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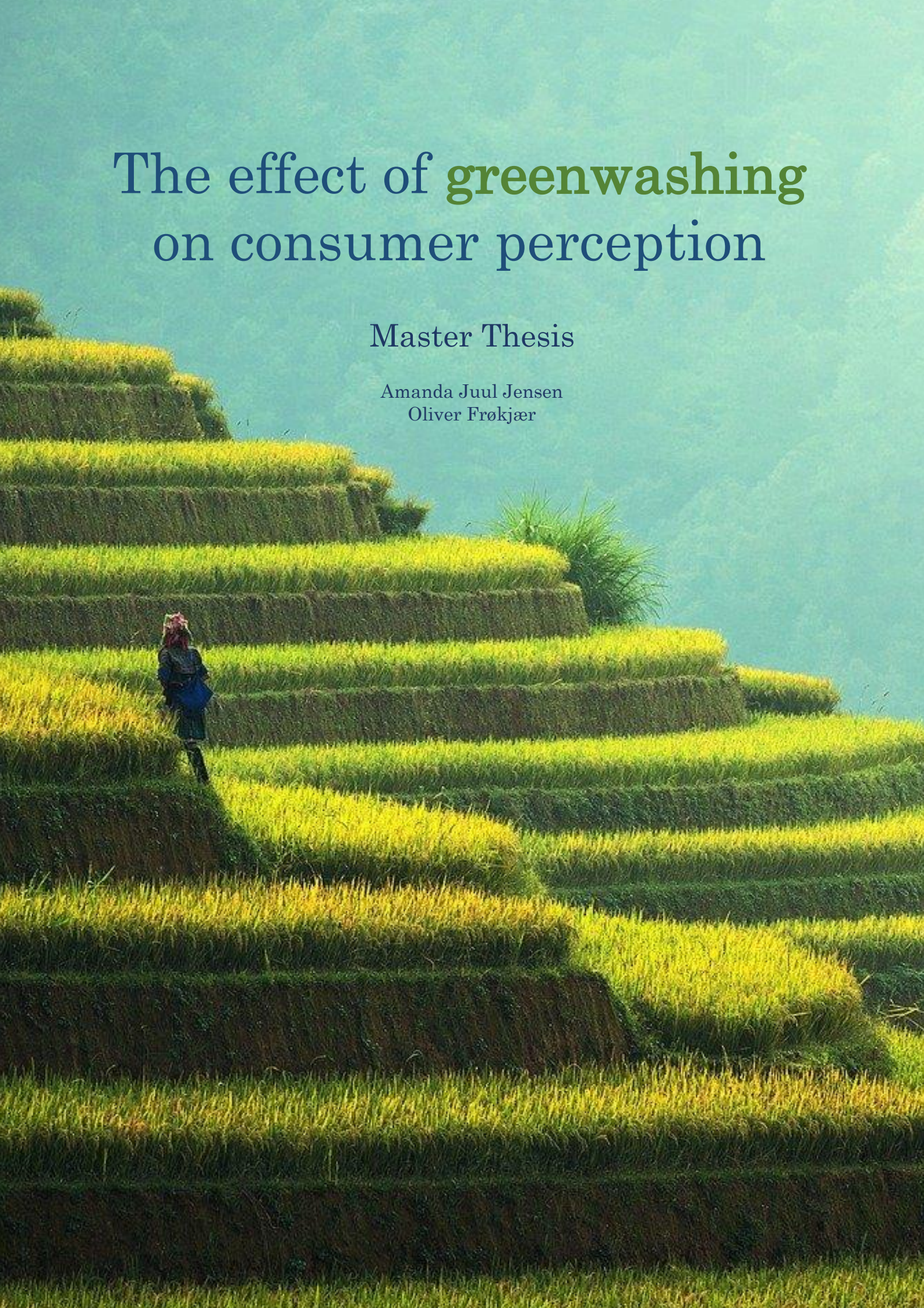
The effect of greenwashing on consumer perception

Master Thesis

Amanda Juul Jensen
Oliver Frøkjær



Abstract

Purpose: The purpose of the thesis is to uncover how greenwashing affects consumer perception. A literature review is conducted in order to identify concepts related to greenwashing and the factors of consumer perception it might influence. From the literature review, a total of six hypotheses are formed, which will be either confirmed or denied on the basis of the data analysis. Empirical research is conducted to either confirm or deny the hypotheses. Finally, based on the findings a conclusion is given, which will clarify how greenwashing affects consumers' perceptions of brands.

Method: The research that has been conducted is based on a quantitative data collection method of an electronic questionnaire with 204 respondents from three institutes of AAU (Aalborg University). The collected data were then analyzed with statistical tools and compared to previous studies. The analysis methods include linear regression, T-test, Spearman's Rho and Kruskal-Wallis H-test in order to determine the influence of the factors found in the literature review.

Findings: The literature review revealed that there were two factors influencing how consumers perceive greenwashing, also called "perceived greenwashing". The two factors are subjective environmental knowledge and whether a product is a low or a high involvement product. Perceived greenwashing then affects consumer perception of a brand, which includes three factors; consumer trust, brand associations and brand credibility. Perceived greenwashing were found to have a negative effect on these factors. Furthermore, this thesis confirms the findings of other researchers and acknowledge their findings in relation to greenwashing and consumer perception.

Indholdsfortegnelse

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List of Abbreviations

Abbreviation	Meaning
CF	Conceptual framework
LR	Literature review
ANOVA	Analysis of Variance
AUB	Aalborg University Library
FISI	Functionalist, Interpretivist, Structuralist, Interactionist
SPSS	Statistical Package for the Social Sciences

1. Introduction

This chapter introduces the research background behind the concept of greenwashing and why it is a relevant topic today. It also presents the problem formulation and the research questions that will be used to address the problem statement.

1.1 Research background

Back in September 2019, thick plumes and smokes blanketed Brazil's most populous city Sao Paola as the Amazon, the world's most biodiverse rainforest was burning with a rate not seen in almost a decade (Slezak & Doman, 2019). In November 2019 the government in Australia declared a state of emergency due to rapid bushfires spreading across all states, becoming the most devastating fire on record (Calma, 2020). Plastic is released into the ocean because of insufficient recycling, resulting in plastic pollution worse than ever (Vidal, 2020) and just recently scientists logged the highest temperature ever on Antarctica, exceeding 20C (BBC, 2020).

These extreme conditions has led to an increased acceptance of the existence of human-driven climate change (Revkin, 2019), also known as global warming, which is a long-term shift in global or regional climate patterns. Climate is often mistaken for the term "weather" but is different as it is measured over a long period of time whereas weather can change from day to day. Nevertheless, current climate change is largely caused by human activity such as burning fossil fuels as natural gas, oil and coal. The burning of these materials releases what is defined as "greenhouse gases" into the Earth's atmosphere (Brown, 2019). While it has been explained by scientists for decades that a growing global population and its massive consumption discharges greenhouse gasses, insufficient action has been taken by either governments or the private sector.

Consumers are now more informed than ever with the improving access to information and opportunities to share their experiences more widely. They are more skeptical about the ability of big brands to keep their promises and expecting more from companies (Deloitte, 2014). The tangible consequences, temperature records and protests around the world have made consumers realize that the issue is urgent, which has made a shift in consumer demand for sustainable products and services. The Danish organization "Landbrug & Fødevarer" has investigated consumer behavior regarding sustainability in Denmark. In general, Danes are willing to amend their behavior for the sake of the environment. A full 95% has already changed their behavior or is willing to change with the thought of leaving the Earth as a better place for future generations (Landbrug & Fødevarer, 2019). Also,

more than half of the Danes are concerned about plastic pollution, climate change and the growing population, and 66% considers sustainability as "important" or "very important" when food shopping (Landbrug & Fødevarer, 2019).

Companies are therefore faced with new consumer demands for companies to be greener, which they can choose to comply to. Alternatively, some companies attempt to reap the benefits of being a green company by giving an appearance of being green – without actually making necessary green changes in their operations. This is the practice of **"greenwashing"** which can help companies gain a competitive advantage, as consumers are becoming more loyal to green brands by having *"a strong environmental attitude and sustainable commitment toward a brand."* (Chen, 2013).

An example of greenwashing can be found in the hotel industry. In many hotels they ask customers to "reuse towels to help protect the environment and save water". By doing so, the hotels can decrease the cost of laundry and at the same time improve their green image, without making an effort themselves. Another characteristic example of greenwashing is the marketing campaigns by Fiji Water, a bottled water company, who use slogans such as "Every drop is green" and "Untouched by man" along with graphics depicting nature. This communication leads the consumer to believe that the product is environmentally conscious, despite the company's unsustainable practices of using plastic bottles which takes years to degrade in nature and the long distance the water has to be shipped from the Fiji island to the markets (Parker, 2019).

More and more firms are engaging in greenwashing, falsely pretending to be environmentally conscious by presenting their products with misleading imagery, packaging color and words to create a trusting bond between the product/company and the consumer (Delmas & Burbano, 2011). A greenwashing firm engages in environmental poor performance but positive communication about its environmental performance.

While it can be a successful strategy due to the current consumer knowledge on the subject, it affects both green brand associations and brand credibility negatively if it is detected by the consumer. Akturan (2018) found that the negative effect is stronger on high-involvement products than low-involvement ones. Greenwashing is problematic, not only because some companies are profiting off of consumers' demand for sustainability without actually being sustainable, but also because consumers are misled and deceived, which can lead to negative consequences for the greenwashing

company's brand (Chen, et al., 2020). At the same time, it dilutes the claims of the companies with actual environmentally sustainable practices, which could slow down the worldwide movement toward sustainable consumption (Parguel, et al., 2015).

In this project, we will study the implications of sustainable practices with special focus on the greenwashing phenomenon, to uncover the potential backlash such practices could have regarding consumer perception of a brand. Also, the study will seek to explain the effect consumers' knowledge on sustainability has on the performance of greenwashing in marketing.

1.2 Problem formulation and research questions

Based on the above, the following problem formulation has been made.

What is the impact of greenwashing on consumers' perception of brands?

In order to address the problem statement, the following research questions are formulated:

- **What is greenwashing?**

  The first research question will be addressed by conducting a literature review of the current state of knowledge on the subject.

- **What is the relationship between consumer perception of brands and sustainability (greenwashing)?**

  Firstly, this question will be addressed in the literature review to clarify if there are any correlation between the two concepts. Secondly, knowledge gained from the literature review is applied to the quantitative research method to seek further information about the possible relationship.

- **How can consumers' knowledge about sustainability be measured?**
  This question is directed at the literature review and analysis. In order to explain the results from our primary data collection, consumer knowledge is incorporated and existing ways to measure the respondents' knowledge level is sought.

- **How can consumers' ability to detect greenwashing be used to measure greenwashing's effect on consumer perception?**
  This question is directed at the analysis. The purpose of this question is to investigate whether there is a connection between the consumer's ability to detect greenwashing and consumer perception of brands. This will be based on our data collection and data analysis.

- **How will greenwashing affect consumers' perceptions of brands in the future?**
  The fourth and last question is made in order to come up with our suggestions for the future development of greenwashing and consumer perception. This will be based on our results from the previous research questions and will be the part that focus on the possibility for future research.

1.3 Thesis structure

An overview of the project will be presented in this section. The reason behind this chapter is to give the reader an overview of how the paper will proceed. This will give a better understanding of the components within the study.

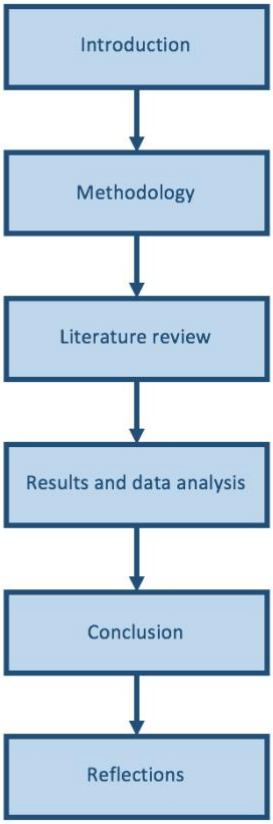

Figure 1:Thesis structure

The first chapter contains the introduction, a brief research background, a presentation of the problem statement and formulation and the research questions. The first chapter seeks to establish the core of the project and why this problem is relevant.

The second chapter includes our methodological considerations, thus our philosophical position, the review method, the methods of data collection and analysis. This chapter seeks to explain the choices that were made regarding gathering information and how the work process has been.

The third chapter presents the literature review which will be based on the literature gathered according to the search strategy and selection described in chapter two. The purpose of this chapter is to place this paper of research within the literature of greenwashing and consumer perception of brands. In the first part of the review the two concepts will be examined individually to explore how the concepts have been explained over time. Definitions like sustainability, green marketing and how to measure knowledge about sustainability will likewise be presented in order to understand the concepts. The possible relationship between the concepts will in the end be used to form the hypotheses shown in the conceptual framework.

The fourth chapter contains the results from our data collection and the analysis of the data. The collected data were then analyzed and compared to previous studies using SPSS. The analysis methods include linear regression, T-test, Spearman's Rho and Kruskal-Wallis H-test in order to determine the influence of the factors found in the LR and to either confirm og deny the compiled hypotheses.

The fifth chapter is the conclusion and the discussion. In this chapter, the results will be discussed, which will end with a conclusion. Furthermore, this chapter also contains the limitations of the project, the implications for practitioners and researchers and suggestions for further research.

The sixth and last chapter contains our reflections of the whole process of the project and also the results of it.

2. Methodology

"*Methodology is a mode of thinking, but it is also a mode of acting. It contains a number of concepts, which try to describe the steps and relations needed in the process of creating and searching for new knowledge*" (Arbnor & Bjerke, 2009). This is how Arbnor & Bjerke describes methodology. As a state of thinking and acting, containing a number of concepts with the purpose of supporting the steps needed in the process of finding new knowledge.

The purpose of this chapter is to explain the methodological considerations applied in this thesis. It intends to include the reader into the process and methodological decisions to clarify the choices that are made in regard to philosophical viewpoint and how knowledge is understood. Furthermore, it intends to explain and create the premises and prerequisites for our data collection, but also how the findings should be understood. This process is done based on our worldview and our recognition of the world.

2.1 Methodological Understanding

In order to explain the methodological considerations applied in this thesis, a research strategy is a great way to make an action plan or blueprint of the research. It provides a framework for the project and can be helpful to develop to keep an overview. Kuada (2012) has developed a model called "The four levels of understanding", which will be adopted to create the methodological framework for this thesis.

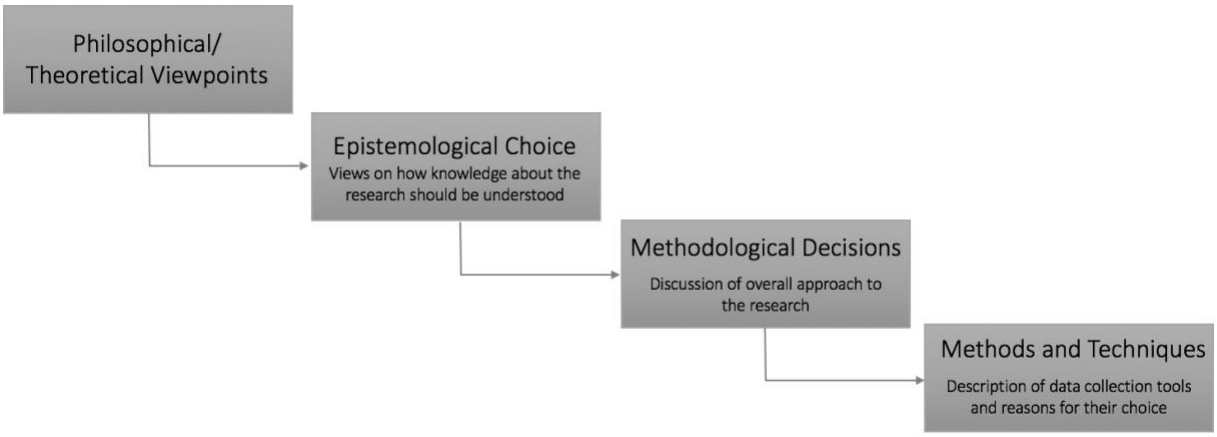

Figure 2: "The four levels of understanding", Kuada (2012)

Based on this methodological framework, a discussion is first made based on the philosophical / theoretical viewpoints of the project, then it is followed by our epistemological choices, then the

methodological decisions, which in the end influence the choice of methods and techniques for our data collection.

2.1.1 Philosophical / Theoretical Viewpoints

The concept of a paradigm is now accepted in the philosophy of science literature to provide a summary description of prior fundamental assumptions relating to ontology, epistemology, views on human nature and methodology (Kuada, 2012).

The term "paradigm" is attributed to Thomas S. Kuhn (1970) who presented a theory of the structure of scientific revolutions to describe waves of research in a given scientific field (Kuada, 2012). Kuhn is one of the most notable philosophers when researching theory of science as his concept of paradigms and the shift in those practically changed the view about science.

We, as social science researchers, carry around certain "ultimate presumptions" which Arbnor & Bjerke (2009) refer to as background "philosophical" hypotheses or normative theses. These are assumptions about what the researchers' environment looks like, and also their individual role in the environment. In the short run, these presumptions are difficult to change, as we unconsciously carry them around on a daily basis, influencing how we look at problems and knowledge in general (Arbnor & Bjerke, 2009). This is how we as researchers think, how we gather information but also what information we gather and how this should be understood and explained. Without any ultimate presumptions, it would be a challenge to explain the knowledge we obtain. According to Arbnor & Bjerke, these ultimate presumptions form with the practical use of methodological views, what they call the "conceptual language" also known as the concept of "paradigm".

When we work with theories, rules will be created regarding what kind of empiricism we can use and how this should be processed. These certain rules are created by the choice of paradigm (Darmer, 2010). Therefore, the choice of paradigm dictates the rules inside the field of research.

Kuhn (2012) argues that there are some common characteristics that constitute a paradigm (Kuada, 2012) and that there are three points to characterize it. These are:

- A set of values and beliefs that mark the foundations in actions.
- A set of assumptions, which is a characteristic for a subject area and is believed as being steered by the choice of problem formulation, methods, theories, ethics, concepts, etc.
- An expression for the perception of reality in a period of time.

A paradigm can therefore be described as the overall assumptions of the reality and decides what should be used to judge when a research contains logic that is accepted. And by this definition, paradigm is closely related to the ultimate presumptions, as mentioned earlier. Kuhn (2012) also emphasize that the paradigm is described as "a universally recognized scientific achievement", which can be used by the researcher community to provide model problems and solutions for a time. Therefore, a theory can only be accepted as a paradigm in regard to this definition, if it seems better than its competitors.

Nevertheless, before going into this thesis' ontological, epistemological, human nature and methodological assumptions, it is as equal important to emphasize the choice of typology to classify paradigms (Kuada, 2012). Kuada (2012) highlights the importance of this, as the root assumptions that underlie the various paradigms vary between typologies. The assumptions of a paradigm have an impact on how the research issues are defined and understood, which makes it important to consider the implications of choosing one instead of another.

According to Kuada (2012), the discussion of paradigms in social science, have been heavily influenced by a general distinction between objective and subjective approaches to research. Andersen (1990) sees them as two polar perspectives, namely the *positivistic* paradigm and the *interpretive* paradigm. Burrell & Morgan (1979) made a comparison between the two divergent perspectives by comparing their ontology, epistemology, human nature and methodology. They have two main paradigms: *Functionalism* and *Interpretivism*.

Dimensions	The objectivist approach	The subjectivist approach
Ontology	Realism	Nominalism
Epistemology	Positivism	Antipositivism
Human nature	Determinism	Voluntarism
Methodology	Nomothetic	Idiographic

Figure 3: The Objectivist and Subjectivist Approach (Kuada, 2012)

2.1.2 The FISI Classification

In this thesis the authors will adopt the FISI classification of paradigms model (see figure 4) which is based on the root assumptions of scholars of sociology in the nineteenth and early mid-twentieth centuries (e.g., Emilie Durkheim, Herbert Spencer etc.) (Kuada, 2012).

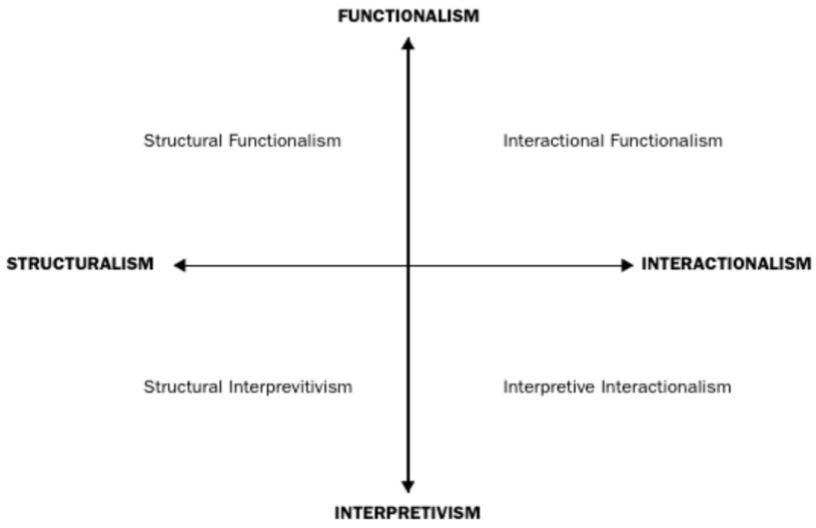

Figure 4: The FISI classification (Kuada, 2012)

2.1.2.1 Functionalism

This paradigm falls under the objectivist or positivist types of research, as it subscribes to a positivist epistemology. According to Kuada (2012), functionalism is often used in the social science and business economics research.

2.1.2.2 Interpretivism

Interpretivism is a paradigm in which there exist many realities and where knowledge is gained in interrelationships between individuals in society. In a subjective approach, the ontology will be nominalistic. The researcher perceives the reality as a social construction of names, labels and concepts. According to Kuada (2012) there is two versions of nominalism; one of them rejects the existence of abstract objects (i.e. something that does not exist in any particular time or space) and the other version rejects universals (i.e. something that only exists if it can be instantiated).

This paradigm seeks to explain the empire of the individual consciousness and subjectivity within the framework of the references of the participant as divergent to the observer of the action. The social world is seen as emergent social process that is created by the respective individuals (Burrell & Morgan, 1979).

As opposite to functionalism, here the future is not to be predicted. Instead there can be created some fractions of it based on an interpretation that a strategy is required. This strategy needs to respect the differences between people and object of natural sciences. This require the researcher to grasp a subjective approach and meaning of the social actions.

2.1.2.3 Structuralism

Structuralism visions human societies as composed of complex systems of interrelated parts. What is special about this paradigm, is the priority of the collective rather than the individual. There is an aspect of determinism in this view, as the position of the individual in a social system is determined by the structure of the system (Kuada, 2012).

2.1.2.4 Interactionalism

In this last paradigm, there is a focus on the role of human interactions in the functioning of social life. The basis of this view is that individuals do not respond to stimuli in the environment in pre-established ways. Instead, individuals create their acts based on the term of "minded behavior". This allows the individuals to share meanings and expectations through social interactions, and also gives them the opportunity to reflect over the events through cognitive interactions with themselves and others (Kuada, 2012).

2.1.3 Ontology

Ontology is defined as "the field of research" whereas the ontological question can be described as "what is reality?" (Kuada, 2012). It refers to the question of how the social reality is created in the form it currently appears (Saunders et al., 2016). It is our view of human nature and also the relationship between human beings and their environment.

This thesis has an underlying objectivistic perspective regarding the social reality that encompasses the influence of greenwashing on consumer perception of brands. Ontological realism claims that at least a part of reality is ontologically independent of human minds. From how we decide to describe,

interpret, understand and explain the social world, it exist independently (Ingemann, 2013). The social world is real and external to an individual human being and therefore imposes itself on his or her consciousness (Kuada, 2012). From this perspective, the ontology will be realistic and can be investigated objectively as long as the researcher investigate objectively. It is therefore possible for researchers to be external observers.

2.1.4 Epistemological considerations

The epistemology describes "the nature of knowledge" and the means of knowing (i.e. how we know what we know or what we conceive as the truth) (Kuada, 2012). It relates to our perception on how knowledge is composed along with what classifies as acceptable knowledge and also the contribution that knowledge can provide (Saunders et al., 2016).

As this thesis has an objective stance, the epistemology can be classified as positivistic. We seek to explain and predict what happens in the social world by being an objective and external observer (Kuada, 2012). Hence this positivistic approach, we will be working with hypotheses to confirm or deny different statements lead from the research. By doing so, every time a hypothesis is either denied or confirmed, we as researchers, are coming closer to the truth about reality (Darmer et al., 2010).

2.1.5 Human nature

The view on human nature will because of the objective approach be based on determinism (Kuada, 2012). Nothing happens unless there is something to make it happen. Every event in the world has a cause as there was some set of circumstances that existed prior to the event that caused the event to happen (Burrell & Morgan, 1979). This entails that this research perceives individuals' human nature as not being free-willed when it comes to their perception of greenwashing. It acknowledges that individual persons are impacted by commercials, campaigns etc. with elements of greenwashing which set the scene for how individuals perceive a specific brand.

2.1.6 Methodological decisions

With the basis on aforementioned assumptions about the social reality, the world exists independently of the individuals. The goal is to create an objective investigation that can be recreated by other investigators. This is also believed to strengthen the validity of the research (Darmer et al., 2010).

2.1.7 Paradigmatic standpoint

Based on a realistic ontology, the positivistic epistemology and the thesis' view on both human nature and methodology, this thesis can according to the FISI classification model be classified as having a functionalistic paradigmatic standpoint.

As explained above, this research aims to be objective. We as researchers are external observers, and thus take an objective approach. The aim is to uncover how greenwashing impact the consumers' perception of brands, as well as objectively research this phenomenon and gain knowledge about the greenwashing elements that may be influential.

To specify the philosophical position further, the functionalistic classification is adapted to the methodological approaches presented by Arbnor and Bjerke (2009). According to them, the theory of science covers the ontological and epistemological discourses and they therefore defined three methodological approaches that researchers use to create knowledge, that link theory of science and methods (Kuada, 2012), namely *the analytical approach, the systems approach and the actors approach*. The methodology approach emphasizes the presumptions and gives the researchers a framework to approach the study.

As this thesis takes on an objective approach, the analytical approach will be used. The analytical approach has some similarities with the functionalistic paradigm which also justify the use of it. The view is characterized by the belief that reality is objective and independent of the observer. The objective reality is the "sum of all parts", and is assumed to have a summative character (Kuada, 2012; Arbnor & Bjerke, 2009). Knowledge is solely based on facts and since the objective of this study is to determine what impact greenwashing has on consumer perception of brands, parts of the reality is looked at individually, in order to explain the whole picture (i.e. the sum of the parts) (Kuada, 2012).

2.1.8 Methods and decisions

The last step of Kuada's (2012) "The four layers of understanding" is the decisions about methods. What kind of method or methods are used in order to collect data and in the analysis of it?

With the analytical approach by Arbnor and Bjerke (2009), the knowledge will consist of verified assumptions (hypotheses) in factive reality. These assumptions must follow certain formal rules and must be either confirmed or denied with well-tested techniques (Arbnor & Bjerke, 2009). This will

result in an increased number of, more refined, logical models and also give the opportunity for a more representative case that can be generalized.

A deductive approach will be used to either confirm or deny the hypotheses. With this approach the researchers start with theory and then test the theory with data (Saunders et al., 2016). In this thesis, the existing knowledge will be covered with a literature review which will give an overview of existing theories or the phenomenon that is being studied. After that, the hypotheses that have emerged from the literature review will be tested to either confirm or deny the theory.

The deductive approach will be applied to quantitative research. A quantitative research method deals with quantifying variables in order to get results (Apuke, 2017). According to Apuke (2017), quantitative research starts with a problem statement, generating of hypotheses by reviewing existing literature and then a quantitative analysis of data. This type of research is typically an investigation of relationships between different variables. The quantitative research method also aligns with the deductive approach and the operative paradigm. The most common way to conduct quantitative data is through a questionnaire based survey (Kuada, 2012), which is also the method of data collection that is chosen for this thesis.

2.2 Literature Review Methodology

2.2.1 Systematic review

Having outlined the paradigmatic position and also the methods underlying this paper, the approach to the literature review will then be explained. For the literature review, a systematic review approach will be adopted to increase objectivity. This method locates existing studies, selects and evaluates contributions, analyses and synthesizes data (Denyer & Tranfield, 2009). This allows a reasonable clear conclusion to reach what is and not known. The main goal of a systematic review is to investigate a tightly specified subject with a specific review question with an objective approach (Denyer & Tranfield, 2009).

The literature review was conducted in March 2020 and comprises of 51 peer-reviewed articles. The articles stem from a varied selection of journals from different fields of research, for example marketing, business and psychology. The scope was conducted using AUB (Aalborg University Library database) and Google Scholar.

In this project it is chosen to develop a systematic review where the information and existing studies will be collected with exclusion and inclusion criteria. The projects main focus is seen as narrow and therefore a thorough investigation of the subject needs to be completed. Due to the positivistic paradigm the study needs to be objective and transparent. By using the systematic review, the study will be more objective, and the validity will increase. Furthermore, when doing a systematic review all previous studies are collected. In this project the systematic review is used through a search strategy that helps the project with the gathering of all previous studies surrounding the subject.

2.2.2 Search strategy

In order to collect information for the systematic review, a search strategy is used to ensure the objectivity of the collection. Electronic databases are used to retrieve articles and information which are relevant to this subject. AUB (Aalborg University Library) will be the primary platform used to access and gather information from various databases. To obtain the most relevant data and exclude irrelevant information, a search strings is used to gather as much relevant information as possible. In addition to that, certain inclusion and exclusion criteria is formed and applied to ensure the information is relevant to the problem formulation.

The main criteria for the search strategy is therefore:
The article must study the concepts individually or the link between the two concepts or other concepts closely related to greenwashing or consumer perceptions of brands.

Search string: greenwash* AND consumer perception OR consumer percei* AND brand* AND sustainab* AND food

In the search string there are used multiple stars in the end of keywords. The star is used to include information on the topics regardless of the syllable of the word. The string therefore includes greenwash, greenwash**ing** and greenwash**ed**, percei**ved** and percei**ve**, sustainab**le**, sustainab**ility** and other terms that relates to these topics.

As the search was conducted, all articles were sifted to ensure that the main criteria was fulfilled. As mentioned, the main concept had to be greenwashing individually or the link between

greenwashing and consumer perception of brands. By going through this process all information gathered was found based on the same criteria, thus securing a high validity and objectivity of the literature collection.

2.2.3 Selection

A total amount of 34.350 articles were collected from AUB using the search string described in the previous section. The studies were first limited to "peer reviewed articles" to ensure high quality and validity of the articles, which resulted in 17.502 articles.

The articles were then sorted by date of year, where the authors appraise the time horizon for the literature research to be within the last 10 years, as the development of sustainability has gone through fast growth in the past years. This resulted in 13.825 articles.

The final limitation includes articles in the marketing field by selection of the subject "Marketing" in the database. This delimitation is performed because this thesis is written in the International Marketing program. Results from this study will thus be focused on the marketing aspect of the concepts. This resulted in 1065 studies. These articles were first examined through title using the the main criteria, in which 332 studies were accepted. These were inspected through abstract to exclude irrelevant articles. After the abstract sift, the accepted articles were read through to conduct the final quality check. In the end 51 studies were acknowledged to be included in the systematic literature review.

2.3 Data collection

The following subchapter will describe the operative approach to collect data in the context of this thesis. First, the creation of the questionnaire and case collection is presented, followed by an explanation about how the chosen sample is reached. Finally, the methods of the data analysis are described.

2.3.1 Quantitative research method

Given the nature of the investigation, a questionnaire has been chosen as the data collection, as this form of data collection is not limited by geographic positions. Moreover, the data collection is conducted during a quarantine period due to the Covid-19 pandemic, which excludes the possibility for qualitative data collection and research methods (e.g. face-to-face interviews and focus groups).

The data collection will be based on an electronic questionnaire which can also be defined as "internet-mediated questionnaires" (Saunders et al., 2016).

Questionnaire are great as they offer anonymity for the respondents but it is hard to convey feelings and emotions through a questionnaire. It has its advantages but also its weaknesses. It is a great tool as it is possible to reach a large population within a small amount of time. However, disadvantages are lack of control over response rate and the missed opportunity to clarify any misunderstandings (Kumar, 2011). Therefore, the pretest of the questionnaire is extremely important to avoid possible misunderstandings of the questions.

2.3.2 Sampling and case collection

As part of the data collection it is important to decide who the target group for the questionnaire should be, as this also influence how the distribution of the questionnaire should be handled.

We choose to perform a non-probability quota sample. In this type of sample there is a pre-planning of the number og participants in specified categories. There is a need to decide the sample according to some fixed quota. This type of sample can be furthered divided into uncontrolled (proportionate) and controlled (purposive) quota sampling (Etikan & Bala, 2017; Showkat & Parveen, 2017). In the controlled quota it is necessary to base the quota on specific features. This can for example be sex, gender, race, education, based on population interest etc. (Showkat & Parveen, 2017). However, the uncontrolled quota has small restriction of minimum of sample number of unit from each category. It is not fixed on having a number that will match the proportions of a population. In this research study, a controlled quota will be used. Quota samples based on for example age and sex has been used for many years, especially in market research (Brick, 2014).

The quota in this thesis will be based on gender. Therefore, we need to specify how many percentages we want to be women and men. The sample will flow in the same manner until the desired number is achieved (Etikan & Bala, 2017). Furthermore, the sample will be concentrated on students from Aalborg University, as one can assume that students possess the necessary academic knowledge to answer the questionnaire about greenwashing.

To specify the quota further, we choose to base the sample on three faculties at Aalborg University (elaborated below in “Collection period”). In our sample there are a total of 3090 students whereas 2148 (70 %) are women and 942 (30 %) are men. Our goal is to include 10% of the total sample for our study and we want the division to be as close to 70% women and 30% men as possible.

The questionnaire will be distributed through the secretaries of the faculties (i.e. Culture & Learning, Finance & Management and Politics & Social Science) and there will be a small monetary incentive of 150DKK to participate as according to Singer & Ye (2012), incentives increase response rates in surveys. The choice of a monetary incentive is made based on the fact, that a monetary incentive increase response rates more than for example a gift and prepaid incentives (Singer & Ye, 2012).

Collection period

The data collection period started on April 27, 2020, when the questionnaire was published by a student secretary on an online noticeboard. Only students from the faculties of Culture & Learning, Finance & Management and Politics & Social Science could access the questionnaire. As the questionnaire was not sent out by mail for example, we did not have the chance to send or give the respondents a reminder to increase the response rate. By the end of the data collection period on May 6, 2020, we had received 204 responses.

2.3.3 Scale development

A scale can be described as "a coherent set of questions or items that are regarded as indicators of a construct or a concept". As the goal of this study is to collect data about perceived greenwashing and its effect on consumer perception, the questionnaire will include rating scales.

Each question in the questionnaire can be answered to a five-point scale. By using a five-point Likert scale is also decreases the chances of respondents answering "neutral" as there is an increased number of answering options (Schrauf & Navarro, 2005).

In the table below (i.e. table 1), all the items included in the questionnaire are presented. There is also a description of whether the items were adopted or inspired from other authors.

Balderjahn, et al. (2013) introduced a scale that can be used to measure consciousness for sustainable consumption also called the CSC scale. The scale involves all three dimensions of sustainability: social, economic and environmental. It includes 19 items divided in all three dimensions. We will be using some of the scale for the first subject that involves "environmental knowledge".

To test the subject of "low or high involvement product", the theory by Akturan (2018) will be used to form the items. Akturan (2018) choose to test both high and low involvement brands to test the difference between the two in difference categories of goods. It involved a five-point Likert scale

rating from strong disagreement to strong agreement. This study will also use the method of testing both high and low involvement brands to see if there is any difference between the two categories. Akturan (2018) came to the conclusion that there was the negative correlation between greenwashing and brands were strongest in the case of a high-involvement brand as opposite to a low-involvement brand.

Subject	**Author**
Environmental knowledge	The CSC scale adopted from Balderjahn, et al. (2013) and Nguyen et. al (2019)
Low or high involvement product	Self-developed, inspired by Akturan (2018), Bullock & Johnson (2017)
Trust	Self-developed, Inspired by Nguyen, et al. (2019)
Brand associations	Self-developed, inspired by Dwivedi & McDonald (2018) and Chen & Chang (2013)
Brand credibility	Self-developed, inspired by Dwivedi & McDonald (2018)

Table 1: Creation of Items for Questionnaire(self-developed)

Consumer trust has been studied by Nguyen, et al. (2019) who found a negative connection between greenwashing and green trust. Based on their theory the items of "I have more trust toward the company's products", I have more trust toward this type of product" and "I have more trust toward this company's efforts in sustainability" are included. Also here the respondents are asked to assess their answer based on a 5-point Likert scale.

To test brand associations, the theory about perceived quality made by Dwivedi & McDonald (2018) and Chen & Chang (2013) will be used to measure the impact greenwashing has on brand associations. Perceived quality affects whether brand associations are positive or negative. The questionnaire will include the item of "I see this product as high quality" and it will be measured using a 5-point Likert scale.

Brand credibility relates to a brand's ability to willingly be capable to offer the promised product and send clear signals (Dwivedi & McDonald, 2018). To test this, the items of "This company is capable of living up to its promises" and "I trust that this product is like the company presents it" is incorporated. It is also measured using a 5-point Likert scale.

2.3.4 Pretest of questionnaire

To avoid misunderstandings and possible errors, a pretest of the questionnaire is important also in regard to reliability and validity. It can also be described as pretesting the questionnaire to check the face validity.

With the intention to gather data from students in mind, the pretest is made with three students from Aalborg University. While the test respondents fill out the survey, they are asked about the reason behind their choices and how they understand the questions. The unstructured nature of this approach along with the open questions allows the researchers to uncover issues that was not expected.

Respondent overview:

Test-respondent 1 Age: 24, Gender: Female, Course: Social Science & Psychology

Test-respondent 2 Age: 23, Gender: Male, Course: Surveying, Planning and Land Management

Test-respondent 3 Age: 24, Gender: Male, Course: Financial Management

In the pretest it was discovered that some questions were not specific enough. For instance, the questions related to subjective knowledge about sustainability needed to be reformulated, so the questions only ask about sustainable food knowledge. Through this reformulation, the respondents will not include other aspects of sustainability in their assessment of their knowledge level.

The question "This product is as the company describes it" is reformulated with "present" instead of "describe". That way, all impressions from the ad including visual ques are included in the assessment instead of just words.

The question "This company does not pretend to be something it is not" has been reformulated to "This company pretends to be something it is not".

Apart from the linguistics, the respondents also complained that the size of the pictures illustrating examples of green marketing were too small. These have been scaled up, to ensure that respondents are able to give a holistic assessment of the ads with all of their visual cues.

The example showing an ad from Malaysian Palm Oil was confusing to two of the respondents, since they were not able to identify the product advertised. Therefore, we have included a parenthesis with the product type above all examples.

Having performed the pretest, we have limited misunderstandings and errors, that may occur in relation to the data collection.

2.3.5 Methods for Data Analysis

The following section will present the methods of analysis, that will be used to analyze the impact greenwashing has on consumers' perception of brands. After the data collection and the correction of data error there might be, the data needs to be analyzed. This section will elaborate on both the construction of variables and also the analytic methods.

2.3.5.1 Construction of variables

This section will go through how we will use the variables obtained from the questionnaire to analyze the data.

Objective knowledge score

To determine our respondents' objective knowledge about sustainability, a quiz was incorporated into the questionnaire. The quiz contained four questions which, contrary to the rest of the questions, have a correct and a false answer. The questions are adopted from Aertsens et al. (2011), and their additional variable of certainty is also included. By knowing how certain the respondents are in their answer, we are able to eliminate the bias of respondents guessing when scoring the quiz. The highest score (9) is achieved through a correct answer with complete certainty while the lowest score (0) is given to a false answer with complete certainty.

Deg. of certainty	Correct = 5	False = 0
Very uncertain (1)	0	4
Uncertain (2)	1	3
I am in doubt (3)	2	2
Certain (4)	3	1
Very certain (5)	4	0

Table 2: Objective Knowledge Score, Adopted from Aertsens et al. (2011)

The point system is illustrated in the table above. A correct answer gives a score of 5 plus points depending on certainty while a false answer gives a score of 0 plus points depending on certainty. To calculate the objective knowledge score of all 204 respondents, the data from the questionnaire have been recoded into new variables with this point system. Because certainty has an increasing score in the case of a correct answer and a decreasing score in case of a false answer, the recoding was done separately for each of these dependent variables.

Each question gives the respondent a score between 0 and 9. Through the four questions, the respondent can thus achieve a score between 0 and 36.

This variable will, combined with subjective knowledge, be used to asses if and how the environmental knowledge affects the perceived greenwashing of the respondents.

Subjective score

To assess the level of subjective knowledge of the respondents, the subjective knowledge variable is conducted through a Likert scale measurement in the questionnaire. The data from the Likert scale is constructed as a descriptive variable.

In the questionnaire, the respondents indicated their perception of their own level of knowledge about sustainability. Subjective knowledge is scored through four questions with a 7-point Likert scale. Each question gives a score between 1 and 7 (1=low subjective knowledge, 7=high subjective knowledge). The four questions combined gives each respondent a subjective knowledge score between 4 and 28.

Perceived greenwashing

In order to assess the level of perceived greenwashing of the respondents, they are shown four examples of commercials, all of which contain greenwashing in form of the seven sins of greenwashing (Dahl, 2010). They are shown two commercials from low involvement products and two commercials from high involvement products (i.e. appendix 1). The two low involvement products are Malaysian Palm Oil and FIJI Water. And the high involvement products are The Body Shop and H&M.

The respondents answered whether or not they perceive the commercial to be deceiving when being presented for it. If the respondents answered “I do not see a problem with this commercial” they

score a 0 on the scale (i.e. table 3). whereas the more greenwashing they perceive (the more of the 5 other options they tick off), the higher the score. Therefore, variable 0 represents "No perceived greenwashing" and the value from 1-5 represents how much greenwashing the respondents perceive being exposed to the individual commercials. The lowest score of perceived greenwashing is therefore 1 and the highest is 5 for each commercial.

Items	**Score**
The commercial is misleading with its use of words	+1
The commercial is misleading with its use of pictures	+1
The commercial uses weak or undectable allegations	+1
The commercial exaggerate the green functions of the product	+1
The commercial purposely leaves out important information, which makes their green claims to appear better	+1
I do not see a problem with this commercial	0

Table 3: Perceived Greenwashing Score

Consumer trust

Consumer trust is measured as a dependent variable. The respondents had to assess if their level of trust changed to the companies showcased in the questionnaire after seeing the commercials. They had to assess if they had more trust to the company and also if the commercial affected their relationship to other brands with products in the same category. The data was conducted using a Likert scale of 5 points.

Brand association

Brand association is measured in the same way as consumer trust. In this question, the respondents had to assess if they consider the products of high quality. The answer was also conducted using the 5 point Likert scale.

Brand credibility
Just as consumer trust and brand association, brand credibility is measured as a dependent variable. Questions included the company's ability to live up to its promises and that the products are as the company portrays it. And just as the two previous variables, brand credibility was also measured using a Likert scale.

Linear regression
To evaluate hypotheses 1a and 1b, we had to test how the respondent's environmental knowledge affects their level of perceived greenwashing. Linear regression analysis is used to see if the knowledge (independent variable) can be used to predict perceived greenwashing (dependent variable).

Perceived greenwashing is measured by the number of greenwashing violations that the respondents perceived in the four examples presented in the survey. While all examples are guilty of one or more of the "Seven sins", the respondents can choose six items whereof five of the items indicate perception of greenwashing and one states that the respondent does not see any issues with the example. The last item (i.e. "I see no issues with this ad") will be omitted so the aggregate score indicates the number of greenwashing aspects each respondent perceives.

One sample T-test
To test if product involvement level (i.e. high or low) has an effect on perceived greenwashing (H2), a One Sample T Test is performed. A t test determines if the mean scores are significantly different from each other. This analysis therefore works with the null hypothesis that the two means are equal. The statistical significance (p-value) is calculated with the t-statistic, t-distribution values and degrees of freedom. If it is below ,05 (alpha), we can reject the null hypothesis and conclude that involvement level has a significant effect on perceived greenwashing (Gerald, 2018).

Kruskal-Wallis H-Test
For hypotheses 3, 4 and 5, we will conduct a Kruskal Wallis Test. We use this analysis, as the items of trust, brand credibility and brand associations were measured using a 5-point Likert scale. Likert scale is often treated as an interval variable in social science research, but in this thesis it will be treated as an ordinal variable. Therefore, the Kruskal-Wallis H-test will be used for comparing mean ranks of the two groups (Ostertagova & Ostertag, 2014) to determine if they cause statistically significant differences in trust, credibility and associations.

Spearman's Rank Correlation

For hypotheses 3, 4 and 5, we use Spearman's Rank Correlation to determine if the effect found in the Kruskal-Wallis H-Test is positive or negative. This analytic tool is chosen because the data is collected with a five point Likert-scale (i.e. ordinal data), which violates the assumptions of a Pearson product-moment correlation where the data has to be either interval or ratio scaled. Instead of determining the linear relationship between two variables like the Pearson correlation, the Spearman correlation determines the strength and direction of the monotonic relationship by using rankings instead of the absolute values of the variables (Sedgwick, 2014).

2.4 Reliability and validity

In this type of research paper, the validity and reliability of the data is very important. To ensure this, is it important how the researchers build the questions. First of all, the pretest of the questionnaire is a way to quality check the data collection as mentioned earlier. This is done in order to avoid confusion and to ensure that the questions are interpreted in the correct way.

To test whether the questions and scales in the questionnaire are reliable, the Cronbach's Alpha analysis is performed on the questions using Likert scales. The test unveils the internal consistency of the measurements in terms of score variance.

The alpha score should be above ,70 for the scale to be considered reliable (Taber, 2018). Pallant (2001) argues that when the test is performed on a low number of items, i.e. less than 10, a score above 0,50 could be accepted if the inter-item correlation is between .20 and .40.

3. Literature review

In the following chapter the literature review will be made. The review will be based on the information, articles and studies found in the search-string, and will thereby be evaluated and explained, in order to place this paper of research within the literature of greenwashing and consumer perception of brands while providing a foundation for the generation of hypotheses.

At first, the independency of the two concepts will be examined. The reason for that is to see if the literature has found any correlations between the two concepts, before we examine them together. The concept of greenwashing will be studied, followed by the concept of consumer perception. To examine greenwashing, a short study will be made upon the subject along with sustainability and green marketing in general.

3.1 Sustainability – A multidimensional concept

This subchapter will aim to explain the notion of sustainability by identifying its key dimensions. Greenwashing is related to sustainability studies, thus an understanding of sustainability is essential to understand the concept of greenwashing.

Sustainability has become a buzzword used by both individuals and business professionals to convey a sense of caring about the environment. One of the first definitions of sustainability was described by the United Nations who defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Minton, et al., 2012; Maniatis, 2015; Balderjahn, et al., 2013).

Although it is described as a development, the literature also refers to it as both a single and multidimensional concept. It can be a single concept combining environmental and social sustainability but it can also be seen as a multidimensional concept balancing among social, economic and environmental perspective (Maniatis, 2015) also called the Triple Bottom Line (TBL). The social aspect consists of human rights and the employees' health and safety, the economic dimension includes whether the economic needs of the stakeholders are met effectively, and the last dimension, the environmental perspective, assures waste minimization, reduction of emission and the protection of natural resources (Tascioglu, et al., 2017).

According to Tascioglu et al. (2017) and Balderjahn et al. (2013) companies should be addressing all three pillars simultaneously instead of just one to avoid a drift in one single dimension to the detriment of the two others. By utilizing all three dimensions, companies can also utilize the full

potential of all three pillars at the same time. It is the ability to integrate sustainable practices that combine all processes of a company, thus not a "one-for-all" model that suits every company. Grubor & Milanov (2017) emphasize that it is about collaborating, learning, creating, implementing, assessing and constantly evolving if you as a company wants to succeed with sustainability practices.

Kossmann & Gomez-Suarez (2018) illiterate that the demand for products with sustainable and ethical attributes is growing in spite of the dangerous growth of consumerism. The primary responsibility of sustainable consumption lies with the consumers who are expected to translate their beliefs and values about sustainability and ethical consumption into their demands and purchasing behavior. Therefore, the concept of "green marketing" has emerged as companies wants to utilize and reduce the negative social and environmental impacts of existing products and production systems, thus promote less damaging products and services (Nguyen, et al., 2019).

For the scope of this project we define sustainability as a multidimensional concept balancing among economic, social and environmental perspective. Companies should use the concept by utilizing all three dimensions to earn full potential of all three pillars at the same time, but they should also keep in mind that sustainability is not a "one-for-all" model that suits every company.

3.2 Green marketing

The term "Green marketing" addresses the communication of initiatives taken by companies to attract green consumers by complying to their green preferences. In the literature, the term is also referred to as "environmental marketing", "socially responsible marketing", "sustainable marketing" and "ecological marketing".

Green marketing entails an action by a company in which the production of a product or the product itself has a positive influence on the environment or at least more positive than its alternatives (Nguyen, et al., 2019). The action is then communicated through advertising to inform consumers about the responsibility the company has taken (Aji & Sutikno, 2015).

Because of recent development in tangible (e.g. natural disasters) and intangible (e.g. scientific reports) evidence of humans' negative effect on our planet, consumers are getting increasingly concerned about the environment. Demand for sustainable products have thus increased due to the increasing awareness, which have drawn more businesses into the market for such products. There is

however a tendency of companies misleading consumers who seek sustainable products by presenting unclear or unreliable attributes (Chen, et al., 2013b), which has led to consumer skepticism around green marketing (Paco & Reis, 2012). This will be described later through the term "Greenwashing".

Companies engage in green marketing to improve their competitiveness in the market of sustainable products or expand their current market share by satisfying green consumers (Brindley & Oxborrow, 2013). Ultimately, the motive is to improve sales directly or indirectly through a green brand image (Grubor & Milovanov, 2017), and being first can positively affect the perceived genuineness of such activities (Lam, et al., 2016), which otherwise is met with skepticism (Gatti, et al., 2019).

Many scholars have sought to identify the green consumers' characteristics and preferences to be able to create suitable products and target these consumers with green marketing. The main characteristics of green consumers found in prior research are age, education and female gender (Kossmann & Gómez-Suárez, 2018; Chekima, et al., 2016).

Carrete, et al. (2012) found that: *"Consumers with higher education are more aware of the environmental issues; hence, are more concerned about environmental quality and more motivated to participate in environmentally responsible behaviors"*. Their results also found that children generally have more environmental knowledge than their parents, and were more committed to act in a sustainable way, making them heavy influencers on their parents' behaviors as well.

There are differences between consumers' sustainable viewpoints and their actual purchase behavior, because some consumers adopt sustainable viewpoints to gain social acceptance, but will choose unsustainable products in the purchase situation (Minton, et al., 2012). Especially the marginal increase in cost of sustainable products may prevent consumption of sustainable products, if the consumer does not perceive sustainable attributes as value increasing (Carrete, et al., 2012; Chwialkowska, 2018). The main motivating factors influencing organic food consumption are environmental concern, knowledge, perceived quality, emotions, health consciousness, concerns with respect to nutrition, food taste and food safety (Nguyen, et al., 2019).

Bullock & Johnson (2017) found that egoistic values are effective in increasing organic purchases across a broad range of consumers, since personal- and family health are strong motives for such products. This strategy may be beneficial since it targets both environmentally concerned consumers and those who only seek personal benefits.

Green marketing can therefore be described as the communication initiatives taken to attract green consumers. It entails a practice by a company that itself has a positive impact on the environment in one way or another. The concept has gained popularity as consumers are getting more concerned with the environment, thus the demand for green products and practices have risen. The concept of green marketing is important to understand as the concept of greenwashing emanates from it.

3.3 Greenwashing

Greenwashing is not a new phenomenon as it has existed since the mid 1980s but the term has gained a lot of attention the last decade. The term is the combination of the words "brainwashing" and "green" (environmental) and the act of greenwashing is the practice of making overblown claims of sustainability or environmental friendliness in an attempt to gain market share and increase sales (Dahl, 2010; Mitchell & Ramey, 2011). To engage in greenwashing, companies use public relations or marketing to promote the perception that the company or the products are sustainable (Aji & Sutikno, 2015).

A more specific definition could be *"a discrepancy between organizations' green claims and their actual environmental performance"* (de Jong, et al., 2020; Delmas & Burbano, 2011).

Delmas & Burbano (2011) explained how a greenwashing firm engage in two behaviors simultaneously. As mentioned earlier, namely poor environmental performance and positive communication about the environmental performance. A company can be placed in either the category of poor environmental performance or good environmental performance. The poor environmental firms are called "brown firms" and the good environmental performers are called "green firms". In addition, a "vocal" firm is a firm that communicate their environmental performance while those who do not communicate are called "silent firms". Thus, companies with a good sustainable performance that positively communicate about it can be defined as "vocal green firms", while those who do not communicate about it can be defined as "silent green firms" (Delmas & Burbano, 2011).

More specifically, the Federal Trade Commission (FTC) have made up some criteria that describe greenwashing when used in deceptive environmental ads. These are:

1. Factually incorrect

2. Subject to multiple interpretations, one of which is false

3. Guilty of omitting relevant information

4. True, but the proof is false

5. "Literally" true but creates a false impression

(Aji & Sutinko, 2015)

Likewise, Dahl (2010) presented the "Seven Sins" that a company are doing in regard to misleading advertisement. The theory is based on a Canadian-based Environmental Group called TerraChoice.

The seven sins are:

1. Sin of the hidden trade-off. Companies are claiming that a product is "green" built on narrow set of attributes. An example could be when a company is advertising about their raw source of material rather than the process of production, which may be environmentally harming.

2. Sin of no proof. Companies are making some environmental claims that cannot be validated by easy accessible sources or by a third-party certification.

3. Sin of vagueness. This claim is when companies are making claims that is poorly defined or very broad so the real meaning is to be easily misunderstood by consumers. A known example is when companies are stating something is 100% natural without mentioning that this natural ingredient may be environmentally harmful.

4. Sin of worshipping a fake label. This sin is often used in product advertisement through either words or images. Companies want to give the impression of a third-party validation when in fact this is non existing or the third-party validation does not exist.

5. Sin of irrelevance. This claim may be truthful but is not important to consumers looking for environmentally safe products.

6. Sin of the lesser of two evils. This sin is when companies are using a claim that may be true within the product category but at the same time distract consumers from the bigger environmental impact of the category as a whole.

7. Sin of fibbing. The last claim is simply when companies are using environmental claims that are false.
(Aji & Sutikno, 2015)

These are the seven sins that can be used to describe greenwashing (Aji & Sutikno, 2015). According to Zhang, et al. (2018) more than 75% of the S&P 500 companies regularly disclose their environmental policies and performance on their webpage. Out of them, 98% of products with environmental claims are misleading consumers, thus committing one or more of the "seven sins of greenwashing". In the food & beverage sector, the big and well-known company, Kellogg is set to be leading in regard to greenwashing, misleading and making fake claims with the brand "Kashi Organic" products (Aggarwal, 2011).

Miller & Merrilees (2013) also studied the practices of Europe's top ten retailers. They found out that many of these retailers in fact had wide-ranging practices to reduce energy and water consumption, and waste emissions. However, there were more focus on their own commercial interest in reducing costs rather than being environmental friendly and preserve natural eco-systems. This example is also seen in the hotel industry, where the visitors are persuaded to shut off lights and reuse towels to "save the environment", while the hotel has its own interest of cutting costs in mind.

For green claims to be trustworthy they need to be correct and truthful. However, many claims relating to environmental attributes are unclear, misleading and unreliable as described earlier. If consumers discover that the environmental green claims are unreliable and greenwashing it may damage consumer trust in that specific company. Without trust in the companies' green claims, consumers are unable to determine their green purchases (Chen, et al., 2013b). Chen, et al. (2013b) also emphasize how the power of word-of-mouth (WOM) is a strong communication form nowadays as consumers voice their opinion on social media. WOM can influence consumer perception of both sustainable practices and the specific company (Chen, et al., 2013b), thus working as a mediator between greenwashing perceptions and purchasing intentions. WOM is seen as a more reliable

information source than firm initiated communications, and when consumers experience greenwashing or have the perception that a company is greenwashing, they might voice their opinion to friends and family (Zhang, et al., 2018).

Through interviews Aggarwal (2011) found that consumers manifested skepticism towards green products' claims due to greenwashing practices, making it difficult for green consumers to find reliable information about the green products. In general, there is an increase in the skepticism for green marketing due to greenwashing (Richey Jr., et al., 2014) as greenwashing have a negative effect on consumers' behavior, attitudes and purchase intentions (Zhang, et al., 2018; de Jong, et al., 2020).

Zhang, et al. (2018) discovered that greenwashing could lead to a perception of a lower product quality among a firm and it reduced the chance of wanting to establish a long-term relationship with a company.

To sum up, greenwashing has gained popularity and attention in the last decade because of the increasing demand for green products, but the term has existed since 1980s. It is the practice of making overblown claims of sustainability or environmental friendliness in an attempt to gain market share and increase sales. There are several ways companies can engage in greenwashing which can be summed up by the "seven sins". If companies commit just one of the seven sins, they commit to greenwashing.

3.4 Green products

Green products are products that consumers perceive to be environmentally friendly due to materials used, production process, packaging and promotion (Johnstone & Tan, 2015). Green food products specifically are organically grown, domestically cultivated rather than imported, seasonal and fresh, unwrapped (no or limited packaging) and support fair trade (Nassivera & Sillani, 2015). The characteristics of green food products will be described further below.

Organic products are *"grown without the use of pesticides, synthetic fertilizers, sewage sludge, genetically modified organisms, or ionizing radiation as well as products produced free of antibiotics or growth hormones"* (Nguyen, et al., 2019). This production process makes consumers perceive these products as healthier and safer, because they are rich in nutrition and chemically free (Nguyen, et al., 2019).

By purchasing domestically produced products, consumers avoid contributing to the greenhouse gas emissions associated with transportation of products imported from other countries (Bernard, et al., 2015). This also entails consumption of seasonal products, since importation is necessary when a product is out of season in the consumer's region.

Packaging has a big influence on a product's environmental footprint, and the single-use function of such wrapping makes them unsustainable. Therefore, companies utilize recycled materials to reduce the negative impact while keeping the product-protecting packaging (Kordshouli, et al., 2015). Kapoor & Kumar (2019) found that safety and quality were more important to consumers than environmental issues in regard to packaging, which indicates that consumers are more concerned with the safety and sanitation of their product, than the environmental harm such packaging would cause. They do not advise against investing in sustainable packaging, but emphasize the importance of sanitation and product condition that packaging can secure.

Fair trade is an international label which companies can showcase on their products if they comply with its regulations. Companies have to be certified by the Fairtrade Foundation, and prove that their product(s) are in accordance with fair labor standards (i.e. human rights, decent working conditions or fair business practices) (Balderjahn, et al., 2013). This label is concerned with the responsibility of companies, to avoid supporting exploitation of less privileged farmers in third world countries.

Generally, the literature has found labeling to be an effective strategy to signal green benefits. The effectiveness of a label seems to depend on two things; the provider of the certification and consumers' knowledge of the certification's criteria. Consumers tend to trust third party or governmental certification the most. Results from a multinational study of Danish and British consumers showed that the Danish organic label was more recognized and trusted than its British compeers, partly because the British market have five separate organic labels each with their own standard criteria. Also, the Danish consumers had a good understanding of the benefits underlying an organic label (Wier, et al., 2008). The presence of both eco-label and health claims significantly increase purchase probabilities in the U.S. market, since health claims support the assumption that organic food is healthier (Schleenbecker & Hamm, 2013).

Green products can be defined as products that consumers perceive to be environmentally friendly due to materials used, production process, packaging and promotion. Especially the packaging is

important for consumers, which indicates that consumers are more concerned with the safety and sanitation of their product, than the environmental harm such packaging would cause. It has also been found that labeling (e.g. Fairtrade) is an effective strategy to signal green benefits. The presence of both eco-labels and health claims significantly increase purchase probabilities in the U.S. market. This consumer behavior is interesting, therefore we want to study the relationship between consumer knowledge and sustainability.

3.5 The relationship between consumer knowledge and sustainability

In the previous section it was discovered that consumer knowledge about eco labels had an effect on trust. To see if consumer knowledge has other effects on sustainability, further research is done on this relationship.

There are two types of knowledge about sustainability, which affect consumers in both their attitudes and behavior, namely objective and subjective knowledge. The former refers to what they actually know, while the latter is what they think they know (Nguyen, et al., 2019). In this section, the objective and subjective knowledge of consumers are studied, to understand what effect it has on purchase intentions of sustainable products.

In most purchase situations, consumers have to make a choice between two or more variants of the product they need. In general consumer decision-making theory, the consumer's choice is affected by many factors such as external influences and psychological (or personal) circumstances including experience from prior purchases. These can be illustrated like this:

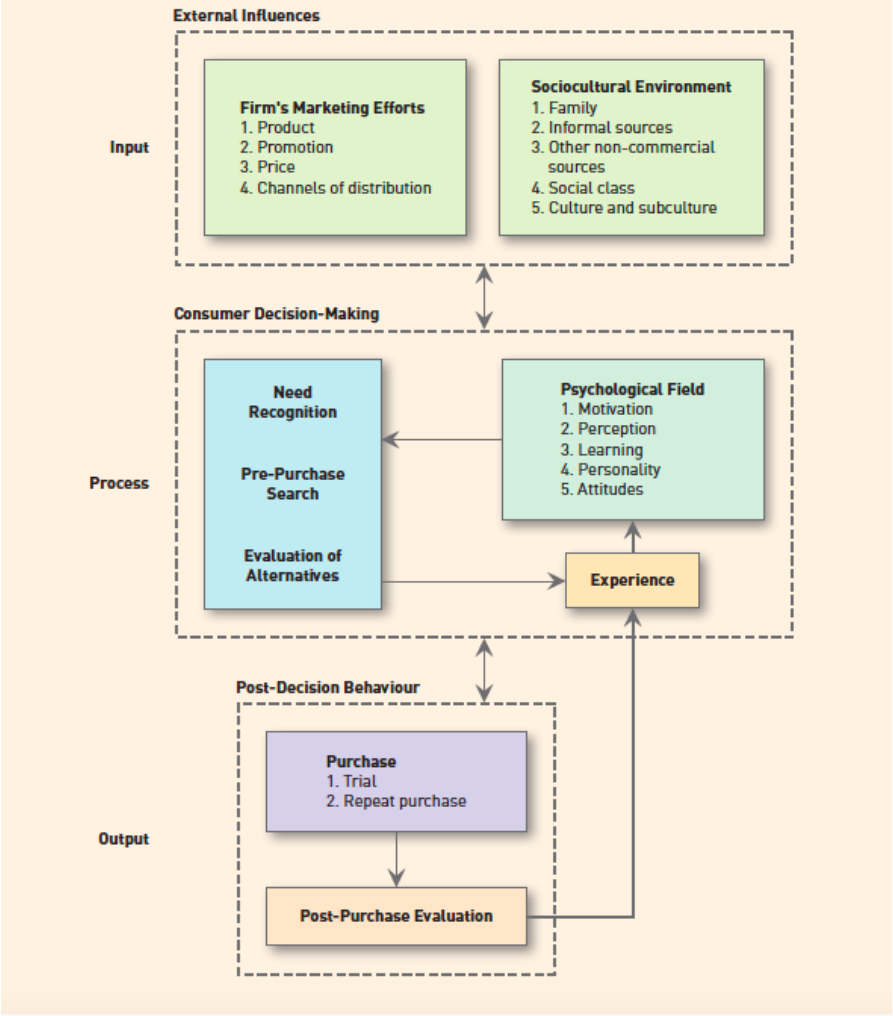

Figure 5: A simple model of consumer decision-making (Schiffman, et al., 2012)

Learning is present in the psychological field, and is the basis of a consumer's knowledge level. In a purchase situation, the consumer draws upon this among other (i.e. motivation, perception, personality, attitudes and experience) to make the right decision. Consumers with higher education, are found to have a higher level of knowledge related to environmental protection (Chirculescu & Preda, 2016), and education has also been correlated with a high level of knowledge about sustainability and high green purchase intentions in relation to their level of environmental concern in other studies as well (Zhao, et al., 2014; Zsóka, et al., 2013; Suki, 2016).

Environmental concern refers to consumer attitude, which is part of the psychological field as well. In a study comparing French-Canadian and English-Canadian consumers, the results of Laroche, et al., (2009) indicate that the level of awareness and attitude toward environmental issues and sustainable behavior are not linearly related. When asked about environmental issues, French-Canadians, as opposed to English-Canadians, reported that *"environmental problems were more*

severe and that it was more important to behave in an ecologically favorable fashion.". Meanwhile, *"English-Canadians tended to recycle more than their French counterparts ... and they were more willing to pay a higher price for ecologically compatible products"* (Laroche, et al., 2009).

The difference between awareness & attitude toward environmental issues and actual behavior is explained in various ways by different scholars. As mentioned, education has a strong influence on awareness, which could be related to the fact that consumers with a satisfactory level of income and positive attitude toward the environment are less sensitive to the price premium of green products (Chekima, et al., 2016). Similarly, Bernard, et al. (2015) found that highly price sensitive consumers' choices are not influenced by perceived environmental harmfulness regardless of their level of environmental concern.

Maniatis (2016) found that environmental knowledge makes consumers conscious about the environmental benefits of green products, but that commitment to environment is the enabler of actual green behavior. The findings of Nguyen, et al., (2019) show that consumers' knowledge about the benefits of green products has a strong impact on the purchasing behavior of such products. In their study, organic food knowledge had the lowest impact on purchase intentions of organic food, due to a low level of knowledge about organic food benefits compared to health- and safety benefits. These findings also indicate that consumers rely more on their subjective knowledge than objective knowledge when purchasing organic food, since their knowledge of health- and safety benefits are not rooted in knowledge about organic production. Aertsens, et al., (2011) similarly found that objective knowledge has a positive influence on attitude toward organic food but no significant influence on actual consumption of such, while subjective knowledge had a positive influence on consumption.

In summary, consumers have more knowledge about the health- and safety benefits of green products than the procedures and requirements behind such products. Their subjective knowledge has a stronger influence on purchase intentions than objective knowledge, and the motive behind green food consumption is mainly personal gains rather than environmental protection.

Now, that the relationship between consumer knowledge and sustainability has been studied, the consumer perception of brands will be researched, as it is important to know which elements affect the consumer perception of brands.

3.6 Consumer perception of brands

In the last subchapter, the current consumer knowledge about sustainability was described. In this subchapter, the consumer perception of brands will be defined.

Consumer perception can in general be described as a marketing concept that encompasses a consumer's impression, awareness and consciousness about a company or its products/services. It can also be described as brand image.

Customer-based brand equity can be defined as "the differential effect of brand knowledge on consumer response to the marketing of the brand". It is what makes a brand superior or inferior to that of others. Chen (2010) has studied the concept of green brand equity which includes four items;

1) It makes sense to buy this brand instead of other brands because of its environmental commitments, even if they are the same.
2) Even if another brand has the same environmental features as this brand, you would prefer to buy this brand.
3) If there is another brand's environmental performance as good as this brand's, you prefer to buy this brand.
4) If the environmental concern of another brand is not different from that of this brand in any way, it seems smarter to purchase this brand.
(Chen, 2010)

The results from the study showed that green brand image, green satisfaction and green trust are positively related with brand equity. Besides, the relationship between green brand image and green brand equity is partly mediated by green satisfaction and green trust. Also Grubor & Milovanov (2017) acknowledge the positive connection between green brand equity and consumer perceptions. They also state that the company's sustainable practices are strongly interrelated with this positive relationship, as sustainability can bring a deeper meaning to a brand image and stronger emotional bonds. Besides that, satisfied consumers are more favorable to products and companies that fulfill their green expectations, needs and desires (Miller & Merrilees, 2013). The consumer perception and green product value also heavily influence purchase decision, and some consumers are willing to pay higher prices for brands that accommodate these needs (Grubor & Milovanov, 2017).

In general, great customer experience about the company and its products/services will lead to a positive perception of the company's image. The brand image consists of four elements: personality, overall characteristics of the company's ability to understand public targets, their reputation and activities carried out by the company. The ability to understand the importance of sustainable practices will create opportunities for them to improve their reputation (Widyastuti, et al., 2019). Nassivera & Sillani (2015) established in a study that it can create positive consumer perception by indicating health benefits on products. Actually, it was one of the most important determinant factors among various factors. The same was found by Phau & Ong (2007) who states that consumers respond more positively to green messages if they are able to identify direct personal benefits in conjunction with environmental benefits.

The availability of an Eco-label positively affects the intention to purchase and creates a positive image. However, Bernard, et al. (2015) argue that an eco-label might be more effective if it influences consumers' perception of the environmental harmfulness of competing products too. Any product may have a more or less negative effect on the environment, thus relevant beliefs can be expressed in terms of the amount of harmfulness it has on the environment. Therefore, the consumers' perception of the amount of perceived harm is also important when considering consumer perception of the brand (Bernard, et al., 2015).

Lam, et al. (2016) studied the effect of perceived value on satisfaction, green trust and green purchase intention. The term perceived value stems from the brand equity theory, thus the consumer considers the ratio of outcome/input to the brand's outcome/input. The perceived value is defined as consumers' overall assessment of what is received versus what is given. Green perceived value is therefore the consumers' overall assessment of what is received versus what is given based on their environmental desires, sustainable expectations and overall green needs (Lam, et al., 2016). Perceived green value can directly affect the adoption of green products. It also indirectly influences green repurchase decisions positively through satisfaction and green trust (Lam, et al., 2016). These results are also consistent with studies made by Chen (2013). The positive influence of green perceived value has on satisfaction also indicate that companies have to adopt green marketing strategies to improve green perceived value. A "silent green firm" will thus miss opportunities to benefit from their sustainable practices.

Consumer attitudes is the product of consumers' psychological emotion, thus behavior will be positive if the evaluation of emotion is positive, and opposite if the evaluation is negative (Hameed, et al., 2019). In the green marketing literature, the link between attitude and consumer behavior has been considered to be very strong. For example, the relationship between consumer attitude and environmentally friendly beverages has been found to be positive, as consumers held favorable attitudes related to the safety of the environment (Hameed, et al., 2019). Green brand positioning also has an influence on green product purchase intention. A study made by Suki (2016) states that the positive effect of green brand positioning can be seen as an advantage for marketers to differentiate their offerings from competitors.

If companies want to be more sustainable and use these elements in their brand positioning, they need to be aware of the fact that incongruence in advertising is not favorable and is likely to negatively affect consumer attitudes. When creating a more sustainable brand, it can be seen as a repositioning process as it goes beyond external communication. It is suggested to incrementally incorporate small steps at a time to ensure consumers to assimilate small amounts of information in to their brand schema. By doing so, companies can better ensure positive brand evaluations, thus positive brand equity.

To give a brief summary, consumer perception can in general be described as a marketing concept that encompasses a consumer's impression, awareness and consciousness about a company or its products/services. It can also be described as brand image. Several researchers came to the conclusion that consumer perception is connected to brand equity and that the elements that influence consumer perception are perceived value on satisfaction, trust, brand image and purchase intention. To gain a deeper understanding of the chosen research subject, the relationship between greenwashing and consumer perception will be studied.

3.7 Low and high involvement products

The willingness to pay for a product is heavily influenced of both product- and environment involvement. Bhardwaj (2019) emphasize how recent research on product involvement has focused on enduring involvement conceptualization to the extent in which the consumer views purchasing, consuming the product and the purchase decision as the central and meaningful activity in their life. It is stated that product involvement is a goal-oriented, emotional state of interest, enthusiasm,

perceived relevance, and the excitement that consumers exhibit towards a specific product category based on their needs, values and interest. In the end, this influence the purchase decision and consumption of the product. There are different levels of product involvement. Depending on the level, consumers differ significantly on purchasing quantities, perceptions of service quality, satisfaction, as well as salesperson trust. Level of the product involvement has therefore been defined as the relevance and importance a product has to consumers and their purchase decision (Bhardwaj, 2019).

There are several factors that determine whether a product is low or high involvement such as; price, importance, the level of risk in a product's purchase, frequency of purchase, durability etc. (Ahmad & Umar, 2009).

Low involvement products are described as a frequency buy (i.e. products that consumers buy frequently). There are low significant brand differences and consumers are most likely not committed to any brand. In this category, consumers often do a lot of brand switching, which can be based on price but also for the sake of variety rather than dissatisfaction. Impulse purchases can also be classified as low involvement products. Low involvement products are for example: food, candy, coffee, beers, routine industrial products such as detergent, toothpaste etc. (Ahmad & Umar, 2009).

High involvement products are more expensive compared to the low involvement products, risky and the purchase frequency is smaller. Behind this type of purchase is a more complex buying behavior where the consumer considers more variables compared to the low involvement buying process. Often the consumer seeks information about the product before buying, thus to avoid or minimize risk. There is also a higher brand loyalty in this category (Ahmad & Umar, 2009). High involvement products are for example: mobile, cars, beauty products, furniture, clothing, vacations etc.

3.8 The relationship between greenwashing and consumer perception

In the previous subchapters, the concepts to sustainability, consumer perception and greenwashing has been studied individually. This was done in order to clarify and define each concept by itself, so it is possible to look at the possible correlations in this subchapter. Therefore, the connection between the two concepts will be examined in this part.

First of all, it is important to acknowledge that it is different how consumers perceive greenwashing. Environmental beliefs and the level of product involvement may affect the consumers' perceptions of greenwashing (Szabo & Webster, 2020). As mentioned (see chapter 3.5) there are both subjective and objective knowledge about sustainability but there is also a distinction between whether a product is a low or high involvement product (see chapter 3.7). Individuals who "see the world more ecologically" have higher pro-environmental beliefs and attitudes (Szabo & Webster, 2020). Furthermore, Khandelwal et al. (2019) investigated different sectors in the relationship to greenwashing. The authors found that consumers had the perception that the automobile sector was the one with the most greenwashing, followed by industrial manufacturing and beauty products. In the bottom they found food/beverage and the agriculture sector. Akturan (2018) also tested the effect of both low involvement and high involvement products, in which there were a significant relationship among the variables.

There is also a skepticism among consumers in relation to advertising in regard to their environmental knowledge or lack of it. There can be some skepticism caused by green marketing or greenwashing, often caused by the fact that consumers do not have the expertise or ability to verify the environmental green claims that companies present about their green products (Aji & Sutikno, 2015).

Schmuck, et al. (2018) studied the different effects that two of the "seven sins" described under *Greenwashing* have on consumers, and how capable the consumers are at recognizing these types of greenwashing. The two sins they tested were "Sin of vagueness" and "Sin of fibbing". Their results showed that *"consumers do not recognize vague greenwashing ads, no matter how environmentally involved they are. Vague claims can even benefit consumers' attitudes toward brand when such claims are combined with pleasant images of nature …"*. The presence of images of nature thus had a strong effect on consumers' perception of green claims, making them trust the claim even if they have a high level of environmental knowledge. Thus, vague claims are trusted if they are accompanied by images of nature, since the positive affective persuasion mechanism overrides the negative influence of critical scrutiny. Environmental knowledge was however found to influence consumers' ability to detect false claims, which is the "Sin of fibbing". Interestingly, while the U.S. respondents with low environmental knowledge did not detect false claims, all German respondents detected this form of greenwashing, suggesting that German consumers have a higher level of environmental knowledge in general (Schmuck, et al., 2018). Both environmental knowledge and the product

involvement level therefore act as a mediator between greenwashing and how greenwashing is perceived (i.e. perceived greenwashing).

How perceived greenwashing then affects consumer perception of brands have been studied by several authors. A study conducted by Chen et al. (2013a) found that greenwashing behavior has a negative effect on green WOM (i.e. word-of-mouth). Even though WOM is not directly consumer perception, it is a bi-product of the consumer perception. Green WOM can be affected in three ways. First of all, directly. Secondly, it can affect it indirectly by the consumers' perceived quality and thirdly by the consumers' perceived satisfaction (Chen et. al, 2013a; de Jong, et al., 2020). Greenwashing therefore affects perceived quality and perceived satisfaction which can be classified as brand associations and brand credibility. According to Aaker (1991) brand associations are the category of a brand's assets and liabilities that include anything linked in memory to a brand. One of commonly cited and researched elements of brand associations is perceived quality (Low & Lamb Jr, 2000). Green perceived quality can also be described as "the customer's judgment about a product or a brand's overall environmental excellence or superiority" (Chen & Chang, 2013).

On the other hand, brand credibility is a three-fold term which includes trustworthiness, expertise and attractiveness (Othman, et al., 2017). Brand credibility is also closely related to brand loyalty, in which perceived satisfaction is ingrained (Othman, et al., 2017).

Dwivedi & McDonald (2018) found a direct negative effect on green brand associations and brand credibility. The negative effect was found to be stronger in high involvement products compared to the low involvement products. This may be caused by the extra information consumers seek and engage in when buying high involvement products, as they also look for personal gains from the purchase. Akturan (2018) also emphasize that the negative effect of greenwashing will be stronger or weaker depending on the level of consumers' information and knowledge, confirming the theory of the product involvement level being a mediator between greenwashing and perceived greenwashing. The relationship between environmental claim and consumer skepticism would also be moderated by the firm's credibility (Musgrove, et al., 2018). Especially the dimensions of trustworthiness and likeability is impacted by these factors.

To specify brand associations further, this concept can also be affected by the perceived service quality of a brand. If a company has a high perceived service quality, the perceived authenticity of

their sustainable actions is also high. Brockhaus, et al. (2017) and Bhardwaj (2019) emphasize that high service quality leads to more positive associations of sustainability actions in employee health and environmental impact compared to low service quality. However, if a consumer holds negative associations about a firm, the specific firm's sustainability effort will be regarded as inauthentic and possibly as "greenwashing". If the consumer holds positive associations, sustainable actions will just reinforce and support the existing positive attitude (Brockhaus, et al., 2017).

Another element of consumer perception that is affected by greenwashing is consumer trust. Consumer trust is also closely related to customer satisfaction. If customer satisfaction rises, then consumer trust in the brand will also rise and vice versa (Othman, et al., 2017). Trust can be defined as the level of willingness to depend on one object, based on the expectation of its ability, reliability and benevolence (Chen & Chang, 2012; Aji & Sutikno, 2015). Green trust can however be defined as the level of willingness to depend on one object, based on the expectation of its ability, reliability and benevolence *with regard to environmental performance* (Aji & Sutikno, 2015).

Perceived risk is associated with the possible consequences of a wrong decision. Aji & Sutikno (2015) distinguish between five types of risk, namely financial, social, psychological, performance and physical risk.

Green consumer confusion occurs when consumers see an ad that is deceptive and ambiguous in relation to its environmental features, but is also defined as the state of mind that affects information processing and decision-making. The consumer can get confused to whether a product is really green or just the opposite (Aji & Sutikno, 2015).

As there is a growing concern about the trustworthiness of ads, consumers get more skeptical when assessing advertising. The fact that greenwashing exists does not increase the consumer trust, and ultimately consumers distrust the advertisers as well as their products (Aji & Sutikno, 2015). When brands engage in greenwashing, it increases the level of green consumer confusion and green perceived risk, which negatively affects green consumer trust (Chen & Chang, 2012).

Furthermore, Müller & Gaus (2015) studied the effect of greenwashing and negative media information about organic food products. They showed the respondents a 30-minute documentary about the pitfalls of eco-labeling and how some products do not have as green attributes as they claim. The experiment had an immediately negative impact on behavioral intentions and trust in organic food labels. Two weeks after, they tested the respondents again, and the decrease in trust were still

present. There was however no significant change in their self-reported behavior, meaning they did not buy more or less organic food products compared to before exposure to greenwashing information (Müller & Gaus, 2015). In the study, the authors tested the effect on a *type* of product, which means that their results are not necessarily applicable to brands, which consumers can more easily avoid. However, even though there were no significant change in their behavior, greenwashing still had a negative effect on green consumer trust.

In addition, greenwashing does not only affect green consumer trust, brand associations and brand credibility, it also affects the practice of green marketing, making it more difficult for companies to use and promote sustainable practices. Nyilasy, et al., (2014) found that green marketing can harm companies even if their practices and motives are honest. Brands can therefore be affected by the fact that other brands in the same sector engage in greenwashing. This can also result in the fact that consumers do not only lose trust to one brand but a whole product category as a results of greenwashing (Chen & Chang, 2012).

To sum up, past literature suggest, that environmental knowledge, namely subjective and objective knowledge and the product involvement level of a product can be pinpointed as a mediator between greenwashing and how greenwashing is perceived by the consumer. Overall, the relationship between greenwashing and consumer perception is in general a topic that lack research and is in need for more studies. Nevertheless, current literature states that perceived greenwashing negatively affects brand associations, brand credibility and consumer trust.

3.9 Conceptual framework and hypothesis formation

This subchapter will present our conceptual framework in this research field. The framework illustrates the findings from the previous subchapter. This section will also outline the formation of the hypotheses for this thesis.

Through the literature review, a relationship between greenwashing and consumer perception were identified. Several authors have studied the connection between the two concepts. The elements of consumer perception that were found to be affected by greenwashing were: consumer trust, brand associations and brand credibility. We also found that there were some elements that affected how

greenwashing were perceived. These were: environmental knowledge and the level of product involvement.

The following hypotheses have been established to answer the problem formulation: "What is the impact of greenwashing on consumers' perception of brands?".

An overview of the hypotheses:

H1a: Objective environmental knowledge affects how greenwashing is perceived by the consumer.
H1b: Subjective environmental knowledge affects how greenwashing is perceived by the consumer
H2: The level of the product involvement (high or low level) affects how greenwashing is perceived by the consumer.
H3: Greenwashing negatively affects the consumer trust of a brand.
H4: Greenwashing negatively affects the brand associations of a brand.
H5: Greenwashing negatively affects the brand credibility of a brand.

The relationship between the concept of greenwashing and the elements of consumer perception is pictured in the conceptual framework shown below.

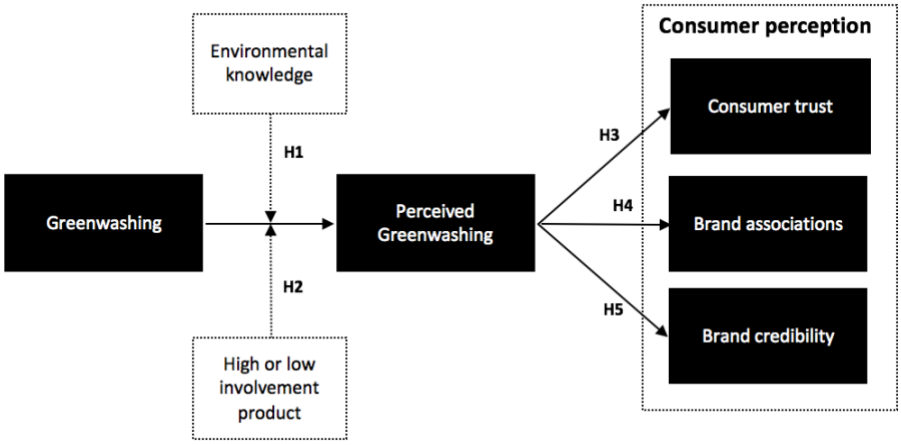

Figure 6: Conceptual framework

3.9.1 Perceived greenwashing

Before testing how greenwashing affects consumer perception, we test both environmental knowledge of the consumer and also if there are a difference between the level of the product involvement. As found in the literature review, these two concepts mediate how greenwashing is perceived by the consumer is. Therefore, the concept of "perceived greenwashing" is incorporated, because prior research has found that consumers' recognition of greenwashing is decisive for its effect on consumer perception (Schmuck, et al., 2018). Undetected greenwashing can positively affect consumers' perception of a product or brand, because some consumers believe in the untrue or misleading claim, giving the greenwashing company the outcome they sought (Schmuck, et al., 2018).

3.9.2 Environmental knowledge

Based on the literature review, we hypothesize that both objective and subjective knowledge affects how greenwashing is perceived by the consumer. This is based on the study by Akturan (2018) and Schmuck et al. (2018) who found a correlation between the negative effect of greenwashing and the level of information and knowledge a consumer possess about sustainability. In addition to this, the environmental knowledge can be divided into objective and subjective knowledge.

Thus our two first hypotheses become:
H1a: Objective environmental knowledge affects how greenwashing is perceived by the consumer.
H1b: Subjective environmental knowledge affects how greenwashing is perceived by the consumer.

To test these hypotheses, we have to define and set a score to measure the knowledge of the consumers. This applies for both the objective and subjective environmental knowledge.

3.9.3 High or low involvement product

Our second hypothesis about the level of the product involvement applies to whether a product is high or low level involvement. Akturan (2018) found that greenwashing's negative effect was stronger in high involvement products than low involvement products. Low involvement products are less differentiated from brand to brand and are frequency or impulse purchases as opposed to high involvement products which are often more unique, expensive and have a lower purchase frequency.

The involvement level of a product also affects the elaboration by the consumer in terms of information seeking. A high involvement product causes more elaboration by the consumer to

maximize personal gain. The negative effect of greenwashing is hypothesized to be stronger in high involvement products because the consumer has more invested in the transaction and because the consumer acquires more information which increases their environmental knowledge (Akturan, 2018).

Our hypothesis about the level of the product involvement is thus:
H2: The level of the product involvement (high or low level) affects how greenwashing is perceived by the consumer.

To test this hypothesis, we have to include both low and high involvement products in the questionnaire. The chosen examples are Malaysian Palm Oil (see Appendix 3) and The Body Shop (see appendix 6). The former is a low-involvement product since palm oils are a relatively homogenous product. The latter is a high-involvement product since cosmetics differ in terms of ingredients and functions, which may make consumers more inclined to seek more information about the product before making a purchase decision.

3.9.4 Perceived greenwashing on consumer perception

Applying the perceived greenwashing to the three consumer perception dimensions from the literature review, we form three hypotheses. These hypotheses concern the aspect of consumer trust, brand associations and brand credibility.

3.9.5 Consumer trust

Consumer trust is hypothesized to be affected negatively by greenwashing in terms of both brands and similar products. When a brand is perceived to be greenwashing in the marketing of their products, consumers will lose trust in their ability to rely on the products' green benefits (Musgrove, et al., 2018; Nguyen, et al., 2019).

H3: Greenwashing negatively affects the consumer trust of a brand.

3.9.6 Brand associations

Brand associations are hypothesized to be negatively affected by greenwashing. Since greenwashing is a way of lying or deceiving consumers, a greenwashing company may be associated with lower quality than promised (Brockhaus, et al., 2017).

H4: Greenwashing negatively affects the brand associations of a brand.

3.9.7 Brand credibility

Brand credibility is also hypothesized to be negatively affected by greenwashing. If a consumer recognizes untrue or misleading claims from a brand, they would be inclined to distrust other claims from the brand such as product quality (Musgrove, et al., 2018).

H5: Greenwashing negatively affects the brand credibility of a brand.

4. Results and analysis

This chapter will present our results from the data analysis. It will consist of three main parts. Firstly, we will conduct a linear regression to assess the level of objective and subjective sustainability knowledge of the consumer. Secondly, a T-test will be conducted to determine if there is difference in the low involvement and high involvement products related to the level of greenwashing consumers perceive. Lastly, we will conduct a Kruskal-Wallis H-test to analyze if the level of perceived greenwashing influences trust, brand credibility and brand associations and a Spearman's Rank Correlation test to determine if the correlation is positive or negative. Finally, we will devote a section for evaluation of our hypotheses based on the results from the linear regression, the T-test, the Kruskal-Wallis H-test and Spearman's Rank Correlation.

4.1 Descriptive statistics

The descriptive statistics describes the overall findings of the data set. Below a short presentation about the respondents is illustrated.

Gender	Frequency	Percent
Male	75	37
Female	129	63

Table 4: Distribution based on gender

We chose to distribute the questionnaire to institutes from the faculties of Culture & Learning, Finance & Management and Politics & Social Science of Aalborg University. The questionnaire was distributed to a total of 3090 students, whereof 2148 were women (70%) and 942 were men (30%). We wanted to obtain a 10% sample size but was only able to achieve 6,6 % within the timeframe. Further, the responses had to be distributed with 70% percentage of women and 30% percentage of men to give a good representation of the sample.

As the questionnaire was distributed through an online noticeboard and not through Email, we did not have any control over how many women and men were presented to the questionnaire. As shown in the table, we have 63% women and 37% men in the data collection, which besides our challenges, is quite close to and nearly corresponds to our goal of the non-probability quota, which we accept. Furthermore, the total frequency of completed surveys was 204 respondents, which results in a percentage of 6,6% of completed surveys. As mentioned (see chapter 2.3.2), there is a

possibility that not all 3090 students have seen the questionnaire on the online noticeboard. Therefore, we accept the total of 6,6% respondents.

4.2 Validity and reliability

Reliability is about the consistency of the asked questions in the questionnaire. We will be using the Cronbach's Alpha to test whether the questions and scales in the questionnaire are reliable.

4.2.1 Subjective knowledge

Four questions are answered by the respondents to determine their subjective knowledge about sustainability (i.e. how much do they think they know). All four questions are positively worded and answered with a 7-point Likert scale.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,799	,800	4

Table 5: Cronbach's Alpha, Subjective Knowledge

The Cronbach's Alpha is measured to ,799 which is above the ,70 threshold. We can therefore assume that the questions all measure the same construct relatively consistently. Therefore, all questions are included in further analysis.

4.2.2 Trust and brand credibility

Trust and brand credibility is part of the consumer perception and is tested in the last phase of the questionnaire. The respondents are asked to indicate how two ads affected them in these aspects. Since the same questions are asked in two different contexts, they will be evaluated separately for each example used in the questionnaire.

In one of the questions regarding credibility, the wording was changed from positive to negative due to misconceptions identified in the pretest. To align the data from that question with the other two questions, this variable has been reverse coded.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,849	,857	3

Table 6: Cronbach's Alpha, Trust (Example 1)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,853	,855	3

Table 7: Cronbach's Alpha, Trust (Example 2)

Above is the output for the three questions regarding trust. The alpha coefficient is measured to ,849 for example 1 (Malaysian Palm Oil) and ,853 for example 2 (H&M). Both surpass the threshold of ,70.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,736	,737	3

Table 8: Cronbach's Alpha, Credibility (Example 1)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,763	,769	3

Table 9: Cronbach's Alpha, Credibility (Example 2)

Above is the output for the three questions regarding credibility. The score is measured to ,736 for example 1 (Malaysian Palm Oil) and ,763 for example 2 (H&M). Both surpass the threshold of ,70.

Since the score is satisfactory for both the trust- and credibility questions, we can assume that they measure the same construct consistently because of the high internal consistency.

4.3 Linear regression

To test how the respondent's environmental knowledge affects their level of perceived greenwashing, linear regression analysis is used to see if the environmental knowledge of the respondents (independent variable) can be used to predict perceived greenwashing (dependent variable).

Perceived greenwashing is measured by the number of greenwashing violations that the respondents perceived in the four examples presented in the survey. While all examples are guilty of one or more of the "Seven sins" (Dahl, 2010), the respondents can choose six items whereof five indicate perception of greenwashing and one states that the respondent does not see any issues with the example. The last item (i.e. "I see no issues with this ad") will be omitted so the aggregate score indicates the number of greenwashing aspects each respondent perceives. The score 0 will thus be given to respondents who selected the last item only.

First, an analysis is made for objective knowledge's ability to predict perception of greenwashing:

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2,545	1	2,545	,143	,705b
Residual	3586,333	202	17,754		
Total	3588,877	203			

a. Dependent Variable: Perceived Greenwashing
b. Predictors: (Constant), Objective Knowledge Score

Table 10: ANOVA Model - Perceived Greenwashing and Objective Know. Score

As the ANOVA model above shows, the regression is not significant (,705>,05). We can therefore not predict the level of perceived greenwashing with the objective knowledge score.

We will now test if subjective score can be used to predict perceived greenwashing. For this analysis we will use the subjective knowledge score of the respondents. Below is a chart of the frequencies of subjective knowledge scores.

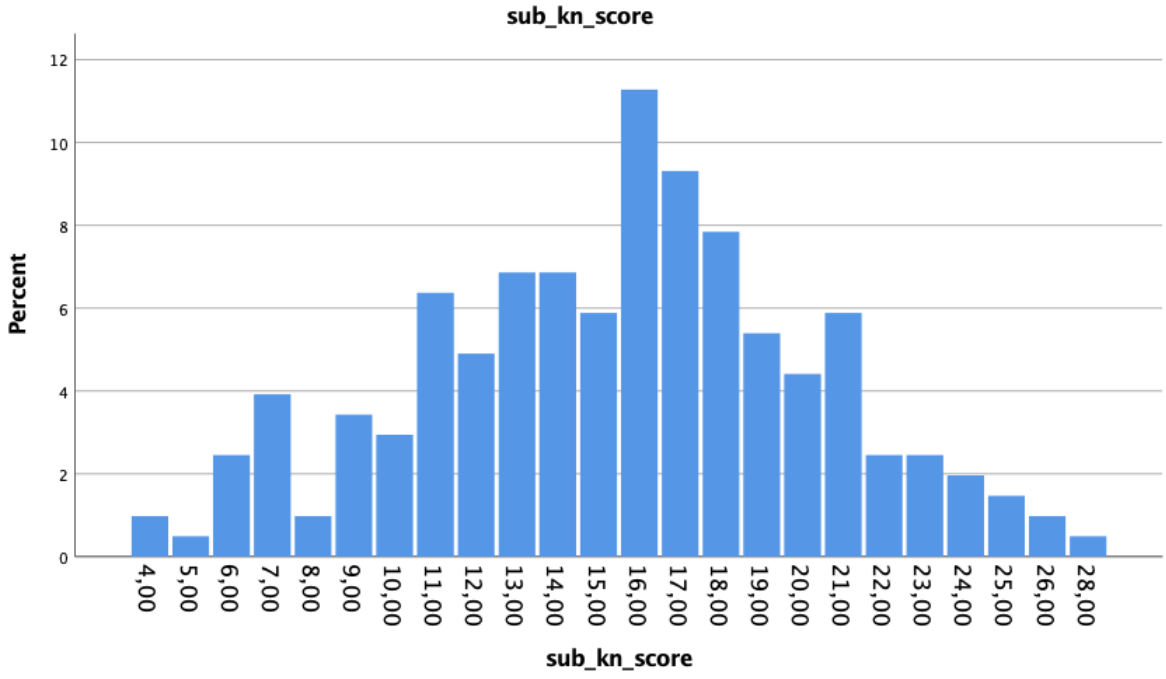

Figure 7: Subjective Knowledge Score

The frequencies of the subjective scores can be seen in the chart above. Respondents range from the lowest possible score (i.e. 4), where the respondents have chosen "totally disagree" in all items related

to subjective knowledge, to the highest possible score (i.e. 28) where one respondent have chosen "totally agree" to all items. This variable will, as mentioned, be used together with objective knowledge to assess if and how environmental knowledge has an influence on perceived greenwashing.

To test if perceived greenwashing can be predicted with the respondents' subjective knowledge, a linear regression analysis is made with subjective knowledge as the predictor.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	183,641	1	183,641	10,894	,001[b]
Residual	3405,236	202	16,858		
Total	3588,877	203			

a. Dependent Variable: Perceived Greenwashing
b. Predictors: (Constant), Subjective Knowledge Score

Table 11: ANOVA Model - Perceived Greenwashing and Subjective Know. Score

As shown, the regression is significant (,001<,05). Perceived greenwashing can therefore be predicted with the subjective knowledge score.

R	R Square	Adjusted R Square	Std. Error of the Estimate
,226[a]	,051	,046	4,10580

a. Predictor: (Constant), Subjective Knowledge Score
b. Dependent Variable: Perceived Greenwashing

Table 12: Model Summary - Subjective Knowledge

As the model summary above shows, the Adjusted R Square is ,046 which means that 4,6 percent of the variance in perceived greenwashing is explained by subjective knowledge.

4.4 One sample T-test

To test whether the level of product involvement affects how greenwashing is perceived by the consumer, we have included both high- and low-involvement products in the survey (four in total). To test the relationship between involvement level and perceived greenwashing, two of the

examples are used (i.e. one high- and one low-involvement). The examples shown to the respondents can be seen below.

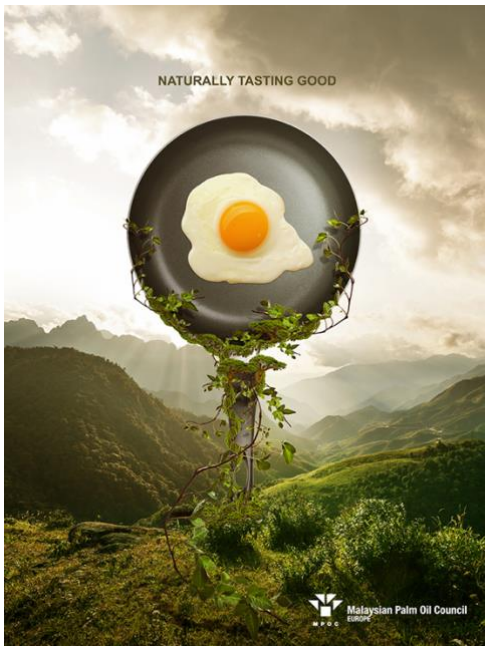

Figure 8: Malaysian Palm Oil (Example 1)

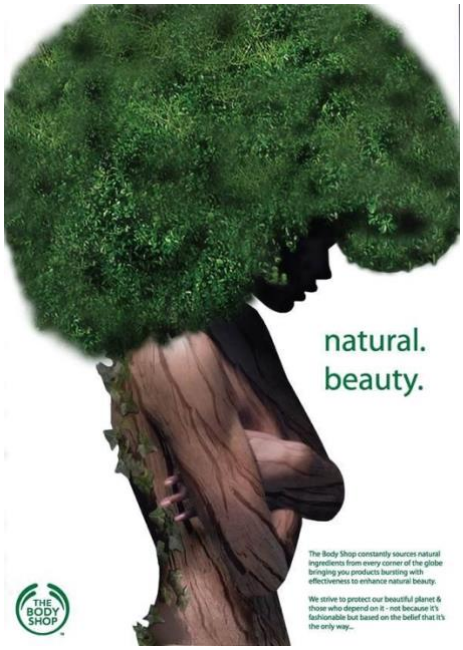

Figure 9: The Body Shop (Example 2)

These examples are chosen because they are similar in their message and are both guilty of all five items related to greenwashing in the survey. Example 1, Malaysian Palm Oil is classified as a low involvement product, as a low involvement product is described as a homogenous frequency buy (i.e. products that consumers buy frequently). There are little significant brand differences and consumers are most likely not committed to any brand (Ahmad & Umar, 2009). On the other hand, example 2 which is by The Body Shop can be classified as a high involvement product, as it differs more from products in its product category and because purchase frequency is lower (Ahmad & Umar, 2009).

The respondents are given a score depending on how many of the five items they have chosen in the survey. To see how the two examples, compare, a one-sample t test is made for each example.

	N	Mean	Std. Deviation	Std. Error Mean
Low involvement	204	2,2059	1,27761	,08945
High involvement	204	1,6373	1,45399	,10180

Table 13: One-Sample T Test, Low- & high-involvement, descriptive

The mean score is found to be lower in Example 2 (i.e. high involvement) than Example 1 (i.e. low involvement). On average, the respondents perceived ,57 more greenwashing issues in the low-involvement example. Both means are relatively low compared to the possibility of selecting all five items, since they are all true.

By performing a new one-sample t test on the high involvement example using the low involvement mean as the test value, the difference in the two samples is presented below.

	Test Value = 2,2059				95 % Confidence Interval of the Difference	
	t	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Lower**	**Upper**
High Involvement	-5,586	203	,000	-,56863	-,7693	-,3679

Table 14: One-Sample T Test, High-involvement compared to low-involvement

The comparison of means shows that there is a significant difference (Sig. =,000). As stated, the mean of the high-involvement product is -,57 lower than the low-involvement, which is contradictory to the results of Akturan (2018), who found that perceived greenwashing is stronger in high-involvement products.

The biggest differences in terms of items selected are item 2, 5 and 6 respectively (see table below).

- Item 2 addresses misleading visuals or graphics
- Item 5 addresses masking important information
- Item 6 is the option to say “I do not see any problems with this ad”. This item has not been included in the calculation of the scores.

Item	Frequency, low involvement	Frequency, high involvement	Difference
1	38	48	10
2	130	57	73
3	59	57	2
4	115	111	4
5	108	61	47
6	20	50	30

Table 15: Frequency (Low and High Involvement)

4.5 Kruskal-Wallis H-test

4.5.1 Trust for low involvement products

The table below shows the output of Kruskal-Wallis H-test on trust. We have performed the test separately for the three items of trust, brand credibility and brand association. The grouping variables (i.e. *Perceived Greenwashing (Example 1 & 2)*) are variables calculated by the number of greenwashing violation the respondents detected in the respective example. The respondents were able to select six possible answers whereof five were violations of greenwashing and one was "I see no issues with this ad". A score between 0 and 5 is assigned to each respondent, where 0 is assigned to those who perceive no greenwashing and 5 is assigned to those who selected all five items of greenwashing violations.

	Trust_1.1	Trust_2.1	Trust_3.1
Kruskal-Wallis H	25,170	21,968	31,665
df	5	5	5
Asymp. Sig.	,000	,001	,000

a. Kruskal Wallis Test
b. Grouping Variable: Perceived Greenwashing (Example 1)

Table 16: Kruskal Wallis H-test (Trust - Low Involvement)

There are three questions in the questionnaire regarding trust. All three questions have been included in the Kruskal-Wallis H test. As seen in the table above, the p-values are 0,000, 0,001 and 0,000 respectively which are all below the alpha (i.e. ,05). The respondents' choices regarding trust is thus statistically significantly different based on their level of perceived greenwashing.

4.5.2 Brand credibility for low involvement products

To test whether perceived greenwashing has an effect on brand credibility, the Kruskal-Wallis H test is performed.

	Credibility_1.1	Credibility_2.1	Credibility_3.1
Kruskal-Wallis H	15,278	35,295	39,893
df	5	5	5
Asymp. Sig.	,009	,000	,000

a. Kruskal Wallis Test
b. Grouping Variable: Perceived Greenwashing (Example 1)

Table 17: Kruskal Wallis H-test (Credibility - Low Involvement)

The test results show that perceived greenwashing has a significant effect on all three questions related to brand credibility.

The first (i.e. 1.1) states "This company is capable of living up to their promises" to which the respondents indicate if they agree or not on a five point Likert-scale. The degree of perceived greenwashing had significant effect on their answer in this question, since the p-value is below alpha (,009<,05.)

The second states "I trust that the product is like the company present it". The Kruskal-Wallis H test showed that there was a statistically significant difference in the respondents' answer of this question based on their level of perceived greenwashing (p=,000<,05).

The third states "This company pretend to be something that it is not". The answers in this question are also statistically significantly different depending on the respondents' level of perceived greenwashing (p=,000<,05).

4.5.3 Brand Associations for Low Involvement Products

Brand associations are measured using one item (i.e. quality). The item is included to test whether perceived greenwashing affects consumers' perception of quality.

	Association_1.1
Kruskal-Wallis H	21,616
df	5
Asymp. Sig.	,001

a. Kruskal Wallis Test
b. Grouping Variable: Perceived Greenwashing (Example 1)

Table18: Kruskal Wallis H-test (Brand Associations - Low Involvement)

The Kruskal-Wallis H test showed that there was statistically significant difference in the answers to this question based on the respondents' level of perceived greenwashing (p=,001<,05)

4.5.4 Trust for high involvement products

The Kruskal-Wallis H test above is repeated for an example with a high-involvement product. As mentioned, the grouping variable for this test is Perceived Greenwashing (Example 2) since these scores are calculated with the respondents' perceived greenwashing in regard to this specific example.

	Trust_1.2	Trust_2.2	Trust_3.2
Kruskal-Wallis H	56,093	34,322	28,216
df	5	5	5
Asymp. Sig.	,000	,000	,000

a. Kruskal Wallis Test
b. Grouping Variable: Perceived Greenwashing (Example 2)

Table 19: Kruskal Wallis H-test (Trust - High Involvement)

Similarly, to the low-involvement example, the effect of perceived greenwashing is significant on all three questions related to trust. The p-value is below alpha (i.e. ,05) in all cases with all being ,000.

4.5.5 Brand credibility for low involvement products

	Credibility_1.2	Credibility _2.2	Credibility _3.2
Kruskal-Wallis H	47,198	37,539	41,415
df	5	5	5
Asymp. Sig.	,000	,000	,000

a. Kruskal Wallis Test
b. Grouping Variable: Perceived Greenwashing (Example 2)

Table 20: Kruskal Wallis H-test (Credibility - High Involvement)

The respondents' level of perceived greenwashing also had a significant effect on all three questions related to credibility. The p-value is below alpha (i.e. ,05) in all cases with all being ,000.

4.5.6 Brand association for low involvement products

	Association_1.2
Kruskal-Wallis H	31,362
df	5
Asymp. Sig.	,000

Table 21: Kruskal Wallis H-test (Brand Associations - High Involvement)

The answers in the question related to associations were also statistically significantly different depending on the respondents' level of perceived greenwashing (p=,000<,05).

4.6 Correlations

With the results from the Kruskal-Wallis H tests above, we can assume that the respondents' perceived greenwashing affects their level of trust, credibility and associations. Our three hypotheses for these concepts predicts that perceived greenwashing will affect them negatively. To reject or accept these hypotheses, correlation analyses are conducted. Because the answers to the questions related to trust, credibility and associations are collected with a five point Likert scale, the Spearman's rank correlation is used.

4.6.1 Trust

The analysis shows statistically significant correlations between level of perceived greenwashing and all three questions related to trust in both examples. Furthermore, all correlations are found to be negative, which confirms the hypothesis that perceived greenwashing negatively affects trust.

			Perceived greenwashing (example 1)	Trust_1.1	Trust_2.1	Trust_3.1
Spearman's rho	Perceived greenwashing (example 1)	Correlation Coefficient	1,000	-,332	-,295	-,341
		Sig. (2-tailed)		,000	,000	,000
		N	204	204	204	204

Table 22: Correlations, Perceived greenwashing & Trust (Example 1)

			Perceived greenwashing (example 2)	Trust_1.2	Trust_2.2	Trust_3.2
Spearman's rho	Perceived greenwashing (example 2)	Correlation Coefficient	1,000	-,522	-,403	-,365
		Sig. (2-tailed)		,000	,000	,000
		N	204	204	204	204

Table 23: Correlations, Perceived greenwashing & Trust (Example 2)

In example 1, the correlation is strongest in question 3.1 with a negative correlation of ,341. The correlation is weaker in question 1.1 where the negative correlation is ,332 and weakest in question 2.1 with a negative correlation of ,295.

In example 2, the correlation is strongest in question 1.2 with a negative correlation of ,522. The correlation is weaker in question 2.2 where the negative correlation is ,403 and weakest in question 3.2 with a negative correlation of ,365.

4.6.2 Credibility

The analysis shows statistically significant correlations between level of perceived greenwashing and all three credibility questions in both examples. Furthermore, all correlations are found to be negative, which confirms the hypothesis that perceived greenwashing negatively affects credibility.

			Perceived greenwashing (example 1)	Cred_1.1	Cred _2.1	Cred _3.1
Spearman's rho	Perceived greenwashing (example 1)	Correlation Coefficient	1,000	-,259	-,388	-,422
		Sig. (2-tailed)		,000	,000	,000
		N	204	204	204	204

Table 24: Correlations, Perceived greenwashing & Credibility (Example 1)

			Perceived greenwashing (example 2)	Cred_1.2	Cred _2.2	Cred _3.2
Spearman's rho	Perceived greenwashing (example 2)	Correlation Coefficient	1,000	-,480	-,410	-,431
		Sig. (2-tailed)		,000	,000	,000
		N	204	204	204	204

Table 25: Correlations, Perceived greenwashing & Credibility (Example 2)

In example 1, the correlation is strongest in question 3.1 with a negative correlation of ,422. The correlation is weaker in question 2.1 where the negative correlation is ,388 and weakest in question 1.1 with a negative correlation of ,259.

In example 2, the correlation is strongest in question 1.2 with a negative correlation of ,480. The correlation is weaker in question 3.2 where the negative correlation is ,431 and weakest in question 2.2 with a negative correlation of ,410.

4.6.3 Associations

			Perceived greenwashing (example 1)	Association_1.2
Spearman's rho	Perceived greenwashing (example 1)	Correlation Coefficient	1,000	-,241
		Sig. (2-tailed)		,001
		N	204	204

Table 26: Correlations, Perceived greenwashing & Brand Associations (Example 1)

			Perceived greenwashing (example 2)	Association_1.2
Spearman's rho	Perceived greenwashing (example 2)	Correlation Coefficient	1,000	-,355
		Sig. (2-tailed)		,001
		N	204	204

Table 27: Correlations, Perceived greenwashing & Brand Associations (Example 2)

The analysis shows statistically significant correlations between level of perceived greenwashing and associations in both examples. Furthermore, both correlations are found to be negative (-,241 in example 1 and -,355 in example 2), which confirms the hypothesis that perceived greenwashing negatively affects associations.

4.7 Hypotheses evaluation

This section will be devoted to the evaluation of our hypotheses. Hypotheses 1a and 1b will be evaluated based on the linear regression and hypotheses 2 will be evaluated based on the T-test and lastly, hypotheses 3,4 and 5 will be evaluated on basis on of the Kruskal-Wallis H-test and Spearman's Rank Correlation.

> *H1a: Objective environmental knowledge affects how greenwashing is perceived by the consumer.*

As we found out from the linear regression (see chapter 4.3), the regression is not significant (,705>,05). And as the coefficient is insignificant, we therefore reject hypotheses H1a.

H1b: Subjective environmental knowledge affects how greenwashing is perceived by the consumer.

As well as objective environmental knowledge, we also analyzed the effect of subjective knowledge. As opposed to the regression for objective knowledge, the regression for subjective knowledge is significant (,001<,05). Therefore, we accept hypothesis H1b. Subjective environmental knowledge does have an effect on how greenwashing is perceived by the consumer.

H2: The level of the product involvement (high or low level) affects how greenwashing is perceived by the consumer.

From our T-test analysis, we found evidence supporting the hypothesis. Thus we accept hypotheses H2, as the level of the product involvement (high or low) does affect how greenwashing is perceived by the consumer. In fact, the level of perceived greenwashing was higher for the low involvement products than the high involvement products. This is contradictory to the results of Akturan (2018), who found that perceived greenwashing is stronger in high-involvement products.

H3: Greenwashing negatively affects the consumer trust of a brand.

From our Spearman's Rho analysis, we found statistically negative significant correlations between level of perceived greenwashing and all three trust questions in the example for both the high and low involvement product. We therefore accept hypothesis H3 as greenwashing negatively affects the consumer trust. This is in consensus with the results of Aji & Sutikno (2015).

H4: Greenwashing negatively affects the brand associations of a brand.

Likewise, from a Spearman's Rho analysis, we found statistically negative correlations between the level of perceived greenwashing and brand associations. Therefore, we accept hypotheses H4, as greenwashing negatively affects brand associations. This is in consensus with the results of Dwivedi & McDonald (2018).

H5: Greenwashing negatively affects the brand credibility of a brand.

Lastly, we conducted the Spearman's Rho analysis on the last item, which was brand credibility. We found a negative, significant correlation between perceived greenwashing and brand credibility. We therefore accept hypotheses H5, as perceived greenwashing negatively affects the brand credibility. This is in consensus with the results of Musgrove et al. (2018).

5. Conclusion

The previous chapter presented our findings of our research. We found support for hypotheses H1b, H2, H3, H4 and H5. This chapter will contain our discussion of the results, the conclusion, theoretical contribution, managerial implications, limitations and future research. Shown below (Figure 10) is the conceptual framework after our analysis. The only thing changed is the fact, that objective knowledge did not have an effect on perceived greenwashing. Subjective environmental knowledge had an effect, therefore "Subjective Environmental Knowledge" is included in the framework.

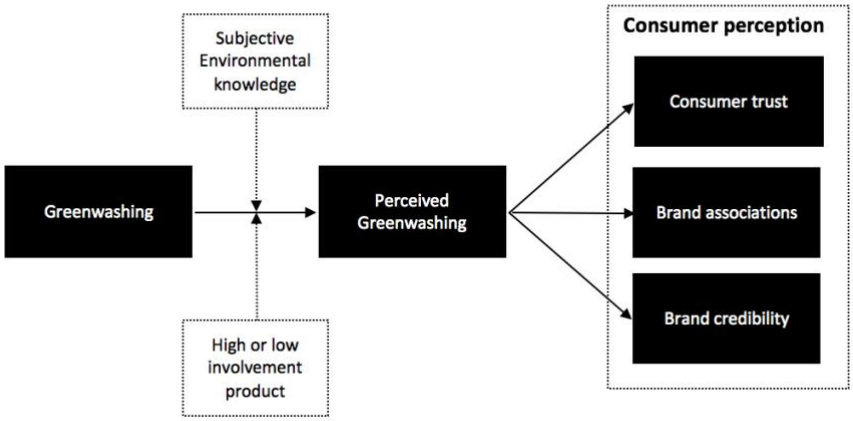

Figure 10: Framework after analysis

5.1 Discussion

In this section, we will discuss the findings in relation to existing evidence. In this thesis, six hypotheses based on past literature are tested to study the relationship between greenwashing and consumer perceptions. A questionnaire is used for data collection and statistical analyses are used to test the relationships between the concepts in our conceptual framework.

Environmental knowledge

From the literature review, we found evidence that environmental knowledge had an impact on how consumers perceived greenwashing. Based on studies by Akturan (2018) and Schmuck et al. (2018), we therefore divided the category into objective- and subjective knowledge, as they found a

correlation between the negative effect of greenwashing and the level and type of information and knowledge a consumer possess about sustainability.

A linear regression analysis was performed to test the relationships. The results showed no significant linear regression between objective knowledge and perceived greenwashing. The linear regression was however significant for subjective knowledge which indicates that subjective environmental knowledge affects consumers' tendency to perceive greenwashing. Therefore, we accepted hypotheses 1b and rejected hypotheses 1a.

Our results are in consensus with those of Nguyen, et al., (2019) and Aertsens, et al., (2011) who similarly found that subjective environmental knowledge had an influence on attitudes and behavior while objective knowledge did not.

Since subjective knowledge is what individuals perceive to know about sustainability, we argue that this hypothesis is accepted, as those who have the perception of a high individually level of knowledge on the subject of sustainability, might also be the ones that search for information and educate themselves on the subject. Such information may be more related to personal benefits of sustainable products (Bullock & Johnson, 2017), and will thereby not increase the level of objective knowledge about how such products are produced and under which regulations.

High or low involvement product

High and low involvement products can be divided into categories based on for example their price, importance, the level of risk in a product's purchase, frequency of purchase etc. (Ahmad & Umar, 2009). In our questionnaire we included four examples of commercials, whereof two are low involvement products and two are high involvement products. In our analysis, we used the examples of Malaysian Palm Oil and H&M. We classified Malaysian Palm Oil (palm oil) as a low involvement product and H&M (clothing) as a high involvement product.

A One-Sample T Test was used to compare the mean perceived greenwashing in the two examples. The test revealed a mean difference of ,57 with the low-involvement being the highest. This result is contradictory to the results of Akturan (2018) who found that high-involvement products where more negatively affected by greenwashing. This also comes as a surprise as the level of product involvement is a goal-oriented, emotional state of interest and the excitement that consumers exhibit towards a specific product. Therefore, one could assume that the perceived greenwashing would be higher for the high involvement products, as these products often cause

more elaboration by the consumer to maximize personal gain and because the consumer has more invested in the transaction (Akturan, 2018). Nevertheless, from a marketing perspective, this means that commercials of brands with low involvement products are more inclined to be judged as greenwashing than commercials of brands with high involvement products.

The results may have been affected by the difference in product type, with the low involvement example being a food product and the high involvement example being a clothing product. Moreover, the high involvement product is a familiar brand, while the low involvement is not.

Consumer trust

In our analysis, we hypothesized that perceived greenwashing would negatively affect the consumer trust of the brand. A Kruskal Wallis Test was used to test whether the respondents' choices regarding trust is statistically significantly different based on their level of perceived greenwashing and a Spearman's rank correlation test determined if the correlation was positive or negative. This method is also used for the following two items (i.e. Associations and Credibility)

The results showed that perceived greenwashing affected both items negatively which is in consensus with the results of Aji & Sutikno (2015). Consumers lose trust in companies that engage in greenwashing and they perceive them as misleading and unreliable. Brands should therefore avoid using greenwashing in their marketing activities, as the majority of consumers are willing to boycott brands that use misleading green claims (Musgrove, et al., 2018).

As perceived greenwashing also affects the product range as a whole, and not only the brand that has comitted the greenwashing, companies can be harmed by an act of another company in their product category. Therefore, evidence for green claims is especially important, since other companies' greenwashing violations can cause skeptism in genuine green attributes.

Brand associations

Through our analysis we also found a negative correlation between perceived greenwashing and brand association which confirms the theory by Dwivedi & McDonald (2018). As with trust, it might be obvious and not come as a surprise that a consumer's brand associations are affected negatively if a company conducts greenwashing. In our study, the association was focused on product quality. Brands should therefore be careful with their green claims, as it can affect the overall associations of the brand. Since product quality was negatively correlated with perceived greenwashing, it is evident

that the detected deceptions in relation to green attributes negatively affects perception of quality attributes.

Brand credibility

The last item we investigated was brand credibility, which to some extent is in relation to brand association. For this item the tests also showed a negative correlation with perceived greenwashing. Dwivedi & McDonald (2018) studied both brand associations and brand credibility and their results, as mentioned in the previous section, suggested that these two items were negatively affected by greenwashing. If a consumer recognizes greenwashing, untrue or misleading claims from a brand, they would be inclined to distrust other claims of the brand such as product quality (Musgrove, et al. (2018), harming a brand's credibility overall. Brands should therefore avoid using greenwashing in their claims and commercials, as it also harms their credibility.

All three items related to consumer perceptions showed negative correlations with perceived greenwashing. The level of consumer's perceived greenwashing is thus a threat to companies who engage in greenwashing, and as consumer awareness could be expected to increase prospectively, the negative consequences of greenwashing will be greater. It will become less and less appealing to greenwash, since the negative outcomes will come to outweigh the positive outcomes.

Consumer skepticism may increase alongside awareness, which will make evidence for green claims more important than it already is. A global system for eco-labeling would be beneficial and make it easier to share information about both sustainable products and unsustainable products.

5.2 Conclusion

The overall aim of this research is to answer the main problem formulation: *What is the impact of greenwashing in consumers' perception of brands?* In order to answer this, five research questions were developed.

The first research question asks to give a broader picture of greenwashing as a concept. Greenwashing is not a new phenomenon as it has existed since the mid 1980s but the term has gained a lot of attention the last decade. The term is the combination of the word "brainwashing" and "green" (environmental) and the act of greenwashing is the practice of making overblown or unsubsidized claims of sustainability or environmental friendliness in an attempt to gain market share and increase sales. When companies engage in greenwashing, there are "seven sins" they can

commit in regard to misleading advertisement. These are: Sin of the hidden trade-off, sin of no proof, sin of vagueness, sin of worshipping, sin of irrelevance, sin of the lesser of two evils and sin of the fibbing.

The second research question: *How can consumers' knowledge about sustainability be measured?* In this thesis, knowledge about sustainability is divided into an objective and subjective category. To measure the objective knowledge about sustainability, an objective score is measured using a quiz in the questionnaire with an additional measurement of certainty. By doing so, we were able to achieve a greater validity, as we eliminated the possibility of people guessing when answering the questions. They had to answer how certain they were of their answer and combined with an either correct or false answer, they got an objective score.

Subjective knowledge about sustainability was measured using a Likert scale where the respondents had to assess their own level of knowledge. We used a 7 Point Likert scale to measure the subjective knowledge.

The third research question was: *What is the relationship between consumer perception of brands and greenwashing?* First of all, we found that consumers perceive greenwashing differently based on their subjective environmental knowledge and whether the given product is a low involvement or high involvement product. In our research, we classified Malaysian Palm Oil (palm oil) as a low involvement product and H&M (clothing) as a high involvement product and found that the level of the product involvement (high or low) does affect how greenwashing is perceived by the consumer. The perceived greenwashing was higher for the low involvement products. Therefore, the relationship between consumer perception of brands and greenwashing is first determined by how consumers perceive greenwashing, also called consumers' "perceived greenwashing". Perceived greenwashing influence consumer perception, where we found three items; consumer trust, brand associations and brand credibility. The more greenwashing consumers perceive, the more negative relationship there is with these three items.

Lastly, the final research question is regarding the future, thus *"How will greenwashing affect consumers' perceptions of brands in the future?"*. Consumers are now more informed than ever with the improving access to information and opportunities to share their experiences more widely. They are more skeptical about the ability of big brands to keep their promises and expect more from

companies. Furthermore, the world has been affected by big catastrophes, latest the pandemic affecting the whole world. Even though the pandemic cannot be directly linked and are not caused by non-sustainable practices, it might open the eyes of consumers. The canals in Venice has for the first time in 60 years been clear and air pollution over China has gone down since the coronavirus outbreak. People are getting more aware of the changes a more sustainable world could contribute with and the demand for more sustainable products and sustainable practices may be higher for the years to come. Alternatively, this could result in more and more firms engaging in greenwashing, falsely pretending to be environmentally conscious by presenting their products with misleading imagery, packaging color and words to create a trusting bond between the product/company and the consumer.

Our results suggest that greenwashing is not an optimal strategy in the context of our sample of young university students. This sample may have a more comprehensive knowledge about sustainability than average due to their characteristics of education and age, but the results show that the negative effects of perceived greenwashing is significant. If or when information about sustainability becomes common knowledge, greenwashing will be challenging, since the consumers will be harder to fool. Therefore, we predict that big, established and popular brands will be reluctant to engage in greenwashing because of the potential backlash.

5.3 Implications for practitioners and researchers

For brands: Our research is important for brands and companies, as it confirms that is not a wise choice for brands to engage in greenwashing. Even though some consumers will be not be aware of the greenwashing, other consumers will detect it. The backlash of greenwashing, according to our findings, is that it negatively affects consumer trust, brand associations and brand credibility. It can therefore be very harmful for companies and cause backlash – especially today, in a world of social media, where eWOM is a strong enforcement.

For researchers: Our research provides interesting and confirming findings for researchers in the field. The research has shown that subjective environmental knowledge and the product involvement level affects how greenwashing is perceived. Further, it showed that perceived greenwashing affected consumer trust, brand associations and brand credibility negatively, which confirms existing theory of this subject. Furthermore, it would be interesting for researchers to investigate the implications of greenwashing, consumer perception and how it affects consumer purchase behavior.

5.4 Limitations

As to every research, this thesis also had some limitations. First of all, as there is a limited time frame to finalize the thesis, the overall research is also affected. In regard to the literature review, we limited our keyword research. If the time limit had been longer, other and more synonyms of the keywords could have been used, giving a deeper insight into current research. This would also have impacted the whole process of the research.

Due to the Covid19 situation we were limited in our data collection. We could not go through with focus group interviews. Including focus groups in our data collection could have given us a deeper understanding of consumer perception when brands engage in greenwashing. Another methodological position would have led to another research approach and could have resulted in another outcome of the thesis. Focus groups could also have been used as the questionnaire pre-test, where more opinions and perspectives on the questions would have been found.

Considering our data collection and the distribution of the questionnaire, the questionnaire was distributed to Danish students from three faculties on Aalborg University. One could criticize that this choice excludes students from other parts of Denmark, thus does not represent other students in Denmark. Furthermore, the distribution of the questionnaire was only possible through the student secretary and it was not possible to send the questionnaire out through Email. The questionnaire was posted to an online noticeboard and students were not alarmed or made aware that there was a questionnaire. Therefore, it was random how many of the students saw the questionnaire.

5.5 Future Research

This thesis is an addition to already existing knowledge of the researched field as we worked with hypotheses, where we confirmed 5 out of 6 of them. As this is an objective study, we can also generalize the study to some extent as the study was made on Danish students. For further research it could be interesting to look at how perceived greenwashing affected consumer behavior. Though perceived greenwashing had a negative effect on consumer trust, brand credibility and brand associations, it is not certain that is will have a negative effect on the consumer behavior and purchase intentions. This could be interesting to investigate in both the food industry but also in the fashion industry to make a comparison. An example from the fashion industry could be H&M or Zara, which are both huge clothing brands. An investigation of how greenwashing affects consumer behavior, if consumers were aware of some of the unsustainable practices they use to produce their

clothing. We already clarified in this study, as we included an example of H&M, that greenwashing negatively affected consumer perception of the brand. A study of the conflict of greenwashing and the fact that many consumers may still want to wear the newest (and cheapest) fashion. A comparison with the food industry could be interesting to see if there is difference in the consumer behavior.

Another additional approach to this study could be to combine quantitative study with qualitative study by doing a focus group interview. In a questionnaire, respondents do not always state or have the ability to state and explain their actual behavior but more likely a behavior which these participants wish to have. Hence why, the actual behavior might differ from the results found. By adding qualitative data, we would also have had the possibility to dive deeper into consumer perception.

6. Reflections

Being at the end of the thesis and also at the end of the educational track of the Master education, there are some reflection that can be done. First of all, it has been challenging to finish the thesis due to the Covid-19 pandemic in the world. We as researchers had to work together from apart and the situation also narrowed down the possibilities for the data collection. For example, a focus group interview had been useful and maybe also more effective for our data collection. This would, of course, also change our paradigmatic view of the thesis, but could have given us a deeper insight to consumer perception and the elements within.

Reflecting on the topic, the researchers are now more attentive to brands' commercials, as many of them actually has some sort of greenwashing in them, especially now when consumers are getting more aware of sustainability. The phrase "ignorance is bliss" may be fitting for greenwashing and sustainability in general. While some products are better than others in terms of environmental footprint, they are not necessarily the solution to the climate issues. They can however be the start of the progress toward a sustainable world. Greenwashing negatively affects this progress by seeding doubt about green products in the consumers. Harder penalties for greenwashing or a global eco-label system could thus be valuable initiatives.

Reflecting on the process, both of us has been happy to work in a group of two. Even though it has been challenging to meet in person for the last two and a half months due to the pandemic, the

researchers made it work and it has been rewarding having the possibility to discuss all the aspects of the thesis together.

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Appendix

Appendix 1: Questionnaire in Danish (original)

Velkommen til vores spørgeskema!

Vi er to kandidatstuderende, som er i gang med at skrive vores speciale i International Marketing.

Vi trækker lod blandt de gennemførte spørgeskemaer om en **præmie på 150 kr.** Kontaktinfo indtastes som det sidste i spørgeskemaet.

Spørgeskemaet tager ca. 10 minutter at gennemføre.

Mange tak,

Amanda & Oliver

Køn (gender)

(1) ❑ Mand

(2) ❑ Kvinde

Alder (age)

(1) ❑ 0-18

(2) ❑ 19-30

(3) ❑ 31-40

(4) ❑ 41-50

(5) ❑ 51-60

(6) ❑ 61-70

(7) ❑ 71-80

(8) ❑ 81-90

Fakultet (faculty)

(1) ❑ Det Humanistiske Fakultet

(2) ❑ Det Ingeniør- og Naturvidenskabelige Fakultet

(3) ❑ Det Samfundsvidenskabelige Fakultet

(4) ❑ Det Sundhedsvidenskabelige Fakultet

(5) ❑ Det Tekniske Fakultet for IT og Design

Jeg ved mere end de fleste om bæredygtighed (subjective_1)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Mere eller mindre uenig

(4) ❑ Ved ikke

(5) ❑ Mere eller mindre enig

(6) ❑ Enig

(7) ❑ Helt enig

Jeg ved hvordan man skelner meget bæredygtige fødevarer fra mindre bæredygtige fødevarer (subjective_2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Mere eller mindre uenig

(4) ❑ Ved ikke

(5) ❑ Mere eller mindre enig

(6) ❑ Enig

(7) ❑ Helt enig

Jeg ved meget om sundheds- og sikkerhedsfordelene ved økologiske fødevarer (subjective_3)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Mere eller mindre uenig

(4) ❑ Ved ikke

(5) ❑ Mere eller mindre enig

(6) ❑ Enig

(7) ❑ Helt enig

Folk som kender mig, anser mig som en ekspert i bæredygtige fødevarer (subjective_4)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Mere eller mindre uenig

(4) ❑ Ved ikke

(5) ❑ Mere eller mindre enig

(6) ❑ Enig

(7) ❑ Helt enig

Herunder er en række udsagn om økologiske fødevarer.

Du bedes svare om udsagnet er sandt eller falsk, og hvor sikker du er på dit svar.

1) Økologiske landbrug bruger ikke syntetiske pesticider (objective_1)

(1) ❑ Sandt

(2) ❑ Falsk

Hvor sikker er du på dit svar? (objective_1.2)

(1) ❑ Meget usikker

(2) ❑ Usikker

(3) ❑ Jeg er i tvivl

(4) ❑ Sikker

(5) ❑ Meget sikker

2) Økologiske landbrug kan bruge syntetiske pesticider (objective_2)

(1) ❑ Sandt

(2) ❑ Falsk

Hvor sikker er du på dit svar? (objective_2.2)

(1) ❑ Meget usikker

(2) ❑ Usikker

(3) ❑ Jeg er i tvivl

(4) ❑ Sikker

(5) ❑ Meget sikker

3) Organiske landbrug kan bruge genetisk modificerede frø (objective_3)

(1) ❑ Sandt

(2) ❑ Falsk

Hvor sikker er du på dit svar? (objective_3.2)

(1) ❑ Meget usikker

(2) ❑ Usikker

(3) ❑ Jeg er i tvivl

(4) ❑ Sikker

(5) ❑ Meget sikker

4) Økologiske grøntsager kan være bestrålet for at forlænge holdbarheden (objective_4)

(1) ❑ Sandt

(2) ❑ Falsk

Hvor sikker er du på dit svar? (objective_4.2)

(1) ❑ Meget usikker

(2) ❑ Usikker

(3) ❑ Jeg er i tvivl

(4) ❑ Sikker

(5) ❑ Meget sikker

Herunder er eksempler på "green marketing" hvor bæredygtighed bruges i markedsføring.

Du bedes svare om de viste eksempler;

- Er misledende med dens brug af ord

- Er misledende med dens brug af billeder

- Bruger svage eller ubeviselige påstande

- Overdriver produktets grønne funktioner

- Undlader eller maskerer vigtig information, hvilket får deres grønne påstand til at fremstå bedre

Du kan vælge én eller flere af disse svar

EKSEMPEL 1:

Malaysian Palm Oil (palme olie)

Denne reklame: (s_12)

(1) ❑ Er misledende med dens brug af ord (s_12_1)

(2) ❑ Er misledende med dens brug af billeder (s_12_2)

(3) ❑ Bruger svage eller ubeviselige påstande (s_12_3)

(4) ❑ Overdriver produktets grønne funktioner (s_12_4)

(5) ❑ Undlader eller maskerer vigtig information, hvilket får deres grønne påstand til at fremstå bedre (s_12_5)

(6) ❑ Jeg ser ingen problemer med denne reklame (s_12_6)

EKSEMPEL 2:

FIJI Water (drikkevand)

Denne reklame: (s_17)

(1) ❑ Er misledende med dens brug af ord

(2) ❑ Er misledende med dens brug af billeder

(3) ❑ Bruger svage eller ubeviselige påstande

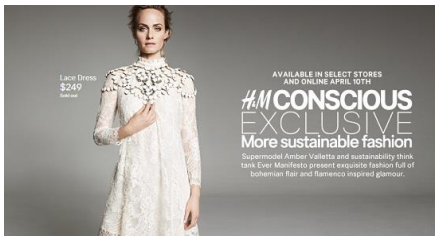
(4) ❑ Overdriver produktets grønne funktioner

(5) ❑ Undlader eller maskerer vigtig information, hvilket får deres grønne påstand til at fremstå bedre

(6) ❑ Jeg ser ingen problemer med denne reklame

EKSEMPEL 3

H&M Conscious (tøj)



Denne reklame: (s_18)

(1) ❑ Er misledende med dens brug af ord

(2) ❑ Er misledende med dens brug af billeder

(3) ❑ Bruger svage eller ubeviselige påstande

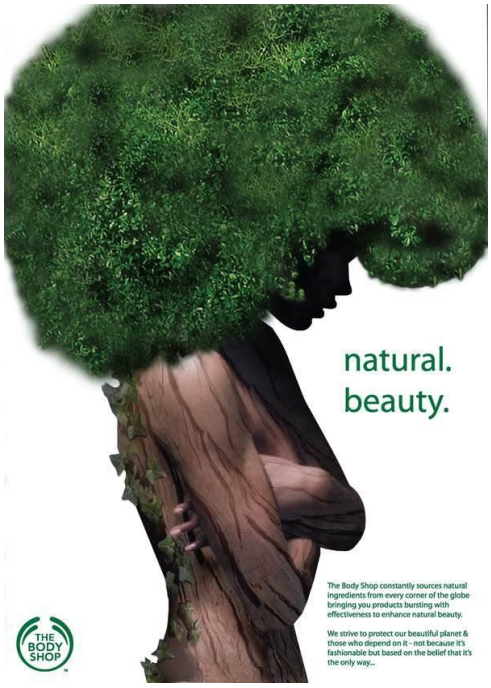
(4) ❑ Overdriver produktets grønne funktioner

(5) ❑ Undlader eller maskerer vigtig information, hvilket får deres grønne påstand til at fremstå bedre

(6) ❑ Jeg ser ingen problemer med denne reklame

EKSEMPEL 4

The Body Shop (kosmetik)



Denne reklame (s_19)

(1) ❑ Er misledende med dens brug af ord

(2) ❑ Er misledende med dens brug af billeder

(3) ❑ Bruger svage eller ubeviselige påstande

(4) ❑ Overdriver produktets grønne funktioner

(5) ❑ Undlader eller maskerer vigtig information, hvilket får deres grønne påstand til at fremstå bedre

(6) ❑ Jeg ser ingen problemer med denne reklame

I denne afsluttende del af spørgeskemaet, bedes du indikere hvordan de viste reklamer påvirker dit syn på virksomheden bag dem.

EKSEMPEL 1

Malaysian Palm Oil (palmeolie)

Efter at have set denne reklame:

Jeg har mere tillid til virksomhedens produkter (trust_1.1)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Jeg har mere tillid til denne type produkter (trust_2.1)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Jeg har mere tillid til denne virksomheds indsats til bæredygtiged (trust_3.1)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Denne virksomhed er i stand til at leve op til dens løfter (credibility_1.1)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Jeg stoler på, at dette produkt er som virksomheden fremviser det (credibility_2.1)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Denne virksomhed udgiver sig for at være noget, som den ikke er (credibility_3.1)

(1) ❑ Helt uenig (5)

(2) ❑ Uenig (4)

(3) ❑ Ved ikke (3)

(4) ❑ Enig (2)

(5) ❑ Helt enig (1)

Jeg anser dette produkt som høj kvalitet (association_1.1)

(1) ❑ Helt uenig

(2) ❑ Uenig

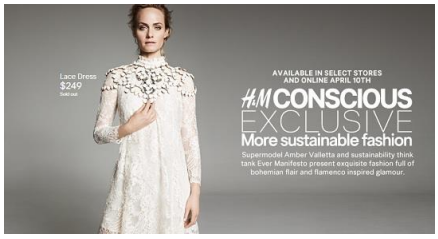
(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

EKSEMPEL 2

H&M Conscious (tøj)



Jeg har mere tillid til virksomhedens produkter (trust_1.2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Jeg har mere tillid til denne type produkter (trust_2.2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Jeg har mere tillid til denne virksomheds indsats til bæredygtighed (trust_3.2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Denne virksomhed er i stand til at leve op til dens løfter (credibility_1.2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Jeg stoler på, at dette produkt er som virksomheden fremviser det (credibility_2.2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Denne virksomhed udgiver sig for at være noget, som den ikke er (credibility_3.2)

(1) ❑ Helt uenig (5)

(2) ❑ Uenig (4)

(3) ❑ Ved ikke (3)

(4) ❑ Enig (2)

(5) ❑ Helt enig (1)

Jeg anser dette produkt som høj kvalitet (Association_1.2)

(1) ❑ Helt uenig

(2) ❑ Uenig

(3) ❑ Ved ikke

(4) ❑ Enig

(5) ❑ Helt enig

Tak for din besvarelse!

Indtast venligst din e-mail (evt. studie mail) herunder, så vi kan kontakte dig, hvis du er vinderen af konkurrencen.

E-mail

_____

Appendix 2: Questionnaire in English (translated)

Welcome to our questionnaire!

We are two students of a masters degree program who are working on our thesis in International Marketing.

We will draw a winner among the completed questionnaires for a prize of 150 kr. Contact info is submitted in the last part of the questionnaire.

The questionnaire takes approximately 10 minutes to complete.

Thank you,

Amanda & Oliver

Gender (gender)

(1) ❑ Male

(2) ❑ Female

Age (age)

(1) ❑ 0-18

(2) ❑ 19-30

(3) ❑ 31-40

(4) ❑ 41-50

(5) ❑ 51-60

(6) ❑ 61-70

(7) ❑ 71-80

(8) ❑ 81-90

Faculty (faculty)

(1) ❑ Det Humanistiske Fakultet

(2) ❑ Det Ingeniør- og Naturvidenskabelige Fakultet

(3) ❑ Det Samfundsvidenskabelige Fakultet

(4) ❑ Det Sundhedsvidenskabelige Fakultet

(5) ❑ Det Tekniske Fakultet for IT og Design

I know more about sustainability than most people (subjective_1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ Somewhat disagree

(4) ❑ I don't know

(5) ❑ Somewhat agree

(6) ❑ Agree

(7) ❑ Strongly agree

I know how to distinguish very sustainable food products from less sustainable food products (subjective_2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ Somewhat disagree

(4) ❑ I don't know

(5) ❑ Somewhat agree

(6) ❑ Agree

(7) ❑ Strongly agree

I know a lot about the health- and safety related advantages of organic food products (subjective_3)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ Somewhat disagree

(4) ❑ I don't know

(5) ❑ Somewhat agree

(6) ❑ Agree

(7) ❑ Strongly agree

People who know me consider me as an expert in sustainable food products (subjective_4)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ Somewhat disagree

(4) ❑ I don't know

(5) ❑ Somewhat agree

(6) ❑ Agree

(7) ❑ Strongly agree

Beneath is a list of statements about organic food products.

Please answer whether the statement is true or false, and how certain you are of your answer.

1) Organic farmers use synthetic pesticides (objective_1)

(1) ❑ True

(2) ❑ False

How certain are you of your answer? (objective_1.2)

(1) ❑ Very uncertain

(2) ❑ Uncertain

(3) ❑ I am in doubt

(4) ❑ Certain

(5) ❑ Very certain

2) Organic farmers may use synthetic pesticides (objective_2)

(1) ❑ True

(2) ❑ False

How certain are you of your answer? (objective_2.2)

(1) ❑ Very uncertain

(2) ❑ Uncertain

(3) ❑ I am in doubt

(4) ❑ Certain

(5) ❑ Very certain

3) Organic farmers may use genetically modified seeds (objective_3)

((1) ❑ True

(2) ❑ False

How certain are you of your answer? (objective_3.2)

(1) ❑ Very uncertain

(2) ❑ Uncertain

(3) ❑ I am in doubt

(4) ❑ Certain

(5) ❑ Very certain

4) Organic vegetables may be irradiated to prolong the durability (objective_4)

((1) ❑ True

(2) ❑ False

How certain are you of your answer? (objective_4.2)

(1) ❑ Very uncertain

(2) ❑ Uncertain

(3) ❑ I am in doubt

(4) ❑ Certain

(5) ❑ Very certain

Beneath are examples of ”green marketing” where sustainability is used in commercials

Please answer whether the presented examples;

- Is misleading with it use of words
- Is misleading with its use of pictures
- Uses weak or unprovable claims
- Exaggerates the product’s green functions
- Omits or masks important information, which makes the green claims seem better

You can select one or more of these answers

EXAMPLE 1:

Malaysian Palm Oil (palm oli)

This commercial (s_12)

(1) ❑ Is misleading with its use of words

(2) ❑ Is misleading with its use of pictures

(3) ❑ Uses weark or unprovable claims

(4) ❑ Exaggergates the product's green functions

(5) ❑ Omits or masks important information, which makes the green claims seem better

(6) ❑ I see no issues with this commercial

EXAMPLE 2:

FIJI Water (Drinking water)

This commercial: (s_17)

(1) ❑ Is misleading with its use of words

(2) ❑ Is misleading with its use of pictures

(3) ❑ Uses weark or unprovable claims

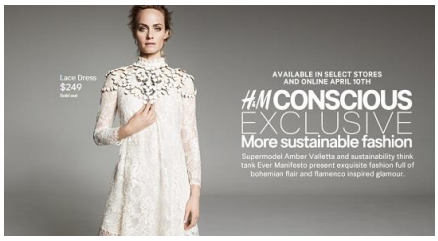
(4) ❑ Exaggergates the product's green functions

(5) ❑ Omits or masks important information, which makes the green claims seem better

(6) ❑ I see no issues with this commercial

EXAMPLE 3

H&M Conscious (Clothes)



This commercial (s_18)

(1) ❑ Is misleading with its use of words

(2) ❑ Is misleading with its use of pictures

(3) ❑ Uses weark or unprovable claims

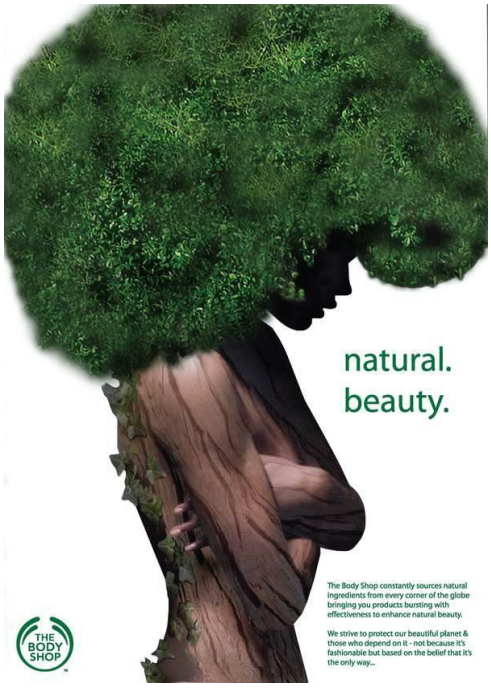
(4) ❑ Exaggergates the product's green functions

(5) ❑ Omits or masks important information, which makes the green claims seem better

(6) ❑ I see no issues with this commercial

EXAMPLE 4

The Body Shop (Cosmetics)



This commercial (s_19)

(1) ❑ Is misleading with its use of words

(2) ❑ Is misleading with its use of pictures

(3) ❑ Uses weark or unprovable claims

(4) ❑ Exaggergates the product's green functions

(5) ❑ Omits or masks important information, which makes the green claims seem better

(6) ❑ I see no issues with this commercial

In this final part of the questionnaire, we ask you to indicate how the presented commercials affect your attitude toward to company behind them.

EXAMPLE 1

Malaysian Palm Oil (palm olie)

After seeing this commercial:

I have more trust toward the company's products (trust_1.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I have more trust toward this type of product (trust_2.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I have more trust toward this comapany's efforts in sustainability (trust_3.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

This company is capable of living up to its promises (credibility_1.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I trust that this product is like the company presents it (credibility_2.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

This company pretends to be something that it is not (credibility_3.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I perceive this product to be of high quality (association_1.1)

(1) ❑ Strongly disagree

(2) ❑ Disagree

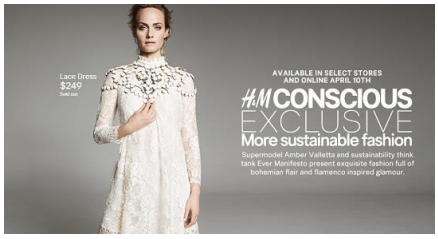
(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

EXAMPLE 2

H&M Conscious (clothes)



After seeing this commercial:

I have more trust toward the company's products (trust_1.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I have more trust toward this type of product (trust_2.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I have more trust toward this comapany's efforts in sustainability (trust_3.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

This company is capable of living up to its promises (credibility_1.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I trust that this product is like the company presents it (credibility_2.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

This company pretends to be something that it is not (credibility_3.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

I perceive this product to be of high quality (association_1.2)

(1) ❑ Strongly disagree

(2) ❑ Disagree

(3) ❑ I don't know

(4) ❑ Agree

(5) ❑ Strongly agree

Thank you for completing the survey!

Please enter your e-mail below so we can contact you, if you are the winner of the prize

E-mail

_____

Appendix 3 – Malaysian Palm Oil

Appendix 4 – FIJI Water

Appendix 5 – H&M Conscious

Appendix 6 – The Body Shop