieve them. The industry and the organization's ethical climate have a major impact on what the company is willing to do to increase their environmental reputation and their profits.

- **Organizational inertia**

The company's managers and marketing communicators sets up new environmental measures and targets, and paints the company as "green" long before these requirements are met. Because of the inertia in the organization it will not change operations despite promises. This is mainly a problem of large older organizations.

- **The effectiveness of the business's internal communications**

The communication in different parts of a company is often poor or sub-optimal. In many cases a developed green marketing strategy by some bosses or an external marketing firm is not on par with what other parts of the organization can or want to achieve. This reason is often connected with organizational inertia.

## **2.5 Legislation regarding green marketing**

### *2.5.1 Text messages in marketing*

Text messages in marketing is the element that is most often tried in Swedish market courts. Excesses, omissions, false claims, incomplete comparisons and irrelevant references are the most common issues tested. The most serious violation companies do in their marketing with text

messages are that the claims are unprovable or simply not true. According to earlier marketing cases, there are some form of words companies should be extra careful with in their marketing. Claims that a product or service is best, largest, safest, most effective or lowest in price have all been disqualified in the Swedish market court. With that said, non-misleading superlatives and exaggerations are in general not forbidden. Nor are they forbidden if they can be proven to be true. The word *guarantee* is also a term not to be used without care. Generally, it is only legal to use this expression when the product or service insures a benefit that is not generally expected with it. (Eltell & Åberg, 2012)

### *2.5.2 Pictures and photographs in marketing*

Copyright infringement on pictures and photographs are an important aspect for marketing advertisements (Eltell & Åberg, 2012), but since the poster in this thesis is not going to be used in a commercial purpose, this becomes less relevant.

### *2.5.3 Environmental arguments in marketing*

If one look at Swedish marketing cases over the 21th century, following industries have been particularly diligent in the use of positive arguments for the environment in their marketing: Food, bedding, Tung, hair care products, detergent, jewelry, laser printers, screen filters and cars (Eltell & Åberg, 2012).

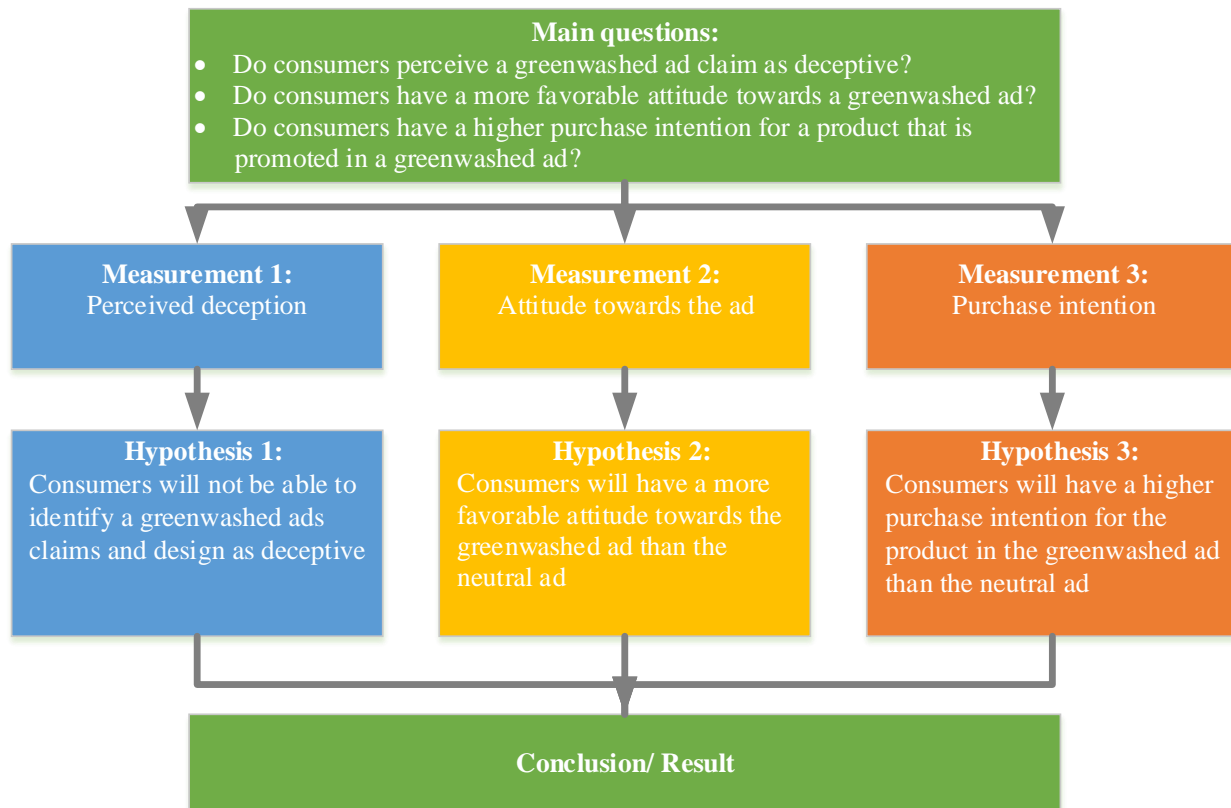
According to the Swedish marketing court, the use of the expression “environmentally friendly” should only be used in relation to products and services that improve or at the very least do not damage the environment (Konsumentverket, 2014). With this said, many cases, especially in the car industry, where terms like “environmentally friendly” or “good for the environment” has been used have not been convicted in court . There is still much debate regarding when and where these terms can be used; as long as the environmental statements are not false, they are at least in theory not illegal.

There is no definition in the Swedish marketing law regarding how expressions such as “natural” or “green” can be used in marketing purposes. Nor is the use of “green” themes, as long as the commercial is not misleading to the consumer (Konsumentverket, 2014). Labels that indicate environmentally friendliness should only be used if their origin can be clearly traced and no confusion can arise concerning its meaning. Further, it may not be used so that they give an incorrect impression of official approval (ICC 2014). In many Swedish court cases, this has been hard to define (Eltell & Åberg, 2012).

### 3. Hypotheses

In the present study three hypothesis are tested, which is described in following chapter. See model 3.1 for an overview.

Model 3.1 Overview of hypotheses





### **3.2 Hypothesis 1**

It may be presumed that environmentally concerned consumers are more likely to perceive environmental claims with no basis as being false or deceptive. A study made by Newell et. al (1998) has proven the opposite. An ad with a false environmental claim was surveyed next to an environmentally neutral ad. The ad with the false environmental claim was not perceived as deceptive by either environmentally uninvolved or involved people. It instead seems that even environmentally involved consumers accept deceptive environmental ad claims because of their desire to protect the environment.

As a consequence, it can be expected that the average consumer will not perceive a greenwashed environmental ad as deceptive or misleading. Therefor it can be presumed that:

*H1: Consumers will not be able to identify a greenwashed ads claims and design as deceptive.*

### **3.3 Hypothesis 2**

In the research made by Newell et. al (1998), it was shown that an ad with a false environmental claim did not affect consumers attitude towards the ad or the product negatively. If consumers cannot detect deception in an ad, they are more likely to establish a positive attitude towards environmentally friendly claims.

With this in mind, it can be presumed that:

*H2: Consumers will have a more favorable attitude towards the greenwashed ad than the neutral ad.*

### **3.4 Hypothesis 3**

As previously stated, over two thirds of Swedish consumers prefer buying a product from a company that is environmentally friendly (Naturvårdsverket, 2009). According to previous research it is also suggested that consumers with a more favorable attitude towards an ad will have a higher purchase intention towards the advertised product (Newell et. al, 1998; Yi, 1990; Khandelwal & Bajpai, 2011). It can therefore be presumed that consumers are more willing to buy a product in a greenwashed ad than in a neutral ad.

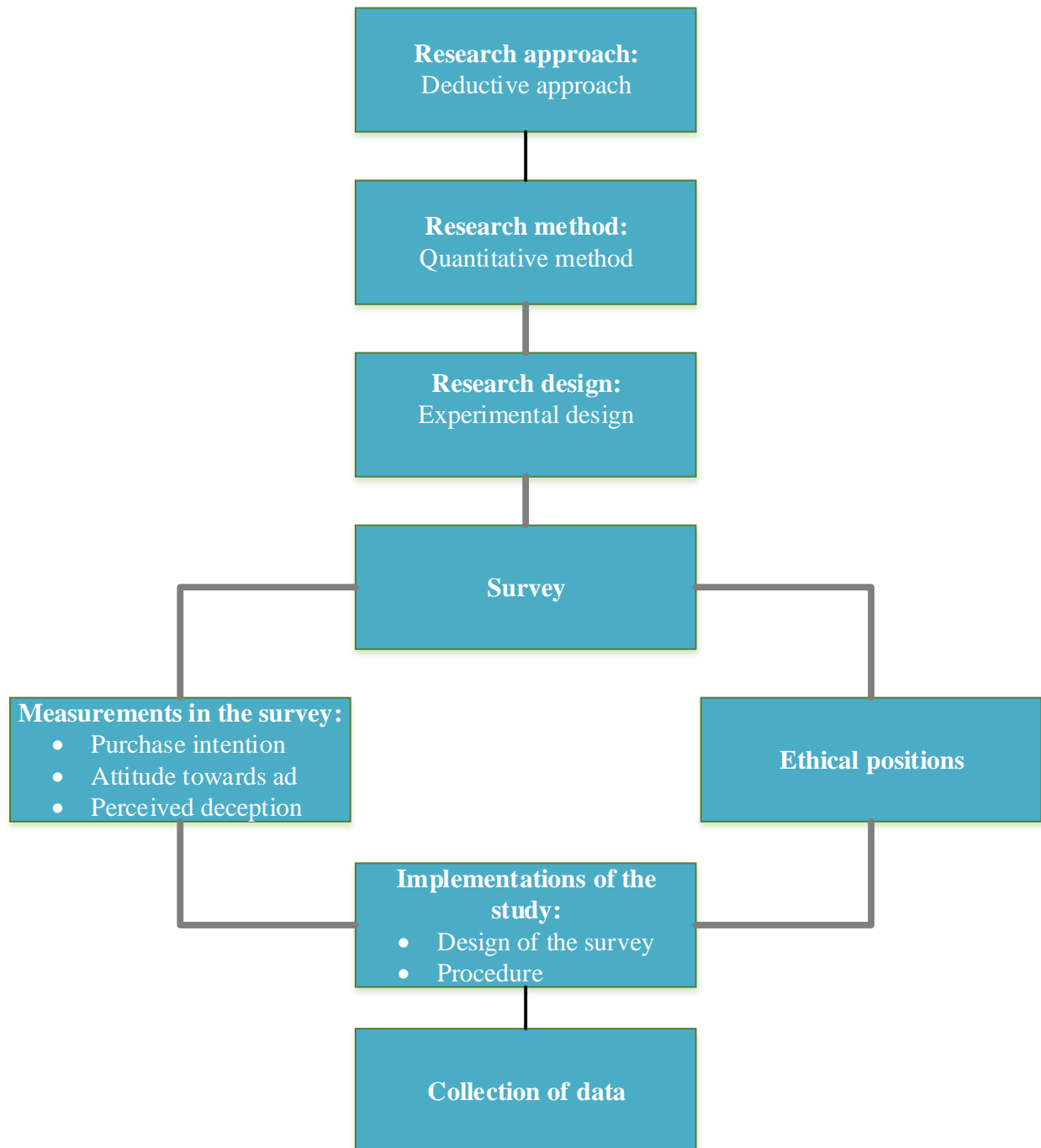
*H3: Consumers will have a higher purchase intention for the product in the greenwashed ad than the neutral ad.*

# 4. Method

## 4.1 Overview of the methodology

A general model of the methodological choices made in this thesis is presented (see model 4.1).

Model 4.1 Overview of the methodology



## 4.2 Research approach

### Model 4.2 Deductive approach



#### 4.2.1 Deductive approach

In this thesis a deductive approach is used. A deductive approach proceeds from theoretical data to empirical studies. On the basis of the information and the experiments already conducted in a certain area, a hypothesis is created to be subjected to empirical scrutiny. To do this correctly, one has to specifying how the information that will be used to prove the hypothesis right or wrong, will be collected. (Bryman & Bell, 2011)

Model 4.2 show the foundations of the deductive approach. The hypotheses, based on the research theory, determines the data collection process. In the last step the collected data is interpreted and used to reformulate the original theory. The results are then tied back to previous theories and research in the area. (Bryman & Bell, 2011)

## 4.3 Research method

### 4.3.1 Quantitative method

In this thesis, primary data is gathered with a quantitative research method.

Quantitative research focuses on quantification when it comes to gathering and analyzing information. Often, it contains a deductive approach with emphasis on theory testing. The main focus of quantitative research is to use empirical research methods to find answers. Quantitative studies usually studies if a phenomenon exists and its underlying causes. In quantitative research it is important to measure to which extent a study can be generalized to other groups and situations, and if it shows the same results if replicated. (Bryman & Bell, 2011)

The benefit of a quantitative method is that the gathered data is easy to process; it gives clear and interpretable results. It is also easier to work with a larger population because of the generalizable nature. The disadvantages is that surveyed questions cannot be especially complex.

Deeper questions such as why or how a phenomenon exists are difficult to measure with the quantitative method. (Jacobsen, 2002)

This thesis intends to investigate if greenwashing affect consumers' perceived deception, attitude towards an ad and purchase intention. A quantitative method is the preferred choice since this thesis intends to measure differences between groups, rather than answer underlying reasons or deeper behavioral aspects.

#### 4.3.2 Internal reliability (Cronbach's alpha)

For a quantitative research method to be successful, the measuring technique must be reliable and valid. It also means that multiple questions used to measure the same object must show an internal reliability. The internal reliability is often calculated with a mathematical measurement called Cronbach's alpha.

To measure the internal reliability in the experiment, how closely a set of item are as a group, Cronbach's  $\alpha$  is used. Cronbach's  $\alpha$  is a value between zero and one, where one equals a full consistency, and zero equals no consistency between the items. Nunnally (1967) is often cited on the matter of consistency and which values of  $\alpha$  that is acceptable to use in research. He argues that an  $\alpha$  value between 0.5 and 0.6 is the minimum acceptable value. With this in mind, 0.6 is considered the lowest acceptable value of Cronbach's alpha in the study of *perceived deception and attitudes towards the ad*.

$$\text{Cronbach's } \alpha \text{ is defined as } \alpha = \frac{K}{K-1} \left( 1 - \frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

Where  $\sigma_X^2$  represents the variance of the observed total test scores and  $\sigma_{Y_i}^2$  is the variance of the  $i$  component for the measured sample (Peterson, 1994).

#### 4.3.3 Internal validity (Students t-test)

To investigate the two examined groups differences in purchase intention, attitude towards the ad and perceived deception this study uses a *Students t-test* (Newbold et. al, 2009). In this study, the test compares the mean between the individuals exposed to the neutral ad and the individuals exposed to the greenwashed ad. The t-test is used to measure the level of significance of the differences between the two groups, which is an indicator of internal validity (Söderlund, 2010).

#### 4.3.4 Survey as a quantitative measurement

In the implementation of a social psychological experiment, survey on paper is today the most common form of measuring participants' reactions for a certain treatment. There are those who criticize this type of research for the risk of participants responding in a socially desirable

fashion. This undesired behavior can be reduced by emphasizing the importance of participants answering honestly and that the answers are anonymous. (Söderlund, 2010; Trost, 2012)

In the present thesis, measurements are formed in a continuous manner so that the participants' reactions can take the form of a value between two extremes, e.g. "Strongly disagree" and "Strongly agree" (Söderlund, 2010). The *Likert scale* is one of the most common methods for measuring opinions in surveys (Van Alphen, 1994). The main idea behind the Likert scale is that the answers on each statement can be summed to a total score (Likert, 1932). This thesis uses the Likert scale since it is easy to design and to acquire a broad and measurable difference between the respondents' level of involvement in an issues. The main difficulty when using the Likert scale is to make the statements as simple and objective as possible (Befring, 1994).

## **4.4 Research design**

### *4.4.1 Experimental research design*

This thesis uses a quasi-experimental research design which is recommended by both Jacobsen (2002) and Bryman and Bell (2011) when investigating a causal relationship. In a quasi-experiment the test group is exposed for a manipulation (the greenwashed ad) which the control group is not exposed to. By comparing the results from the test and control group the effects of the manipulation can be examined. A quasi experiment is also considered as a favorable design when the research intends to explain consumer behavior and marketing (Kinnear & Taylor, 1996).

This experiment uses a posttest-only control group design. This design contains two groups, one test group and one control group (Söderlund, 2010). In the current study, the test group is exposed to a manipulated treatment in the form of the greenwashed ad. The control group is exposed to the neutral ad. After the treatment the participants answer a survey. The purpose is to measure possible effects in purchase intention, perceived deception and attitudes towards the ad when exposed to the greenwashed ad.

## **4.5 Measurements in the survey**

### *4.5.1 Perceived deception*

The first hypothesis is chosen to study if consumers perceive the greenwashed ad claims and design as deceptive. As previously stated, consumers who perceive an advertisement as greenwashed will express negative attitudes towards the company and also develop lower purchase intentions for the brand (Newell et. al, 1998). Therefore, it can be presumed that consumers who identify an ad as greenwashed will rate it lower than an environmentally neutral ad.

The hypothesis is tested with a three-question, seven-point Likert scale with questions relating to the environmental properties of the product and the brand such as “RIN detergent is good for the environment” (see appendix 3). The responses are summed up to form a single unit of measure.

#### *4.5.2 Attitudes towards ad*

The second hypothesis is chosen to study if greenwashing increases the positive attitude towards the ad. The four questions are measured on a seven-point Likert scale from “strongly disagree” to “strongly agree” and includes questions such as “This ad is informative” and “This ad is offensive” (see appendix 3). In the final coding negatively worded questions are reversed to allow the responses to be averaged. The responses are summed to form a single unit of measure. This scale is chosen based on its frequent use in related advertising research (LaTour & Henthorne, 1994; Henthorne et. al, 1993; LaTour et. al, 1990).

#### *4.5.3 Intention to buy*

The third hypothesis is chosen to study if greenwashing increases the intention to buy the product. The direct question “If RIN Detergent was available in my local grocery store, I would buy it the next time I went out shopping for detergents“ is measured with a seven-point Likert scale from “Definitely would not buy” to “Definitely would buy”. According to Douglas and Wind (1971), measuring purchase intentions on consumer goods through direct questions is a statistically supportable predictor of purchasing behavior.

## **4.6 Ethical positions**

There are many ethical dilemmas that can arise from the quantitative research methods presented in this thesis. Bryman and Bell (2011) argue for five ethical guidelines that should be considered in research made in business and management:

- *Information requirement*  
The researchers should inform all people affected by the purpose of the research. They should also be informed about the elements included in the research.
- *Consent requirement*  
Regards the notion that all participants must know that their participation is voluntary and that they can cancel their involvement at any time.
- *Confidentiality- and anonymity- requirements*  
Information about all participants in a survey must be treated with utmost confidentiality. Personal data must be stored in a secure way.
- *Usage requirements*  
The collected data must only be used for the specific research purpose.
- *False pretenses*

A researcher should not give participants false or deceptive information about the research.

Goode (1996) argues that the information that is necessary to be presented to the participants in an experiment should be decided case by case. He promotes the so-called “Situation ethics”, where he argues that research will never be able to acquire knowledge of social phenomena if researchers do not compromise on some ethical codes to a certain extent. Dalton (1959) argues that he would never have been able to study the differences between official and informal actions of company personnel without the tools of covert observations. Usually, researchers have no other choice than to hide parts of their investigation objects if they want to study new and interesting topics.

To be able to perform the present experiment, the real purpose of the study cannot be disclosed. Both Bryman and Bell (2011) and Hollander (1974) suggest that, since in many marketing surveys the participants need to have a naive attitude, it is not necessary to tell the whole truth. Direct lies are not encouraged within Hollander's (1974) ethical framework, but sometimes it is better not to disclose all facts. He also points out the importance of allowing participants to remain anonymous. Neither the Marketing Research Society (MRS) nor the American Marketing Association (AMA) currently have guidelines for experiments in marketing research, probably because experiments are not one of the most common methods used in marketing research (Söderlund, 2010). The MRS however, stresses the importance of allowing participants to remain anonymous and the AMA has some general guidelines for marketing research, including striving to always be honest.

With this in mind, we believe that the cause of this study justifies the decision not to disclose the whole truth for the participants in the present experiment.

## **4.7 Implementation of the study**

### *4.7.1 Choice of product and brand*

The choice of product category is based on the theories of the FCB-grid (Ratchford, 1987), which is a method to analyze the relationship between consumers and products (See table 4.1). The grid is based on two concepts for sorting brands: The consumer's involvement and motive. A consumer's involvement is divided into “high” and “low” to describe how much participation the consumer generally put into interacting with- and consuming the product. The motive part of the grid describes whether it is primarily a rational or emotional decision that affects the purchase of a product.

This study aims to choose a product category that is in the lower bracket of the consumer's involvement, in other words, a product that is chosen by consumers without much contemplating involved. This enables the participants to make a fair judgment in a quick experiment.

The second requirement is that the product is chosen with rational motives, which means that what the brand conveys is an important reason to why the consumer chooses it. Succeeding with greenwashing in the rational part of the grid means that the company has deceived the consumer into thinking that the product is more environmentally friendly than it is.

**Table 4.1 FCB grid**

FCB GRID	Thinking	Feeling
High involvement	Quadrant 1: <i>Informative</i>	Quadrant 2: <i>affective</i>
Low involvement	Quadrant 3: <i>Habitual</i>	Quadrant 4: <i>Satisfaction</i>

*Based on Ratchford, 1987*

Detergent is chosen because it fulfills the requirements of a “low involvement” and “thinking” product in the FCB-grid. Detergent is also one of the consumer goods where green advertisement is particularly common, and a category widely affected by greenwashing. (Eltell & Åberg, 2012). Further on, detergent is chosen because it is a product that most college students buy, use and are familiar with.

The brand chosen for the experiment in this thesis is a detergent brand named RIN, one of India’s leading detergent brands. RIN detergent is made by Hindustan Unilever Ltd and is only sold in India. As of today, it has no market shares outside of India and has made no commercials outside of the Indian market (Hindustan Unilever, 2014). The choice of brand is confined to an unknown brand to the Swedish market, so that the label itself does not affect the participants’ attitude towards the ad and the product.

#### 4.7.2 Design of the survey

Two printed ads for the detergent brand RIN were created for the study. According to Barbour and Gardner (1982), one can only manipulate the subjects tested in the experiment when studying the effects of a misleading or deceptive ad. The ads are made with consideration of the Swedish marketing laws and the guidelines from International Chamber of Commerce (ICC), ISO 14021 (Konsumentverket 2014; European Commission 2000).

The ads are presented in color and the greenwashed ad shows RIN detergent and the brand logo surrounded by a green forest beside a lake. A pre-study with 13 students from the University of Gothenburg was conducted to choose the background for the greenwashed ad. The participants were given three ads with different themes and asked which theme they found most environmentally friendly (see appendix 6). The highest ranked theme was then used in the final experiment.



The greenwashed ad (see appendix 1) contains three greenwashed slogans that are highly visible. The first slogan, “Good for you, good for the planet”, is in large moss colored text with a handwritten font on the right side of the ad next to the detergent box. The second slogan, “Pure and natural”, is integrated in the RIN logo on the top right corner. The last slogan, “100% natural”, is visible as a green seal in the top right corner of the ad.

To select the slogans, a list of 13 environmental claims used in actual commercial was compiled. A pre-study with 15 students from the University of Gothenburg was conducted to choose the most appealing ones. The participants were asked which of the slogans they found most appealing to them if they were buying a detergent. The three highest rated slogans were chosen for the greenwashed ad.

The text “RIN detergent is made with nature in mind. The green washing powder keeps both your clothes and your conscience clean” was added to make the ad more distinguished and highlight the green aspect.

The neutral ad (see appendix 2), uses the same detergent box and logo as the greenwashed ad, but is shown in a completely white background. The logo’s slogan is switched to the company’s real slogan “Clothes talk to us” (Hindustan Unilever, 2014) instead of the greenwashed theme “pure and natural”. The text “RIN detergent removes even tough dried in stains. Ensuring that you are left with stain free laundry 1st time every time!” (Vanish, 2014) was added to present the product in the same format as the greenwashed ad. The text focused on the properties of the detergent and was inspired by the detergent company Vanish.

#### *4.7.3 Manipulation check*

To investigate if the greenwashing treatment has the desirable properties, a manipulation check was performed both before and in the experiment. An advantage of a manipulation check before the experiment is that it does not affect the outcome of the experiment. It also gives an indication whether the manipulation check is sufficient. The disadvantage to only perform a manipulation check before the experiment is that the results of the pre-study are not necessarily the same as in the actual experiment. To solve this problem the same manipulation check is included within the experiment. (Söderlund, 2010)

The separate pre-study had 10 participants who were exposed to the neutral advertisement and 10 other participants were exposed to the manipulated ad. The participants are all students at University of Gothenburg. All participants were asked to respond to the statement: “RIN Detergent only contains natural ingredients” on a seven-point Likert scale from “Strongly disagree” to “Strongly agree”. The pre-study shows that there is in fact a difference between the two groups (see appendix 7), and suggests that the treatment contained the desired properties.

#### 4.7.4 Procedure

The experiment was conducted at the School of Business, Economics and Law at the University of Gothenburg on six occasions. It was orchestrated in classrooms containing around 50 students each. A five minutes introduction regarding the contents of the survey was presented from a manuscript (see appendix 4). The participants were told that they were participating in a voluntary study concerning attitudes for one of Asia's major detergent brands that could potentially enter the Swedish detergent market in the near future.

In three of the classes, the survey was presented together with the greenwashed advertisement. In the other three classes, the neutral advertisement was presented with survey. This separation was made to prevent the students' answer from being affected by comparing both advertisements. After the subjects were given the survey, they were asked to respond to the questions in the accompanying questionnaire. It was emphasized that the answers are anonymous, that there were no right or wrong answer and that they should answer honestly. The participants showed a high level of involvement and since they all answered individually, it can be presumed that the experiment was conducted under a controlled condition.

#### 4.7.5 Sample selection

Because of the limited time frame, this thesis uses a convenience sample. The studied population is delimited to university students at the University of Gothenburg. Previous research have shown that even environmentally involved and high educated people will perceive greenwashed advertising in a positive light (Newell et al, 1998; Stokes, 2007). Students of higher education are therefore an interesting group for measuring the effects of greenwashing. The survey is also issued in English to avoid translation ambiguities with the thesis which makes students, as knowledge of English is usually a criterion for higher studies, a preferable test group.

#### 4.7.6 Sampling method and sample size

Participants were chosen on the basis of *single-stage cluster sampling* (Bryman & Bell, 2011). This is a method used when the desired population naturally forms groups. Since students naturally are clustered into classes this method is optimal for the experiment conducted in this thesis. The classes were chosen randomly solely based on size and location.

Six classes are examined in this study, with a total of 262 participants. The non-response was zero, which indicates a high level of involvement and that the participants perceived the survey as serious.

#### 4.7.7 Source criticism

Thurén (2005) argues that there are four principles that must be considered when controlling sources:

- **Authenticity** - the source must be what it purports to be.
- **Temporal association** - There is an increasing reason to doubt an older source.

- **Independence** - The source must stand on its own. It should not be a summary or a transcript of another source.
- **Freedom of tendency** - There should be no reason to suspect that the source gives a false image of the reality.

This thesis uses sources in accordance with Thurén's (2005) principals as far as it is possible. In some cases older sources are being used when either the author is still relevant or there is a lack of more updated research.

The methods used in this thesis is primarily based on three renowned authors in the subject; partly on the book *Business Research Methods* by Bryman and Bell (2011) and on the book *Experiment med människor* by Söderlund (2010). Further on, this thesis is primarily based on articles from scientifically credible journals, such as *Journal of Marketing*, *Journal of Advertising*, *Journal of International Consumer Marketing* and *Journal of Consumer Research*.

We have a neutral position towards the research. The quantitative approach of the study gives us less ability to influence the participants compared to a qualitative approach. We have no personal, economic or political interest that can affect the selection of the sources in this thesis. To ensure that the research is as free from tendency as possible, we have operationalized and designed the questionnaires in the best possible way to ensure that neither the survey nor our implementation influenced the participants.

## 5. Results

### 5.1 Descriptive statistics

The study includes 262 participants divided into two groups. 139 participants were exposed to the greenwashed ad and 123 to the neutral ad. In both groups the average age is between 24 and 25 years. There are slightly more females than males participants in both groups, which represents the general gender distribution of the students at the University of Gothenburg.

**Table 5.1 Gender and age**

	Greenwashed	Neutral	Total
Female participants	82	70	152
Male participants	57	53	110
Total participants	139	123	262
Average age	24.8	24.5	24.7

### 5.2 Manipulation check

The manipulation check revealed that there is a significantly higher mean score ( $m=3.36$ ) for the greenwashed ad than the mean score for the neutral ad ( $m=1.37$ ). A 2-tailed t-test shows that, with a 95 percent confidence, the difference is statistically significant ( $p < 0.05$ ) (see table 5.2). This suggests that the greenwashing treatment has the desirable properties.

**Table 5.2 Manipulation check**

	Significance (2-tailed)
Manipulation check	0.000

### 5.3 Reliability

For the three questions about perceived deception the Cronbach  $\alpha$  was 0,913 (see table 5.3), which is a clear indication of internal consistency (Peterson 1994; Nunnally, 1967). The four questions regarding attitudes towards ad has an  $\alpha$  value of 0,634 (see table 5.4), which is seen as acceptable (Nunnally, 1967). Since the value is in the lower spectrum for an acceptable  $\alpha$  value and previous research is inconsistent in the matter of acceptable values (Nunnally, 1967; Peterson 1994), a Pearson correlation test was conducted (see table 5.5) to investigate further if some specific question stood out. This correlation test shows a significant positive correlation between all variables except between the questions “This ad is informative” and “This ad is offensive”. However, since these questions individually show a significant correlation with all other questions and as 0,634 is considered an acceptable  $\alpha$  value, all questions used in the experiment to measure attitude towards ad are used in this study.

**Table 5.3 Cronbach's alpha: Perceived deception**

Cronbach's Alpha	N of items
0.913	3

**Table 5.4 Cronbach's alpha: Attitudes towards ad**

Cronbach's Alpha	N of items
0.634	4

**Table 5.5 Correlation Attitudes towards ad**

		Ad is irritating	Ad is good	Ad is informative	Ad is offensive
Ad is irritating	Pearson Correlation	1	0.313**	0.268**	0.478**
	Sig. (2-tailed)		0.000	0.000	0.000
Ad is good	Pearson Correlation	0.313**	1	0.492**	0.168**
	Sig. (2-tailed)	0.000		0.000	0.007
Ad is informative	Pearson Correlation	0.268**	0.492**	1	0.086
	Sig. (2-tailed)	0.000	0.000		0.168
Ad is offensive	Pearson Correlation	0.478**	0.168**	0.086	1
	Sig. (2-tailed)	0.000	0.007	0.168	

\*\*Correlation is significant at the 0.01 level (2-tailed).

## 5.4 Hypothesis testing

Hypothesis 1 (H1) predicts that consumers will not be able to identify a greenwashed ad's claims and design as deceptive. The average level of perceived deception in the neutral ad is 1.62 (see table 5.6) on a seven-point Likert-scale and for the greenwashed ad the mean is 3.39. The t-test shows a significant difference between the mean scores for the level of perceived deception between the two ads (see table 5.7). This result supports H1 and reveals that the participants in the group with the greenwashed ad were not able to identify the greenwashing.

Hypothesis 2 (H2) predicts that consumers will have a more favorable attitude towards the greenwashed ad than the neutral ad. The mean level of attitude towards the ad in the neutral ad was 4.04 on a seven-point Likert-scale and for the greenwashed ad the mean was 4.08 (see table 5.6). The t-test reveals that there is no significant differences between the mean scores for the attitudes toward the ads (see table 5.7). H2 is not supported and this result shows no significant relationship between which ad the participant is exposed to and the attitude towards the ad.

Hypothesis 3 (H3) predicts that consumers will be more inclined to buy the product in the greenwashed ad than the neutral ad. The mean level of purchase intention in the neutral ad is 2.18 on a seven-point Likert-scale and for the greenwashed ad the mean is 2.88 (see table 5.6). The t-test shows a significant difference between the mean scores for the level of purchase intentions between the two ads (see table 5.7). This result supports H3 and reveals that the participants that were exposed to the greenwashed ad are more inclined to buy the product.

**Table 5.6 Mean and standard deviation**

Group		Perceived deception	Attitude towards ad	Purchase intention
<b>Greenwashed ad</b>	Mean	3.3885	4.0701	2.88
	Std. Deviation	1.34930	1.9783	1.506
<b>Neutral ad</b>	Mean	1.6179	4.0366	2.18
	Std. Deviation	0.81167	0.84971	1.138
<b>Total</b>	Mean	2.5573	4.0544	2.55
	Std. Deviation	1.23332	1.04709	1.388

**Table 5.7 Students t-test**

	Significance
Perceived deception	0.000
Attitude towards ad	0.792
Purchase intention	0.000

## 6. Discussion

### 6.1 Discussion

The present study reveals interesting indications regarding greenwashed claims in advertising. Firstly, the results reveal that consumers cannot identify greenwashed ad claims or design as deceptive, something which is supported by Newell et. al (1998). According to the present study, consumers consider a brand as more environmental friendly if exposed in a greenwashed ad, than in an environmentally neutral ad. Since the greenwashed ad in this thesis follows the current Swedish market legislation and ICC regulations, the results raise the question of whether current legislation is sufficient. Even though the legislation aims to prevent environmental deceptive claims, it is clear that marketers still can deceive customers with greenwashed claims without breaking present legislation. Without a stricter legal definition of what green marketing may contain, there is little incentive for companies or advertisers to stop using greenwashing.

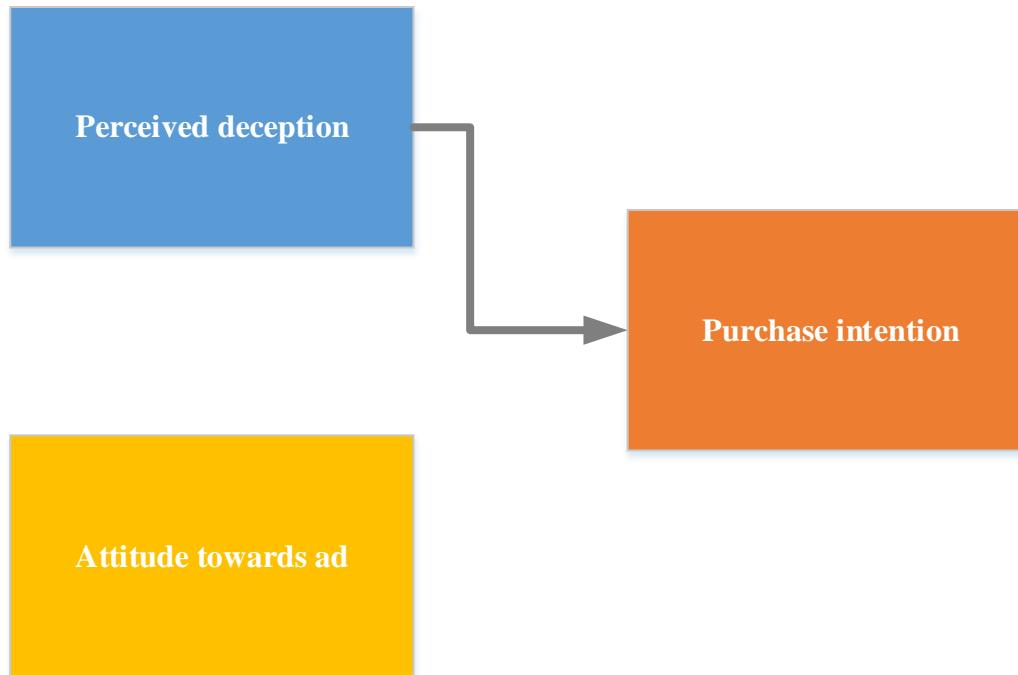
It should be mentioned that both ads were rated on the lower bracket on the seven-point scale, which is probably due to the choice of an unknown brand. There is a general consumer mistrust of unknown brands when presenting environmental claims, a mistrust that more recognized brands do not have to deal with (Davis, 1994).

Secondly, the findings indicate that there is no significant difference in attitudes towards the ads. Our hypothesis that consumers' attitude towards the greenwashed ad is more favorable is not supported. Therefore, it cannot be concluded that a more positive attitude towards an ad can be gained by the use of greenwashing. However, the present study does not show any signs of consumers having a more negative attitude towards a greenwashed ad.

Thirdly, based on these results, it can be concluded that there is a significant difference in purchase intention between the two examined groups. Even though the mean score levels for both groups were in the lower bracket of the grid, these results indicate that greenwashing increases purchase intentions. A low mean score could be the result of choosing a detergent brand, since detergent is not a *high involvement product* and it would most probably have a low purchase intention in any setting.

In contrast to the presumed relationship where perceived deception affects attitude towards an ad which in turn affects purchase intentions (see model 1.1, p. 5), the results show a different relationship. There is a significantly higher purchase intention in the group exposed to the greenwashed ad even though there is no notable difference in attitude towards the ad. This suggests that the attitude towards the ad is not a decisive factor in determining purchase intentions of green products (see model 6.1).

### Model 6.1 Reevaluated relationship model



Contrary to Paço and Reis' (2012) claim, that green advertising will be received with skepticism by consumers, this study shows that green advertising claims in fact increase their purchase intentions. However, the development of truly green products may be hampered in the current consumer market, since greenwashed claims are also perceived as environmentally friendly, as suggested by Paço and Reis (2012). Do consumers care more about being perceived as environmentally friendly, than in fact being so? Newell et. al (1998) suggested that consumers' desire to look green may be greater than the willingness to critically review advertising claims, which is not disproved by the result in this study.

Finally, the result of this study suggests that companies can use greenwashed claims to gain a greener image for a product and increase consumers' purchase intention. To stop companies from being able to free ride on the green train, an update in current legislation to clarify when green claims may be used, could be a partial solution. As past events have proven, companies tend to circumvent environmental legislation (Eltell & Åberg, 2012; Friends of the Earth Europe, 2009). An alternative or complementary solution to a stricter legislation could be to promote a better understanding of greenwashing and its consequences to the public. Consumers that are able to identify greenwashing in advertisement and feel deceived by companies are less likely to buy the companies' products (Newell et. al, 1998). A general understanding of greenwashing could lead to consumers being able to better distinguish between greenwashed and truly green products. This could in turn result in a stronger incentive for companies to develop and implement internal ethical guidelines to deter the risk of decreased sales.



## **6.2 Managerial implications**

The results of this thesis show that there are marketing implications of greenwashing that can benefit companies. For products that are in the low involvement consumer goods category (Ratchford, 1987), the use of greenwashing in advertising can in fact increase sales. On the other hand, the thesis, does not support any indication of an improvement in perceived attitude towards an ad that uses greenwashing.

It should be noted that an advertisement that is perceived as deceptive by consumers can lose credibility both towards the advertised product and the company itself (Newell et. al, 1998). As consumers in this experiment have not perceived the greenwashed ad as deceptive, a fairly deceiving ad still has the power to mislead customers.

A warning should be stated about the legal framework for environmental advertisement. There are many instances where companies have been indicted and fined for deceptive environmental advertising (Eltell & Åberg, 2012). However, the results of this thesis show that while following the Swedish environmental marketing legislation, it is still possible to use greenwashing in advertising to increase consumers' purchase intentions.

# **7. Further research and conclusion**

## **7.2 Further research**

The current thesis shows that there is more research to be done regarding the impact of greenwashing. In further research it is recommended that a more diverse sample is used to increase the possibility to generalize the findings to the whole Swedish population. It would also be interesting to examine a *high involvement product* under similar conditions to investigate whether the results differ between product categories. Further, it would be of interest to investigate if consumers' response to greenwashing is affected by their environmental involvement. Finally, it would be of value if future research also included underlying reasons and deeper behavioral aspects connected to greenwashing.

## **7.3 Conclusion**

Swedish consumers are becoming more environmentally conscious and the demand for green products and services has increased significantly in recent years. Striving to meet consumer demand for green products, there are several instances where companies use greenwashed claims. The current experiment shows how greenwashed ads affect consumers' perceived deception, attitude towards an ad and purchase intention.

Since consumers' willingness and ability to critically review companies' environmental claims are limited, there is without a well-formulated environmental marketing legislation weak

incentive for companies to stop greenwashing. A greenwashed ad increases consumers' purchase intention and the use of greenwashing does not negatively affect the attitudes of consumers. To stop companies from abusing this phenomenon, an updated legislation as well as a better understanding in the public regarding greenwashing are recommended. This could correspondingly result in a stronger incentive for companies to implement internal ethical guidelines regarding greenwashing to deter the risk of decreased sales.

# References

## Books and journals

- Banerjee, S., Gulas, C.S., & Iyer, E. (1995). Shades of green: a multidimensional analysis of environmental advertising. *Journal of Advertising*, 24(2), 21-31.
- Barbour II, F.L. & Gardner, D.M. (1982). Deceptive advertising, a practical approach to measurement. *Journal of Advertising*, 11(1), pp. 21-30.
- Befring, Edvard (1994). *Forskningsmetodik och statistik*. Lund: Studentlitteratur
- Bryman, A. & Bell, E. (2011) *Business Research Methods*. 3rd ed., Stockholm: Libris.
- Carlson, L., Grove, S. J. & Kangun, N. (1993), A Content Analysis of Environmental Advertising Claims: A Matrix Method Approach, *Journal of Advertising*, 22(3), pp. 27-39.
- Dalton, M. (1959), *Men who manage: Fusion of feeling and theory in administration*. New York: Wiley.
- Darnall, N., Pointing, C., & Vazquez-Brust, D. (2012). Why consumers buy green. In Vazquez-Brust, D. & Sarkis, J. (ed.) *Green-Growth: Managing the Transition to Sustainable Capitalism*. New York: Springer, pp. 287-308.
- Davis, J.J. (1994). Consumer Response to Corporate Environmental Advertising". *Journal of Consumer Marketing*, 11(2) pp. 25-37.
- Delmas, M. A. & Burbano, V. (2011). The drivers of greenwashing. *California management review*, 54(1), pp. 64-87.
- Douglas, S. P. & Wind, Y. (1971). Intentions to Buy As Predictors of Buying Behavior. *Proceedings of the Second Annual Conference of the Association for Consumer Research*. College Park, MD, USA 1971, pp. 331-343.
- Edelman (2012). *Executive Summary: 2012 Edelman Goodpurpose Study*. (Report 2012:4) New York: Edelman
- Eltell, T. & Åberg, J. (2012). *Reklamjuridikguiden*. Stockholm: Liber.
- European Commission - Directorate-General Health & Consumer Protection (2000). *Guidelines for Making and Assessing Environmental Claims*. Report No. 67/94/22/1/00281
- Futerra (2012). *Greenwashguiden*. Stockholm: Futerra.

- GlobeScan (2014). *Greendex 2014: Consumer Choice and the Environment - A Worldwide Tracking Survey*. Project: 2616
- Goode, E. (1996). The ethics of deception in social research: A case study. *Qualitative Sociology*, 19(1), pp. 11-33
- Haytko, D. L. & Matulich, E. (2008) Green Advertising and Environmentally Responsible Consumer Behaviors: Linkages Examined. *Journal of Management and Marketing Research*. 1, pp. 1-11.
- Henthorne, T.L., LaTour, M.S., & Natarajan, R. (1993). Fear appeals in print advertising: An analysis of arousal and ad response. *Journal of Advertising*, 22(3), pp. 59-69.
- Hollander, S. (1974). Ethics in marketing research. In Ferber, R. (ed.) *Handbook of Marketing Research*. New York: McGraw-Hill, pp. 1-127
- Jacobsen, D. I. (2002). *Vad, hur och varför?*. Lund: Studentlitteratur.
- Jones, P., Clarke-Hill, C., Comfort, D. & Hillier, D. (2008). Marketing and sustainability. *Marketing Intelligence & Planning*, 26 pp.123-130.
- Khandelwal, U. & Bajpai, N. (2011). A Study on Green Advertisement and its Impact on Consumer Purchase Intention. *Journal of Creative Communications*, 6(3), pp. 259–276
- Kinncar, T. C. & Taylor, J. (1996), *Marketing Research - an applied approach*. New York: McGraw Hill.
- Kotler, P. (2011). Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing*, 75(4), pp. 132-135.
- LaTour, M. S., Pitts, R. E. & Snook-Luther, D. C. (1990). Female nudity and arousal and ad response: An experimental investigation. *Journal of Advertising*, 19(4), 51-62.
- LaTour, M.S. & Henthorne, T.L. (1994). Ethical judgments of sexual appeals in print advertising. *Journal of Advertising*, 23(3), pp. 81-90.
- Likert, P. (1932) A Technique for the Measurements of Attitudes, Diss. Columbia University, United States. New York: Columbia University

- Naturvårdsverket (2006). *Miljömålen – miljömålen på köpet: Miljömålrådets uppföljning av Sveriges 16 miljömål*. Stockholm: Naturvårdsverket.
- Naturvårdsverket (2009). *Allmänheten och klimatförändringen 2009*. (Rapport 6311) Stockholm: Naturvårdsverket.
- Newbold, P., Carlson, W. L., Thorne, B. (2009). *Statistics for Business and Economics*. 7th ed., New Jersey: Pearson Education.
- Newell, S.J., Goldsmith, R.E., & Banzhaf, E.J. (1998). The effects of misleading environmental claims on consumer perceptions of advertising. *Journal of Marketing Theory and Practice*, 6(2), pp. 48-60.
- Nyilasy, G., Gangadharbatla H. & Paladino, A. Perceived Greenwashing: The Interactive Effects of Green Advertising and Corporate Environmental Performance on Consumer Reactions. *Journal of Business Ethics*, 125(4), pp 693-707
- Nunnally, J. C. (1967), *Psychometric Theory*, 1st ed., New York: McGraw-Hill.
- Miljöförbundet Jordens Vänner (2010). *Greenwash - grönmalning av svarta miljösamveten*. (Rapport 2010:3) Malmö: Miljöförbundet Jordens Vänner
- Paço, A. M. F. & Reis, R. (2012). Factors affecting skepticism towards green advertising. *Journal of Advertising*, 41(4), pp. 147-155.
- Peterson (1994). A Meta-Analysis of Cronbach's Coefficient Alpha. *Journal of Consumer Research*, 21(2), pp. 381-391.
- Pranee, C. (2010). Marketing ethical implication & social responsibility. *International Journal of Organizational Innovation*, 2(3), pp. 6-21.
- Ratchford (1987) New Insights about the FCB grid. *Journal of advertising research*, 27 pp. 24 - 38.
- Statistiska Centralbyrån (2014). *Livsmedelsförsäljningsstatistik 2013 - Livsmedelsförsäljningen inom detaljhandeln*. (HA 24 SM 1401)
- Shamdasani, P., Ong Chon-Lin, G. & Richmond, D. (1993) Exploring Green Consumers in an Oriental Culture: Role of Personal and Marketing Mix Factors. *Advances in Consumer Research*, 20, pp. 488-493.

- Stokes, S. (2007) *Deception in Environmental Advertising: Consumer's Reaction to Greenwashing*. Master thesis, College of Arts and Sciences, Kansas State University.
- Söderlund (2010). *Experiment med människor*. 1st edition. Malmö: Liber
- TerraChoice (2010). *The Sins of Greenwashing: Home and Family Edition*. USA: TerraChoice
- Trost, J. (2012). *Enkätboken*. 4th ed., Lund: Studentlitteratur
- Thurén, T. (2013). *Källkritik*. 3rd ed., Stockholm: Liber
- Van Alphen, A. (1994) Likert or Rasch? Nothing is more applicable than good theory. *Journal of Advanced Nursing*, 20, pp. 196-201.
- Weber, S. J. & Cook, T. D (1972). Subject effects in laboratory research: An examination of subject roles, demand characteristics, and valid inference. *Psychological Bulletin*, 77(4), pp. 273-295
- Yi, Y. (1990). Cognitive and Affective Priming Effects of the Context for Print Advertisements', *Journal of Advertising*, 19(2), pp. 40-48.

### **Electronic sources**

- Forsberg, L. (2014). Rekordstor efterfrågan på ekologisk mat i år. *Dagens Nyheter*. 1 August. <http://www.dn.se/ekonomi/rekordstor-efterfragan-pa-ekologisk-mat-i-ar/> [2014-12-16]
- Friends of the Earth Europe (2009). *Shell's big dirty secret*. ([http://www.foeeurope.org/sites/default/files/publications/FoEE\\_Shells\\_big\\_dirty\\_secret\\_0609.pdf](http://www.foeeurope.org/sites/default/files/publications/FoEE_Shells_big_dirty_secret_0609.pdf)) [2014-12-16]
- Hindustan Unilever, (2014) *Brands in Action - RIN*. <http://www.hul.co.in/brands-in-action/detail/Rin/296675/> [2014-12-16]
- Konsumentverket (2013). *Reklam och miljö*. <http://www.konsumentverket.se/Lagar--regler/marknadsforing-och-reklam/Reklam--miljo/> [2014-12-16]
- Shell (2007). *Responsible energy: The Shell Sustainability Report 2007*. [http://reports.shell.com/sustainability-report/2011/servicepages/previous/files/shell\\_sustainability\\_report\\_2007.pdf](http://reports.shell.com/sustainability-report/2011/servicepages/previous/files/shell_sustainability_report_2007.pdf) [2014-12-16]
- The Guardian (2007). No bouquets for Shell press ad [picture]. <http://i.guim.co.uk/static/w-620/h--/q-95/sys-images/Media/Pix/pictures/2007/11/06/Ad-Shell460.jpg> [2014-12-16]

Vanish. *Vanish Oxi Action Powder* <http://www.vanish.co.uk/products/vanish-oxi-action/vanish-oxi-action-powder> [2014-12-16]

**Cover page:** The Guardian. <http://static.guim.co.uk/sys-images/Guardian/Pix/pictures/2011/3/2/1299073449028/greenwash-gsb-005.jpg> [2014-12-19]

# Appendix

## Appendix 1. Greenwashed ad



The advertisement features a vibrant, natural landscape background with green mountains, a dense forest of evergreen trees, and a calm lake reflecting the scene. On the left, a box of RIN matic detergent is shown. The box is primarily blue and green, with a large white lightning bolt graphic. Text on the box includes "New Washing Machine Powder" and "RIN matic". At the bottom of the box, there are three circular icons: a power button, a crossed-out circle, and a circle with a leaf. In the top right corner of the ad, there is a small logo that says "100% Natural". In the center-right, the RIN logo is displayed in a circular frame with a lightning bolt, with the tagline "PURE AND NATURAL" below it. To the right of the box, the slogan "GOOD FOR YOU, GOOD FOR THE PLANET" is written in large, bold, green, hand-drawn style letters.

**100% Natural**

**RIN**  
PURE AND NATURAL

**GOOD FOR YOU, GOOD FOR THE PLANET**

RIN detergent is made with nature in mind. The green washing powder keeps both your clothes and your conscience clean.



Appendix 2 Neutral ad



RIN detergent removes tough dried in stains. Ensuring that you are left with stain free laundry 1st time every time.

## Appendix 3. Survey questionnaire

### RIN Detergent Ad Questionnaire

\* Required

1. If RIN Detergent was available in my local grocery store, I would buy it the next time I went out shopping for detergents. \*

Mark only one oval.

	1	2	3	4	5	6	7	
Definitely would not buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Definitely would buy

2. This ad is irritating. \*

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

3. This ad is good. \*

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

4. This ad is informative. \*

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

5. This ad is offensive. \*

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Please turn page for further questions.

6. **RIN Detergent only contains natural ingredients. \***

*Mark only one oval.*

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7. **RIN Detergent is good for the environment. \***

*Mark only one oval.*

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

8. **RIN Detergent is better for the environment than competing Detergent brands. \***

*Mark only one oval.*

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

9. **Buying RIN Detergent will contribute to reduce enviromental degradation. \***

*Mark only one oval.*

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

10. **Sex \***

*Mark only one oval.*

- Male
- Female

11. **Year of birth \***

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#### Appendix 4. Survey manuskript

Hej, mitt namn är Jacob Krafft och detta är Rei Saito. Vi skriver just nu vår kandidatuppsats här på Handels och skulle behöva er hjälp. Ni kommer att få en annons för tvättmedlet RIN, som är ett av Asiens ledande tvättmedelsmärken och som funderar på en etablering i Europa och detta är ett exempel på hur en annons då skulle kunna se ut. Ni kommer också få en enkät med några frågor på engelska gällande annonsen som vi vore väldigt tacksamma om ni tog er tid och svarade på. Enkäten är frivillig och de som väljer att svara på annonsen är helt anonyma. Det finns inga felaktiga svar och vi ber er att svara så ärligt som möjligt utan att titta på vad grannen svarar.

#### Appendix 5. Pre-study 1: Slogans tested

Slogan	% of votes
“Good for you, good for the planet”	47
“Pure and natural”	33
“100% natural”	27
“Green and clean”	20
“Natural cleaner”	13
“Naturally clean”	13
“Think green”	13
“Go green”	13
“Powering a clean environment”	13
“Every wash is green”	7
“Clean clothes and clean conscience”	7
“It’s easy being green”	7
“Sustainably produced”	7

#### Appendix 6. Pre-study 2: Ad designs tested

Theme	Mean score
“Green forest”	3,5
“Blue sky”	2,2
“Yellow flowers”	1,4

#### Appendix 7. Pre-study 3: Manipulation check

	Significance (2-tailed)
Manipulation check	0.000