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Master of Science Thesis

GRA 19703

The Need to Do Good: How to Succeed With a Green Strategy

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Abstract

This master thesis investigates the effect of green initiative and brand image separately and jointly. We hypothesize that green philanthropic behavior leads to greater perceived product quality than green core attributes. Also, we argue that in a green context, a symbolic brand image leads to higher perceived product quality than a functional brand image. We further discuss a possible interaction effect between green initiative and brand image. Last, we argue that there is a mediation effect of perceived product quality on consumer responses.

Data from an online experiment in Qualtrics with 240 participants were analyzed in SPSS through several ANOVA analyses, contrast analysis, linear regressions, and mediation analysis with PROCESS by Hayes (2013). Results from a scenario-based between-subject experiment revealed that implementing green philanthropic behavior seems to be a safer choice than implementing green core attributes. Also, symbolic brands fit better with sustainable matters than functional brands. We discovered an interaction effect between green initiative and brand image. The interaction is such that green philanthropic behavior leads to significantly higher perceived product quality than green core attributes for functional brands, while there is no significant difference for symbolic brands. Last, statistical evidence supports that perceived product quality operates as a mediator in our study.

We give managerial implications and recommendations for how brands can succeed in the green shift. Managers must think differently to convince consumers that green core attributes do not come at the expense of product quality. Even though this requires additional research and resources, brands can potentially benefit from it in the long run.

Keywords: Brand image, consumer preference, environmental development, green attributes, luxury, sustainability, philanthropic behavior

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1.0 Introduction to the Topic

For several decades, green branding has been a relevant topic. Since its introduction in the 70s, numerous businesses have implemented more sustainable products and services to meet the rising demand from consumers and governments. More recently, taking sustainable actions no longer remains an option but rather a requirement to obtain competitive advantages in the market (Kumar et al., 2012; Ottman, 2011). Specifically, 88% of Millennials and Generation Xers from the US and the UK believe brands need to do more good, not just less bad (Winston, 2016).

The transition to a more environmentally friendly and sustainable society raises questions about how the green shift influences consumer decision processes and how brands should best implement green strategies into their business (Chernev & Blair, 2020). While previous studies have examined the green shift as a whole, the literature still lacks knowledge on the effect of different green initiatives. Several researchers have identified an experienced trade-off between sustainability and quality and revealed that consumers often believe brands compensate product quality for the sake of the environment. This notion raises several questions. Should brands integrate green initiatives through the addition of environmentally friendly product features? Or is it better to incorporate green initiatives through charities orthogonal to the products?

Most brands have an already established position in the market; thus, it is interesting to explore different brand images in a green context. While some brands concentrate on the descriptive features of a product, others associate the brand with personal values (Keller, 2013). For functional brands concentrated around descriptive features of products, green activities might be a disadvantage (Luchs & Kumar, 2017). Previous studies have investigated symbolic brand image in green contexts where the research shows conflicting results. While some researchers argue that symbolic brand image is incompatible with sustainability (Dekhili et al., 2019; Torelli et al., 2012), others observe the opposite (Amatulli et al., 2018; Hennigs et al., 2013; Kapferer, 2010).

To better meet the rising demand of a greener world, it is crucial to know how different green initiatives and brand images interact. A question not yet addressed

in previous research is the interaction between these variables on perceived product quality. Therefore, our study aims to capture this valuable gap. In addition to obtaining knowledge about perceived product quality, it is crucial to understand what consumers' quality perception leads to. With more insight about consumers' brand attitudes and purchase intentions, companies can obtain more knowledge on potential managerial decisions.

From a theoretical perspective, insight will contribute to enrich the literature in a more specific direction. From a managerial perspective, findings will guide existing brands to decide which green strategy best suits their brand image. Choosing the right strategy is crucial, and our study aims to help brands succeed in the green shift.

Thus, the research question our study aims to answer is:

What is the effect of green initiative (green core attributes vs. green philanthropic behavior) and brand image (functional vs. symbolic) on consumer responses?

The study's two independent variables are green initiative and brand image. Green initiative is divided between green core attributes and green philanthropic behavior, while brand image is divided between functional and symbolic. The study aims to capture the effect of the independent variables independently and jointly on consumer responses. Perceived product quality operates as the study's mediator, while brand attitude and purchase intention are the study's dependent variables.

In the following part of the thesis, we present the relevant literature on the topic of interest. The theoretical framework results in the study's four hypotheses. The hypotheses are further tested in a 2 x 2 factorial between-subject design. Then, the study's results are presented and discussed with academic and managerial implications. Last, we go through the study's limitations and provide suggestions for future research.

2.0 Theoretical Framework

2.1 Classification of Green Initiative

Sustainability is a multidimensional construct often divided into three pillars: economic, environmental, and social sustainability (Beattie, 2021). Environmental issues have gotten enormous attention in the latest decades, especially since 2015 when both "The 2030" and "The Paris Agreement" was introduced and seemed to play an increasingly bigger role for all stakeholders around the globe (Borglund et al., 2017; UNFCCC, n.d.). In addition, the world has never been more connected and transparent, which has led to massive attention on brands' pro-environmental actions.

Greening of brands is a fast-growing industry, and increasingly more brands are adopting green strategies. Terms such as "green brand", "sustainable brand", and "climate-friendly brand" are used interchangeably; however, brands that state these claims act differently. While some brands may represent products made of only recycled materials or harmless ingredients, others are associated with green activities and philanthropic behavior. Thus, green initiative can be either product-related or non-product-related. This classification stems from Keller (1993), who noted that products and services have both product-related and non-product-related attributes. Product-related attributes are directly linked to the core product and its physical composition, while non-product-related attributes are external aspects of the product or service (Keller, 1993).

In a green context, product-related attributes involve changing core materials and ingredients to more sustainable options. For example, Apple uses 100% recycled aluminum in many devices (Apple, n.d.). Green non-product-related attributes involve implementing sustainable matters that are peripheral to the core product. For example, green non-product-related attributes can be sustainable packaging and philanthropic behavior. Brands engaging in philanthropic behavior contribute to green purposes outside their core business for the betterment of society, either in the form of money, people, or equipment (Lii & Lee, 2012). An example of sustainable packaging is the Norwegian meat producer Gilde which reduced its use of plastic in its packaging by 75% (Nortura, 2021). An example of philanthropic behavior is the clothing brand Patagonia, which donates 1% of every sale to preserve and restore the natural environment (Patagonia, n.d.).

While product packaging and philanthropic behavior are unrelated to a product's core function, one can argue that the latter is even less related to the core product. Even though product packaging is not a part of the core product, it is still a physical part of the product. On the other hand, philanthropic behavior is not a physical part of the product, and we argue that it is even more peripheral to a product than its packaging. Therefore, we investigate the relationship between green core attributes and green philanthropic behavior to obtain a clear distinction between the two types of green initiative.

2.1.1 Green Initiative on Perceived Product Quality

Perceived quality is a key dimension of brand equity (Aaker, 1996). Therefore, exploring consumers' perception of product quality between green core attributes and green philanthropic behavior is interesting. Keller (2013) defines perceived quality as "customers' perception of the overall quality or superiority of a product or service compared to alternatives and with respect to its intended purpose" (p.187). Existing literature has identified the relationship between greening of products and perceived product quality. Findings reveal that when brands make their products greener, consumers often assume that the brands compensate product quality for the sake of the environment (Blair & Chernev, 2014). Thus, consumers make compensatory inferences because they believe there is a trade-off between sustainability and quality.

Three studies conducted by Lin and Chang (2012) revealed that consumers consider environmentally friendly products less effective than non-environmentally friendly products. The authors hypothesized that consumers use a greater amount of a green product (vs. a non-green product) to compensate for its effectiveness. All three studies showed that when the products included a disclaimer stating that the ingredients were biodegradable and non-toxic, respondents used more product than when exposed to a non-green product. The authors refer this phenomenon to be motivated by consumers perception of the product's effectiveness (Lin & Chang, 2012). Since a product's perceived effectiveness closely correlates to its perceived product quality, we extend their logic and argue that green core attributes negatively affect the perceived product quality of the product.

The trade-off between sustainability and quality depends on whether the green initiative is orthogonal to the product's performance. Blair and Chernev (2014) revealed that the effect of social goodwill on product performance depends on whether the social goodwill is related to core attributes. They manipulated social goodwill between a product condition and a charity condition, where respondents either were exposed to a brand with a chemical-free product or to a brand that donated 10% of its revenues to environmental charities. When the social goodwill was unrelated to the product, respondents reported higher product performance than when the social goodwill was related to the product (Blair & Chernev, 2014).

Blair and Chernev further suggest that consumers form compensatory inferences when the social goodwill is directly linked to a product's core attributes. In contrast, the opposite occurs when social goodwill is peripheral to the core product. When consumers do not make compensatory inferences, they instead form positive associations between the activities of the brand and the product's perceived performance, known as the halo effect (Blair & Chernev, 2014). This finding implies that consumers' positive product beliefs strengthen when pro-environmental activities are peripheral to the product. The authors argue that corporate social responsibility involving charitable giving is likely to positively impact consumers' perception of a company's product performance (Chernev & Blair, 2015).

The presented literature indicates that consumers tend to form compensatory inferences when green initiative is related to the product's core attributes. Compensatory inferences have shown to influence consumers' perception of product quality negatively. On the other hand, when green initiative is peripheral to the product, brands obtain a positive halo effect on perceived product performance. Based on this, we expect that green philanthropic behavior leads to higher perceived product quality than green core attributes.

Based on the above discussion, we propose the following hypothesis:

H1: The effect of green philanthropic behavior (vs. green core attributes) leads to higher (lower) perceived product quality.

2.2 Classification of Brand Image

Since most brands have an already established position in the market, knowledge about the effect of different brand images in a green context is interesting to explore further. Kotler (1988) defines brand image as "the set of beliefs held about a particular brand," and Aaker (1992) defines brand image as " a set of associations, usually organized in some meaningful way" (Meenaghan, 1995, p. 24). Brand image is a broad concept and can be interpreted in many ways. The concept is often divided between functional and symbolic brand image, similar to Keller's (2013) classification of brand associations. Keller separates brand associations between brand attributes and brand benefits. Functional brand image concentrate on the descriptive futures of a product or service, while symbolic brand image concentrate on personal values and the meaning consumers connect to the brand (Keller, 2013). Thus, a functional brand image is related to brand attributes, while a symbolic brand image is related to brand benefits.

Brands positioned with a functional brand image aim to satisfy immediate and practical needs (Bhat & Reddy, 1998) such as solving a current problem, preventing a potential problem, resolving conflict, or restructuring a frustrating situation (Park et al., 1986). A typical example of a functional product is a drain cleaner. This product is not something consumers buy unless they want to prevent clogged pipes or need to open clogged pipes. Another example of a functional product is hand sanitizer which consumers around the globe have experienced a massive need for the last couple of years and use to remove bacteria from the skin. Thus, the functional performance is core in these product categories.

Brands with a symbolic brand image "is one designed to associate the individual with a desired group, role, or self-image" (Park et al., 1986, p. 136). Berthon et al. (2009) divide the symbolic dimension into two different aspects: (1) the value the brand signals to others and (2) the value of that signaling to the signaler. More specifically, most luxury brands hold a symbolic brand image. Some argue that status and conspicuous consumption are perceived as identical. Conspicuous consumption refers to "the tendency to buy symbolic and visible products with the aim of communicating a distinctive self-image to others" (Amatulli et al., 2018, p. 280). For example, handbags and wristwatches are typically conspicuous luxury goods perceived with a symbolic brand image. Another example of a symbolic

product category is perfume which consumers use to signal who they are through a distinct scent.

2.2.1 Brand Image on Perceived Product Quality

Several studies have investigated the two brand images in different green contexts. While some researchers address that luxury and sustainability are incompatible, more recent research argues for the opposite. We generalize these findings to the symbolic brand image since luxury brands often hold a symbolic brand image.

Previous research has found luxury and CSR as conflicting concepts (Dekhili et al., 2019; Torelli et al., 2012). Torelli et al. (2012) discovered that consumers form negative brand evaluations when luxury brands communicate CSR actions. Other researchers noted that sustainable luxury is not associated with prestige (Dekhili et al., 2019), which is essential in luxury. Similarly, a study by Achabou and Dekhili (2013) found a negative correlation between consumers' perceptions of the quality of luxury goods and CSR activities (Amatulli et al., 2018). Becker-Olsen et al. (2006) argue that when CSR initiatives do not align with corporate objectives, CSR becomes a liability. Based on the findings above, green initiative seems to be a liability for brands holding a symbolic brand image.

More recent literature shows that sustainability and luxury are compatible (Amatulli et al., 2018; Hennigs et al., 2013). The focus on sustainability has changed noticeably during the last decade, and luxury brands are aware that they no longer can ignore the sustainability issues to succeed in the long run (Amatulli et al., 2018). For example, the global luxury group Kering announced in 2021 that the conglomerate will be fur-free by Fall 2022. François-Henri Pinault, Chairman and CEO of Kering, stated that "the world has changed, along with our clients and luxury naturally needs to adapt to that" (Kering, 2021). Now that Kering goes entirely fur-free, they show consumers that sustainable initiatives still are luxurious.

Luxury and sustainability also share several characteristics, and scarcity is one of them. Many consumers perceive luxury goods as inherently sustainable due to its limited availability. Another common characteristic is durability since luxury

products' longevity aligns with sustainable matters (Amatulli et al., 2018; Hennigs et al., 2013). Luxury goods focus on low quantity and high quality converge with sustainable matters such as preserving natural resources and mitigating the use of harmful chemicals. Kapferer (2010) states that scarcity and durability are the heart of both luxury and sustainability. Based on these findings, symbolic brands seem to strengthen consumers' perception of product quality in a green context after all.

A study conducted in 2017 by Luchs and Kumar revealed that consumers are less willing to sacrifice utilitarian value for sustainability but more willing to sacrifice hedonic value for sustainability. Their findings indicate that prioritizing sustainability over functional value is a disadvantage for brands (Luchs & Kumar, 2017). This might be because consumers believe that brands extract quality from the products to make them greener. Since product performance is decisive for functional brands, consumers might be more doubtful of the product quality for functional brands than for symbolic brands. Based on this finding, we can expect that the trade-off appears more visible with a functional brand image than with a symbolic brand image in a green context.

Across several other studies in general green contexts, symbolic brand image leads to significantly higher consumer responses than functional brand image (Hartmann et al., 2005; He & Lai, 2014; Noppers et al., 2014; Wu & Wang, 2014). These findings indicate that a symbolic brand image aligns more with green objectives than a functional brand image. According to Park et al. (1986), symbolic brands consider extrinsic advantages non-related to product attributes. Since symbolic brands seem to be more aligned with green objectives than functional brands, consumers might be less concerned about the product quality of symbolic brands.

According to previous research, brand image can influence perceived quality (Lee et al., 2011). We argue that, in a green context, consumers perceive symbolic brands with higher product quality than functional brands. As Kapferer (2010) states, scarcity and durability are at the heart of luxury, and it seems that this perception carries over and overrides consumers' concerns of a trade-off between sustainability and quality. However, consumers do not have any preconceptions

about product quality for functional brands; hence, consumers are more likely to believe that green objectives come at the expense of product performance.

Based on the above discussion, we propose the following hypothesis:

H2: In a green context, the effect of symbolic brand image (vs. functional brand image) leads to higher (lower) perceived product quality.

2.3 The Interaction Effect Between Green Initiative and Brand Image

With the increasing demand of a greener world, it is vital to know how green initiative and brand image interact. There is no one correct way to act green for all brands; however, insight on which brand image works best with a specific green initiative will be valuable to succeed with a green strategy. Since brand image lies in the mind and control of consumers (Meenaghan, 1995), brands must adopt green initiatives based on what is best suited to their brand image. Little research has explored the relationship between different ways of acting green and brand images. The existing literature is conflicting where researchers provide different evidence. Therefore, it is interesting to explore the interaction between brand image and green initiative on perceived product quality.

2.3.1 Green Initiative and Functional Brand Image

Lin and Chang's study from 2012 revealed that consumers perceive products with a disclaimer stating that the ingredients are biodegradable and non-toxic to be less effective than non-green products. It is remarkable to note that the authors conducted the experiment with three different functional products: hand sanitizer, mouthwash, and glass cleaner. By extending their findings to the current context, their results indicate that consumers perceive functional brands with green core attributes with lower product quality.

Another study conducted by Blair and Chernev (2014) revealed that consumers form compensatory inferences when social goodwill is directly linked to a product's core attributes. A functional brand reflects what an object does, not what it represents (Berthon et al., 2009), thus, relying heavily on product performance. By extending Blair and Chernev's (2014) logic to the current context, we can expect that consumers form compensatory inferences when

functional brands utilize green core attributes. Based on this, compensating product quality for the environment's sake might be a key barrier for functional brands. On the other side, when green initiative is non-related to the core attributes, consumers might not perceive the product with lower quality. Instead, consumers form positive associations between the brand's green philanthropic behavior and the perceived product quality.

Luchs and Kumar (2017) investigated consumers' trade-off between sustainability and utilitarian vs. hedonic value. Results from the study suggest that consumers are less likely to trade-off utilitarian value for sustainability (Luchs & Kumar, 2017). The authors propose a possible explanation for this finding and explain that consumers justify the choice "given the fulfillment of a perceived need" (p.570). We expect this justification to become stronger for functional brands that utilize green core attributes since consumers can easily justify the need for product performance. On the other hand, the justification might not hold if the green initiative is unrelated to the product (i.e., green philanthropic behavior).

More recent research conducted by Skard et al. (2021) revealed a sustainability liability effect for strength-related products (e.g., Plumbo) both when the green initiative was core and peripheral to the product. This implies that green core attributes and green peripheral attributes (product packaging) weakens consumers' quality perception of functional products. Since the researchers observed a sustainability liability effect when the drain cleaner had a green packaging, it seems that green packaging negatively transmits over to the core product. However, several experiments showed that the sustainability liability effect was stronger for green core attributes than green peripheral attributes in the strength-related category (Skard et al., 2021). This finding indicates that green ingredients are the main issue for brands with a functional brand image.

2.3.2 Green Initiative and Symbolic Brand Image

Looking deeper into the literature on symbolic brands and sustainability, Achabou and Dekhili's (2013) research revealed an incompatibility between green core attributes and luxury. Even though participants from the study signaled a positive attitude toward recycling, they were reluctant to implement the use of recycled materials in luxury products. However, respondents were willing to implement recycled materials into luxury products as long as it was restricted to peripheral attributes such as packaging (Achabou & Dekhili, 2013). As discussed earlier, it is a greater distinction between green core attributes and green philanthropic behavior than green core attributes and green packaging. Therefore, we can expect that consumers also are willing to implement green philanthropic behavior in luxury brands.

Even though Achabou and Dekhili's (2013) research indicated that green initiative should be restricted to peripheral attributes in a luxury context, findings from Amatulli et al.'s (2018) study suggest that both green initiatives work well. Their research showed that luxury companies' external CSR initiatives are generally more effective than internal CSR initiatives. The authors refer internal CSR to activities that are less visible and less easy to recognize by consumers than external CSR. Their study characterizes philanthropic behavior as an external CSR activity since consumers easily can detect whether the company has undertaken a green initiative. The study does not address green core attributes; however, we argue that consumers easily can recognize whether a company has implemented green core attributes. By extending Amatulli et al.'s (2018) logic to the current context, we consider green core attributes and green philanthropic behavior as external CSR activities.

2.3.3 Hypothesis Development

Brands positioned with a functional brand image depend heavily on the product's functional performance. Thus, it is reasonable to assume consumers respond more negatively to changes in core ingredients due to its direct effect on product performance. Lin and Chang (2012) clearly showed that consumers generally assume that green products negatively influence effectiveness. Also, Blair and Chernev (2014) found evidence that consumers form compensatory inferences when social goodwill is directly linked to core attributes. These findings

strengthen the expectation that green core attributes do not work well for functional brands.

In our research, the non-product-related attribute is even more peripheral to the product than in Skard et al.'s (2021) study. Thus, we assume that the sustainability liability effect will not occur for green philanthropic behavior. Instead, we believe green philanthropic behavior will positively affect perceived product quality. Building on this, we expect that consumers' perceived product quality is higher for functional brands that engage in philanthropic behavior than those who utilize green core attributes. We argue that utilizing green core attributes for functional brands diminishes consumers' perception of its functional value. Moreover, the perceived trade-off between sustainability and quality remains stronger for functional brands when the green initiative is related to the core attributes of a product. Based on this, we argue that green philanthropic behavior leads to higher perceived product quality than green core attributes for functional brands.

There is little research related to the effect of symbolic brand image and different green initiatives. However, the existing literature shows conflicting results, which makes it interesting to investigate further. While Achabou and Dekhili's (2013) research indicates that green philanthropic behavior results in higher consumer responses than green core attributes, Amatulli et al.'s (2018) research indicates that both green initiatives lead to high consumer responses. These conflicting findings do not show a clear direction for the effects, and we have no theoretical reason to eliminate either of the studies. Based on this, we open for two different scenarios. In scenario 1, we consider Amatulli et al.'s (2018) findings, while we consider Achabou and Dekhili's (2013) in scenario 2.

In scenario 1, we open for an interaction effect between green initiative and brand image. Specifically, the interaction is such that green philanthropic behavior leads to significantly higher perceived product quality than green core attributes for functional brands, while there is no significant difference for symbolic brands. See graph 2.1 below for an illustration of scenario 1.
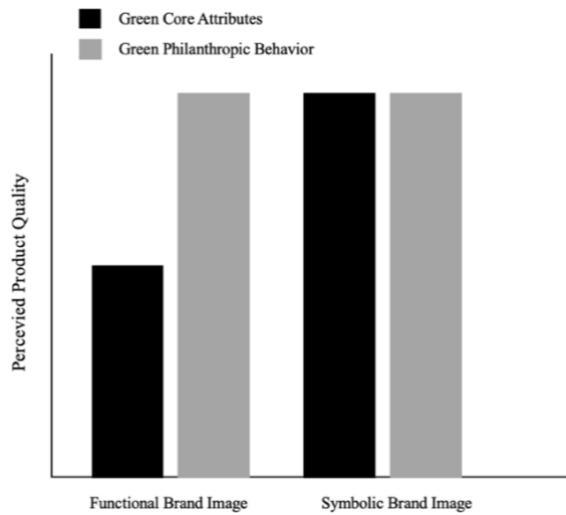
Graph 2.1: Scenario 1: Interaction effect

In scenario 2, we argue that there is no interaction effect between green initiative and brand image. Instead, we open for two main effects where green philanthropic behavior leads to significantly higher perceived product quality than green core attributes for both functional and symbolic brand image. See graph 2.2 below for an illustration of scenario 2.
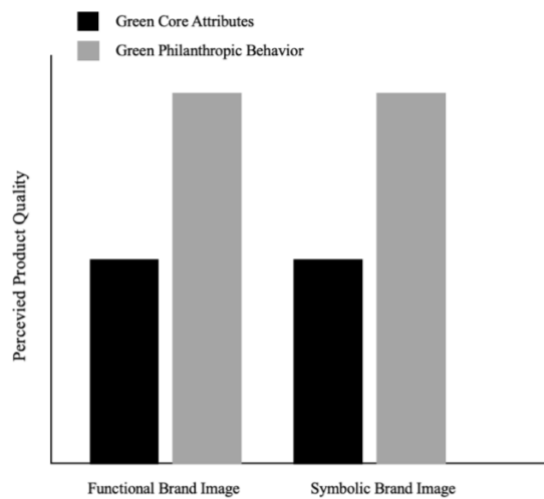
Graph 2.2: Scenario 2: Main effects

Scenario 2 suggests that there is no significant difference between the groups and is considered a null hypothesis. Therefore, the proposed hypothesis is based on scenario 1, which allows for an interaction effect between green initiative and brand image.

We propose the following hypothesis:

H3: There is an interaction between green initiative (green core attributes vs. green philanthropic behavior) and brand image (functional vs. symbolic) on consumer responses.

The specific contrast of interest:

- *With a functional brand image, green philanthropic behavior (vs. green core attributes) leads to higher (lower) perceived product quality.*

- *With a symbolic brand image, both green core attributes and green philanthropic behavior leads to high perceived product quality.*

2.4 Mediation Effect of Perceived Product Quality on Consumer Responses

The ultimate goal for brands is not necessarily only to obtain knowledge about consumers' perceived quality alone but to gain insight into what the perceived quality leads to. The literature often separates between attitudinal and behavioral effects. While brand attitude captures individuals' attitudes towards a brand, purchase intention is the behavioral attitude of individuals (Ramesh et al., 2019). Thus, it is interesting to study both types of consumer responses.

Customer brand attitude is one of the key drivers of brand equity and can be defined as "consumers' overall evaluations of a brand and often form the basis for brand choice" (Keller, 2013, p. 117). Several researchers have identified the relationship between perceived product quality and brand attitude, where findings indicate that brand attitude is dependent on consumers' perceived product quality. Consumers evaluate the quality of a product or service, thereby developing attitudes depending on their quality perception (Esmaeilpour, 2015).

Several studies have found a negative effect of brand attitudes when consumers believe there is a trade-off between a product's functions and environmental benefits (Hartmann et al., 2005). This finding suggests that compensatory inferences formed by consumers negatively affect the attitude towards the brand. Compensatory inferences are formed when the perceived product quality of a brand is poor. This suggests that when consumers perceive the quality as low,

their attitude towards the brand is low. However, when consumers perceive the quality as high, their attitude towards the brand is high.

Favorable brand attitudes are not important enough if consumers do not consider purchase as an option (Keller, 2013). Regardless of brands' many goals, all brands are ultimately interested in the financial aspect. Perceived quality often drives consumer decisions (Keller, 2013); thus, purchase intention is an important measurement to consider. Purchase intention is "the willingness of a customer to buy a product or a service" (Yang, 2017). Previous research found that perceived quality has a direct positive effect on purchase intention. This means that consumers who evaluate products with high product quality will be positively motivated to buy that specific product (Saleem et al., 2015). Similarly, Newman et al. (2014) argue that a reduction in perceived product quality drives a reduction in purchase interest.

In Blair and Chernev's (2014) study, perceived quality mediates the relationship between social goodwill and purchase intention. Respondents reported superior performance when social goodwill was unrelated to the product, resulting in a higher willingness to pay. However, when social goodwill was related to the product, the opposite occurred, resulting in a lower willingness to pay (Blair & Chernev, 2014). Based on the above findings, we argue that perceived product quality mediates the relationship between green initiative and consumer responses (brand attitude and purchase intention).

Thus, we propose the following hypothesis:

H4a: Perceived product quality mediates the relationship between green initiative and consumer responses.

According to Lee et al. (2011), favorable brand images lead to higher perceived product quality. Based on Esmaeilpour's (2015) notion, we expect that consumers' brand attitudes and purchase intentions are developed depending on their quality perception. Thus, we argue that perceived product quality also mediates the relationship between brand image and consumer responses.

Based on this, we propose the following hypothesis:

H4b: Perceived product quality mediates the relationship between brand image and consumer responses.

Similarly, we expect that perceived product quality also mediates the relationship between the interaction and consumer responses.

Therefore, we propose the following hypothesis:

H4c: Perceived product quality mediates the relationship between the interaction and consumer responses.

2.5 The Conceptual Research Model

Our study investigates the effect of the two independent variables (green initiative and brand image) on perceived product quality. More specifically, green initiative consists of green core attributes and green philanthropic behavior, and brand image consists of functional and symbolic brand image. In addition, our study aims to capture the interaction effect of green initiative and brand image on perceived product quality. Last, our study investigates whether perceived product quality mediates the relationship between the independent variables (separately and jointly) and consumer responses (brand attitude and purchase intention). Figure 2.1 below illustrates our conceptual research model.
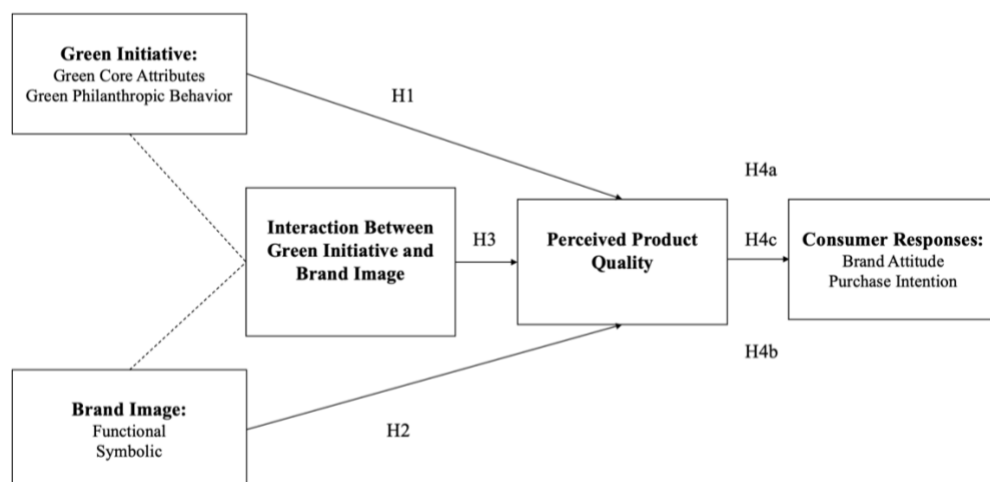
Figure 2.1: The conceptual research model

3.0 Research Methodology

3.1 Design

To test our hypotheses, we conducted a quantitative online scenario-based experiment which ensures high internal validity. By developing scenarios that simulate reality as accurately as possible, we obtain more precise data that reflect world-like consumer behavior (J.-H. Kim & Jang, 2014). The chosen design is a 2 (green core attribute vs. green philanthropic behavior) x 2 (functional brand image vs. symbolic brand image) between-subject factorial experiment. The design type is suitable when there are many participants available. Also, a between-subject design where participants observe different conditions limits order effects since each score is independent of the other scores (Gravetter & Forzano, 2016). Considering that we have a 2 x 2 between-subject factorial design, respondents were randomly allocated into one of four conditions. The respondents were exposed to stimuli with either green core attributes or green philanthropic behavior combined with either a functional or symbolic brand image.

3.2 Stimuli Development

To make the stimuli as identical as possible and to exclude other factors that could affect the liking of the stimuli, we tried to develop stimuli with the same product category for both brand images. We decided to try a wristwatch as the product category and ran several pre-tests. After several adjustments without obtaining any significant difference in mean between functional and symbolic brand image, we decided to make the brand images clearer by choosing a more typical functional product for the functional brand image and a more typical symbolic product for the symbolic brand image. We decided to test drain cleaner and hand sanitizer for the functional brand image and perfume for the symbolic brand image.

Results from the brand image pre-study showed that both drain cleaner and hand sanitizer were perceived with a functional brand image. Also, the two product categories were perceived as significantly different from perfume (see section 3.3.2 Pre-test of Brand Image). Because hand sanitizers have been an extremely used product in the last two years due to the Covid-19 pandemic, we decided to run the experiment with drain cleaner to avoid potentially biased responses.

Therefore, drain cleaner was used for the experiment to represent the functional brand image, while perfume was used to represent the symbolic brand image.

For the green core attribute condition, the sentences "All ingredients are 100% plant-based" and "We only use gentle plant-based ingredients to preserve our environment" were included for both functional and symbolic brand image stimuli. Similarly, for the green philanthropic behavior condition, the sentences "We donate 10% of our sales to preserve our planet. Together, we preserve our planet by helping the most affected places on earth" were included.

To visualize the brand image better, we included a picture of a plumping pipe for the functional brand image and a picture that gives a luxurious feeling to the symbolic brand image. In addition, we added a short scenario text together with the stimuli to make the brand images clearer.

Stimuli 1: Green Core Attributes and Functional Brand Image Condition

Imagine that you are standing in the shower and suddenly realize that the pipe is clogged. You remove everything you can from the pipe, but the pipe is still clogged, and you can already sense that it is beginning to smell bad. You do not have any other option than to buy an effective drain cleaner to solve your problem as fast as possible.

Please evaluate the following product:

Stimuli 1: Green core attributes and functional brand image

Stimuli 2: Green Philanthropic Behavior and Functional Brand Image Condition

Imagine that you are standing in the shower and suddenly realize that the pipe is clogged. You remove everything you can from the pipe, but the pipe is still clogged, and you can already sense that it is beginning to smell bad. You do not have any other option than to buy an effective drain cleaner to solve your problem as fast as possible.

Please evaluate the following product:

Stimuli 2: Green philanthropic behavior and functional brand image

Stimuli 3: Green Core Attributes and Symbolic Brand Image Condition

Imagine that you are searching for a new luxuries perfume suited for memorable evenings. You want a scent that associate you with success and enables you to express yourself to the fullest in every special occasion.

Please evaluate the following product:

Stimuli 3: Green core attributes and symbolic brand image

Stimuli 4: Green Philanthropic Behavior and Symbolic Brand Image Condition

Imagine that you are searching for a new luxuries perfume suited for memorable evenings. You want a scent that associate you with success and enables you to express yourself to the fullest in every special occasion.

Please evaluate the following product:

Stimuli 4: Green philanthropic behavior and symbolic brand image

3.3 Pre-test

We conducted several pre-tests to ensure that respondents perceived the stimuli correctly and precisely. The primary purpose of the first pre-tests was to ensure a significant difference between green core attributes and green philanthropic behavior and a significant difference between functional and symbolic brand image. Therefore, when running the pre-tests on brand image, we removed the part of the stimuli related to the green initiative. Similarly, when running pre-tests on the green initiative, we removed the parts of the stimuli associated with functional or symbolic brand image. The reason behind this is that we wanted to measure the independent variables isolated. In the following sections, we elaborate more on the statistical results from the two final pre-tests.

3.3.1 Pre-test of Green Initiative

To ensure that green core attributes and green philanthropic behavior were perceived significantly different in mean, we conducted a pre-test. We recruited $n = 30$ respondents but ended up with $n = 29$ since one of the responses was invalid. We ended up with $n_{\text{green core attributes}} = 14$ and $n_{\text{green philanthropic behavior}} = 15$. To measure the stimuli, we asked the respondents three questions about the stimuli's green core attributes and three about the stimuli's green philanthropic behavior. Both measurement scales passed the reliability test with a Cronbach's Alpha above 0.7 ($\alpha_{\text{Core}} = .873$ and $\alpha_{\text{Philanthropic}} = .731$).

An Independent-Samples T-test revealed that the green core attributes stimuli was perceived significantly different from the green philanthropic behavior stimuli and the other way around. Levene's Test for Equality of Variances shows that the variances are equal for the two groups ($F = 4.263, p = .573$). On average, participants given green core attributes stimuli scored higher ($M = 5.405, SE = .367$) than those given green philanthropic behavior stimuli ($M = 3.533, SE = .423$) when testing the green core attributes scale. Thus, the mean difference of 1.871 is statistically significant $t(27) = 3.323, p = .003$.

Likewise, when testing for green philanthropic behavior, Levene's Test for Equality of Variances shows that the variances are equal for the two groups ($F = 2.495, p = .126$). On average, participants given green philanthropic behavior stimuli scored higher ($M = 5.222, SE = .197$) than those given green core attributes stimuli ($M = 3.119, SE = .345$) when testing the green philanthropic behavior scale. Thus, the mean difference of -2,103 is statistically significant ($t(27) = -5.384, p < .001$). To conclude, the pre-test tells us that the two stimuli have significantly different means (see table 3.1 below) and are perceived as green core and green philanthropic, respectively.

		Levene's Test for Equality of Means		t-test for Equality of Means			
		F	Sig.	t	df	Two-sided p	Mean Difference
Core_AVG	Equal variances assumed	.325	.573	3.323	27	.003	1.871
Philanthropic _AVG	Equal variances assumed	2.495	.126	-5.384	27	<.001	-2.103

Table 3.1: Independent samples t-test

3.3.2 Pre-test of Brand Image

To ensure a higher possibility of significant results, we tested both drain cleaner and hand sanitizer as our functional brand image stimuli. The category used for the symbolic brand image stimuli was perfume. We recruited $n = 45$ participants with $n_{Drain\ cleaner} = 14$, $n_{Hand\ sanitizer} = 15$ and $n_{Perfume} = 16$. The pre-test contained four questions on functional brand image and four on symbolic brand image. Both brand image scales passed the reliability test with a Cronbach's Alpha above 0.7 ($\alpha_{Functional} = .781$ and $\alpha_{Symbolic} = .897$). The independent variables were coded the following (1 = drain cleaner, 2 = hand sanitizer, 3 = perfume).

A multivariate analysis of variance (MANOVA) was conducted to reveal whether the brand images were perceived significantly different. Since we tested three different product categories, a MANOVA is the appropriate analysis to minimize the type 1 error rate compared to running multiple t-tests (H.-Y. Kim, 2014). The descriptive statistics revealed that the stimuli were perceived as indented. Drain cleaner and hand sanitizer scored higher on the functional brand image scale than perfume, while perfume scored higher on the symbolic brand image scale than drain cleaner and hand sanitizer. See table 3.2 for the output.

Scale	Product Category	Mean
Functional_AVG	Drain cleaner	5.500
	Hand Sanitizer	5.650
	Perfume	3.813
Symbolic_AVG	Drain cleaner	2.929
	Hand sanitizer	2.967
	Perfume	4.141

Table 3.2: Descriptive statistics of means

According to Andy Field (2013), Pillai's Trace is the preferred test statistic. Using Pillai's Trace, we find that across the dependent variables (functional brand image and symbolic brand image), there was a significant effect ($V = .594, F(4,84) = 8.865, p < .001$) on the independent variables (drain cleaner, hand sanitizer, and perfume). See table 3.3 below for the output of Pillai's Trace test statistic.

Effect		Value	F	Hypothesis df	Error df	Sig.
Brand Image	Pillai's trace	.594	8.865	4	84	<.001

Table 3.3: Multivariate tests

The contrast analysis reveals where the significant difference is located. First, using level 1 (drain cleaner) as the reference category, we compared it against level 2 (hand sanitizer). Results showed that the drain cleaner and hand sanitizer stimuli were non-significantly different from each other (contrast 1, $p < .679, p < .937$). The second comparison showed that the drain cleaner and the perfume stimuli were perceived significantly different from each other (contrast 2, $p < .001, p < .014$). Second, we ran the contrast analysis with level 3 (perfume) as the reference category. The results showed that level 1 (drain cleaner) and level 3 (perfume) were significantly different from each other (contrast 1, $p < .001, p < .014$). When comparing level 3 (perfume) with level 2 (hand sanitizer), we again observe that the two stimuli are perceived significantly different from each other (contrast 2, $p < .001, p < .015$).

The results indicate that respondents perceive perfume significantly different from drain cleaner and hand sanitizer, which is in line with the means presented. This also makes sense with our predictions. Thus, we have statistical evidence to move forward with drain cleaner for our functional brand image and perfume for our symbolic brand image category.

3.4 Sampling

For the pre-tests and the experiment, we recruited participants through Prolific.co, which is a website that collects participants. Prolific combines good recruitment standards with reasonable cost. Collecting respondents from Prolific is an advantage since participants know they are recruited to participate in research and know about the payment, treatment, and their rights (Palan & Schitter, 2018). Also, users on the platform are motivated to answer surveys which is crucial to ensure that participants are concentrated when answering. For the experiment, we recruited n = 240 participants. The participants were selected based on a convenient sampling technique which is a timesaving method of data collection well fitted for our study based on the limited time frame.

3.5 Operationalization of the Experiment

The experiment was created in Qualtrics as it is an effective tool to operationalize the survey. Qualtrics enabled us to randomly generate respondents into the different stimuli, which is an essential feature of this experiment. In addition, Qualtrics easily transferred the answers to SPSS, where the data were analyzed. Finally, before distributing the survey to the entire sample, we pre-tested the experiment on a smaller sample to reveal any potential difficulties with the survey flow (Burns & Bush, 2010).

All questions in the experiment were developed according to previous research to ensure high validity and reliability (see Appendix 7.1 for the total output of the questionnaire). Table 3.4 below contains a complete overview of the measurement and scales for every construct we measured. The constructs measured perceived product quality, brand attitude, and purchase intention.

To assess the participants' perceived product quality and attitude towards the brand, we used a semantic differential scale which has been widely used to

compare brands, products, and company images. The semantic differential scale consists of bipolar endpoints, such as "poor" and "excellent" (Malhotra, 2010). Purchase intention is measured with a 7-point Likert scale ranging from "strongly disagree (1)" to "strongly agree (7)". The conceptual difference between any two points on the scale should be identical; that is, the difference in intensity between "strongly disagree (1) and "disagree (2)" is equal to the difference between "agree (6)" and "strongly agree (7). Thus, all points on the scale contained a written description and a corresponding number between 1 and 7.

Variable	Scale	Measurement		Source
Perceived Product Quality	Semantic differential scale 1-7	Inferior Low quality Poor	Superior High quality Excellent	(Low & Lamb, 2000)
Brand Attitude	Semantic differential scale 1-7	Bad Unpleasant Worthless	Good Pleasant Valuable	(Low & Lamb, 2000)
Purchase Intention	Likert scale 1-7	I would like to try this product I would buy this product if I happened to see it in a store I would actively seek out this product in a store in order to purchase it		(Bruner et al., 2001, p. 456)

Table 3.4: Summary of questionnaire

3.6 Data preparation

Prior to running the analyses, we prepared the data set. First, we excluded participants that did not pass the attention filter in the survey. A total of 4 participants did not answer or answered incorrectly to what product they were asked to evaluate in the survey. This reduced the sample size from $n = 244$ to $n = 240$. When we transferred the input to SPSS, several of the constructs were duplicated four times due to the randomizer in Qualtrics. Thus, we recoded all the duplicated variables into one variable. Then, we computed variables that indicated which stimuli a respondent belonged to. One variable indicated whether the participant was placed in stimuli 1, 2, 3, or 4, while two other variables showed

whether the participant was exposed to functional vs. symbolic brand image and green core attributes vs. green philanthropic behavior stimuli. The four experiment groups are visualized in table 3.5 below.

	Functional Brand image	Symbolic Brand Image
Green Core Attributes	N 59	N 60
Green Philanthropic Behavior	N 61	N 60

Table 3.5: Research design

We computed new variables in SPSS with the averages of the variables. Perceived product quality, brand attitude, and purchase intention were measured with $N = 3$ items each. Thus, we computed new variables containing the average of all three items for each respondent.

3.6.1 Descriptive Statistics

The descriptive statistics reveal that 55.8% of the respondents are female, 42.5% are male, and 1.7% of the respondents are non-binary. The highest degree of education obtained was bachelor (47.1%), followed by high school (26.7%), master (19.6%), and vocational training certificate (6.7%). The mean age of all respondents is 29.5 years; the youngest respondent is 18 years, and the oldest respondent is 61 years.

3.6.2 Factor Analysis

Before running any further analyses, it is necessary to quality check the measurement scales through a factor analysis. The factor analysis' main purpose is to measure the validity, which relates to how well one measures what one intended to measure (Gripsrud et al., 2016, p. 61). We used maximum likelihood in the settings as it is a stricter test. We also allowed for an oblique rotation (direct oblimin) which is a more realistic rotation versus an orthogonal rotation because it allows factors to be correlated. Since the factor loadings should be above 0.3 (Gripsrud et al., 2016, p. 388), we put this value as a requirement in the settings.

Even though we initially wanted to measure three factors (perceived product quality, brand attitude, and purchase intention), the factor analysis gave us only one factor, which is not ideal. There are several ways to determine how many factors one should go forward with. The Kaiser's rule guides us to select factors based on eigenvalues above 1, which is crucial because the factors need to describe more than themselves. The output shows that only one factor has an eigenvalue above 1 (6.174). The two-factor solution has an eigenvalue close to 1 (.866), while the three-factor solution has an eigenvalue of .536. The scree plot and the percentage of variance explained also indicated one factor. See Appendix 7.2 for the output of the factor analysis that extracted one factor.

Since the three-factor solution had a corresponding eigenvalue of .536, we decided to force three factors. The output of the analysis shows that the variables divide correctly between the three factors (see table. 3.6 below). Previous literature indicates that all the three variables go in the same direction; thus, it is logic that the factor analysis captures the variables as similar constructs. Since all three variables are duplicated from acknowledged constructs, we move forward with the three-factor solution. The KMO and Bartlett's statistic show a corresponding value of .918, and Bartlett's test of Sphericity showed significant results. Thus, we move forward with a three-factor solution.

Variables	Factors		
	1	**2**	**3**
PerceivedProductQuality1	.940		
PerceivedProductQuality2	.856		
PerceivedProductQuality1	.729		
PurchaseIntention2		-1.032	
PurchaseIntention1		-.726	
PurchaseIntention3		-.718	
BrandAttitude2			.848
BrandAttitude3			.692
BrandAttitude1			.644

Table 3.6: Pattern matrix

3.6.3 Reliability Test

When moving forward with a three-factor solution, we conducted a reliability test with the same variables we used in the factor analysis. The reliability test is used to measure the consistency of the measurements (Field, 2013). All scales showed sufficient reliability with corresponding Cronbach's $\alpha > 0.7$ (Malhotra, 2010) (see table 3.7 below).

Measurements	Cronbach's Alpha	N of items
Perceived Product Quality	.916	3
Brand Attitude	.864	3
Purchase Intention	.915	3

Table 3.7: Reliability statistics for the variables

3.6.4 Normal Distribution Analysis

To move forward with the analyses, all variables in the experiment must be normally distributed. By looking at each variable's corresponding skewness (symmetry) and kurtosis (peakedness or flatness), we can check whether there is enough variation in our data. The skewness and kurtosis of a normal distribution are zero (Malhotra, 2010) and should have values between -1.96 and 1.96 to be considered normally distributed (Finch et al., 1997). Table 3.8 below shows that all variables are within the required interval, and we can proceed with the analyses.

Measurements	Mean	St. Dev	Skewness	Kurtosis
Product Quality	4.9901	1.19877	-.432	-.115
Brand Attitude	5.1972	1.12957	-.432	.024
Purchase Intention	4.5667	1.44868	-.473	-.420

Table 3.8: Skewness and kurtosis

3.6.5 Correlation Analysis

The correlation analysis shows that all three variables are relatively similar; however, the analysis also reveals unique observations. When looking at brand attitude, product quality has 20% unique observations while purchase intention has 30% unique observations. We obtained almost the same results when

comparing the variables with purchase intention and product quality. See table 3.9 below for output of the correlation analysis. This implies that product quality and brand attitude have fewer unique observations than purchase intention. However, there are still valuable unique observations between the factors which strengthen the reason to distinguish the measurements.

Measurements	Variable2	Correlations
BrandAttitude_AVG	ProductQuality_AVG	.798
	BrandAttitude_AVG	1.000
	PurchaseIntention_AVG	.685
PurchaseIntention_AVG	ProductQuality_AVG	.715
	BrandAttitude_AVG	.685
	PurchaseIntention_AVG	1.000
Perceived ProductQuality_AVG	ProductQuality_AVG	1.000
	BrandAttitude_AVG	.798
	PurchaseIntention_AVG	.715

Table 3.9: Correlation analysis

3.7 Analysis

To test our proposed hypotheses, we conducted several different analyses. First, we ran several Univariate ANOVAs to capture both the main effects and the interaction effect. Then we added a syntax to obtain more insight on the results. Finally, to test for mediation, we used regression analysis PROCESS developed by Hayes (2013).

To test hypotheses H1 and H2, we conducted an ANOVA analysis to capture the direct effect between our independent variables (green initiative and brand image) and the study's mediator (perceived product quality). In the analysis, green initiative and brand image operated as fixed factors while perceived product quality operated as the dependent variable.

To test hypothesis H3, we allowed for an interaction between the two independent variables in an ANOVA analysis. The analysis revealed that at least one group significantly deviates from the others. To obtain more detailed result of the

interaction effect and conclude our hypothesis, we included a syntax to SPSS. See Appendix 7.3 for syntax input.

Since our model allows for mediation, the appropriate tool must be chosen. The most widely used method to test intervening variable effects is the causal step approach invented by Baron and Kenny (1986). However, several researchers have criticized the method over the years due to its low statistical power (Hayes, 2009). Hayes (2013) revolutionized moderation and mediation analysis with the statistical tool PROCESS, which "holds great promise for consistent, highly powered, and statistically defensible mediational analysis of indirect effects" (Winer et al., 2016, p. 949). According to Field (2013) "it's pretty much the best thing to happen to moderation and mediation analysis in a long time" (p. 293). To obtain more knowledge about the results before moving forward with regressions, we tested the direct effects of the study's two independent variables on consumer responses (brand attitude and purchase intention).

To test H4a and H4b, we used PROCESS model 4 to capture the mediation effect. The regression aimed to reveal whether perceived product quality mediates the relationship between our independent variables (green initiative and brand image) and our dependent variables (brand attitude and purchase intention). Thus, to conclude our hypotheses, the regression was conducted four times.

To test H4c, model 8 was the appropriate model to use. The model includes one independent variable (X), one moderator (W), one mediator (M_i), and one dependent variable (Y). The statistical diagram of model 8 also tests the interaction effect between the independent variable and the moderator (XW), where the moderator (W) also operates as an independent variable. We conducted the regression analysis twice, first with brand attitude as the dependent variable and then with purchase intention as the dependent variable.

4.0 Results

4.1 Main Effect of Green Initiative on Perceived Product Quality

H1: The effect of green philanthropic behavior (vs. green core attributes) leads to higher (lower) perceived product quality.

Levene's test of Equality based on Mean shows that the variances are unequal for the two groups ($F(3,236) = 4.263, p = .006$). Thus, the variances are significantly different, and the assumption of homogeneity is violated. According to Andy Field, there are good reasons not to use Levene's test. Field states that Levene's test can be significant even when group variances are not that different when analyzing large samples (Field, 2013). When looking at the F-value in conjunction with Levene's test, we observe that the F-value is relatively high ($F = 7.181$). Additionally, we have a relatively big sample size which justifies the decision to proceed with the analysis.

The output from running a univariate ANOVA shows that, on average, participants given green core attributes (group 1) reported lower perceived product quality ($M = 4.790, SD = 1.331$) than those given green philanthropic behavior (group 2) ($M = 5.187, SD = 1.199$) (see graph 4.1). The mean difference between group 1 and group 2 is ($M = .397$), which gives us a significant main effect of green initiative ($F(1,236) = 7.181, p = .008$) (see table 4.1). The statistical evidence suggests that green philanthropic behavior leads to significantly higher perceived product quality than green core attributes. Thus, we accept hypothesis H1.
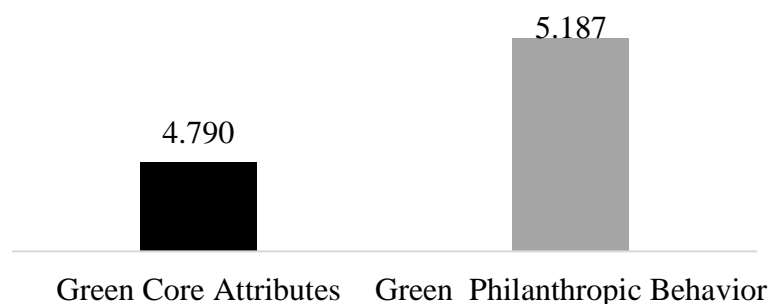
Graph 4.1: Mean of green initiative on perceived product quality

Source	Type iii Sum of Square	df	Mean Square	F	Sig.
Green Initiative	9.660	1	9.660	7.181	.008
Error	317.447	236	1.345		

Table 4.1: Test of between-subject effects for green initiative

4.2 Main Effect of Brand Image on Perceived Product Quality

H2: In a green context, the effect of symbolic brand image (vs. functional brand image) leads to higher (lower) perceived product quality.

Output from the same univariate ANOVA ran in H1 show that, on average, participants given functional brand image (group 1) reported lower perceived product quality ($M = 4.769, SD = 1.324$) than those given symbolic brand image (group 2) ($M = 5.211, SD = 1.018$) (see graph 4.2). The mean difference between group 1 and group 2 is ($M = .442$), which gives us a significant main effect of brand image ($F(1,236) = 8.911, p = .003$) (see table 4.2). The statistical evidence suggests that symbolic brand image leads to significantly higher perceived product quality than functional brand image in a green context. Thus, we accept hypothesis H2.
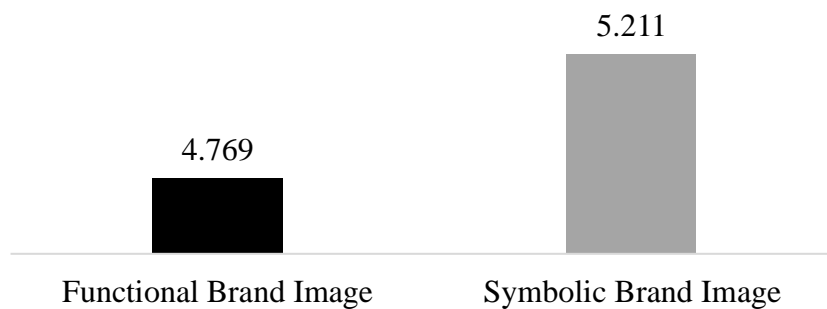
Graph 4.2: Mean of brand image on perceived product quality

Source	Type iii Sum of Square	df	Mean Square	F	Sig.
Brand Image	11.987	1	11.987	8.911	.003
Error	317.447	236	1.345		

Table 4.2: Test of between-subject effects for brand image

4.3 The Interaction Effect on Perceived Product Quality

H3: There is an interaction between green initiative (green core attributes vs. green philanthropic behavior) and brand image (functional vs. symbolic) on consumer responses.

To capture the interaction effect between green initiative and brand image, we allowed for this while running the univariate ANOVA. In the analysis, green initiative (1 = core vs. 2 = philanthropic) and brand image (1 = functional vs. 2 = symbolic) functioned as independent variables, and perceived product quality as the dependent variable. The univariate ANOVA analysis did not reveal a significant effect with a 5% significance level. However, the interaction between green initiative and brand image significantly affects perceived product quality with a 10% significance level ($F(1,236) = 7.181, p = 0.064$) (see table 4.3). Ideally, the results should be significant with a 5% significance level to be more certain about the results. However, the obtained *p*-value is relatively close to the desired significance level. Based on this, we accept hypothesis H3. The analysis does not reveal the interaction in detail; thus, a contrast analysis was conducted to capture the interaction effect further.

Source	Type iii Sum of Square	df	Mean Square	F	Sig.
GreenInitative*BrandImage	4.662	1	4.662	3.466	.064
Error	317.447	236	1.345		

Table 4.3: Test of between-subject effects for the interaction effect

The contrast analysis showed a significant difference in mean of perceived product quality between green core attributes ($Mean_{\text{Core,Functional}} = 4.424$) and green philanthropic behavior ($Mean_{\text{Philanthropic,Functional}} = 5.104$) when exposed to a functional brand image ($F(1,236) = 10.311, p = 0.02$). Thus, the analysis reveals with a 95% certainty that green philanthropic behavior leads to significantly higher perceived product quality than green core attributes for a functional brand image. Moreover, the analysis did not reveal a significant difference in mean on perceived product quality between green core attributes ($Mean_{\text{Core,Symbolic}} = 5.150$) and green philanthropic behavior

$(Mean_{\text{Philanthropic,Symbolic}} = 5.272)$ when exposed to a symbolic brand image $(F(1,236) = 0.335, p = 0.563)$. See graph 4.3 below for the means.
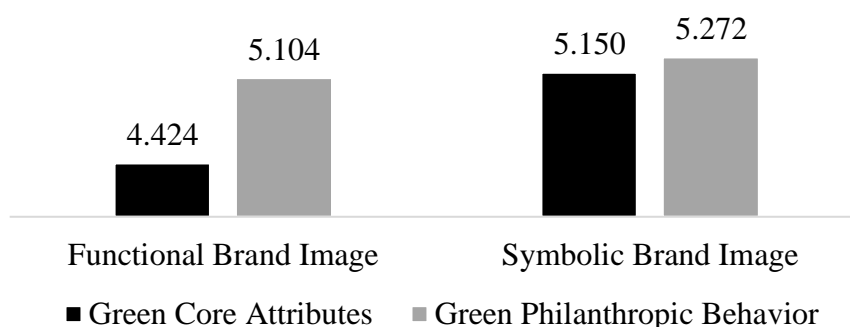
Graph 4.3: Means of interaction between green initiative and brand image

Output from the syntax reflects scenario 1. Specifically, the interaction is such that green philanthropic behavior leads to significantly higher perceived product quality than green core attributes for functional brands, while there is no significant difference for symbolic brands.

4.4 Mediation Effect of Perceived Product Quality on Consumer Responses

Before testing the mediation effect of perceived product quality, we explored the direct effect of our independent variables (green initiative and brand image) on the study's dependent variables (brand attitude and purchase intention) to obtain a better understanding of the results.

Results from a univariate ANOVA show that the effect of green initiative on brand attitude is non-significant $(F(1,236) = 1.868, p = .173)$. Likewise, the effect of brand image on brand attitude is also non-significant $(F(1,236) = .363, p = .548)$. However, the interaction between green initiative and brand image on brand attitude is significant with 90% certainty $(F(1,236) = 3.319, p = .070)$.

Similarly, we conducted a univariate ANOVA with purchase intention as the dependent variable. Results from the analysis show that the effect of green initiative on purchase intention is significant with 95% certainty $(F(1,236) = 6.434, p = .012)$. The effect of brand image on purchase intention is non-significant $(F(1,236) = 1.105, p = .294)$. Lastly, the interaction between green

initiative and brand image on purchase intention is significant with 95% certainty $(F(1,236) = 9.522, p = .002)$. See table 4.4 for a summary of the direct effects.

	Sig.	
	Brand Attitude	**Purchase Intention**
Green Initiative	.173	**.012**
Brand Image	.548	.294
Interaction	**.070**	**.002**

Table 4.4: Summary of the direct effects

Before running the mediation analysis with PROCESS by Hayes (2013), we conducted a linear regression without considering our independent variables. In the linear regression, perceived product quality operated as the independent variable and consumer responses (brand attitude and purchase intention) as the dependent variables, respectively.

Findings from the analysis revealed that when perceived product quality is 0, brand attitude is positive ($\alpha = 1.443, p < .001$). If perceived product quality increases with 1 unit, brand attitude increases with .752 ($\beta = .752, p < .001$). This tells us that perceived product quality has a significant positive effect on brand attitude, where brand attitude significantly increases from 1.443 to 2.195. Perceived product quality explains 63.7% of brand attitude ($R^2 = .637$), leaving 30% of the variance unexplained.

When perceived product quality is 0, purchase intention is slightly positive ($\alpha = .257, p = .361$). If perceived product quality increases with 1 unit, purchase intention increases significantly with .864 ($\beta = .864, p < .001$) from .257 to 1.121. Thus, perceived product quality has a significant effect on purchase intention. Perceived product quality explains 51.1% of purchase intention ($R^2 = .511$), which leaves almost 50% of the observed variance unexplained. See output 4.5 and 4.6 below for a summary of the linear regression.

		Unstandardized	Coefficients	t	Sig.
		B	Std. Error		
Brand	Constant	1.443	.189	7.647	< .001
Attitude	Product Quality	.752	.037	20.455	< .001
Purchase	Constant	.257	.281	.914	.361
Intention	Product Quality	.864	.055	15.762	< .001

Table 4.5: Coefficient estimation for linear regression

	R	R Square	Adjusted R Square	Std. Error of the Estimate
Brand Attitude	.798	.637	.636	.682
Purchase Intention	.715	.511	.509	1.016

Table 4.6: Model summary for linear regression

4.4.1 Green Initiative

H4a: Perceived product quality mediates the relationship between green initiative and consumer responses.

To test the mediation effect, the regression analysis PROCESS (model 4) with a bootstrap sample of n = 5000 and a 95% confidence interval was used. The independent variable green initiative is coded (1 = green core attributes vs. 2 = green philanthropic behavior). The regression analysis was conducted twice to capture the effect of both the dependent variables (brand attitude and purchase intention).

The first regression analysis confirms a significant indirect effect of green initiative on brand attitude through perceived product quality, $b = .302, 95\%$ CI $[.070, .541]$. The confidence interval does not include zero, meaning the results are significant. Graph 4.4 below shows that both line A ($b = .398, p = .010$) and line B ($b = .760, p = .000$) are significant. The direct effect

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of green initiative on brand attitude is non-significant ($b = -.104, p = .243$). A perfect mediation occurs when both line A and B are significant while line C is non-significant. A full mediation has not occurred if it is a direct effect from X to Y. The reason for this is that one is not entirely certain that X affected M_i, which again affected Y (Baron & Kenny, 1986). Thus, we have statistical support for a full mediation.

Indirect effect, $b = .302$, 95% CI [.070, .541]

Perceived Product Quality (M_i)

Line A
$b = .398, p = .010$

Line B
$b = .760, p = .000$

Green Initiative (X)

Brand Attitude (Y)

Line C
Direct effect, $b = -.104, p = .243$
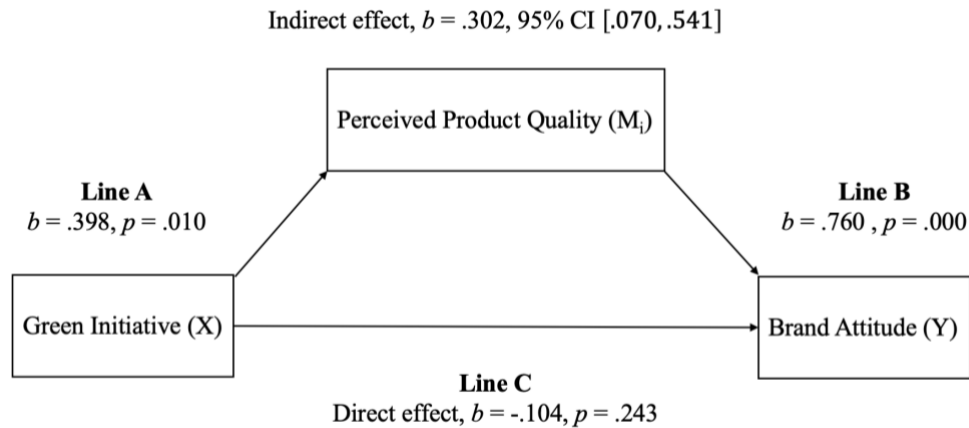
Graph 4.4: Green initiative → perceived product quality → brand attitude

The second regression analysis with purchase intention as the dependent variable shows a significant indirect effect of green initiative on purchase intention through perceived product quality, $b = .340, 95\%$ CI $[.077, .604]$. Graph 4.5 below show that both line A ($b = .398, p = .010$) and line B ($b = .855, p = .000$) are significant, while line C is non-significant ($b = .123, p = .358$).

Indirect effect, $b = .340$, 95% CI [.077, .604]

Perceived Product Quality (M_i)

Line A
$b = .398, p = .010$

Line B
$b = .855, p = .000$

Green Initiative (X)

Purchase Intention (Y)

Line C
Direct effect, $b = .123, p = .358$

Graph 4.5: Green initiative → perceived product quality → purchase intention

The positive effect of green initiative on perceived product quality (line A) indicates that when green initiative changes from green core attributes to green

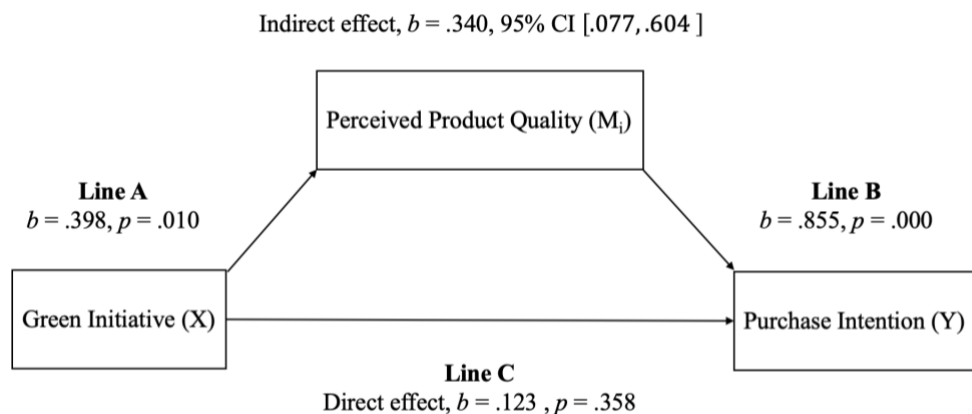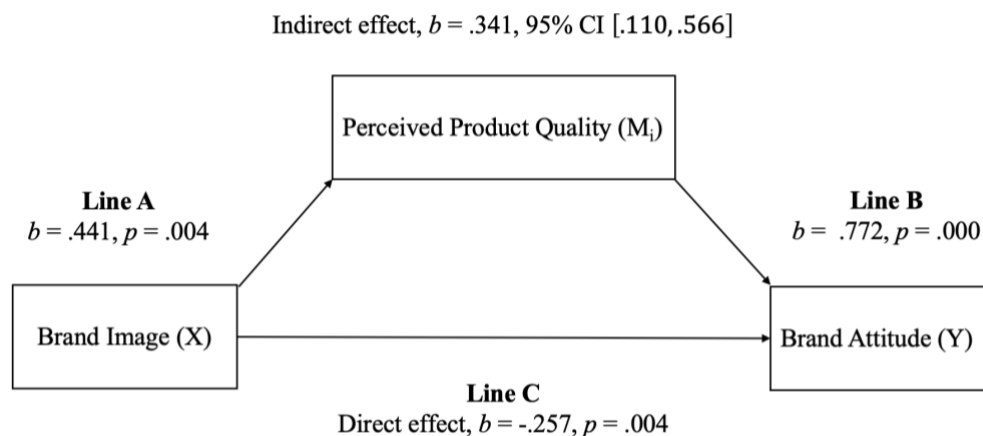philanthropic behavior, perceived product quality also increases. Statistical evidence confirms with 95% certainty that perceived product quality mediates the relationship between green initiative and consumer responses. Both regressions are fully mediated. Thereby, we accept hypothesis H4a.

4.4.2 Brand Image

H4b: Perceived product quality mediates the relationship between brand image and consumer responses.

To answer hypothesis H4b, we ran PROCESS (model 4) with a bootstrap sample of $n = 5000$ and 95% confidence interval. The regression analysis was conducted twice to capture the effect of both the dependent variables (brand attitude and purchase intention). The independent variable is brand image which is coded (1 = functional brand image vs. 2 = symbolic brand image).

The regression analysis indicates a significant indirect effect of brand image on brand attitude through perceived product quality, $b = .341, 95\%$ CI $[.110, .566]$. Graph 4.6 below shows that both line A ($b = .441, p = .004$) and line B ($b = .772, p = .000$) are significant. Also, the graph shows that the direct effect of green initiative on brand attitude is significant ($b = -.257, p = .004$).

Indirect effect, $b = .341$, 95% CI $[.110, .566]$

Perceived Product Quality (M$_i$)

Line A
$b = .441, p = .004$

Line B
$b = .772, p = .000$

Brand Image (X)

Brand Attitude (Y)

Line C
Direct effect, $b = -.257, p = .004$

Graph 4.6: Brand image → perceived product quality → brand attitude

The second mediation analysis with PROCESS indicated that brand image is indirectly related to purchase intention through its relationship with perceived product quality, $b = .402, 95\%$ CI $[.124, .681]$. Also, graph 4.7 shows that both

line A ($b = .441, p = .004$), line B ($b = .910, p = .000$), and line C is
significant ($b = -.601, p = .000$).
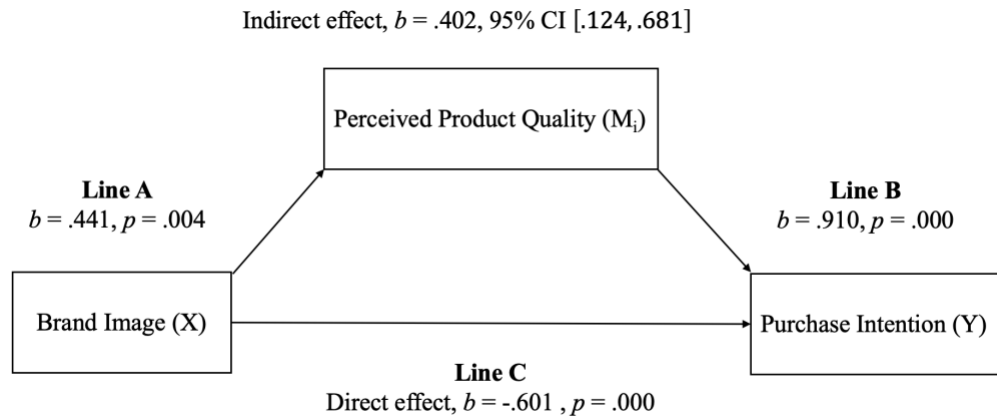
Graph 4.7: Brand image → perceived product quality → purchase intention

The positive effect of brand image on perceived product quality (line A) tells us
that when brand image changes from functional to symbolic brand image, the
perceived product quality increases as well. In contrast to findings from
hypothesis H4a, the direct effect is significant for both regression analysis
conducted with brand image as the independent variable. Thus, some covariance
is not captured by perceived product quality in the relationship between brand
image and consumer responses. The residual effect is negative ($b = -.601$),
which means that when brand image changes from functional to symbolic brand
image, purchase intention decreases. The implications of this effect will be
discussed in section 5.0. This indicates that we have statistical support for partial
mediation. The indirect effect is still significant, indicating that perceived product
quality operates as a mediator between brand image and consumer responses.
Based on this, we accept hypothesis H4b.

4.4.3 The Interaction

*H4c: Perceived product quality mediates the relationship between the interaction
effect and consumer responses.*

We used PROCESS, developed by Hayes (2013), to test the mediation effect. For
the bootstrap analysis, model 8 is the appropriate model to use. We sat the
bootstrap sample at n = 5000 and the confidence interval at 95%. Green initiative

is coded (1 = green core attributes vs. 2 = green philanthropic behavior) and brand image is coded (1 = functional brand image vs. 2 = symbolic brand image).

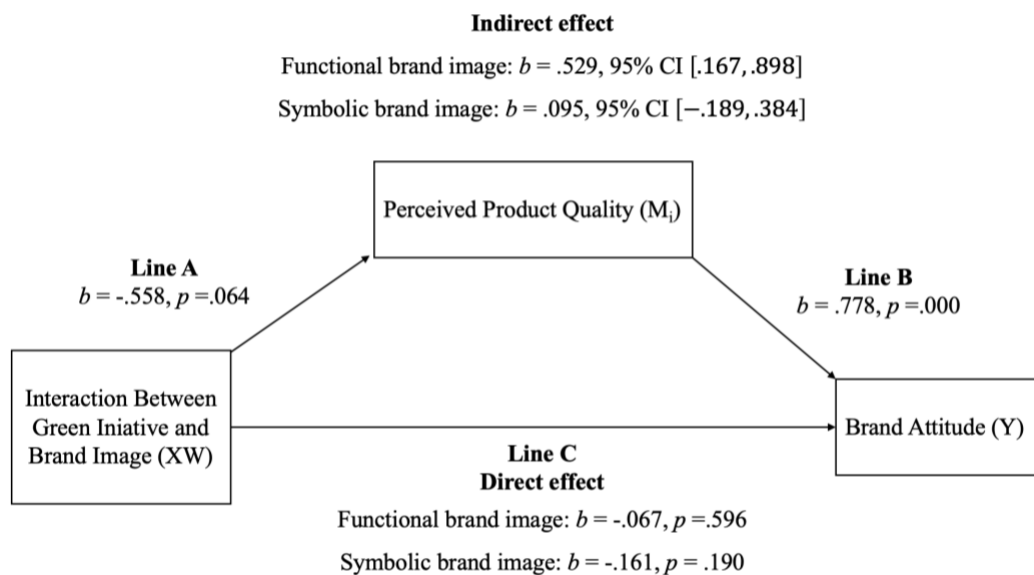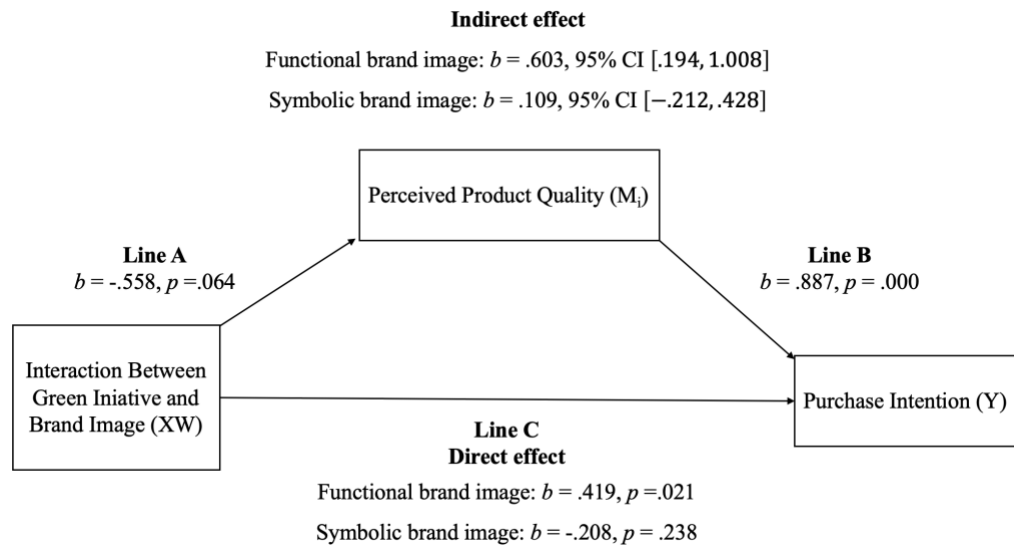The result from the indirect effect shows that perceived product quality significantly mediates the relationship between green initiative and functional brand image on brand attitude, $b = .529, 95\%$ CI $[.167, .898]$. The direct effect is non-significant ($b = -.067, p = .596$), which tells us that we have support for full mediation (see graph 4.8 below). Like the results from the contrast analysis, functional brand image has a positive effect on green initiative where green philanthropic behavior works significantly better than green core attributes. In contrast, there is non-significant mediation effect with a symbolic brand image, $b = .095, 95\%$ CI $[-.189, .384]$. Neither green core attributes nor green philanthropic behavior works significantly better with symbolic brand image.

Indirect effect

Functional brand image: $b = .529$, 95% CI $[.167, .898]$

Symbolic brand image: $b = .095$, 95% CI $[-.189, .384]$

Perceived Product Quality (M_i)

Line A
$b = -.558, p = .064$

Line B
$b = .778, p = .000$

Interaction Between Green Iniative and Brand Image (XW)

Line C
Direct effect

Brand Attitude (Y)

Functional brand image: $b = -.067, p = .596$

Symbolic brand image: $b = -.161, p = .190$

Graph 4.8: Interaction → perceived product quality → brand attitude

When running PROCESS with purchase intention as the dependent variable, we observe a significant mediation effect of perceived product quality between green initiative and functional brand image on purchase intention, $b = .603, 95\%$ CI $[.194, 1.008]$. The direct effect between green initiative and functional brand image on purchase intention is also significant ($b = .419, p = .021$), which tells us that we have support for partial mediation. For functional brand image, the results show a positive effect of green initiative where green philanthropic behavior works significantly better than green core attributes. For

symbolic brand image; however, the indirect effect is non-significant, $b = .109, 95\%$ CI $[-.212, .428]$. Thus, perceived product quality does not mediate the relationship between green initiative and symbolic brand image on purchase intention (see graph 4.9 below).

Indirect effect
Functional brand image: $b = .603, 95\%$ CI $[.194, 1.008]$
Symbolic brand image: $b = .109, 95\%$ CI $[-.212, .428]$

Perceived Product Quality (M_i)

Line A
$b = -.558, p = .064$

Line B
$b = .887, p = .000$

Interaction Between Green Iniative and Brand Image (XW)

Purchase Intention (Y)

Line C
Direct effect
Functional brand image: $b = .419, p = .021$
Symbolic brand image: $b = -.208, p = .238$

Graph 4.9: Interaction → perceived product quality → purchase intention

As expected in scenario 1, there is a significant difference between green core attributes and green philanthropic behavior for functional brands but not for symbolic brands. The results show that perceived product quality mediates the relationship between green initiative and functional brand image on brand attitude and purchase intention. In contrast, we did not obtain support for a mediation effect of perceived product quality in the relationship between green initiative and symbolic brand image on brand attitude and purchase intention. Thus, the mediation analysis reflect scenario 1. Based on this, we have support for hypothesis H4c.

4.5 Results Overview

Table 4.7 below summarizes the results of our hypotheses.

Hypotheses	Results	Confidence Level
H1	Supported with statistical evidence	95%
H2	Supported with statistical evidence	95%
H3	Supported with statistical evidence	**90%**
H4a	Supported with statistical evidence	95%
H4b	Supported with statistical evidence	95%
H4c	Supported with statistical evidence	95%

Table 4.7: Results overview

5.0 Conclusion

5.1 Discussion

To better meet the rising demand for a greener world, numerous businesses around the globe constantly face dilemmas on how to implement green strategies best. There is a lot of literature on sustainability and different ways of acting green; however, no literature has yet explored these topics in conjunction with different brand images. Thus, the objective of this study was to answer the research question "*What is the effect of green initiative (green core attributes vs. green philanthropic behavior) and brand image (functional vs. symbolic) on consumer responses?*".

Our findings reveal that green philanthropic behavior leads to significantly higher perceived product quality than green core attributes, in line with the study's hypothesis. Like Blair and Chernev's (2014) study, our results indicate that consumers form positive quality associations when the green initiative is green philanthropic behavior. Thus, we observe a halo effect of green philanthropic behavior. Even though green philanthropic behavior leads to significantly higher perceived product quality than green core attributes, the quality perception of green core attributes is still not negative. This finding might indicate that consumers' quality perception of green core attributes has changed in the last years. Based on our data, we observe a shift in society where consumers no longer experience the trade-off between sustainability and quality as strong as before.

In line with the study's second hypothesis, our study reveals that brands holding a symbolic brand image are perceived with significantly higher product quality than brands holding a functional brand image. It is remarkable to note that this finding applies in a green context. Our findings support the existing literature on the topic (Hartmann et al., 2005; He & Lai, 2014; Luchs & Kumar, 2017; Noppers et al., 2014; Wu & Wang, 2014). Compared to brands holding a symbolic brand image, our findings indicate that the trade-off between sustainability and quality appears more visible for functional brands. Functional products are primarily chosen to satisfy practical needs, and our results indicate that consumers are more concerned and critical of functional products' quality than symbolic products' quality. Based on our findings, functional brand image seems less aligned with green objectives

than symbolic brand image, which, according to Becker-Olsen et al. (2006), results in liability.

Consistent with Amatulli et al. (2018) and Hennigs et al. (2013), our findings indicate that sustainability and luxury are compatible. Since luxury products are perceived with a symbolic brand image, our results confirm that luxury goods' focus on scarcity and durability (Kapferer, 2010) transmits to consumers' quality perception of symbolic products. A possible explanation for why green initiatives fit well with a symbolic brand image is that many consumers desire to buy luxury products to signal status and impress others. Thus, consumers can show off their sustainable lifestyle through their symbolic luxury products.

When looking at the relationship between green initiative and brand image, our findings reveal an interaction between the variables. For functional brand image, the results show a positive effect of green initiative where green philanthropic behavior works significantly better than green core attributes. However, our findings reveal that both green core attributes and green philanthropic behavior lead to high perceived product quality for symbolic brands. Based on this, we observe that the relationship between functional brand image and green core attributes drives the interaction. This is supported by the existing research on the topic (Blair & Chernev, 2014; Lin & Chang, 2012; Luchs & Kumar, 2017; Skard et al., 2021) and confirm scenario 1.

In line with Blair and Chernev (2014), our findings reveal that for functional brands, consumers perceived product quality depends on whether the green initiative is related to core ingredients. When the green initiative is unrelated to the core ingredients (i.e., green philanthropic behavior), consumers perceive functional products with higher product quality than when the green initiative is related to core ingredients. This indicates that the perceived trade-off between sustainability and quality is stronger for functional brands that hold green core attributes than green philanthropic behavior.

In the experiment, one respondent exposed to the functional brand image with green core attributes stimuli wrote a comment in the attention filter where he explained why he evaluated the product to have low quality:

"Ecological (100% plant-based) drain cleaner in 1-litre bottle. if I can add something, I rated it a little lower, because in my country I saw a similar product, partially ecological but it could not cope with my pipes and unfortunately I am still buying a caustic agent"

This comment supports the sustainability liability effect for functional products with green core attributes. The respondent justifies his evaluation based on a previous experience where a similar green functional product could not solve his problem. This example shows that some consumers have preconceptions about functional products with green ingredients.

With the increased focus on sustainability and green products, more businesses invest in green technology. Also, the growth in green investments has resulted in several green innovations. As more resources go to green technology, green products are improved. Green products introduced a decade ago are not the same as the ones we have today, and green products today will not be the same as a decade ahead. The massive growth in green technology leads to more and more successful innovations.

When the EU's directive decided to prohibit single-use plastic in 2021, Norwegian dairy producers were forced to change their plastic spoons with sustainable alternatives. First, the producers introduced spoons made of wooden, which received massive criticism and forced through new innovations. Now, the spoons are made of bamboo, which consumers seem to agree is a good alternative to the plastic spoon (Grønt Punkt Norge, 2021). This example indicates that consumers' quality perception of functional products with green core attributes might change for the better in the future. However, this remains to be seen in the future.

In contrast to the relationship between green initiatives and functional brand image, there is no significant difference between green initiatives and symbolic brand image. Consistent with Amatulli et al. (2018), our findings reveal that both green core attributes and green philanthropic behavior lead to high perceived product quality for symbolic brands. A possible explanation why green core attributes lead to lower perceived product quality for functional brands and not for

symbolic brands is that symbolic brands do not primarily rely on product performance. Instead, other extrinsic advantages non-related to product attributes are considered more important. Also, since consumers believe luxury products are of high quality (Amatulli et al., 2018; Hennigs et al., 2013), our findings confirm that consumers do not evaluate the quality of symbolic products with green core attributes lower than those with green philanthropic behavior. This finding indicates that consumers do not experience a trade-off between sustainability and quality for symbolic brands; instead, a halo effect occur.

Our findings confirm that perceived product quality fully mediates the relationship between green initiative and consumer responses (brand attitude and purchase intention). Thus, perceived product quality is fundamental in the relationship between green initiative and consumer responses. Consumers have a higher brand attitude and are more willing to purchase products with green initiative when the perceived product quality increases. Furthermore, when the green initiative is green philanthropic behavior, consumers evaluate perceived product quality higher, which again leads to more favorable consumer responses. On the other hand, when green initiative is green core attributes, consumers evaluate perceived product quality lower which again leads to less favorable consumer responses. This falls in line with Esmaeilpour (2015), who found that consumers develop attitudes depending on their quality perceptions.

Furthermore, our results confirm that perceived product quality partly mediates the relationship between brand image and consumer responses (brand attitude and purchase intention). The results reveal that when brand image changes from functional to symbolic, consumers evaluate perceived product quality higher, which again leads to more favorable consumer responses. However, our findings reveal that the direct effect of brand image on consumer responses is significant where the residual effect is negative. Thus, in a green context, without considering consumers' perceived product quality, a functional brand image leads to higher consumer responses than a symbolic brand image. This indicates that other explanatory variables besides perceived product quality explain the relationship between brand image and consumer responses. It is difficult to determine what the missing variables might be; therefore, an additional study could try to capture them.

The interaction between green initiative and brand image through perceived product quality on consumer responses is significant when brand image is functional. More specifically, the significant effect is positive; thus, green philanthropic behavior works better throughout the model. However, the interaction between green initiative and symbolic brand image through perceived product quality on consumer responses is insignificant. This makes sense since we did not obtain support for a significant effect of green initiative and symbolic brand image on perceived product quality and are in line with scenario 1.

5.2 Academic Implications

Our study has several academic contributions. First, even though some researchers have investigated the effect of different green activities, our study enriches the literature with important findings. With the increasing demand for greener products, more research needs to be conducted to ensure that the best alternatives and the effects of the latest green activities are known. Second, our study adds novelty to the existing research on brand image in green contexts. Specifically, our study has investigated consumers' perceived product quality which the existing literature lacks research on. Third, no previous study has investigated the interaction between green initiative and brand image. Especially, the existing literature lacks knowledge about how green initiatives and symbolic brand image interact. Thus, our research brings important findings on consumer responses which future researchers can study further.

5.3 Managerial Implications

This study gives companies a greater basis for making strategically good decisions in step with the green shift. The managerial implication of this study shows that consumers overall evaluate green products positively; however, some alternatives show to be significantly better than others.

For functional brands, green philanthropic behavior seems to work very well. Managers should feel confident implementing green philanthropic behavior into their brands because statistical evidence shows that such activities enhance consumers' perceived product quality. However, managers should find appropriate green philanthropic activities suited to their brand to succeed in the green shift.

Our results show that companies should be more careful to communicate green core attributes, especially for functional brands. Specifically, the results indicate that consumers believe green core attributes come at the expense of product quality. Based on these findings, the simple solution for marketers is to not incorporate green attributes into their products. However, to succeed in the green shift, marketers must think differently to convince consumers that green core attributes do not come at the expense of the product quality. Even though this requires additional research and resources, brands can potentially benefit from it in the long run.

Consumers perceive green initiatives for symbolic brands differently than for functional brands. Unlike functional brands, our results show that both green core attributes and green philanthropic behavior work well for symbolic brands. These findings guide symbolic brands to implement green initiatives, either in the form of green core attributes or green philanthropic behavior. For symbolic brands, engaging in green initiatives does not weaken the perceived product quality. Instead, it seems that symbolic brands implementing green initiatives contribute positively to consumer perceptions. Managers must decide for themselves which green initiative is best suited to their brand.

In short, our findings show that implementing green philanthropic behavior seems to be a safer choice than implementing green core attributes. Also, symbolic brands fit better with sustainable matters than functional ones. Ultimately, marketers' job is to find ways to make green initiatives attractive for consumers, whether it is green core attributes or green philanthropic behavior.

5.4 Limitations

This study has some potential limitations of being an online study. Despite our efforts to make the stimuli as realistic as possible, participants might find it difficult to correctly evaluate the products based on a picture and a short description. Kim and Jang (2014) argued that a potential limitation of scenario-based experiments is that participants might not have the correct emotional connection to the exposed scenario, which cause inaccurate results. Utilizing an experiment closer to a real-life setting would easier capture more accurate consumer responses and enhance the external validity.

Further, the study could have been improved if we had succeeded with the same product category for both brand images. We tried to develop stimuli within the same product category; however, neither of the pre-tests showed that respondents perceived the stimuli significantly different even after several adjustments. Therefore, we decided to use two different product categories. Consequently, another potential limitation of our study is the two product categories chosen to represent the functional and symbolic brand image. Even though specific characteristics describe brand images, a brand image is ultimately created in consumers' minds. Thus, consumers might perceive the product categories different than we have intended. To mitigate this limitation, we could have broadened our study with several product categories.

Due to limited resources, we decided not to include a non-green group in our study. The study's internal validity would be strengthened by having a control group. Also, we could compare the results from the groups (green core attributes and green philanthropic behavior) with a non-green group. Additionally, statistical evidence from our study show that a symbolic brand image leads to higher product quality than a functional brand image in a green context. We do not know whether this result is unique for a green context since we did not include a non-green group in our study. The same results could potentially occur in a non-green context. However, we were not able to study this effect with the chosen research design, and it is therefore a limitation of our study.

5.5 Direction for Future Research

Among the current research concerns, the study has investigated the effect of green core attributes and green philanthropic behavior. More specifically, green philanthropic behavior is defined as donations for environmental purposes. Future research should explore other forms of philanthropic behavior to explore what type of philanthropic behavior is most effective. An example is one-for-one programs based on giving away something for every consumer purchase (e.g., planting a tree for every sold product).

Prospective research should explore the interaction effect of green initiative and brand image further. Our study has around 50 participants in each experiment group and revealed an interaction effect with 90% certainty. A larger sample size

would result in more robust findings and the interaction effect could potentially be significant with 95% certainty, which is ideal. An additional study should duplicate our research with a larger sample size to obtain more reliable results.

Since this study utilized an online experiment with self-reporting measures, prospective research should take advantage of neuromarketing to discover the effect of green initiative and brand image on consumer responses. Traditional marketing research covers only 10% of the brain, while neuromarketing methods enable us to capture the unconscious part of our brain (e.g., consumer's habits, beliefs, and values), which stands for 90% of the brain (Ramsøy, 2015). Obtained results from self-reporting measures might not truly reflect reality because respondents cannot truly understand their beliefs. Thus, a neuromarketing experiment can potentially uncover more profound knowledge about consumer responses.

As addressed previously, consumers' perceptions of green products might change in the future. The world is moving forward, where more consumers want to choose sustainable alternatives. Fixed factors like gender, masculinity, and femininity are interesting variables to explore. Over the years, green products have been more appealing to females. This may be because of the way companies communicate sustainability with consumers. Hence, future research should investigate different ways of communicating green initiatives while controlling how masculine and feminine consumers perceive themselves. Over the years, the design of green products has been rather feminine, which is another reason green products might have been more appealing to females (Jørgensen & Pedersen, 2021). Prospective research should investigate the effect of gender-neutral product designs. Green products must appeal to everyone to succeed in the green shift. Therefore, offering green products that appeal to masculine consumers as well will be more beneficial for companies than offering products that only appeal to feminine consumers.

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7.0 Appendix

7.1 Full questionnaire

Block	Measurement
Block 1: Introduction	Hello, and thank you for participating in our online experiment. This survey is part of the data collection process of our master thesis at BI Norwegian Business School. The survey will not take more than 4 minutes to finish, and there are no right or wrong answers. Your answers are completely confidential, and we will not collect any personal information that could identify you. The collected data will be handled and analyzed per the General Data Protection Regulation (GDPR) and deleted after use. If you have any questions about the research, please do not hesitate to contact us at martine.breiseth@student.bi.no or martine.c.o.engeland@student.bi.no By answering the survey, you consent to the following: - You have read the above information - You voluntarily agree to participate - You are at least 18 years of age Thank you so much in advance for completing the survey.

Block 2: Start of survey	On the next page of this survey, you will be exposed to a scenario. Please read the scenario carefully. You will also be exposed to a product that soon launches. We want to find out how consumers evaluate the product, so please look carefully at the product and the text before answering the questions.
Block 3: Green core attributes and functional brand image	Imagine that you are standing in the shower and suddenly realize that the pipe is clogged. You remove everything you can from the pipe, but the pipe is still clogged, and you can already sense that it is beginning to smell bad. You do not have any other option than to buy an effective drain cleaner to solve your problem as fast as possible.
Block 4: Green philanthropic behavior and functional brand image	Imagine that you are standing in the shower and suddenly realize that the pipe is clogged. You remove everything you can from the pipe, but the pipe is still clogged, and you can already sense that it is beginning to smell bad. You do not have any other option than to buy an effective drain cleaner to solve your problem as fast as possible.

Block 5: **Green core attributes and symbolic brand image**	Imagine that you are searching for a new luxuries perfume suited for memorable evenings. You want a scent that associate you with success and enables you to express yourself to the fullest in every special occasion. We care about the environment! All ingredients are 100% plant-based. We only use gentle plant-based ingredients to preserve our environment.
Block 6: **Green philanthropic behavior and symbolic brand image**	Imagine that you are searching for a new luxuries perfume suited for memorable evenings. You want a scent that associate you with success and enables you to express yourself to the fullest in every special occasion. We care about the environment! Therefore, we donate 10% of our sales to preserve our planet. Together, we preserve our planet by helping the most critical environmental places on earth.
Block 7: **Perceived product quality, brand attitude, and purchase intention**	Perceived Product Quality: Overall, I think the product is: Inferior (1) – Superior (7) Low quality (1) – High quality (7) Poor (1) – Excellent (7) *Semantic differential scale 1-7* Brand attitude: Overall, I think the product is: Bad (1) – Good (7) Unpleasant (1) – Pleasant (7) Worthless (1) – Valuable (7) *Semantic differential scale 1-7*

	<u>Purchase Intention:</u> I would like to try this product I would buy this product if I happened to see it in a store I would actively seek out this product in a store in order to purchase it *Likert scale 1-7*
Block 8: **Demographics**	What is your gender? • Male • Female • Non-binary / third gender • Prefer not to say What is your age? *Text entry that allowed open-ended response* What is your highest level of education you have completed? • No education • High School • Vocational Training Certificate (fagbrev) • Bachelor • Master • PhD
Block 9: **Attention filter**	What type of product were you asked to evaluate in this survey? *Text entry that allowed open-ended response*
Block 10: **Ending page**	Thank you for taking part in our study. The completion code for this study is:

Block 3-6 is randomized and evenly distributed to respondents.

7.2 Factor Analysis (1 factor solution)

	Factor 1
ProductQuality3	.878
ProductQuality1	.849
ProductQuality2	.845
BrandAttitude1	.811
BrandAttitude3	.807
PurchaseIntention1	.786
PurchaseIntention3	.785
PurchaseIntention2	.752
BrandAttitude2	.710

7.3 Syntax Input

```
UNIANOVA PQ_AVG BY BRANDIMAGE GREENTYPE
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /EMMEANS=TABLES(OVERALL)
  /EMMEANS=TABLES(BRANDIMAGE) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(GREENTYPE) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(BRANDIMAGE*GREENTYPE)
  /CRITERIA=ALPHA(.05)
/EMMEANS=TABLES(BRANDIMAGE*GREENTYPE)
COMPARE(BRANDIMAGE) ADJ(BONFERRONI)
/EMMEANS=TABLES(BRANDIMAGE*GREENTYPE)
COMPARE(GREENTYPE) ADJ(BONFERRONI)
  /DESIGN=BRANDIMAGE GREENTYPE BRANDIMAGE*GREENTYPE.
```