Greenwashing's effect on Brand Image within the fashion industry

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Abstract

Denne undersøgelse omhandler Greenwashing og hvordan det påvirker Brand Image indenfor modebranchen, og undersøger hvorvidt der er sammenhæng mellem disse to variable. Modeindustrien er i dag en af verdens mest forurenende og klimapåvirkende brancher, og står overfor udfordringer når det kommer til bæredygtighed. Greenwashing er en udfordring i modebranchen, som kan bidrage til at forvirre forbrugerne og gøre det svært at skelne mellem hvad der er reelle bæredygtighedsaktiviteter og hvad der er falsk markedsføring indenfor området.

Denne opgave har til formål at undersøge problemformuleringen, som lyder på *"Hvordan påvirker Greenwashing brandimage i modebranchen, og er der en sammenhæng mellem de to variabler?"* For at understøtte problemformuleringen, er der blevet opstillet en forskningshypotese for at undersøge sammenhængen mellem de to variable, Greenwashing og Brand Image. Undersøgelsen er udarbejdet på baggrund af det videnskabelige paradigme, pragmatisme, samt metodesynet, aktørsynet. Dette har bidraget til at danne rammerne for måden hvorpå undersøgelsen er struktureret på, og hvordan ny viden er blevet tilgået. Greenwashing og Brand Image er blevet defineret og tilpasset til denne specifikke undersøgelse. Dette inkluderer underliggende dimensioner af hver variable. De underliggende dimensioner af Greenwashing indebærer *expectations* og *perceptions* blandt forbrugerne, hvor Brand Image indebærer de to underliggende dimensioner, *brand attributes* og *brand benefits.*

For at undersøge problemformuleringen og teste forskningshypotesen, er der blevet indsamlet data gennem en spørgeskemaundersøgelse, som bygger på den udarbejdede tilgang til målingen af Greenwashing og Brand Image. Greenwashing er blevet målt ved at fratrække *perceptions* fra *expectations,* hvilket giver *the indicator of Greenwashing score.* Brand Image er blevet målt separat ved hjælp af de i alt seks angivne *brand benefits* og *brand attributes.* Efter indsamlingen af data gennem spørgeskemaundersøgelsen, er resultaterne blevet præsenteret gennem statistiske analyser, herunder beregning af Cronbach's alpha samt regressionsanalyser. Resultaterne af disse undersøgelser er blevet fortolket under diskussionen, for at komme frem til et kvalificeret bud på problemformuleringen. Diskussionen indebærer ligeledes begrænsninger, som kan have påvirket fortolkningerne af resultatet, samt muligheder for fremtidig forskning inden for forskningsområdet.

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1. Introduction

Environmental impact, climate footprint and sustainability are pervasive factors affecting the future and the way industries operate. The fashion industry is one of the world's most polluting industries with a profound impact on the earth's climate and resources and several negative environmental impacts can be associated with the production of clothing. The industry is responsible for about 2-8% of the world's greenhouse gas emissions, 20% of the world's water waste and 9% of the annual microplastic loss to the ocean (Climate Trade, 2023).

There is no doubt that the fashion industry needs to shift towards more sustainable business models, a more sustainable direction in terms of production conditions and a circular economy that utilizes resources in a more sustainable way (Adamkiewicz et al, 2022). The fashion industry is one of the largest industries across the world, with Europe as one of the largest markets regarding clothing with a variety of international fashion brands. Western Europe has one of the world's largest textile consumptions and contributes to consumers' throw-away culture and fast fashion, which indicates mass production, low prices and constantly shifting trends. Therefore, the EU has a responsibility in enabling the transition towards a more sustainable fashion industry, which has become more prominent in recent years with focus on guidelines and new regulations (Generation Climate Europe, 2021). The fashion industry needs to take responsibility, but a shift towards a more sustainable and circular industry can be a pressure for companies operating within the fashion industry. This pressure can occur from both the EU but also consumers, who are also focusing more on sustainability within the industry. As a result of this pressure, more companies within the fashion industry turn towards green claims when marketing their products, despite the fact that the companies may actually not implement or perform environmentally friendly and sustainable practices (Mortensen, 2023; Schmuck et al., 2018).

Green claims within the fashion industry can include various aspects of the process of producing clothing such as stating the materials to be natural and recycled, sustainable production conditions, circularity, and climate neutrality. Distinguishing between actual sustainable practices and pure marketing strategies can be difficult for consumers to navigate in, but yet crucial to hold brands accountable for their environmental claims. Therefore, the fashion industry's journey towards sustainability not only involves a change towards

sustainable business models, production conditions and a circular economy, but also dealing with the term Greenwashing. Greenwashing becomes crucial in this context, as the fashion industry tries to adapt to more sustainable changes while struggling with deeply rooted practices that contribute to its environmental impact. Greenwashing can affect consumers' perception of brands environmental commitments and can potentially harm their Brand Image by leading consumers to doubt and question the use of green advertising. Confusion among consumers can make it difficult to assess the reliability of green advertisement and products, which can harm the brands environmental reputation and thereby their Brand Image (Generation Climate Europe, 2021; Parappagoudar et al., 2023)

The above insight into the challenges of Greenwashing within the fashion industry leads to the following research question:

How does Greenwashing affect Brand Image within the fashion industry and is there a relation between the two variables?"

In order to investigate the research question, a research hypothesis have been established to examine whether there is a relation between the two variables, Greenwashing and Brand Image, in order to support and contribute to a qualified answer to the research question.

The research hypothesis established to support the research question includes an alternative hypothesis H1 and a null hypothesis H0 as a standard assumption complementing the alternative hypothesis. The research hypothesis will be tested through calculations in the statistical program SPSS and reported in the thesis. The research hypothesis is as followed:

Null hypothesis H0: *There is no relation between Greenwashing and Brand Image within the fashion industry.*

Alternative hypothesis H1: *Greenwashing has an effect on Brand Image within the fashion industry*.

2. Philosophy of Science

The following section aims to establish a structure of the research and outline the philosophy of science and the methodical approach of the thesis. The philosophy of science refers to how individuals' beliefs and assumes the development of new knowledge. This involves how reality is interpreted, understood, and assumed by human knowledge (Saunders et al., 2019). Within the philosophy of science various scientific paradigms exist which each differ from each other in the way they are positioned regarding the perception of reality. The methodological approach of the thesis builds upon the methodological perspective developed by Arbnor and Bjerke. Methodology involves understanding the way methods are structured and incorporates concepts to help describe and explain the process by which new knowledge is investigated and developed (Arbnor & Bjerke, 2009, p. 13-18). After the sections concerning the philosophy of science and the methodology, the research design and approach will be established in order to address essential steps and connections throughout the process of generating new knowledge in order to answer the research question.

2.1 The scientific paradigm

This thesis is conducted on behalf of the pragmatic approach to science. Pragmatism emerged in the United States in the late 19th and early 20th century under the philosophers Charles Pierce, William James, and John Dewey. Pragmatism aims to balance between objectivism and subjectivism, facts and values, accurate and rigorous knowledge as well as various contextualized experiences This is done by considering theories, concepts, ideas, hypotheses, and research findings in the context they serve in action (Saunders et al., 2019).

Pragmatism is based on the idea that knowledge is only attainable through active participation in practice and that knowledge is acquired by practical involvement. Pragmatists believe that the world cannot be known without being an active participant within it. Therefore, pragmatic research involves investigation in action in order to obtain and generate knowledge about the specific field of research. All the various facets of reality have an impact on how pragmatists approach, comprehend and generate new knowledge. The pragmatic approach to science does not aim to follow a specific path or approach to knowledge in the process of generating new knowledge, but rather to emphasize the facts and concreteness within a specific case and generalizes specifically from that (James & Sheffield, 2019).

Scientific paradigms are framed and structured based on the research assumptions ontology and epistemology underpinning the specific paradigm. The understanding and perspective of ontology and epistemology varies depending on the scientific paradigm. In general terms, ontology refers to assumptions about the nature of reality in terms of what exists and how whereas epistemology refers to assumptions about knowledge, what the knowledge creator knows and how that knowledge is generated and obtained (Saunders et al., 2019, p. 133-135). Pragmatism's position within ontology is based on the assumption that reality is a social construction formed through human interactions. Pragmatism considers knowledge as constructed in a social context with active participation in order to create new knowledge about reality. The pragmatic position within epistemology is based upon the assumption that knowledge is experiential, and the perception of reality being affected by social interactions amongst practical contexts (Kaushik & Walsh, 2019). Pragmatism can incorporate the use of both qualitative and quantitative as well as mixed methods for research. This indicates freedom and flexibility within pragmatism, and the methods applied to the research are selected on behalf of the relevance to the field of research in order to gather data to be able to bring a qualified answer to the research question (Saunders et al., 2019, p. 181).

The methods developed and used for gathering the data and the analysis of the thesis, generally follows the pragmatic approach, where reality is recognized as being socially constructed through dynamic and social engagements. The aim of this thesis has been to create new knowledge about a possible relation between Greenwashing and Brand image within the fashion industry. This has been carried out by gathering data through an online questionnaire among general consumers. With the data gathered through the online questionnaire survey, new insights were obtained through active participation by investigating the research question within a pragmatic context. As the research unfolded, this allowed a deeper exploration and interpretation of the new insights in context to investigate the research question concerning how Greenwashing affects Brand Image within the fashion industry and if there is a relation between the two variables.

The pragmatic approach generally emphasizes facts, concreteness, and observed truth within the specific case investigated and generalizes from that (James & Sheffield, 2019, p. 41). As pragmatism emphasizes concreteness within a specific case, the importance of validity and reliability specifically relies on the purpose of the data needed to support the practices of the pragmatic research. While validity refers to the credibility of the research, reliability refers to

if the research is verifiable or not regarding the accuracy and replicability of the same results and credibility of the research (Yin, 2014, p. 46). The primary data for the thesis has been gathered through a quantitative research approach by an online questionnaire survey. The sample size of the questionnaire survey is 152 responses which is assessed as an acceptable and valid response rate for this survey. According to reliability, the pragmatic approach cannot operate fully within the concept of reliability. The pragmatic approach involves working with facts, concreteness, and observations within the specific case, and therefore not developed to be replicated with accuracy in other studies. The thesis aims to investigate a specific relation between two specific variables and to create insight into the specific context of the research hypothesis.

2.2 The actors view

The thesis is based on the understanding of knowledge and comprehension through active engagement and actions within the context of reality aligned with the pragmatic approach to science and the actors view. The methodological approach of Arbnor and Bjerke distinguishes between three different methodological views, being the analytical view, the system view and the actors view. These three methodological perspectives each assume different aspects of the field of research. Each of these perspectives represents distinct approaches of understanding, explaining, and enhancing the field of research (Arbnor & Bjerke, 2009, pp. 3-22). Observations, the collected data, and the findings of the thesis are based on the actors view. The actors view and the pragmatic approach to science are aligned with each other through the notion that knowledge is acquired through actions and active participation within reality. The actor's view argues that reality is formed and structured through active engagement, with people as participants and knowledge creators and advocates action-oriented research aiming towards deeper understanding and extended freedom. It implies considering all preconceptions and subjecting those preconceptions for reflection when new knowledge is being generated. The process of generating new knowledge should be a process aiming towards presence and active participation rather than passive observation (Arbnor & Bjerke, 2009, pp. 3-33).

In this thesis new knowledge is constructed through interactions with consumers through an online questionnaire survey. The data gathered for the research is dependent and constructed on behalf of interactions among individuals. The thesis aims to understand and investigate if any relation between Greenwashing and Brand Image exists by generating new knowledge

within a social construct. To establish a structured framework for the research, measuring approaches of Greenwashing and Brand Image will be designed to be able to test the research hypothesis and provide a qualified answer to the research question concerning *How does Greenwashing affect Brand Image within the fashion industry and is there a relation between the two variables?"*

2.3 Research design and approach

The purpose of the research design and approach is to address essential steps and connections required throughout the process of generating new knowledge, while establishing a structure for how the research has been conducted (Arbnor & Bjerke, 2009 p. 3-22). In order to provide an overview of the procedure of the thesis, figure 1 below visually illustrates the research design.

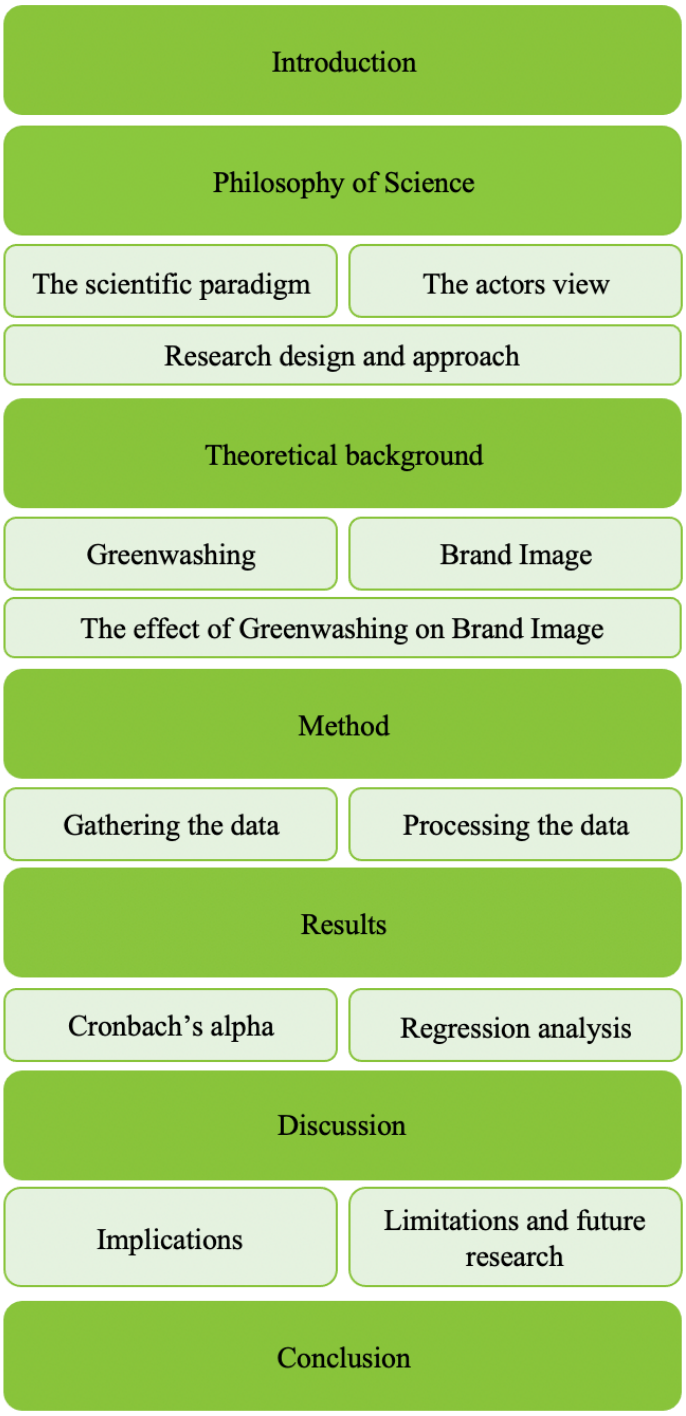

Figure 1: Research design

The research started off with an introduction leading up to the research question where the research hypothesis also was presented. The following part of the research included a section concerning the philosophy of science, which included the scientific paradigm, pragmatism, followed by a section concerning the actors view. Afterwards, this section concerning the research design and approach are presented in order to outline the research design and the research approach, which the research has been developed upon. In the following section the theoretical background will be presented. The theoretical background of the thesis will be centered around presenting the two variables, Greenwashing and Brand Image. The section covering Greenwashing will begin with a definition of the term, followed by an explanation of two different approaches to the concept and finally a comparison of the two approaches. The section covering Brand Image will include a definition of the term as well as approaching the two dimensions of brand associations, being brand attributes and brand benefits. The theoretical background will be concluded with a section about the assumed effect of Greenwashing on Brand Image based on theory, which will subsequently be investigated through the thesis. The next part of the thesis covers the method applied to the research including the gathering of data and processing of data. The gathering of data will be through an online questionnaire survey. The gathering of data will consist of establishing a framework for measuring the two variables, Greenwashing and Brand Image. This will be based on inspiration from previous research and adapted and specified to this specific research. At the end of each section about Greenwashing and Brand Image, the survey questions developed for the questionnaire will be included. Afterwards, the section concerning the processing of the data will include how the data will be managed and analyzed by applying a statistical approach carried out in the program SPSS. This will include the establishment of the research hypothesis, followed by theory about Cronbach's alpha and finally theory about how the regression analysis will be conducted. Next part of the research includes reporting the results of the analysis carried out in SPSS followed by the discussion section, which will include implications in terms of discussing the results, limitations and future research. The thesis ends with a conclusion answering the research question.

The research approach of the thesis has been based on the abductive research approach, in order to generate new knowledge about any relation between Greenwashing and Brand Image within the fashion industry. The abductive research approach is in alignment with the pragmatic approach to science, as the abductive research approach does not follow a specific path in the process of generating new knowledge. The abductive research approach generalizes from

interactions, supports freedom and the use of mixed methods when generating new knowledge. In general, the abductive research approach allows a flexible way of investigating the nature of a phenomenon including different points of views and measuring of different variables. The abductive research approach starts with prior theoretical knowledge, observations and exploration of theory and data, aiming to understand the observations within real life experiences and through theories and interpretations in order to suggest hypotheses and finding a pattern for the specific case. This aligns with the pragmatic approach, where the researcher does not follow a specific path when generating new knowledge and observations are based on interactions and real-life experiences leaving to the appropriate pattern for the specific case (Mitchell & Education, 2018, p. 269-274).

The observations of the thesis are first of all based on the challenges the fashion industry faces, as mentioned in the introduction. Furthermore, the observations of the thesis are driven by the interest in whether there is a relation between Greenwashing and Brand Image, and the underlying thoughts of the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.* The research hypothesis of the thesis will be tested based on real life experiences by interactions with consumers through the responses of the questionnaire survey. The questionnaire survey will provide a starting point for the analysis of the thesis, in order to investigate any relation between the two variables, Greenwashing and Brand Image. From a regression analysis, elements will be derived and discussed in order to investigate and bring an answer to the research question.

3. Theoretical background

The following section aims to establish the theoretical background of the thesis. The theoretical background of the thesis will include defining the term Greenwashing and Brand Image. Furthermore, the theoretical background will involve a section about the effect of Greenwashing on Brand Image.

3.1 Greenwashing

The term Greenwashing was originally coined by environmentalist Jay Westervelt back in 1986, where he published an essay about the hotel industry and its practices of falsely promoting reusable towels as a part of their environmental strategy (Becker-Olsen & Potucek,

2013). Today multiple definitions of Greenwashing exist, and no general definition is declared. Various definitions of Greenwashing with different perspectives, components and elements have arisen throughout the years. Since it was coined in 1986, Greenwashing has emerged as a critical term in debates about corporate sustainability and consumer behavior and is a term that can be interpreted in different ways. Defined by various sources, Greenwashing can refer to the misleading practices promoting environmentally friendly initiatives by organizations in order to distract consumers from actually environmentally harmful, damaging, or unethical practices. Greenwashing can involve spreading misleading information or portraying a public image of environmental responsibility in a way that can be perceived as unsubstantiated or intentionally misleading. These misleading communications often involve emphasizing positive environmental practices while diminishing or leaving out negative aspects (de Freitas Netto et al, 2020; TerraChoice, 2010).

What is common to all the various definitions of Greenwashing is the underlying central element of misleading or dishonest practices regarding environmental performances and responsibility of companies. This can involve highlighting environmentally friendly actions to distract attention from negative and less environmentally friendly actions, spreading misleading information about environmental practices or creating a false impression of environmental responsibility. Greenwashing involves environmental claims that are untrue, inflated, or misleading, which this thesis will rely on as the definition of Greenwashing.

Greenwashing can occur for a variety of reasons. One of the main reasons can be pressure from both governments and consumers. The European Parliament has a high focus on sustainability within the fashion industry and legislation within the field is constantly being negotiated. On the other hand, as consumers become aware of the potential environmental impact of their purchase behavior, the popularity for products labeled as “eco-friendly”, “organic”, or “sustainable” have increased. As a response to increasing demands from governments and consumers for environmentally friendly products, green claims in advertisements are becoming an essential part of promoting many products, despite the fact that the product may not actually be environmentally friendly (Mortensen, 2023; Schmuck et al., 2018).

3.1.1 Approaches describing Greenwashing

The following section outlines two different approaches to describe Greenwashing further, each of which divides Greenwashing into different components.

The first approach is *Claims about Greenwashing*. *Claims about Greenwashing* have been divided into five different components. These five different components of claims are divided as the following:

1. **Product oriented:** Focusing on the environmentally friendly attribute of the product.
2. **Process oriented:** Focusing on the environmentally friendly production process and techniques.
3. **Image oriented:** Focusing on improving a brand or a product's environmentally friendly image.
4. **Environmental fact:** Focusing on explaining the current environmental elements related to a brand and/or its products.
5. **Combination:** Focusing on multiple facets of the above mentioned.

The five different claim components were developed by examining a broad sample of environmental advertisements with an overarching goal to identify categories reflecting the type of claims found in the different environmental advertisements. Each component provides a different set of challenges and ethical considerations within Greenwashing claims. As an example, product-oriented claims may highlight a specific eco-friendly aspect while ignoring other harmful impacts of the product's lifecycle. Similarly, process-oriented claims may highlight eco-friendly production practices and technologies while still ignoring deeper environmental concerns within a brand’s production process and supply chain. Image-oriented claims may prioritize potential aesthetics to enhance a brand's environmental image without addressing significant environmental practices behind the products and no supporting evidence. Claims based on environmental facts may aim to inform consumers about genuine environmental elements associated with a brand or product. Yet these claims may be selectively presented or manipulated to minimize potential negative effects. Finally, combination claims that can integrate multiple aspects of Greenwashing tactics may further obscure boundaries between genuine sustainability efforts and misleading marketing strategies. Therefore, consumers navigating the field of environmentally friendly products need to be critical and

skeptical when encountering environmental claims to avoid being deceived by misleading claims (Baum, 2012; Carlson et al. 1993; Tateishi, 2018).

The exploration of these different Greenwashing categories resonates with the next approach to Greenwashing, the concept of *The seven Sins of Greenwashing*, a framework developed by environmental marketing company TerraChoice (now part of UL Environment). In 2010, the environmental marketing firm TerraChoice, developed a classification called *The seven sins of Greenwashing"*, which are cited in multiple articles (de Freitas Netto et al, 2020; TerraChoice, 2010)

The seven sins of Greenwashing consist of seven different components classified as the following:

1. **The sin of hidden trade-off**
   Refers to when a product/service is promoted as green based on a narrow range of parameters, while neglecting other substantial environmental concerns related to the product/service.
2. **The sin of no proof**
   Refers to when environmental claims are presented with no supporting or documented evidence, leaving consumers unable to validate the truth of the claim.
3. **The sin of vagueness**
   When terms such as "eco-friendly" og "all-natural" are used without proper definitions or supporting justifications, it may mislead consumers into believing a product is more sustainable than it is.
4. **The sin of irrelevance**
   Can occur when environmental claims are irrelevant to the product or service promoted. This can potentially mislead consumers to believe that a product or service is more sustainable than it is.
5. **The sin of lesser than two evils**
   When a company promotes a product/service as being more environmentally sustainable than its alternatives, even though the product itself may still have significant negative environmental impacts.
6. **The sin of fibbing**
   When environmental claims are directly false or misleading. Leading consumers to perceive a product as more sustainable than it is.

7. **The sin of worshiping false labels**

   When a product is marketed using false or misleading third-party certifications or labels. This can deceive consumers into believing that a product/service complies with certain environmental standards when in reality it does not.

The seven components within *The seven sins of Greenwashing* are assessed to be considered as guidelines for consumers and to assist navigating in the market. On the other hand, it can be used as a framework to categorize common methods utilized in Greenwashing and can be considered as different approaches brands may apply when misleading consumers into assuming their products or practices to be more sustainable than they are (de Freitas Netto et al, 2020; TerraChoice, 2010).

Based on the above-mentioned definitions and approaches to Greenwashing, it can be declared that the term Greenwashing captures a complex phenomenon of environmental claims in advertising and consumer behavior. By delving into the origins, different definitions, and approaches to Greenwashing in terms of *Claims about Greenwashing* as well as *The seven sins of Greenwashing,* it provides a deeper understanding of how companies can mislead consumers in environmental responsibility claims. Understanding Greenwashing is a crucial part of the thesis in order to improve consumer awareness of sustainable consumer behavior and investigate its impact on Brand Image.

3.1.2 Comparing the two approaches

The two approaches describing Greenwashing in section 3.1.1, *Claims about Greenwashing* and *The Seven Sins of Greenwashing*, provide a diverse understanding of the phenomenon of misleading environmental claims in terms of Greenwashing. The approach concerning *Claims about Greenwashing* emphasizes the importance of consumer skepticism when encountering environmental claims and highlights the nuanced challenges presented by each type of Greenwashing tactic, where the approach concerning *The seven sins of Greenwashing* provide consumers with a structured guideline and framework to assess the validity of environmental claims and navigate the complexities of Greenwashing more effectively.
The two approaches share both similarities and differences listed in figure 2 and figure 3 below.

Differences		
	Claims of Greenwashing	**The seven sins of Greenwashing**
Focus	This approach primarily focuses on categorizing different types of Greenwashing claims	This approach primarily focuses on providing consumers with a structured guideline and framework to evaluate the validity of environmental claims
Purpose	The purpose is to increase consumers' awareness and understanding of the different types of Greenwashing claims, so consumers can identify and avoid misleading environmental claims.	The purpose is to provide consumers with a structured framework to assess the validity of environmental claims and help consumers in making better informed choices.

Figure 2: Differences between the two approaches

Similarities	
Consumer oriented approach	Both approaches are consumer oriented and aim to enable consumers to successfully navigate environmental claims and avoid Greenwashing.
Complexity and nuances	Both approaches recognize the complexities and nuances of Greenwashing practices and seek to address them in various ways.
The importance of consumer awareness	Both approaches emphasize the importance of consumer awareness and skepticism towards environmental claims to reduce the effect of Greenwashing on consumers.

Figure 3: Similarities on the two approaches

The two approaches complement each other by providing different perspectives and tools on understanding and combating Greenwashing. While the *Claims about Greenwashing* approach delves into different types of claims, *The Seven Sins of Greenwashing* approach provides consumers with a structured framework to evaluate and act on these claims.

Besides differences and similarities within the overall approaches to Greenwashing, the two approaches have similarities within some of the components.

The claim *Product oriented* and *The sin of hidden trade off* both focus on promoting the environmental benefits of a product based on specific parameters, while neglecting other important environmental aspects.
The claim *Image oriented* and *The sin of vagueness* both focus on improving a brand or a product's environmentally friendly image without supporting justifications and without addressing the actual practices behind the product.
The claim *Environmental fact* and *The sin of no proof* both focus on informing consumers about genuine environmental elements associated with a brand or a product, but with a lack of evidence or supporting documentation in order to minimize negative effects.

Overall, the two approaches will serve as foundation for the development of the measuring of Greenwashing and the survey questions in order to investigate the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.*

3.2 Brand Image

Brand Image is a concept investigated over the last decades with multiple definitions.
In 1990, Dobni and Zinkhan (1990) published a research review covering a 35-year period of studies on Brand Image definitions. Based on the research, the two authors presented a definition of Brand Image as *"the concept of a brand that the consumer holds",* stating that Brand Image is a subjective concept based on consumer perceptions of a brand (Dobni & Zinkhan, 1990, p.118; Plumeyer et al., 2019, p. 228)
Two of the most widely cited definitions of Brand Image originate from Aaker (1991) and Keller (1993), which presented groundbreaking work within the field of brand management. The definitions from Aaker (1991) and Keller (1993) are aligned with each other, but with some differences within the components. Aaker (1991) defines Brand Image as *"a set of associations, usually organized in a meaningful way"* and explains that brand associations can include anything associated with a brand within the mind of the consumer (Aaker, 1991, p. 109). Keller (1993) defines Brand Image as *"perceptions of a brand that are reflected by the brand associations that exist in the consumer's memory"* (Keller, 1993, p. 3).
In the book *Strategic Brand Management* by Keller and Swaminathan (2020), Brand Image has been defined as how consumers perceive a brand's appearance based on experiences, associations, and interactions with the brand, and what the brand wants to maintain in the mind of the consumer (Keller & Swaminathan, 2020, p. 76-77). This thesis will rely on the definition

by Keller (1993) and Keller & Swaminathan (2020) with a general definition of Brand Image being perceptions of a brand reflected by the brand associations within the consumers mind and how consumers perceive a brand's appearance based on experiences, associations, and interactions with the brand. Brand Image is thereby shaped within the mind of the consumer which the brand's strength relies on.

According to Keller & Swaminathan (2020), a strong and positive Brand Image requires strong, favorable, and unique brand associations linked to the brand in the mind of consumers through relevant marketing activities. Brand associations can be divided into two dimensions of brand attributes and brand benefits. Brand attributes can be defined as descriptive features, characteristics and qualities associated with product/service. Brand benefits can be defined as personal value and meaning consumers attach to the product/service or outcomes consumers derive from the product/service. Brand attributes and benefits can vary depending on the product category and the product/service in mind of the consumer, but some overall and common brand attributes and benefits can be outlined. Common brand attributes can include both tangible and intangible attributes such as product quality, product price, functional connections, innovation, and company reputation. Common brand benefits can include personal connections to the brand or products, commitments, customer loyalty but also satisfaction/brand reliability and trust/ brand fidelity (Cretu & Brodie, 2007; Danes et al., 2012; Keller & Swaminathan, 2020, p. 76). The mentioned brand attributes and benefits are listed in figure 4 below.

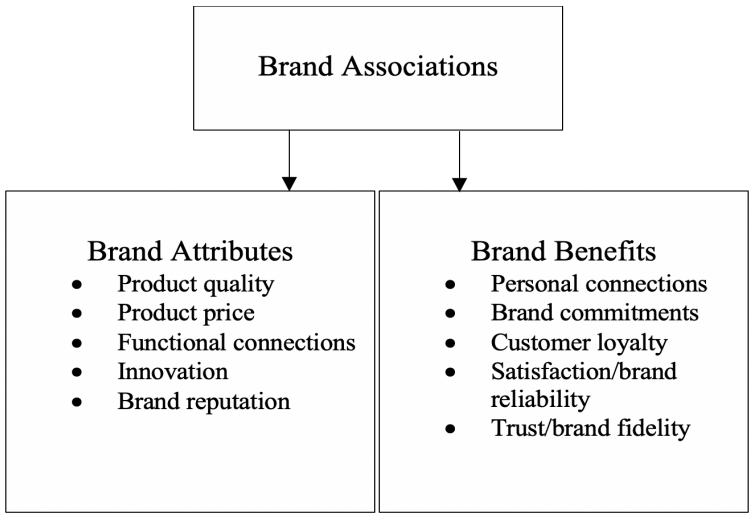

Figure 4: Brand Attributes and Brand Benefits

(Cretu & Brodie, 2007; Danes et al., 2012; Keller & Swaminathan, 2020, p. 76).

The brand attributes and brand benefits will contribute to form the foundation of the measuring of Brand Image and the questions to the questionnaire survey. To narrow the range of attributes and benefits for the questionnaire survey in order to only measure on relevant components, three brand attributes and three brand benefits have been selected to focus on more specifically, where sub-questions for each will be developed for the questionnaire survey. The selected attributes and benefits are outlined and defined in figure 5 and figure 6 below.

Brand Attributes	
Product quality	Perceived quality of a brands products including tangibles of the product, benefits of the products, the overall performance of a product.
Functional connections	Consumers perception of a brand to fulfill purposes and delivers on specific promises, such as functionality and durability
Brand reputation	Perceptions of the brand and reputations such as well managed, being successful or innovative, having customer focus, keeping consumers informed about what is happening with the brand

Figure 5: Measuring on Brand attributes

(Cretu & Brodie, 2007; Danes et al., 2012; Keller & Swaminathan, 2020, p. 76).

Brand Benefits	
Satisfaction/Brand Reliability	Consumer perceptions of a brand as having successfully and consistently provided positive benefits in the past and expecting it to be consistently in the future.
Trust/Brand Fidelity	Consumer' perceptions of a brand to be committed to trustworthiness and to react to any requests or issues that may occur.
Customer Loyalty	Consumer behavior including repurchase intentions, intentions to remain with the brand and likelihood to recommend the brand

Figure 6: Measuring on Brand Benefits

(Cretu & Brodie, 2007; Danes et al., 2012; Keller & Swaminathan, 2020, p. 76).

These attributes and benefits have first of all been selected as they are considered measurable and can be assessed through the survey questions. This can help ensure that the collected data will be applicable and provide insight into consumer perceptions of brands within the fashion industry. Furthermore, these specific attributes and benefits have been selected as they focus on elements that can directly evoke consumer expectations, perceptions and experiences with a brand and its products. This can ensure that the attributes and benefits are in accordance with what is assessed as important to consumers and contributes to gathering knowledge about consumer expectations and perceptions of a brand. By focusing on these attributes and benefits the survey aims to capture a comprehensive understanding of consumer perceptions of brands within the fashion industry.

It is important to note that consumers can have different views about brand attributes and brand benefits and there are a variety of ways consumers create brand associations. First of all, it can be through marketing activities, but also from direct experiences, social media, word of mouth, and assumptions or judgment consumers have about the brand through brand elements and identification with the company. Brand Image is a source of Customer Based Brand Equity (CBBE), and Brand Image contributes to the overall CBBE. CBBE can be defined as the added value attached to the brand from the consumer perspective. Therefore, it is crucial for a brand that consumers have these strong, favorable and unique associations linked with the brand that differentiate it from competing brands (Keller & Swaminathan, 2020, p. 68, 76-77).

Different factors have an effect on the strong, favorable, and unique brand associations.
Strong brand associations are enhanced by personal relevance and consistency over time, recognition, and the context in which the brand is experienced by consumers. Direct experience with a brand creates the greatest benefits, where information from brands own sources often generates the weakest associations. Creative communication is therefore assessed as necessary for brands in order to address the hurdle. This can be in terms of consistently exposing consumers for the brand through different remedies. **Favorable brand associations** are enhanced by convincing consumers that the brand provides attributes and benefits that fulfill consumers' needs and desires and build an overall positive perception of the brand in the mind of the consumer. **Unique brand associations** are enhanced by the brand having a unique position and competitive advantage on the market. This can be done through directly comparing the brand to its competitors or highlighting it indirectly (Keller & Swaminathan, 2020, p. 76-77)..

In this thesis, Brand Image will be conceptualized and referred to as a dynamic concept reflected by consumer expectations, perceptions and associations influenced by various factors characterized by the strong, favorable, and unique brand associations, the brand attributes and brand benefits linked to a brand. Strong, favorable, and unique brand associations are considered as important elements as the Brand Image impacts consumers' buying behavior, purchase decisions and consumer loyalty (Keller & Swaminathan, 2020, p. 76-77). As Brand Image is based upon the mind of the consumer, it is not assessed as a static term and thereby not assumed as consistent but rather dynamic. Consumers who already hold strong, favorable, and unique brand associations for a brand may therefore not necessarily need persuasion and exposure to marketing activities as frequently in order to be loyal to a brand.

Overall, Brand Image emphasizes the importance of how consumers perceive a brand and how it affects the brand's strength and position. Brand Image is formed by consumer experiences and interactions with the brand creating strong, favorable, and unique brand associations. Understanding Brand Image is an essential part of the thesis and will contribute to developing the measuring of Brand Image and the survey in order to investigate the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.*

3.3 The effect of Greenwashing on Brand Image

Increasing sustainability concerns and focus on the global environment imposes stricter requirements on companies across all industries. The fashion industry is deeply involved in sustainability concerns due to its enormous impact on the environment and requires urgent changes to adapt to a more sustainable industry. The increasing focus on environmentally friendly products and processes can be a major transition for many brands and a pressure that can be difficult to adapt to. This affects not only brands but also consumers, who are becoming more aware of sustainable and circular choices. To ease the pressure, some brands within the fashion industry tend to turn towards Greenwashing tactics and practices (Adamkiewicz et al, 2022).

Greenwashing can have a negative effect on consumers' green buying behavior and thereby a negative effect on Brand Image and brand loyalty (Chen et al, 2020). If consumers suspect or discover Greenwashing practices, they may be less likely to purchase from or show loyalty to the brand again. When or if consumers experience Greenwashing and are aware of it, they may be more likely to become skeptical of environmental claims and less likely to support

environmental products and brands. This creates confusion among consumers and in general lack of trust in environmental claims. This can lead to consumers refusing to support environmentally friendly products regardless of whether the environmental claims are false or genuine. False claims in terms of Greenwashing can establish doubt in consumer minds, which can turn into loss of trust and damage to credibility. Consequently, Greenwashing may generate short-term success for the brand, but in the long run a failure (Akturan, 2018, p. 809-810). This can result in a negative impact on the brand's image and its ability to sustain loyalty among consumers, which can damage the Brand Image and long-term success.

Greenwashing can make it difficult for consumers to distinguish between what is false environmental efforts and what is genuine environmental efforts. Brands will often tend to use green practices, where they selectively reveal the positive environmental attributes associated with their products while avoiding negative attributes to increase sales by taking advantage of consumers' lack of knowledge. This can be combined with the strong brand association aspect of Brand Image, where it might become necessary for companies to be creative in their communication and expose consumers through different remedies (Keller & Swaminathan, 2020, p. 76-77). By strategically highlighting superficial environmental actions while diminishing or ignoring more substantial concerns, it can be assumed that companies are more able to create a facade of environmental responsibility that appeals to consumers looking for sustainable opportunities. It can be assumed that combining Greenwashing with compelling brand associations enhances the impact, as consumers might be more willing to rely on and support brands which are already perceived positively. The combination of strategic and creative communication and strong brand associations may have a considerable impact on consumer experiences of a brand as well as consumer buying behavior, and ultimately form the success or failure of Greenwashing strategies.

The above given insight into theory about Greenwashing, Brand Image and the effect Greenwashing can have on Brand Image, could indicate a relation between the two variables affecting each other. Based on that insight the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* will be investigated and tested. This research hypothesis serves as a starting point for investigating any relation between the two variables, Greenwashing and Brand Image, in order to provide a qualified answer to the research question.

4. Method

The following section aims to present the method applied throughout the thesis. In order to investigate the research hypothesis and thereby the research question, the method applied throughout the thesis will include the way the data is gathered, including the development of measures for Greenwashing and Brand Image, and the processing of the gathered data, including theory about how the data will be analyzed.

4.1 Gathering the data

This thesis is based on a research design mainly utilizing quantitative data as the primary source of data. The collection of primary data will be conducted through a questionnaire survey, which will subsequently be analyzed and processed through a statistical analysis in the program SPSS. The primary data for the thesis has been gathered by interacting with consumers through an online questionnaire survey in order to test the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry*. The purpose of collecting primary data through the questionnaire survey has been to gather data and information by respondents of the questionnaire in order to test the research hypothesis, which contributes to providing new knowledge in order to answer the research question. The secondary data sources, including scientific articles, books, and websites, have been gathered to provide insights into various concepts and phenomena related to the research question.

The questionnaire survey is designed based on a 7-point Likert scale in order to measure the two variables, Greenwashing and Brand Image. The 7-point Likert scale will range from 1=Strongly disagree to 7=Strongly agree. Likert scales are a common method used for measuring. The approach involves presenting a set of selected questions based on a set of attributes which together measure a particular item (Harpe, 2015; Likert, 1932). The 7-point Likert scale ranging from 1-7 is illustrated in figure 7 below.

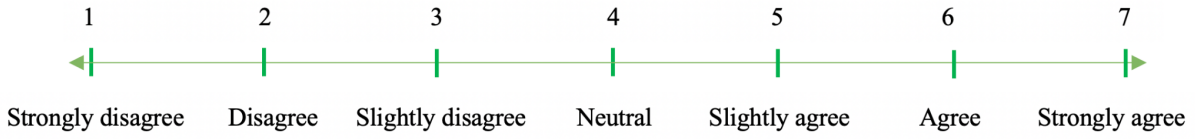

Figure 7: 7-point Likert scale

The questionnaire survey has several parts. The first step of the survey involves general questions concerning age and gender. Afterwards the respondents need to think of any brand within the fashion industry that they know well and maybe use themselves. The respondents are then asked to answer the following questions with this brand in mind in order to visualize and make the questions more tangible. The measurement of Greenwashing and Brand Image will be structured in two separate sections, where the questionnaire measures a range of questions concerning Greenwashing and a range of questions concerning Brand Image. The questionnaire was pre-tested before it was made available to the respondents, in order to ensure that the questionnaire was understandable and simple to answer.

4.1.1 Measuring Greenwashing

Measuring on Greenwashing can be assumed as challenging due to its complexity and subjective nature, which can make it difficult to capture. In general, there is a lack of clear measurements of Greenwashing as it is not a well investigated concept measured much in prior research. Although Greenwashing is not a well-researched and measured phenomenon, some studies have shown different ways in which Greenwashing can be measured depending on the context. The majority of prior research on measuring Greenwashing mainly focuses on how Greenwashing is perceived, which can imply Greenwashing to be considered as a more subjective rather than objective phenomenon. (Bernin et al., 2023; Chen & Chang, 2013). According to Bernin et al. (2023), previous studies on Greenwashing measurements have measured general consumer perceptions. These prior studies have been driven by consumer perspectives through questionnaire surveys measuring perceived Greenwashing on a Likert scale, comparing different consumer perceptions or impressions of skepticism, reliability, or trustworthiness (Bernin et al. 2023). This approach to measuring Greenwashing will provide a part of the foundation for the measurement framework developed within this thesis, but with a specific adaptation and structure for this specific research. The measurement of Greenwashing within this thesis will be divided into two sub-dimensions based on a consumer perspective conducted by gathering consumer expectations and consumer perceptions through a questionnaire survey based on a 7-point Likert scale ranging from 1. Strongly disagree to 7. Strongly agree. The measuring of expectations and perceptions within Greenwashing will be based on the components of the two approaches describing Greenwashing in section 3.1.1. Here, the components that shared similarities in section 3.1.2 will be combined into one component.

The components of the measurement will include:

1. **Product oriented/The sin of hidden trade off**
2. **Image oriented/The sin of vagueness**
3. **Environmental fact /The sin of no proof**
4. **Process oriented**
5. **The sin of irrelevance**
6. **The sin of fibbing**

This provides six components to measure and therefore six overarching questions with two sub-questions separately measuring expectations and perceptions under each component.
Only the components of the two approaches describing Greenwashing that are considered relevant to measure will be included. The components *The sin of lesser than two evils* and *The sin of worshiping labels* are not included in the measuring, as it is assessed that the two components may not occur as frequently in practice and that the components can be more complex, difficult to detect and measure on in comparison to the other components. The above components will contribute to frame the questionnaire survey and support the development of the questions. By incorporating these components within the survey, the research aims to provide a comprehensive assessment of Greenwashing within the fashion industry.

4.1.1.1 The concept behind the development of survey questions

In the previous section, it was mentioned how the approach by Bernin et al. (2023) provides a part of the foundation for the framework of the measurement in terms of consumer perceptions of Greenwashing measured through a questionnaire survey based on a Likert scale. This section delves deeper into how the specific survey questions for the Greenwashing sub-dimensions, expectations and perceptions, are structured based on a concept by Parasuraman et al. (1988).

The aim of this research is to measure and investigate Greenwashing to be able to test the research hypothesis in order to investigate whether Greenwashing has an effect on Brand Image within the fashion industry and thereby to answer the research question. In order to establish questions that can contribute to measuring the part of the research hypothesis concerning Greenwashing, the survey questions will be based on a general approach presented by Parasuraman et al. (1988) and adapted to this specific research. The approach by Parasuraman et al. (1988) deals with assessing consumer perceptions of service quality. It was accomplished by collecting expectations and perceptions from a sample of 200 respondents. The consumer's experience of service quality is derived by comparing what consumers believe service

companies should be offering (expectations) with their perceptions of how service providers are performing. In the research, perceived service quality is considered as the amount of discrepancy among consumers' perceptions and expectations in terms of what consumers believe the companies should be offering. The expectations and perceptions were measured on a 7-point Likert scale ranging from 1. Strongly disagree to 7. Strongly agree. After the perceptions and expectations by consumers were gathered, the perceived service quality was measured by the difference between expectations and perceptions (Parasuraman et al.,1988).

The scale was developed in order for retailers to be able to understand consumers' expectations and perceptions of service in a better way. Measuring of the service quality provided an indicator of indirect satisfaction, as the two constructs are related in terms of satisfaction over time leads to perceptions of service quality. The framework can be adapted to fit specific research purposes, and the measurement scale has a range of potential applications to assist assessing consumer expectations and perceptions (Parasuraman et al.,1988). This approach to measuring consumer expectations and perceptions will be applied and adapted to this thesis to develop questions for the questionnaire survey in order to investigate consumer expectations and perceptions in terms of Greenwashing.

4.1.1.2 Adaption to Greenwashing and the development of survey questions

In order to measure Greenwashing, questions to derive consumer expectation and perceptions will be constructed for the questionnaire survey. The questions for the questionnaire survey will be constructed based on Parasuraman et al. (1988) approach combined with the measurement components from section 4.1.1. The questions for this thesis will be structured to measure *consumer expectations - consumer perceptions = indicator of Greenwashing score*.
In this research, the indicator of Greenwashing score is considered as the difference among consumer expectations, what the consumers expect the brands to do, and consumer perceptions, what the consumers perceive the brand actually does.
Each of the components from section 4.1.1 will have its own question. The questions will be divided into two parts based on the two Greenwashing sub-dimensions, expectations and perceptions. The first part of the question aims to measure consumer expectations meaning what consumers expect the chosen brand to do in terms of environmentally friendly practices. The second part aims to measure consumer perceptions of what the brand actually does or how the brand is perceived to live up to its promises in terms of environmentally friendly practices. By clearly distinguishing the questions between the consumers' expectations and perceptions,

it allows the data of the two sub-dimensions of Greenwashing to be gathered separately. Once the data has been collected for expectations and perceptions, the indicator of Greenwashing score can be calculated by subtracting perception from expectations. The difference between these can provide insight into whether respondents' perceptions meet, exceeds, or does not meet their expectations. The results can indicate anything from a high amount of Greenwashing to no amount of Greenwashing. The higher the number is, the higher the amount of Greenwashing experienced from the respondents point of view. Greenwashing occurs if the brands follow behind on their promises. If the expectations are high and perceptions low, it can indicate a high amount of Greenwashing. On the other hand, if the expectations are low and perceptions high, it can indicate no Greenwashing. If the expectations and perceptions meet each other, they are neutral and in balance.

Based on the established Likert Scale ranging from 1. Strongly disagree to 7. Strongly agree, the final indicator of Greenwashing score can range from -6 to +6. A score of +6 will indicate total Greenwashing/the highest amount of Greenwashing from the respondents point of view. A score of -6 will indicate no Greenwashing at all, implying that the respondents believe the brand actually does implement green initiatives, but might not communicate them well enough for the consumers to expect it. A score of 0 will indicate neutrality and balance between expectations and perceptions. The indicator of Greenwashing score ranging from -6 to +6 and are illustrated in figure 8 below.

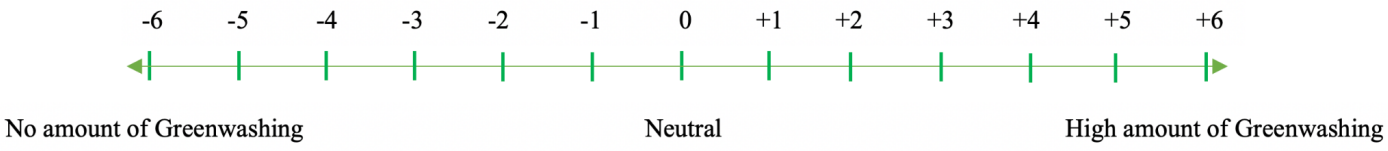

Figure 8: The indicator of Greenwashing score

The indicator of Greenwashing score can provide insight into whether consumers feel misled or disappointed by a brand's environmental claims, if consumers have trust in companies to deliver on their promises, or if consumers do not care or do not have an opinion about Greenwashing. Measuring the differences between consumers' expectations and perceptions can contribute to assessing the impact of Greenwashing claims on respondents' overall impression of brands within the fashion industry.

4.1.1.3 Survey questions - Greenwashing

The questions developed for the part of the questionnaire survey concerning Greenwashing expectations and perceptions are listed in figure below 9:

1. Product oriented/The sin of hidden trade off	Expectation: 1. The brand makes strong environmental claims regarding eco-friendly attributes of its products Perception: 2. The brand lives up to its environmental claims regarding eco-friendly attributes of its products.
2. Image oriented/The sin of vagueness	Expectation: 1. The brand promotes a strong environmental image Perception: 2. The brand lives up to its promoted environmental image
3. Environmental fact/The sin of no proof	Expectation: 1. The brand communicates true evidence/ documentation to support its environmental claims Perception: 2. The brand lives up to its promises about communicating true evidence/documentations to support its environmental claims
4. Process oriented	Expectation: 1. The brand has environmentally friendly production processes and techniques Perception: 2. The brand lives up to its promises of environmentally friendly production processes and techniques
5. The sin of irrelevance	Expectation: 1. The brand promotes relevant environmental claims related to their products/brand Perception: 2. The brand lives up to its promoted relevant environmental claims related to their products/brand
6. The sin of fibbing	Expectation: 1. The brand communicates trustworthy and accurate environmental claims and information's Perception: 2. The brand lives up to its communication of trustworthy and accurate environmental claims and information

Figure 9: Greenwashing questions

4.1.2 Measuring Brand Image

Measuring on Brand Image can be considered to be abstract, as Brand Image is a dynamic concept formed by consumer minds and depending on the context. Even though Brand Image is a well-researched concept, there is no standard way of measuring it. According to a literature review by Plumeyer (2019), measuring Brand Image can be done through different ways and several techniques according to the context, but no extensive framework for measuring the concept is to be found in existing literature. A common way to measure Brand Image through quantitative methods is by using the Likert scale, asking respondents to which extent they e.g., agree or disagree with statements within a survey. The scores can include measures to which extent the respondent perceives the brand to be associated with a given brand attribute or brand benefit (Driesener & Romaniuk, 2006; Grohs & Reisinger, 2014; Plumeyer et al., 2019, p. 228-231).

Although there is no standard way to measure Brand Image, a set of overarching scales can be established and applied across different product categories by developing customized scale components to measure Brand Image and capture unique consumer associations (Low & Lamb, 2000). Brand image can be measured through free consumer associations, which provides insight into the minds of consumers. By measuring consumers' free associations, it provides a deeper understanding of consumers' perceptions of a brand. Overall, asking general questions regarding consumers' thoughts about a given brand, its brand attributes and brand benefits, can be considered as a valid way to measure Brand Image (Cretu & Brodie, 2007; Danes et al., 2012). Overall, this indicates that Brand Image can be measured by consumers' associations with a brand, based on different attributes and benefits. This can contribute to providing an overall understanding of how consumers perceive and interact with a brand, which can be determining factors for Brand Image. Since Brand Image is a well investigated concept studied in prior research, the measuring of Brand Image within this thesis will rely upon the prior research on measuring the concept and adapted to this specific research.

In this thesis, Brand Image will be measured as a general concept in context to brands within the fashion industry. The measuring of Brand Image will rely on Brand Image as a dynamic concept based on free consumer expectations, perceptions and associations characterized by the strong, favorable, and unique brand associations linked to the brand involving the two dimensions of brand associations, brand attributes and brand benefits. The questions developed for measuring Brand Image will therefore be based on the selected brand attributes and brand

benefits outlined in section 3.2 figure 5 and 6. The measuring of Brand Image will be conducted through the questionnaire survey based on a 7-point Likert scale ranging from 1. Strongly disagree to 7. Strongly agree as the response options.

4.1.2.1 Survey questions - Brand Image

The questions constructed for the part of the questionnaire survey concerning Brand Image are listed in figure 10, 11 and 12 below divided into the selected benefits and attributes, with a final question about the overall perception of the brand.

Benefits	
Satisfaction/Brand Reliability	1. The brand has consistently provided positive benefits and experiences for me. 2. I perceive the brand as reliable in terms of how they promote their products
Trust/Brand Fidelity	3. I believe the brand is committed to addressing any issues that may arise when encountering any. 4. I perceive the brand as trustworthy and transparent in terms of how they promote their products
Customer Loyalty	5. I Intend to continue purchasing from the brand in the future 6. I feel a strong connection to the brand.

Figure 10: Brand Image questions – Benefits

Attributes	
Perceived Product Quality	7. I perceive the products offered by the brand as high-quality products. 8. I have an overall positive perception of the products I have purchased from the brand
Functional Connections	9. I experience that the brand offers functional products which fulfills my purposes, e.g., the features that the product provides 10. I experience the brand to offer durable products, so i do not have to replace them often
Brand Reputation	11. I perceive the brand as having a successful reputation in terms of e.g., being well managed, successful and focus on consumer needs and wants 12. I am likely to recommend the brand to others.

Figure 11: Brand Image questions – Attributes

Overall perception	13. Overall, I have a positive perception of the brand

Figure 12: Brand Image questions - Overall perception

4.2 Processing the data

After the data about Greenwashing and Brand Image has been gathered through the questionnaire survey, the data needs to be processed and analyzed. The purpose of establishing questions related to Greenwashing and questions related to Brand Image is then to examine if there is a relation between Greenwashing and Brand Image. To be able to test the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry*, a statistical approach will be applied. The hypothesis will be tested by conducting a regression analysis based on the collected data. The processing of the data will initially be carried out by a statistical analysis in the program SPSS, after which the results will be reported. The processing of the data will include sections about the research hypothesis, Cronbach's alpha, and regression analysis.

4.2.1 Research hypothesis

First of all, when conducting a regression analysis and formulating a hypothesis it is necessary to incorporate a null hypothesis (H0) and an alternative hypothesis (H1). These two represent a set of opposing statements to be tested in the thesis. Therefore, both a null hypothesis and an alternative hypothesis are developed to examine if Greenwashing and Brand Image has any effect on each other. The hypothesis is outlined below:

Null hypothesis H0: *There is no relation between Greenwashing and Brand Image within the fashion industry.*

This indicates that Greenwashing does not have any effect on Brand Image, or that any observed effect is random.

Alternative hypothesis H1: *Greenwashing has an effect on Brand Image within the fashion industry.*

This indicates that Greenwashing affects Brand Image and that any observed effect is not random. The null hypothesis is necessary to prove the alternative hypothesis. The null hypothesis can be rejected and supports the statement of the alternative hypothesis, as well as the alternative hypothesis can be rejected (Field, 2011, p. 27).

4.2.2 Cronbach’s alpha

First step of processing the data will include calculating Cronbach’s alpha for both Brand Image and Greenwashing, in order to check the reliability of the scales. In this case, reliability refers to how consistently the questionnaire reflects the construct it measures. The most common way to measure scale reliability is by Cronbach’s alpha. Cronbach’s alpha is a statistical measure for reliability of items, which helps to check if the items can be combined into one simple variable. Cronbach’s alpha measures reliability or the internal consistency among these items. A high Cronbach's alpha indicates that all items of the scale are correlated with each other and measure the same construct in a consistent way. This indicates that the scale is reliable and that the results are trustworthy. On the other hand, a low Cronbach's alpha indicates that the items in the scale are not correlating well with each other or are measuring different aspects of the same concept, which indicates that the scale and results may be unreliable. A Cronbach’s alpha above .6 or higher is assessed as an acceptable and reliable value, where values under .6 are assessed as unacceptable and unreliable. If the questionnaire contains sub-dimensions, Cronbach’s alpha should be measured separately across these in order to see if the sub-dimensions can be combined into one variable (Field, 2011, p. 673-681; Hajjar, 2018).

The questionnaire developed for this research first of all has dimensions of Greenwashing and Brand Image, which requires Cronbach's alpha to be calculated separately for these.

Brand Image has sub-dimensions divided into brand attributes and brand benefits, and the Cronbach’s alpha will be calculated separately across these. This includes calculating Cronbach’s alpha separately in terms of the three attributes and the three benefits, which results in six calculations in total for Brand Image. Measuring each attribute and each benefit separately contributes to measuring the reliability of the internal consistency among them. Each brand attribute and brand benefit have two sub-questions. When there are two sub-questions for each of them, the calculation of Cronbach's alpha will help assess how well these two sub-questions are related and thus check if the two sub-questions can be combined into a simple variable as an overall measurement of the given brand attribute or brand benefit.

Greenwashing has sub-dimensions as well, divided into expectations and perceptions, which results in two calculations of Cronbach’s alpha for Greenwashing. The same applies here for Greenwashing as it does for Brand Image. By measuring the Cronbach’s alpha separately for

two sub-dimensions, it contributes to measuring the internal consistency between the questions developed for measuring expectations and the questions developed for measuring perceptions. There are six sub-questions measuring expectations and six sub-questions measuring perceptions. With these six sub-questions for each of the two sub-dimensions, the calculation of Cronbach's alpha will help assess how well these six sub-questions are related and thus check if the six sub-questions can be combined into a simple variable. Furthermore, checking the reliability of expectations and perceptions contributes to whether the two sub-dimensions can be combined into a simple variable, expressed by the indicator of Greenwashing score which is calculated by subtracting perceptions from expectations as mentioned in section 4.1.1.2.

4.2.3 Regression analysis.

After the Cronbach's alpha has been calculated to check the reliability of the sub-dimensions of Brand Image and the sub-dimensions of Greenwashing, averages for Greenwashing and Brand Image will be calculated across the 152 respondents, in advance of the regression analysis. For Greenwashing, the overall average of the indicator of Greenwashing scores will be calculated. This indicates that a variable for expectations-perceptions will be calculated in SPSS for each of the six components of Greenwashing, after which an average will be calculated on the overall indicator of Greenwashing score. For Brand Image, the average for each of the brand attributes and brand benefits will be calculated, resulting in six separate averages in total.

Afterwards, the regression analysis will be conducted. Regression analysis is one of the most frequent statistical data analysis tools and therefore also one of the most useful approaches. It is a very flexible method and very important for explaining relationships as well as making predictions. Regression analysis can be applied when investigating the relationship between one dependent variable and one or multiple independent variables in order to test hypotheses.
In order to conduct a regression analysis, a dependent variable influenced by one or several other variables, called independent variables, must be identified as a part of formulating the model for the analysis. These can be derived through observations, experiments or similar. Some of the key statistics within regression analysis is the standardized beta coefficient, significance level and the variance inflation factor (VIF). VIF is only relevant when there are two or more independent variables, as it tells which extent the independent variables correlate with each other (Backhaus et al., 2021, p. 56-60).

According to the research hypothesis H1: *Greenwashing has an effect on Brand Image within the fashion industry,* Brand Image is the dependent variable and Greenwashing the independent variable, as the dependent variable is affected by the independent variable. The data about these variables will be derived from the questionnaire survey. As addressed in section 4.1.1 and 4.1.2 about measuring Greenwashing
and Brand Image, the two variables have been given sub-dimensions. The independent variable will include the overall average of the indicator of Greenwashing scores as one variable. The dependent variable, Brand Image, has six sub-dimensions in terms of the three brand attributes and three brand benefits. Therefore, the dependent variables will include six separate averages of each brand attribute and brand benefit, and thereby six separate regressions will be conducted within this research in order to test if Greenwashing affects Brand Image.

The regression analysis will be applied in order to investigate if any relation exist between the two variables Greenwashing and Brand Image. The regression analysis of this research will be conducted and generated in the statistical program SPSS. Based on the output of the regression analysis in SPSS, the primary focus will be on the key statistics being the standardized beta coefficient and the significance level (.Sig), which will be reported in the results. The VIF is not relevant here as there is only one independent variable.
The standardized beta coefficient and the significance level will be examined as the two key factors of the analysis, as these two outputs are assessed as important to understand the strength and significance of the relationship between the two variables, Greenwashing and Brand Image, and provides a solid understanding of the relationship between them.

The standardized beta coefficient indicates the relationship between the dependent variable and independent variable(s). It provides an understanding of the strength and direction of the relationship between the variables. It is common to observe standardized beta coefficients in a range from -1 to +1. A beta coefficient closer to -1 indicates a negative relationship between the variables, while a coefficient closer to +1 indicates a positive relationship. A coefficient close to 0 indicates that there is no relationship between the variables, and thereby no effect between the two variables (Everitt, 2002, p. 36).

The significance level indicates the statistical significance of the standardized beta coefficient. It shows how likely it is that the observed correlation between the variables is likely to be random and occurred by chance. A significance level below a predetermined value of typically

.05 indicates that the relationship is statistically significant (Everitt, 2002, p. 345). This will indicate that the null hypothesis can be rejected, and thereby proven that H1 *Greenwashing has an effect on Brand Image within the fashion industry* is true and can be accepted.

By focusing on these two outputs from the regression analysis, a deeper understanding of the relation between the two variables, Greenwashing and Brand Image, can be obtained. The standardized coefficient beta provides an insight into the strength and direction of the relationship between the variables, while the significance level indicates how likely it is that the observed correlation between the variables is the result of random chance. Once the results of the regression analysis have been processed in SPSS, the focus will then be on interpreting these results in relation to the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.* If the standardized beta coefficient shows a significant relation between the two variables and the significance level of the independent variable, Greenwashing, is below the significance level of .05 the null hypothesis H0 *There is no relation between Greenwashing and Brand Image within the fashion industry,* can be rejected. If this is the case, it would strengthen the evidence that Greenwashing has an effect on Brand Image within the fashion industry, as stated in the research hypothesis H1. Overall, the results of the regression analysis will be crucial in providing insight into whether Greenwashing has any effect on Brand Image and will contribute to answering the research question.

If the results of the original measuring approach to the regression analysis do not show any particular effect between Greenwashing and Brand Image, further exploration of the data will be conducted in an alternative measuring approach. Further investigation of Greenwashing's impact on Brand Image will then include exploring the data more separately and direct order to gain deeper insights into whether there could be an effect between Greenwashing and Brand Image.

5. Results

In the following sections the results from the statistical analysis in SPSS will be reported. First part of the statistical analysis will include reporting the results from the Cronbach's alpha calculations of the Greenwashing sub-dimensions perceptions and expectations as well as the sub-dimensions of Brand Image including the three brand attributes and three brand benefits. Afterwards, the regression analysis will be conducted. Before the regression analysis can be conducted, the overall average of the indicator of Greenwashing scores and the average for each of the brand attribute and brand benefit has been calculated as variables in SPSS. The regression analysis will be reported including six separate regressions for each of the dependent variables of the brand attributes and brand benefits.

The questionnaire analysis which the following calculations will be based upon, received 152 responses in total. The first questions within the questionnaire were general questions about the respondents' age and gender. The gender distribution of respondents was divided into 65,1% females and 34,9% males. The age distribution among respondents is distributed with 24,3% under 20 years, 24,3% between 21-30 years, 9,9% between 31-40 years, 11,2% between 41-50 years, 21,7% between 51-60 years and 8,6% over 60 years old. This information provides insight into the composition of the people who responded to the questionnaire and contributes to a nuanced interpretation of the survey results. The results from the questionnaire are to be found in Appendix A. The age and gender distribution are illustrated in figure 13 below.

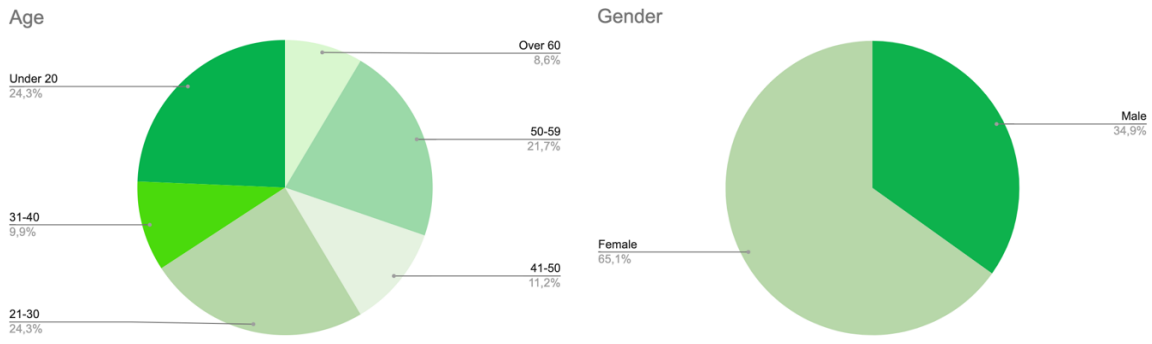

Figure 13: Age and gender distribution of the respondents (Appendix A)

5.1 Cronbach's alpha

First step of analyzing the gathered data from the questionnaire survey has been to calculate Cronbach's alpha for the sub-dimensions of Greenwashing and the sub-dimensions of Brand Image. As mentioned in section 4.2.2 an acceptable Cronbach's alpha should be above .6 in order to be reliable.

First the Cronbach's alpha for Greenwashing has been calculated. Cronbach's alpha has been calculated separately on each sub-dimension in order to check the reliability of the scales.
The calculations conducted in SPSS concerning the sub-dimensions of Greenwashing, expectations and perceptions, are reported in figure 14 below.

	Cronbach's alpha
Expectations	.915
Perceptions	.926

Figure 14: Cronbach's alpha expectations and perceptions (Appendix C)

Looking at the calculations from SPSS of the two sub-dimensions, the Cronbach's alpha is above .6 for both expectations and perceptions. This indicates that the reliability of the scale can be confirmed as they meet the reliability requirements. This indicates that both expectations and perceptions can be considered as reliable variables, and therefore the research can be continued on that basis.
Afterwards, the Cronbach's alpha for Brand Image has been calculated. Cronbach's alpha has been calculated separately on each sub-dimension of Brand Image in order to check the reliability of the scales. The calculations conducted in SPSS concerning the three brand attributes and three brand benefits are reported in figure 15 below

Attributes:	**Cronbach's alpha**
Perceived product quality	.834
Functional connections	.724
Brand reputation	.639

Benefits:	
Satisfaction/Brand Reliability	.787
Benefit Trust/Brand Fidelity	.726
Customer Loyalty	.673

Figure 15: Cronbach's alpha Attributes (Appendix C)

Looking at all the calculations from SPSS of the three brand attributes and the three brand benefits, the Cronbach's alpha is here also above .6 for all of the sub-dimensions. The reliability of the scale can then be confirmed as they all meet the reliability requirements. This indicates that each brand attribute and brand benefit can be considered as reliable variables and thereby also supports the continuation of the research.

5.2 Regression analysis

5.2.1 First part: The original measuring approach

Next step in processing the data from the questionnaire has been to calculate averages for Greenwashing and Brand Image. The averages have been calculated to compute variables to include in the regression analysis. The average of the indicator of Greenwashing scores will be calculated by extracting perceptions from expectations. There are a total of six Greenwashing scores based on the six measured components. Based on these six Greenwashing scores, the overall average for the indicator of Greenwashing scores has been calculated. The computed variable for the overall average of the indicator of Greenwashing scores are to be found in the dataset in Appendix B. For Brand Image, the average for each of the brand attributes and brand benefits has been calculated, resulting in six separate averages in total, which the regressions will be based upon. The calculated averages for each of those six are also to be found in the dataset in Appendix B.

After the averages have been calculated, the regression analysis can be conducted in order to investigate the research hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry*. Within the regression analysis, each brand attribute and brand benefit serve as dependent variables and the overall average of the indicator of Greenwashing scores as the independent variable. This indicates that six separate regressions will be conducted in order to

test the research hypothesis. The averages for the dependent variables and the independent variable have been calculated as variables in SPSS, which forms the starting point of the regression analysis.

In the figures below, the results of the regression analysis conducted in SPSS are presented. The standardized beta coefficient and significance level for each regression are presented, providing insights into the strength and significance of the relationship between the overall average of the indicator of Greenwashing scores and each sub-dimension of Brand Image, the brand attributes and brand benefits. The VIF factor are not relevant in this case, as there is only one independent variable. The results of each regression will be reported under each individual figure.

Regression 1 Dependent variable: **Benefit Satisfaction/Brand Reliability** Independent variable: Overall average of the indicator of Greenwashing score		
	Standardized beta coefficient	Significance level
Overall average of the indicator of Greenwashing scores	-.009	.910

Figure 16: Regression 1 (Appendix C)

The result of regression 1 shows that the overall average of the indicator of Greenwashing scores does not have a statistically significant effect on the brand benefit satisfaction/brand reliability. The standardized beta coefficient, which indicates the strength and direction of the relationship between the variables, is -.009, indicating a small weak negative relationship. This effect is very close to zero, which indicates that there is no observed correlation between the two variables. Furthermore, the significance level of .910 indicates that the observed effect is not statistically significant. A high significance level indicates that the observed relation between the overall average of the indicator of Greenwashing scores and the benefit satisfaction/brand reliability occurs randomly and does not represent a relation between the variables. Overall, the results of regression 1 do not support the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* and indicates that Greenwashing has no effect on satisfaction and brand reliability among the respondents of the questionnaire.

Regression 2 Dependent variable: **Benefit Trust/Brand Fidelity** Independent variable: Overall average of the indicator of Greenwashing score		
	Standardized beta coefficient	Significance level
Overall average of the indicator of Greenwashing scores	-.027	.739

Figure 17: Regression 2 (Appendix C)

The result of regression 2 shows a weak negative correlation between the overall average of the indicator of Greenwashing scores and the brand benefit trust/brand fidelity with a standardized beta coefficient of -.027, which is close to zero and therefore it is assessed that there is no observed correlation between the two variables. Furthermore, the significance level at .739 indicates that the observed value is likely to be random and does not represent a relation between the two variables. Therefore, the results of regression 2 do not support the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* and indicates that Greenwashing has no effect on trust/brand fidelity among the respondents of the questionnaire

Regression 3 Dependent variable: **Benefit Customer Loyalty** Independent variable: Overall average of the indicator of Greenwashing score		
	Standardized beta coefficient	Significance level
Overall average of the indicator of Greenwashing scores	-.094	.247

Figure 18: Regression 3 (Appendix C)

The result of regression 3 shows that the overall average of the indicator of Greenwashing scores does not have a statistically significant effect on the brand benefit customer loyalty. The standardized beta coefficient is -.094, which indicates a weak negative correlation close to 0, indicating no effect. The significance level of .247 also indicates that any effect would most likely occur by chance. Overall, the results of regression 3 does not support the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* and indicates that Greenwashing has no effect on customer loyalty among the respondents of the questionnaire.

Regression 4 Dependent variable: **Attribute Perceived Product Quality** Independent variable: Overall average of the indicator of Greenwashing score		
	Standardized beta coefficient	Significance level
Overall average of the indicator of Greenwashing scores	.014	.860

Figure 19: Regression 4 (Appendix C)

The result of regression 4 shows that the overall average of the indicator of Greenwashing scores does not have a statistically significant effect on the brand attribute perceived product quality. The standardized beta coefficient is .014, which indicates a small positive relation. But as it is close to 0, it is assessed to have no effect. The significance level of .860. is way above .05, indicating that any relation is likely to be random. Overall, the results of regression 4 does not support the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* and indicates that Greenwashing has no effect on the way the respondents of the questionnaire experience product quality of brands within the fashion industry

Regression 5 Dependent variable: **Attribute Functional Connections** Independent variable: Overall average of the indicator of Greenwashing score		
	Standardized beta coefficient	Significance level
Overall average of the indicator of Greenwashing scores	-.093	.253

Figure 20: Regression 5 (Appendix C)

The result of regression 5 shows that the overall average of the indicator Greenwashing score does not have a statistically significant effect on the brand attribute functional connections. The standardized beta coefficient is -.093, indicating a weak negative correlation close to zero, which indicates no effect. The significance level of .253 indicates that any relation would most likely occur by chance. Overall, the results of regression 5 does not support the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* and indicates that Greenwashing is unlikely to affect the respondents of the questionnaire's experience of functional connections of brands within the fashion industry.

Regression 6 Dependent variable: **Attributes Brand Reputation** Independent variable: Overall average of the indicator of Greenwashing score		
	Standardized beta coefficient	Significance level
Overall average of the indicator of Greenwashing scores	.019	.819

Figure 21: Regression 6 (Appendix C)

The result of regression 6 shows that the overall average of the indicator of Greenwashing scores does not have a statistically significant effect on the brand attribute brand reputation. The standardized beta coefficient is .019, indicating a weak positive correlation. As it is very close to 0, it is assessed to have no effect. The significance level of .819 is here also way above .05, which indicates that any relation would occur by chance. Overall, the results of regression 5 does not support the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* and indicates that Greenwashing is unlikely to influence the brand reputation among the respondents of the questionnaire

When exploring the results of the six separate regressions, it becomes clear that there are consistent patterns in the relation between the overall average of the indicator of Greenwashing scores and each of the Brand Image sub-dimensions. Although there are small variations among the six separate regressions, none of the six regressions resulted in any statistically significant effect of Greenwashing on Brand Image. The lack of a significant effect across all six regressions implies a pattern across the different sub-dimensions of Brand Image, indicating that Greenwashing has no significant impact on consumer experience of brands within the fashion industry. All of the standardized beta coefficients were consistently close to zero, indicating a weak or no relation between Greenwashing and Brand Image. In addition, the high significance levels further emphasize the lack of statistical significance in the observed standardized beta coefficients. These overall results indicate that in the context of this research, Greenwashing does not seem to have a significant effect in shaping consumer experiences of Brand Image within the fashion industry.

In conclusion, none of the observed effects were statistically significant, which indicates that the overall average of the indicator of Greenwashing scores has no reliable or significant effect

on the investigated sub-dimensions of Brand Image. Therefore, no relation among the variables were to be found, which indicates that Greenwashing is not affecting Brand Image within this research. The results obtained through the six separate regressions provide insights into the hypothesis that the research aims to test. Based on the results, there is no sufficient evidence to support the alternative hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.* Therefore, the null hypothesis H0 *There is no relation between Greenwashing and Brand Image within the fashion industry* cannot be rejected based on this original measuring approach.

5.2.1 Second part: The alternative measuring approach

The first part of the regression analysis with the original measuring approach of Greenwashing's effect on Brand Image showed no significant effect between the two variables. The original measuring approach did not work out as intended, and therefore a second part of the regression analysis will be established. In this second part, an alternative measure will be conducted, and the gathered data will be explored a bit deeper in order to investigate the variables a bit further to see if any relation will occur. In order to do so, a new setup for a regression analysis will be established. In this alternative measuring approach, the two sub-dimensions of Greenwashing have been chosen to be explored separately, in order to delve deeper into whether the two sub-dimensions could have any individual effect and thereby to see if one specific sub-dimension of Greenwashing has an effect on Brand Image. Therefore, the average for the expectations and the average for the perceptions have been calculated to compute two separate variables, which in this part of the regression analysis will be included as two separate independent variables. The computed variables for the average of expectations and the average of perceptions are to be found in the dataset in Appendix B.

It is important to note that this alternative approach of exploring the data, where expectations and perceptions will be measured as two independent variables, is not the original measuring approach to examine the data as planned throughout the thesis. This alternative measuring approach to investigate the data has been chosen in order to explore the relation between Greenwashing and Brand Image more deeply. By breaking down the indicator of the Greenwashing score into measuring expectations and perceptions separately, it might be possible to obtain a more nuanced understanding of how the respondents' expectations and perceptions affect their experience of a brand's image. It allows for a deeper exploration of the

data in order to see if it can be proven to be genuine that Greenwashing has no effect on Brand Image, as the findings in the original measuring approach indicates.

The following section will include a new setup where the regressions are configured in the same way according to the six brand benefits and brand attributes, but now with the two sub-dimensions of Greenwashing, expectations and perceptions, measured separately as independent variables. In this alternative measuring approach, the VIF is now highly relevant to include as there are two independent variables. VIF is important to include in order to consider the degree of multicollinearity which indicates the degree to which the independent variables correlate with each other. In order to assess the degree of multicollinearity, the VIF is calculated and should be below a value of 10, as a high VIF will indicate a strong correlation between the independent variables (Backhaus et al., 2021, p. 111, 238). The VIF value of all the six separate regressions within this second part of the regression analysis is at 2.139, and therefore there is no considerable correlation between the independent variables (Appendix C).

The six new regressions with the now two independent variables, expectation and perception, are presented in the figures below. The regressions are now called regression 1.2-6.2, as this is now a second part of the regressions. The results of each regression will be reported under each individual figure.

Regression 1.2 Dependent variable: **Benefit Satisfaction/Brand Reliability** Independent variable: 1: Expectation Average, 2: Perception Average		
	Standardized beta coefficient	Significance level
Expectation average	.021	.849
Perception average	.380	<.001

Figure 22: Regression 1.2 (Appendix C)

The results of regression 1.2 indicate that the expectations do not have a significant effect on the brand benefit satisfaction/brand reliability, as indicated by the standardized beta coefficient of .021 with a significance level of .849. In contrast, perceptions have a significant positive effect on the brand benefit satisfaction/brand reliability, as the standardized beta coefficient for the perception's average is .380 with a significance level of <.001. This indicates a positive relation between the sub-dimension of Greenwashing, perceptions, and the brand benefit satisfaction/brand reliability.

Regression 2.2 Dependent variable: **Benefit Trust/Brand Fidelity** Independent variable: 1: Expectation Average, 2: Perception Average		
	Standardized beta coefficient	Significance level
Expectation average	-.002	.984
Perception average	.432	<.001

Figure 23: Regression 2.2 (Appendix C)

The results of regression 2.2 indicate once again that the expectations do not have a significant effect on the brand benefit trust/brand fidelity, as the standardized beta coefficient is -.002 with a significance level of 0.984. In contrast, perceptions have a significant positive effect, as the standardized beta coefficient for the perception's average is .432 with a significance level of <.001. This indicates a positive relation between perceptions and the brand benefit trust/brand fidelity.

Regression 3.2 Dependent variable: **Benefit Customer loyalty** Independent variable: 1: Expectation Average, 2: Perception Average		
	Standardized beta coefficient	Significance level
Expectation average	-.120	.306
Perception average	.298	.012

Figure 24: Regression 3.2 (Appendix C)

The results of regression 3.2 indicates that while expectations do not have a significant effect, perceptions have a significant positive effect on the brand benefit customer loyalty. The standardized beta coefficient for the expectations is -.120 with a significance level of .306, while perceptions have a standardized beta coefficient on .298 with a significance level of .012. This indicates a positive relation between the perceptions and the brand benefit customer loyalty.

Regression 4.2 Dependent variable: **Attribute Perceived product quality** Independent variable: 1: Expectation Average, 2: Perception Average		
	Standardized beta coefficient	Significance level
Expectation average	.066	.523
Perception average	.463	<.001

Figure 25: Regression 4.2 (Appendix C)

The results of regression 4.2 indicates that expectations do not have a significant effect, but that perceptions have a significant positive effect on the brand attribute perceived product quality. The standardized beta coefficient for the expectations is .066 with a significance level of .523 indicating no relation, while for the perceptions the standardized beta coefficient is .463 with a significance level of <.001. This indicates that there is a positive relation between perceptions and the brand attribute perceived product quality.

Regression 5.2 Dependent variable: **Attribute Functional Connections** Independent variable: 1: Expectation Average, 2: Perception Average		
	Standardized beta coefficient	Significance level
Expectation average	-.103	.352
Perception average	.463	<.001

Figure 26: Regression 5.2 (Appendix C)

The results of regression 5.2 indicates that expectations have no significant effect, but perceptions have a significant positive effect on the brand attribute functional connections. The standardized beta coefficient for the expectations is -.103 with a significance level of .352 which indicates no relation. For the perceptions the standardized beta coefficient is .463 with a significance level of <.001. This indicates a positive relation between perceptions and the brand attribute functional connections.

Regression 6.2 Dependent variable: **Attribute Brand Reputation** Independent variable: 1: Expectation Average, 2: Perception Average		
	Standardized beta coefficient	Significance level
Expectation average	.071	.493
Perception average	.448	<.001

Figure 27: Regression 6.2 (Appendix C)

The results of regression 6.2 indicates that while expectations do not have a significant effect, perceptions have a significant positive effect on the brand attribute brand reputation. The standardized beta coefficient for the expectations is .071 with a significance level of .493 indicating no relation, while perceptions have a standardized beta coefficient on 0.448 with a significance level of <.001. This indicates a positive relation between perceptions and the brand attribute brand reputation.

All the six results of the regressions in this second part of the regression analysis with the alternative measuring approach show that perceptions have a significance level below .05 in all instances. This indicates that the relationship is statistically significant and does not just occur by chance. Furthermore, all the standardized beta coefficients for the perceptions are ranging from .298 to .463, which indicates a positive relation. These findings indicate that consumers' actual perceptions of companies' environmental practices have an impact on their experience of a brand's image across the different sub-dimensions of Brand Image. In contrast, the results show that expectations do not have any significant effect on any of the sub-dimensions of Brand Image. The high significance levels and the standardized beta coefficients close to 0 indicates that consumers' expectations of brands environmental commitment are not a reliable indicator of their experience of a brand's image.

In conclusion, the results of the six regressions within this second part of the regression analysis indicate that there is evidence that supports the hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.* All of the observed effects on the independent variable, perception, shows an effect on Brand Image. Therefore, a relation among the one of the sub-dimensions of Greenwashing in terms of perceptions were to be found. This indicates that the sub-dimension, expectations, have no influence and matter in this context. The results

obtained through the six separate regressions provide insights into the hypothesis that the research aims to test. Based on the results, there is sufficient evidence to support and accept the alternative hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry.* Therefore, the null hypothesis H0 *There is no relation between Greenwashing and Brand Image* can be rejected based in this alternative measuring approach.

6. Discussion

The following section starts by discussing the implications of the results, including how the research hypothesis is supported and what further exploration of the data in terms of the alternative measuring approach has contributed with. Afterwards, research limitations and opportunities for future research based on the results of the research will be presented.

6.1 Implications

The results of the regression analysis revealed an interesting relation between Greenwashing and Brand Image. While the first part of the regression analysis found no significant relation between the overall indicator of Greenwashing score and all the Brand Image sub-dimensions, the second part of the regression analysis revealed a relation between the Greenwashing sub-dimension, perceptions, and all the Brand Image sub-dimensions. An overview of the results of the hypothesis are listed in figure 28 below.

	Results	
Hypothesis	First part of the regression: The original measuring approach	Second part of the regression: The alternative measuring approach
H0: *There is no relation between Greenwashing and Brand Image within the fashion industry.*	Supported/not rejected	Not supported/Rejected
H1: *Greenwashing has an effect on Brand Image within the fashion industry*.	Not supported/rejected	**Supported/Accepted**

Figure 28: Results and hypothesis overview

In the first part of the regression analysis with the original measuring approach, the null hypothesis H0 was supported and thereby not rejected, meaning that no significant relation was found between Greenwashing and Brand Image. The alternative hypothesis H1 was not supported and thereby not accepted as there was not sufficient evidence to support an effect of Greenwashing on Brand Image. In the second part of the regression analysis with the alternative measuring approach, the null hypothesis H0 could be rejected, as a relation between Greenwashing and Brand Image was found, as Greenwashing was being measured separately in terms of the sub-dimensions, expectations and perceptions. Therefore, the alternative hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* can be accepted as sufficient evidence was identified to support an effect of the Greenwashing sub-dimension perceptions on Brand Image. Therefore, the results of the second part of the regression analysis provides valuable insights into the investigation of the research hypothesis and thereby the research question.

While Greenwashing shows no significant effect on Brand Image in the first part of the regression analysis with the original measuring approach, it is important to keep in mind that this score is developed to represent an overall assessment of Greenwashing that does not separate expectations and perceptions. In the second part of the regression analysis with the alternative measuring approach where the two Greenwashing sub-dimensions, expectations and perceptions, were measured separately there was a clear relation between respondents' perception of brands' environmental practices and Brand Image. So, despite the fact that the results from the original measuring approach cannot accept the alternative hypothesis H1, the alternative measuring approach indicates that there is a relation between Greenwashing and Brand Image when looking at consumers' actual perceptions separately and independently. This supports and accepts the alternative hypothesis H1 and could emphasize the importance of examining Greenwashing from a more differentiated perspective.

The original measuring approach in the first part of the regression analysis did not work out as intended. It is important to keep in mind that the original measuring approach aimed to assess the impact of Greenwashing claims on respondents' overall impression of brands within the fashion industry with the difference between their expectations and perceptions. The overall average of the indicator of Greenwashing scores provides an overall assessment of to which extent the respondent has the impression that companies are utilizing Greenwashing tactics. It is important to note that the original measuring approach and the alternative measuring

approach are partly related, as the alternative measuring approach still measures on the same responses from the questionnaire. The reason why the original measuring approach did not work out as intended, could be that the respondents did not differentiate and distinguish enough between the expectations and perceptions. Statistically there was not much difference between the Greenwashing sub-dimensions expectations and perceptions within the responses of the questionnaire. The respondents did not really distinguish between the two sub-dimensions, so the difference between them is very small. The questions were based on a 7-point Likert scale, where the expectations had an average score of 4,47 and the perceptions had an average score of 4.32 (Appendix B).

Furthermore, the calculated indicator of Greenwashing scores (expectations-perceptions) are very low with most of them being between -1 and + 1, which also indicates that the respondents answered almost equally between expectations and perceptions (Appendix B). It gives a very neutral approach to the indicator of Greenwashing score. The indicator of Greenwashing score is illustrated in figure 29 below and was initially introduced in section 4.1.1.2. The figure is listed here once again to provide a visual illustration of how the score can range from -6 to +6 and to illustrate where the measured scores primarily are placed. The scores between -1 and +1 could indicate that the respondents might find it difficult to express and explain their expectations and that it is easier to state that brands are performing equally in terms of what the respondent expected and in terms of what the brand promises.

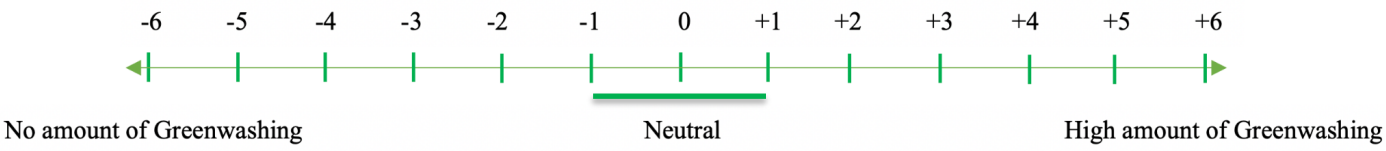

Figure 29: The indicator of Greenwashing score

When exploring the data a bit further, the second part of the regression analysis with the alternative measuring approach showed that the Greenwashing sub-dimension, expectations, have no significant effect on Brand Image. The separate regressions of expectations and perceptions with the two sub-dimensions measured individually focus more directly on consumers' specific experience of brands environmental practices in terms of what they expect and how they perceive the brand lives up to their promises. The results here show that it is not

the expectations, but the actual perceptions of the brands environmental practices that have an effect on Brand Image. In the alternative measuring approach, all of the six separate regressions of Greenwashing perceptions showed a positive relation between perceptions and Brand Image, as all the standardized beta coefficients were above 0. A positive relation between the Greenwashing perceptions and Brand Image indicates that the higher the consumer perceptions the better the Brand Image, and on the other hand, the lower the consumer perception, the worse the Brand Image. A positive and higher perception score indicates higher consumer perceptions of the brand being environmentally friendly and that they live up to their promises. Perceptions were measured in terms of questions about how well the brand lives up to their promises and what they have promoted about environmental practices. The higher the score is of these questions, the better the perception of the Brand Image. As mentioned earlier, the perceptions had an overall average of 4.32 on a scale ranging from 1-7 (Appendix B). This indicates that the perceptions are ranging between the scale of 4-5, which indicates an average between *neutral* or *slightly agree.* The 7-point Likert scale ranging from 1-7 is illustrated in figure 30 below which initially was introduced in section 4.1. The figure is listed here once again to provide a visual illustration of where the average score of perceptions is placed on the Likert scale.

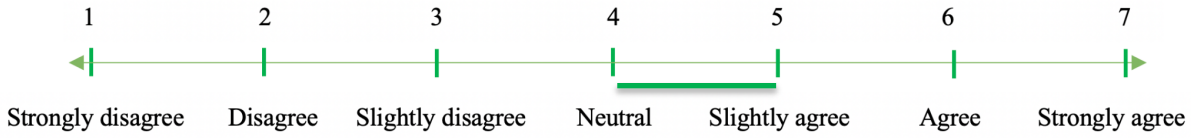

Figure 30: 7-point Likert scale

It can be argued whether a score of 4.32 ranging between *neutral* or *slightly agree* can be interpreted and assessed as a high score of consumer perception. When reflecting over the research, this could be related to the setup of the questionnaire survey, as in the beginning of the questionnaire the respondents are asked to think of a brand within the fashion industry that they know well and use themselves. There can be a huge difference in how consumers perceive different brands. For some brands, the focal point might be environmental responsibility or sustainability, while other brands might focus more on low prices, fast changing trends, and fast fashion. There is a wide variation in the responses of brands, and the perception score could

probably be affected by which brand the respondents had in mind (Appendix A). However, it's important to note that a score between 4 and 5 is still on the high and right side of the scale.

The effect between the Greenwashing sub-dimension perceptions and Brand Image can contribute to emphasize the importance of brands operating within the fashion industry to be aware of the risks of Greenwashing and that it can affect the way consumers perceive the brand and the brand's trustworthiness. Not being good at something is an honest matter, but deceiving consumers into believing that the brand is performing better than what is actually true, can ultimately be even worse. If consumers buy products because they believe and expect it to be environmentally friendly and then realize that they have been deceived or misled, it could create a violation of trust and affect the consumer's perception of the brand's image.

To summarize, further exploration of the data revealed an interesting distinction between the Greenwashing sub-dimensions expectations and perceptions and its impact on Brand Image and also an importance in actually separating the two sub-dimensions instead of measuring the difference score between them, as in the original measuring approach. While Greenwashing expectations showed no significant impact on Brand Image, there was a clear relation between Greenwashing perceptions and Brand Image. The further exploration implies that consumer expectations do not actually matter, but what matters is the consumer perceptions of environmentally friendly practices. Thus, it is not expectations but actual perceptions of the brands environmental commitment and the genuineness of their sustainability initiatives that have the greatest impact on consumers' assessment of Brand Image.

6.2 Limitations and future research

While this research has contributed to an understanding of the relation between Greenwashing and Brand Image within the fashion industry, it is important to acknowledge certain limitations of the research.

In the introduction different challenges within the fashion industry were addressed in terms of shifts towards more sustainable business models, more sustainable production conditions, utilizing resources in a more sustainable way and finally the term, Greenwashing. This research has primarily been focusing on the challenge of Greenwashing within the fashion industry and how it may affect the Brand Image of the brands operating within the industry. The data for the thesis have been gathered through a questionnaire survey, which was limited to run in a period of 14 days, as this has been considered as relevant time to collect the number of responses needed for this specific research.

In this research, it has been important to keep a critical perspective on the sample size of the questionnaire. Although the sample size of 152 respondents has been considered sufficient to perform statistical analysis and draw certain conclusions within this research, it is important to keep a critical view on it, as an even larger sample of respondents might allowed for an even more profound and accurate analysis of the relation between Greenwashing and Brand Image. To address this limitation and improve the overall quality of the research, future research within this field could consider increasing the sample size even further by including a larger number of respondents from different geographical areas, socio-economic backgrounds and so on. This could help to ensure that the results could become even more representative of a wider population and perhaps increase the credibility of the research even further.

The results of the alternative measuring approach within the second part of the regression analysis open up for several interesting opportunities for future research. The results indicate a need for a differentiated approach to investigate Greenwashing and its effect on Brand Image. By separating Greenwashing expectations and perceptions it became clear that it is primarily consumers' actual perceptions that influence the assessment of a brand's environmental practices and the Brand Image. This could suggest that future research could focus even more on understanding how brands actual environmentally friendly practices and communication of sustainability affect consumers' perceptions and their relationship with a brand. By finding a

relation between Greenwashing perceptions and Brand Image, the results demonstrate that consumers' actual perceptions of brand's environmentally friendly practices are crucial to their experience and assesment of a brand's image. The findings may have several implications for brands within the fashion industry. It may be crucial for brands to not only focus on generating expectations of environmentally friendly practices through marketing and branding, but also to ensure that their actual practices are real and lives up to it, as this research indicates that consumer perceptions of brands impact the Brand Image. This could be an indication of the need for a genuine and ongoing commitment to environmentally friendly practices and sustainability throughout the entire value chain of the brand.

There is no doubt that sustainability and Greenwashing are major relevant topics within the fashion industry today with constant efforts being made to develop laws, regulations, and guidelines for how brands should and must act regarding environmental sustainability. The results of this research could open up for future research into factors that may influence the relation between Greenwashing and Brand Image. This could include looking into specific Greenwashing cases and their impact on consumer perceptions of brands and their Brand Image. Furthermore, it could include examining external factors in terms of laws and regulations around sustainability and Greenwashing within the fashion industry and how it will affect the brands operating within the industry in the future.

7. Conclusion

The aim of the research has been to investigate the research question:

> *How does Greenwashing affect Brand Image within the fashion industry and is there a relation between the two variables?"*

In order to provide a qualified answer to the research question, a research hypothesis was established to support the research question. The research hypothesis is as followed:

> Null hypothesis H0: *There is no relation between Greenwashing and Brand Image within the fashion industry.*
> Alternative hypothesis H1: *Greenwashing has an effect on Brand Image within the fashion industry*.

In conclusion Greenwashing affects Brand Image within the fashion industry in a negative way and thereby there is a relation between the two variables. The results indicate that the higher perceptions consumers have of brands within the fashion industry living up to their promises about environmental claims, the better the Brand Image. On the other hand, the lower the perceptions the consumers have, the worse the Brand Image, which indicates that when consumers' perception of a brand's promises about environmental claims are low and decreases, it also negatively affects their perception of the Brand Image. This indicates that Greenwashing has a negative effect on Brand Image and that there is an evident relation between Greenwashing and Brand Image within the fashion industry. Thereby the alternative hypothesis H1 *Greenwashing has an effect on Brand Image within the fashion industry* is supported and accepted based on the results from the alternative measuring approach.

The result of the research indicates that while the original measuring approach with an overall assessment of Greenwashing expectations and perceptions does not affect Brand Image, the alternative measuring approach indicates that consumers' actual perceptions of brands living up to their environmental claims and sustainability practices within the fashion industry have an impact on the Brand Image. This emphasizes the need to distinguish between Greenwashing expectations and perceptions and to focus on consumers' actual perceptions of environmentally friendly practices when it comes to assessing a brand's image. Given these findings, it is assessed to be crucial for brands within the fashion industry to ensure genuine and transparent environmentally friendly practices in order to build and maintain a positive Brand Image.

At the same time, brands within the fashion industry should be aware of the risks of Greenwashing and the potential consequences it can have on their Brand Image. Furthermore, the results also indicate a potential for further research and investigation into external factors that may affect the occurrence of Greenwashing within the fashion industry. Overall, this research contributes to addressing the complexity of the relation between Greenwashing and Brand Image within the fashion industry and emphasizes the importance of trustworthiness and transparency in brands' environmental practices in order to gain and maintain consumer trust, loyalty and thereby a positive Brand Image.

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Appendix

Appendix A: Data from the questionnaire answers

The raw data derived from the questionnaire are attached separately as Appendix A

Appendix B: Dataset from SPSS

The dataset used to calculate averages and compute variables are attached separately as Appendix B.

Appendix C: Outputs derived from SPSS

Cronbach's alpha: Greenwashing

Expectations

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.915	.916	6

Perceptions

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.926	.928	6

Cronbach's alpha: Brand Image

Benefit Satisfaction/Brand Reliability

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.787	.794	2

Benefit Trust/Brand Fidelity

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.726	.726	2

Benefit Customer Loyalty

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.673	.675	2

Attribute Perceived product quality

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.834	.845	2

Attribute Functional connections

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.724	.730	2

Attribute Brand Reputation

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.639	.639	2

Standardized beta coefficient and significance level

Benefit Satisfaction/Brand Reliability

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.997	.456		6.573	<.001		
	ExpectationAverage	.022	.117	.021	.191	.849	.467	2.139
	PerceptionAverage	.523	.152	.380	3.448	<.001	.467	2.139

a. Dependent Variable: BenefitSatisfactionBrandReliability

Benefit Trust/Brand Fidelity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.490	.441		5.650	<.001		
	ExpectationAverage	-.002	.113	-.002	-.020	.984	.467	2.139
	PerceptionAverage	.586	.147	.432	3.996	<.001	.467	2.139

a. Dependent Variable: BenefitTrustBrandFidelity

Benefit Customer Loyalty

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.625	.431		8.417	<.001		
	ExpectationAverage	-.113	.110	-.120	-1.026	.306	.467	2.139
	PerceptionAverage	.366	.143	.298	2.555	.012	.467	2.139

a. Dependent Variable: BenefitCustomerLoyalty

Attribute Perceived product quality

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	2.482	.417		5.958	<.001		
	ExpectationAverage	.068	.107	.066	.641	.523	.467	2.139
	PerceptionAverage	.624	.139	.463	4.500	<.001	.467	2.139

a. Dependent Variable: AttributePerceivedProductQuality

Attribute Functional connections

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.457	.412		8.387	<.001		
	ExpectationAverage	-.099	.106	-.103	-.934	.352	.467	2.139
	PerceptionAverage	.577	.137	.463	4.207	<.001	.467	2.139

a. Dependent Variable: AttributeFunctionalConnections

Attribute Brand Reputation

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	2.453	.421		5.831	<.001		
	ExpectationAverage	.074	.108	.071	.687	.493	.467	2.139
	PerceptionAverage	.606	.140	.448	4.327	<.001	.467	2.139

a. Dependent Variable: AttributeBrandReputation