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Master Thesis

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In the Shadow of a Product With a Sustainability Label:Will the introduction of a product with a sustainability label spill over on the perceptions of the mainstream product line,general attitude towards the company & perceived CSR image?

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# **Master Thesis**

# In the Shadow of a Product With a Sustainability Label

"Will the introduction of a product with a sustainability label spill over on the perceptions of the mainstream product line, general attitude towards the company, and perceived CSR image?"

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"This thesis is a part of the MSc program at BI Norwegian Business School. The school takes no responsibility for the method used, results found, and the conclusions draw"

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**Environmental Concern** 

Swan by Level of Environmental Concern

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# **Executive Summary**

Consumers and society are increasingly emphasizing the importance of new, green products. In response, companies are investing in developing more environmentally sustainable options. However, there is still a lack of clear understanding of the implications of these product introductions. Previous research in the field of spillover effects has found that sustainability labels elicit positive associations with consumers, which in turn might reflect negatively on mainstream products. Since brands are the most important asset for companies, negative associations with products can harm the perception of the mainstream product line. Our research offers insight into these implications, revealing that introducing a green product into a mainstream product line might not lead consumers to perceive the existing unlabelled products as negatively as initially thought. Thus, managers do not need to be particularly concerned about negative consumer perceptions for the rest of their mainstream product line when exposed to a product with a sustainability label.

Based on a semi-structured interview an online, self-administered questionnaire constructed by pre-established scales from existing literature was distributed via social networks. The objective of the main study was to investigate the relationship between the introduction of a sustainability labelled product in an existing product line on perceptions of product quality, social and environmental performance, CSR image, and general attitude towards the company, moderated by environmental concern. Sunscreen and universal spray were manipulated with the Nordic Swan sustainability label.

Our findings showed that the spillover effect of sustainability labels on consumer perceptions are unlikely. The study only showed significant spillover effects when tested with the moderating effect of environmental concern on two variables. Contrary to our hypothesis, we found that consumers with higher environmental concern rate the product they usually purchase with higher quality after being exposed to the labelled product. Thus, the hypothesis was disregarded. However, as hypothesised, there was a positive relationship between participants' environmental concern and their general attitude towards the company, suggesting that highly environmentally concerned consumers show positive attitudes towards environmentally and socially responsible companies.

# 1.0 Introduction

The green consumerism trend is growing (Yeon & Chung, 2011), alongside an increased focus on sustainable consumption and corporate social responsibility (Bezençon & Etemad-Sajadi, 2015). Consumer demand for environmental choices drives companies to integrate sustainability initiatives, including introducing new products with positive social and environmental attributes (Bezençon & Etemad-Sajadi, 2015). However, consumers have difficulty verifying information about products sustainability (Janßen & Langen, 2017). Therefore, they rely on signals such as sustainability labels (Atkinson & Rosenthal, 2014). Thus, firms have developed labels that validate the sustainability of products in-store and on-pack (Bezençon & Etemad-Sajadi, 2015) to provide consumers with clear and easy-to-understand information that promote purchase (Findling et al., 2018).

The increasing environmental movement is an opportunity for companies to offer more sustainable products and services (Chen & Chang, 2013). Thus, the sustainability label has become an essential tool in the increasing field of green marketing (Rex & Baumann, 2007). The label helps marketers differentiate their offerings in consumers' minds (Bougherara & Piguet, 2009) and, therefore, plays an active role in influencing their purchase decisions (Brécard, 2014; McEachern & Warnaby, 2008).

Labelling allows sustainable products to be distinguished from other non-sustainable products on the shelf (Anagnostou et al., 2015). Researchers suggest that the adaptation of sustainability labels is caused by traditional companies' fear that consumers will question their legitimacy when they lack sustainable certification in the presence of sustainable alternatives (Ingenbleek & Reinders, 2013). Binnekamp and Ingenbleek (2008) suggest that labels evoke more than just purchase intention: sustainability labels elicit positive associations with consumers, which in turn may reflect negatively on mainstream products. As brands are the most important asset for companies (Keller, 2012), negative associations towards products may harm the perception of the mainstream product line (Ingenbleek & Reinders, 2013). To exemplify, when consumers buy their regular milk and simultaneously encounter sustainable labelled milk on the shelf, it may (consciously or not) induce the feeling that the loyalty to the consumer's regular brand is not entirely fair (Binnekamp & Ingenbleek, 2008). However,

introducing a sustainability labelled product option can also create new and favourable attitudes towards a company and the spillover effect's direction may change as the inclusion of the labelled option signals a more socially responsible business. This paper aims to investigate the implications concerning the aforementioned spillover effects, thus we define the following research question:

Will the introduction of a product with a sustainability label spill over on the perceptions of the mainstream product line, general attitude towards the company, and perceived CSR image?

# 2.0 Literature Review

# 2.1 Sustainability Labels

Sustainability labels can be defined as a "market-based tool which turns ethical qualities into a product characteristic" (Hartlieb & Jones, 2009) or simply "a logo that indicates that a product or company has met a standard" (Poret, 2019). Among the most prominent sustainability labels are the Nordic Swan, Fairtrade, various carbon index labels and animal welfare-related logos (Grunert et al., 2014).

As sustainable products in the market increase decision-making complexity (Brach et al., 2018), the labels help consumers apply their moral convictions in their consumption by providing them with information about business processes (Hartlieb & Jones, 2009). More specifically, sustainability labels help inform consumers of the environmental quality of products, the production process, and the quality of the product's hidden attributes (Brécard, 2014). Since consumers cannot easily validate the green attributes themselves, they depend on labels to authenticate the claims (Atkinson & Rosenthal, 2014; Bezençon & Etemad-Sajadi, 2015). Thus, the labels offer a mechanism to moralize and humanize business processes and influence consumer behaviour (Hartlieb & Jones, 2009). However, consumers are becoming increasingly aware of social and environmental issues, making labelling an essential green marketing tool (Rex & Baumann, 2007). Manufacturers are taking advantage of the green movement to promote their more environmentally and socially responsible products (Chen & Chang, 2013; Hoek et al., 2013) to differentiate their offerings in consumers' minds (Bougherara & Piguet, 2009).

## 2.1.1 Categories of Sustainability Labelling

There are three types of sustainability labels. A "type I" label is a third-party assessment of a product based on a number of criteria involved in the sustainable impact of a product or material throughout its life cycle. As consumers might question the firms' validity, third-party certifications were created to provide an objective evaluation of the product attributes. This certification helps firms be perceived as legitimate (Golan et al., 2001). "Type I" sustainability labelling is defined by ISO 14024 as "a voluntary, multiple-criteria based, third

party programme that awards a license which authorises the use of sustainability labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations" (Global Ecolabelling, n.d.). "Type II" labels are self-declared claims or symbols regarding products by retailers and not by third-party certification. "Type III" is intended for business-to-business communication and entails the sustainable attributes of the product under pre-set categories of parameters set and verified by a third party (Global Ecolabelling, n.d.).

#### 2.1.2 The Nordic Swan

The Nordic Swan is the official eco-label for the Nordic countries and falls into the category of ISO "Type I" (Nordic Ecolabel, n.d.). The label has high consumer awareness and recognition (Brouhle & Khanna, 2012), which is evident from the label being found on more than 25,000 products in over 59 different product categories. The overall intention of the Nordic Swan is "to reduce the environmental impact from production and consumption of goods – and to make it easy for consumers and professional buyers to choose the environmentally best goods and services" (Nordic Ecolabel, n.d.).

The Nordic Swan is among consumers perceived as highly legitimate. This is evident from a 2005 European study on consumer trust, where 70% recognised the Nordic Swan as a sustainable label (Gertz, 2005). Additionally, according to a study conducted by Ipsos on behalf of Nordic Ecolabelling, 76 per cent of Norwegians trust that a product labelled with the Nordic Swan represents a good environmental choice (Retail Magasinet, 2019).

#### 2.1.3 Effects of Sustainability Labelling in Marketing

There have been numerous studies that investigate how consumers respond to sustainability labels. Studies indicate that the labels create expectations among consumers, influencing their perception, attitudes, and consumption of the product (Loureiro et al., 2001; Piqueras-Fiszman & Spence, 2015). Adding a sustainable attribute to a product most importantly adds value (Borin et al., 2011; Larceneux et al., 2012; Loureiro et al., 2001). For example, Loureiro et al. (2001) found that eco-labelled apples are more appealing than regular apples and less appealing than organic when food safety and environment are considered. Similarly, Larceneux et al. (2012) found that organic labels improve the product's perceived

environmental friendliness and under some conditions (e.g., under high brand equity levels) its perceived taste and quality. In a similar vein, household cleaning products that have been intentionally designed to be more sustainable can be perceived less favourably because consumers believe that companies enhance greenness at the expense of product quality (Newman et al., 2014).

Furthermore, consumer segments can react differently to the information of sustainability labels. Sustainability labels are most effective on consumers who recognize, understand, trust, and consider them useful (Grunert et al., 2014; Wood et al., 2018). The more consumers adhere to the label statements, the more they show increased product information search and consumption (Bezençon & Blili, 2010). For example, Pelsmacker et al. (2005) found a significant difference in consumers based on how important they rate coffee attributes and their willingness to pay for Fairtrade coffee. For the consumer segment 'Fairtrade lovers,' a Fairtrade label on coffee is an essential food label attribute. In contrast, the segment "Brand lovers" are interested in the Fairtrade label, but pay more attention to taste and brand. In the same vein, eco-conscious consumers are found to experience both increased purchase intention and perceived quality towards green products (Sun et al., 2018).

However, sustainability labels also affect consumers who lack knowledge of label attributes (e.g., Heidenstrøm et al., 2011; Hoek et al., 2013). Hoek et al. (2013) found that even ambiguous and non-scientific claims can affect consumer decisions. Consumers often rate the taste and other judgemental dimensions of sustainable labelled foods higher than non-labelled foods (Sörqvist et al., 2015). This was especially prominent for participants who scored highly on ecoconsciousness. This bias of sustainability labels positively affecting the product's impression can often be explained as 'the halo effect'. This effect involves the consumer not analysing the product's different attributes, thus giving a positive review of unrelated attributes (Thorndike, 1929). The halo effect is especially eminent to gentleness-related attributes (such as baby shampoos, facial soaps and body lotion) and the opposite horn effect is eminent with the strength-related attributes (such as hand sanitizer and cars wash) (Luchs et.al, 2010; Richetin et al., 2019). Consumers associate higher product ethicality with gentleness-related attributes and lower product ethics with strength-related attributes. These associations, reduce the positive effect of product sustainability on consumer preferences when strength-related attributes are evaluated, at times even leading to preferences for less sustainable product alternatives (Luchs et. al., 2010). The authors argue that these associations come from the context of social judgements to the contents of product judgements. This is especially relevant in the case of sustainability because consumers may not have perfect information about how strong or gentle a sustainable product is or how sustainability might affect the product's performance, and thus they infer these effects using prior experiences and knowledge (Luchs et. al., 2010).

Moreover, some consumers will buy green products even if they are lower in quality than alternative products (D'Souza et al., 2006; Kardash, 1974). Dekhili and Achabou (2014) suggest that pre-existing brand attitudes affect how consumers respond to a label on a product. A consumers' brand perception can affect their preference for sustainability labels, and through this perception consumers can be reassured of the reliability of sustainability labelling. This is due to the fact that if consumers have positive associations with a brand, the information transmitted by the brand will be perceived as legitimate. Further, Anagnostou et. al., (2015) and Peattie (1999) suggest that the presence of a sustainability label signifies a lower social and environmental performance of the mainstream products. Therefore, when consumers decide between equivalent brands, the sustainability label helps guide their choice (Anagnostou et al., 2015; Peattie, 1999).

Research also emphasizes the importance of familiarity, trust, and fit between combinations of labels and associating a label with a brand (Atkinson & Rosenthal, 2014). However, it should be mentioned that consumers are less likely to purchase a green product when they believe that the company intentionally made the product better for the environment than when the same environmental benefit occurred as an unintended side effect (Newman et al., 2014). Similarly, a recent study from 2018 found that mainstream brands' green offerings can suffer when the product's environmental friendliness is promoted through visual cues at the point of purchase (Wood et al., 2018). Also, consumers have indicated a lack of trust and growing confusion over the plethora of government, corporate, and third-party environmental symbols on a wide variety of products (Bhaskaran et al., 2006). In addition, d'Astous & Legendre (2009) imply that consumers voluntarily reject the responsible behaviour movement. This rejection could result from consumers feeling that responsible initiatives negatively impact the economic and social variables important to them (Dekhili & Akli Achabou, 2014).

#### 2.2 Spillover Effects

The spillover effect constitutes a phenomenon in which any kind of information provided in messages changes beliefs about attributes that are not mentioned in the messages (Ahluwalia et al., 2001). The spillover effect assumes that "the demand for a product depends on its reputation, which consists of a brand component and a product-specific component." The brand component is shared by all products with the same brand name and represents those aspects of quality that the consumer cannot apportion to individual products. The product-specific component, independent of the brand component, represents those attributes that can be identified as belonging to one product or another (Sullivan, 1990). As consumers typically rely on existing knowledge to inform their future judgments, spillover occurs when information about one product affects the demand of other products with the same brand name (Sullivan, 1990). Most early studies on the spillover effects examined communications and the cognitive effects in attitude change on attributes that were not mentioned in the communicated message (Lutz, 1975).

Spillover effects can occur in response to positive and negative changes from one product to another in the same store (Heilman et al., 2002; Janakiraman et al., 2006). Balachander and Ghose (2003) found that advertising of brand extensions produces significant reciprocal spillover that affects the choice of the parent brand in the same store (e.g., Yoplait yoghurt and Yoplait non-fat yoghurt). Also, Heilman et al. (2002) found that using an unexpected, in-store coupon increases the number and dollar value of unplanned purchases made on that particular shopping trip. These findings raise the possibility that spillover effects could be caused by any unforeseen changes in the selling features of a product.

Several authors have demonstrated the impact of co-branded strategies on brand attitudes and loyalty towards the original brands, displaying that this information may also spillover from one partner to another within a brand alliance (Balachander & Ghose, 2003; Desai & Keller, 2002; Kumar, 2005; Park et al., 1996; Rao et al., 1999; Simonin & Ruth, 1998). Several of these studies suggest different brand attributes that moderate the co-branded relationship of brand alliance (Swaminathan et al., 2012). For example, Park et al. (1996) found that when two brands are complementary, the mother brand's extension has a better attribute profile when it consists of two highly favourable but not complementary brands. In the same way, the type of ingredient branding strategies (Desai &

Keller, 2002), brand familiarity (Simonin & Ruth, 1998), the extent to which brands signal quality (Rao et al., 1999), and the number of co-branded partnerships (Voss & Gammoh, 2004) can impact the consumer's attitude towards a co-branded product.

# 2.2.1 Spillover Effects and the Sustainability Label

A spillover effect from a product with a sustainability label can be defined as "the attribution of unsustainable practices in the production of mainstream products that become salient in the nearby presence of a product with a sustainability label and that lead to less favourable evaluations of the mainstream product" (Binnekamp & Ingenbleek, 2008). The basic principle in the positive spillover effect within the environmental domain is that by engaging in one behaviour, people will adopt a more pro-environmental orientation and subsequently engage in other pro-environmental related behaviours (Thøgersen & Crompton, 2009). For instance, Lanzini and Thøgersen (2014) found that ecolabelled shopping combined with positive verbal feedback or economic incentives spilt over on other pro-environmental actions, such as turning off the light when leaving a room.

Similarly, research on socially beneficial product attributes has identified a positive halo effect on subsequent product evaluations (Nisbett & Wilson, 1977). Thus, in the presence of a product with a sustainability label, perceptions of these products might spill over to mainstream products. On the contrary, spillover effects can also affect behaviours in a negative direction. According to Schuldt et al. (2012), social ethics claims on food packaging (e.g., Fairtrade) can promote the misperception that foods are lower-calorie and therefore appropriate for greater consumption. Similarly, Mazar and Zhong (2010) showed that choosing ecolabelled products in a fictitious internet shopping task elicited a negative spillover effect leading to decreased altruism in a subsequent task (Nilsson et al., 2017).

Further, several studies have shown that a company's irresponsible practices have a more substantial impact on consumers than outstanding responsible practices. Simply put, consumers are more likely to blame companies for doing something "bad" than to reward them for doing something "good" (Binnekamp & Ingenbleek, 2008; Klein & Dawar, 2004; Sen & Bhattacharya, 2001). Similarly, research has shown that what consumers know about a company, can influence their beliefs and attitudes toward new products

manufactured by that company (Brown & Dacin, 1997). Thus, spillover effects may happen between company actions to product evaluations (section 2.4.2).

# 2.3 Legitimacy

Legitimacy can be defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995). Managers are concerned that the presence of sustainable alternatives in the market may harm brands that are not labelled as sustainable, as consumers might start questioning the legitimacy of these brands (Ingenbleek & Reinders, 2013). Research shows that when brands enter the market with sustainable labelling, they contribute to questioning the legitimacy of existing, unlabelled brands (Anagnostou et al., 2015). It is essential to be perceived as a legitimate brand regarding sustainability to be a relevant player in the market (Suchman, 1995). To be perceived as a legitimate brand/product, one should adhere to the market's ruling norms (Handelman & Arnold, 1999). If brands that enter the market with new products show that it is economically and practically possible to produce and sell sustainable products in mainstream supermarket channels, this will support the questioning of the legitimacy of the unlabelled brands (Ingenbleek & Reinders, 2013). In other words, the effect of labelling sustainable brands may spill over to consumer perceptions of existing brands (Anagnostou et al., 2015).

Research shows that brands benefit from including products with sustainability labelling in their product portfolio (Section 2.1). However, this is only beneficial in competitive situations where mainstream brands include products with sustainable labels in their portfolio as consumers reward brands rather than retailers (Anagnostou et al., 2015). If sustainable labelling is only included in some products and not the whole product line, customers can notice, resulting in negative spillover effects to unlabelled products in the product line.

# 2.4 Theoretical Framework

As illustrated in the literature presented above, the discussion on spillover effects sustainable labelling in consumer perception is widespread and essential to sustainable development. In the following section, we will describe our hypothesis regarding spillover effects.

#### 2.4.1 Spillover Effects on Mainstream Products

#### 2.4.1.1 Perceived Product Quality.

The spreading activation theory (Anderson, 1983) conceptualizes knowledge about a brand as a network of nodes connected by links, representing associations between the concepts. The strength of a link is a measure of the association strength between the concepts, which can also activate spillover effects between concepts (Balachander & Ghose, 2003). According to spreading activation theory the brand (e.g., Tine Melk), and the product line extension (e.g., Tine Melk with sustainability label), as well as beliefs about the brand (e.g. perceived quality), are conceptualized as nodes in a knowledge network (Anderson, 1983; Balachander & Ghose, 2003). A consumer retrieves a particular piece of knowledge from memory when the corresponding node is activated above a threshold level through priming by external cues such as advertising or "spreading" activation from other linked nodes. A stronger link facilitates the spreading activation to the new node above the threshold to be retrieved from memory (Balachander & Ghose, 2003: Anderson, 1983). In marketing, customers' perceptions of quality are vital (Parasuraman et al., 1985). With respect to the product, a spillover effect may be found in the perception of product quality with the mainstream product purchased. As perceived quality can be defined as "the consumer's judgement about the superiority or excellence of a product" (Zeithaml, 1988), the social and environmental characteristics emphasized by the sustainability labelled products, may create a new node that consumers can integrate as a part of the perceived overall quality (Anagnostou et al., 2015). Thus, the presence of a product with a sustainability label will signal the absence of such a label on mainstream products. Consumers may therefore have lower expectations about their quality. As a result, the consumers will evaluate the mainstream product against the more attractive sustainability label product, thus we hypothesise

 $H_1$ : The introduction of a product with a sustainability label, will negatively influence consumers product quality perceptions of the existing mainstream product line.

#### 2.4.1.2 Social and Environmental Performance.

For the second hypothesis, we draw inspiration from Anagnostou et al.'s (2015) article on "Sustainability labelling as a challenge to legitimacy". The researchers connect Carroll and Anderson's information integration theory (1982) and consumers' perception of products with a sustainability label. Information integration theory (Carroll & Anderson, 1982) describes and models how a person integrates information from several sources to make an overall judgment. It explores how attitudes are formed and changed through the integration (combining) of new information with existing cognitions or thoughts. The theory states that when we obtain new information (often from persuasive messages), those new pieces of information will affect our attitudes by mixing with existing information (CIOS, n.d.). As products with a sustainability label emphasize diversity in the existing mainstream products' social and environmental performance on the shelf, the new, more environmentally friendly product adds a new type of information as evaluation criteria (Anagnostou et al., 2015). The label could be an attribute that consumers might have previously believed was irrelevant in their evaluations of the product because of the lack of differentiation. However, when deciding between equivalent brands, consumers take the products' environmental or social performance into account to guide their choice (Peattie, 1999). The more environmentally friendly product can set a new relevant point of reference for product evaluations and signals that mainstream products have a lower social and environmental performance. Thus, we hypothesise that

 $H_2$ : The introduction of a product with a sustainability label, will negatively influence consumers perceptions of the social and environmental performance of the existing mainstream product line.

# 2.4.2 Spillover Effects on the Company

# 2.4.2.1 Corporate Social Responsibility and General Attitude Towards the Company.

Firms are centres of power and decision, and these firms' actions affect stakeholders on several points (Bowen, 2013). Bowen (2013) further suggests that these firms have a corporate social responsibility (henceforth CSR). CSR is a broad and complex concept (Öberseder et al., 2013). However, it can be defined as "conducting the business in accordance with shareholders' desires, which

generally will be to make as much money as possible while conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom" (Friedman, 1970), or simply "serving people, communities, and society in ways that go above and beyond what is legally required of a firm" (Jo & Harjoto, 2011). Along with increasing interests and demands from economic, environmental, and social establishments, firms focus their superintendence efforts such as CSR initiatives to enhance the triple-bottom-line of economic, social and environmental performance (Brown et al., 2006).

Given the central role of consumers in marketing, firms need to be mindful of consumers' CSR views (Öberseder et al., 2013). With firms increasing CSR initiatives' implementation, consumers become more engaged in their sustainable practices (Fraj & Martinez, 2006). Academic research shows that CSR influences consumers' attitudes, purchase intentions, consumer—company identification, loyalty, and satisfaction (Öberseder et al., 2013). Further, research suggests that consumers express ethical values through their purchasing behaviour and wish to be perceived as sustainable (Green & Peloza, 2011). Consumers evaluate companies and their products in terms of CSR, where positive associations enhance the consumers' evaluation of both (Biehal & Sheinin, 2007; Brown & Dacin, 1997; Sen & Bhattacharya, 2001).

Communicating a firm's CSR efforts is essential, as consumers know that these initiatives have more positive attitudes and behavioural intentions (Öberseder et al., 2013). Firms ambitions to achieve sustainable management have resulted in the development of CSR initiatives. Particularly, labels identifying products as sustainable (Bruce & Laroiya, 2007) to help lead consumers to select more sustainable brands (D'Souza et al., 2006) and to promote their ethical practices (Hoek et al., 2013). One of the reasons for this is to build consumers' awareness and trust (Bruce & Laroiya, 2007; D'Souza et al., 2006; Hulm & Domeisen, 2008; Park & Lennon, 2006).

Research in the area of consumer ethics emphasizes the concept of efficacy (Klein & Dawar, 2004; Sen & Bhattacharya, 2001), proposing that even if consumers are not acting in a socially responsible way, they may have considered the alternative and perhaps even favour the issues they stand for (Sen & Bhattacharya, 2001). Binnekamp and Ingenbleek (2008) point out that the spillover effect from products with sustainability labels to products not carrying these labels under the surface of directly visible consumer behaviour is not

unlikely. The authors further emphasize that negative attributions may be particularly influential. Several studies have shown that a company's irresponsible practices have a more substantial impact on consumers than outstanding responsible practices. In other words, consumers are more likely to blame companies for doing something "bad" than to reward them for doing something "good" (Binnekamp & Ingenbleek, 2008; Klein & Dawar, 2004; Roehm & Tybout, 2006; Sen & Bhattacharya, 2001).

However, when companies extend their brand with sustainability labelled products, the spillover effect's direction may change. Anagnostou et al. (2015) found that when companies begin adhering to the newly introduced norms of bringing the Organic–Fairtrade coffee under their own brand, the spillover effect becomes positive for their companies CSR image. Researchers suggest that CSR provides firms with a competitive advantage and positive repercussions for society (de la Cuesta and Valor, 2013; Jenkins, 2005). Particularly, introducing a sustainability labelled product option can create new and favourable attitudes towards a company and its products (Brown & Dacin, 1997; Chatterjee, 2009). The inclusion of the labelled option signals a more socially responsible business, and consumers may reward the mainstream company through more positive perceptions of CSR image (Brown and Dacin, 1997). Thus, we hypothesise

 $H_{3a}$ : The introduction of a product with a sustainability label to the mainstream product line, will positively influence consumers perception of the company's CSR image.

As previously mentioned, when deciding between equivalent brands, consumers take the products' environmental or social performance into account to guide their choice (Peattie, 1999). A firm's investments and performance in environmental impact factors reveal its commitment to sustainability and create environmental legitimacy for the firm and its products (Crespin-Mazet & Dontenwill, 2012), whereas firms that lack legitimate accounts of their activities are vulnerable to accusations of negligence (Romanelli, 1992). Because of higher standards related to social and environmental characteristics for the mainstream products, we believe that the presence of a product with a sustainability label on the CSR image of the company producing the mainstream products will also be

mediated by perceived social and environmental performance. Thus, we hypothesise

 $H_{3b}$ : The effect of the presence of a product with a sustainability label on CSR image is mediated by perceived social and environmental performance.

Furthermore, researchers suggest that a company's CSR activities spill over to their general attitude towards the company (Brown & Dacin, 1997; Kim et al., 2012). Similarly, it is evident from previous findings that stakeholders who are aware of a company's CSR efforts show a greater intent to purchase products from, seek employment with, and invest in the company, rather than those who are unaware of these efforts (Mohr & Webb, 2005; Sen, 2006). Additionally, this has not only a positive impact on consumers' attitude towards the company (Brown & Dacin, 1997; Lii & Lee, 2012; Marin et al., 2009; Sen, 2006) but also product and service quality as well as brand loyalty (Marin et al., 2009; Reich et al., 2010). Thus, we hypothesise

 $H_{4a}$ : The introduction of a product with a sustainability label to the mainstream product line, will positively influence consumers general attitude towards the company.

Moreover, corporate reputation has commonly been evaluated by consumers' perceptions of the quality of products offered by the company (Caruana & Chircop 2000; Chun 2005). In a similar vein, it is reported that higher perceived quality leads directly to higher brand attitude (Johnson et al. 2006; Monirul & Han 2012; Jung & Seock, 2016). Further, Olsen et. al. (2014) found that green new product introductions can improve brand attitude, company attitude and that both the brand and category's positioning influence the introduction of green new products. Accordingly, we expect that the effect of the presence of a product with a sustainability label on general attitude towards the company will be mediated by product quality. Moreover, consumers show positive attitudes towards companies that care about the environment (Joyner & Payne, 2002; Mohr & Webb, 2005; Schubert et al., 2010) and have a socially responsible brand image (Brown & Dacin, 1997; Lii & Lee, 2012). The information of the Nordic Swan label pertains to the social and environmental

quality of the product. And as consumers are constantly measuring and evaluating options between their wants to be socially responsible and their desire for positive shopping experiences, we presume that the effect of the presence of a product with a sustainability label on general attitude towards the company is also mediated by perceived social and environmental performance. Hence, the following hypothesis

 $H_{4b}$ : The effect of the presence of a product with a sustainability label on general attitude towards the company is mediated by perceived social and environmental performance and product quality.

# 2.4.3 The Moderating Effect of Environmental Concern

Alibeli and Johnson (2009) define environmental concerns as the awareness a person has about environmental issues and the willingness to solve environmental problems. Diamantoplous et al. (2003) observed that environmental concerns are a critical factor in the consumer decision-making process and are a major motivation for environmental attitudes (Yadav & Pathak, 2016). The theory on environmental concerns in regard to labelling is somewhat inconclusive. For example, some research has found that organic claims have a stronger influence on consumers more concerned about the environment (Schuldt & Schwarz, 2010, Lee et al., 2013). Others found that participants who deemed themselves to engage in environmentally friendly activities more often were less susceptible to the halo effect (Lee et. al, 2013).

Research has found that consumers' existing pro-environmental behaviour plays a part in the green attributes positively affecting product impressions (Apaolaza et al., 2014; Lee et al.,2013; Schuldt & Schwarz, 2010). Consumers who are less concerned with the environment choose products based on attributes such as the brand, price, advertising, celebrity endorsement or other influencing factors such as the sales staff. These consumers rarely do an extensive search for information concerning other attributes, such as the product's social and environmental performance (Apaolaza et al., 2014; Beharrell & Denison, 1995; Silayoi & Speece, 2004). Thus, we believe that the presence of a product with a sustainability label will signal the absence of such a label on mainstream products more strongly for consumers who consider themselves more environmentally concerned, compared to the less environmentally concerned.

 $H_{5a}$ : Negative spillover effects from the sustainability label on the mainstream products quality perceptions, will be more pronounced at higher levels of environmental concern.

Sustainability labels are most effective on consumers who recognize, understand, trust, and consider them useful (Grunert et al., 2014; Wood et al., 2018). Thus, we presume that the sustainably labelled option will emphasize diversity in the existing mainstream products' social and environmental performance, and the new, more environmentally friendly product will signal that mainstream products have a lower social and environmental performance for highly environmentally concerned consumers.

 $H_{5b}$ : Negative spillover effects from the sustainability label on the mainstream products' perceived social and environmental performance, will be more pronounced at higher levels of environmental concern.

When companies begin adhering to the newly introduced norms of bringing the sustainable options to their own brand, the spillover effect becomes positive for their companies CSR image. Similarly, consumers show positive attitudes towards companies that care about the environment (Joyner & Payne, 2002; Mohr & Webb, 2005; Schubert et al., 2010) and have a socially responsible brand image. Prior research (Luchs et.al 2010) implies that if ethical superiority is valued, other attributes of sustainable products will be viewed more positively as well. In addition, companies can benefit from line extensions with sustainability labels because the label signals that the producer of the mainstream product is legitimate (Anagnostou et al. 2015). Thus, we expect that the presence of a product with a sustainability label will have a stronger effect on consumers' perceptions of the CSR image for highly environmentally concerned consumers compared to less environmentally concerned consumers. Likewise, we expect that the presence of a product with a sustainability label will have a stronger effect on the general attitude towards the company for highly environmentally concerned consumers compared to less environmentally concerned consumers.

 $H_{5c}$ : Positive spillover effects from the sustainability label on the company's CSR image, will be more pronounced at higher levels of environmental concern.

 $H_{5d}$ : Positive spillover effects from the sustainability label on the general attitude towards the company, will be more pronounced at higher levels of environmental concern.

# 2.5 Hypothesis Overview

 $H_I$ : The introduction of a product with a sustainability label, will negatively influence consumers product quality perceptions of the existing mainstream product line.

 $H_2$ : The introduction of a product with a sustainability label, will negatively influence consumers perceptions of the social and environmental performance of the existing mainstream product line.

 $H_{3a}$ : The introduction of a product with a sustainability label to the mainstream product line, will positively influence consumers perception of the company's CSR image.

 $H_{3b}$ : The effect of the presence of a product with a sustainability label on CSR image is mediated by perceived social and environmental performance.

 $H_{4a}$ : The introduction of a product with a sustainability label to the mainstream product line, will positively influence consumers general attitude towards the company.

 $H_{4b}$ : The effect of the presence of a product with a sustainability label on general attitude towards the company is mediated by perceived social and environmental performance and product quality.

 $H_{5a}$ : Negative spillover effects from the sustainability label on the mainstream products quality perceptions, will be more pronounced at higher levels of environmental concern.

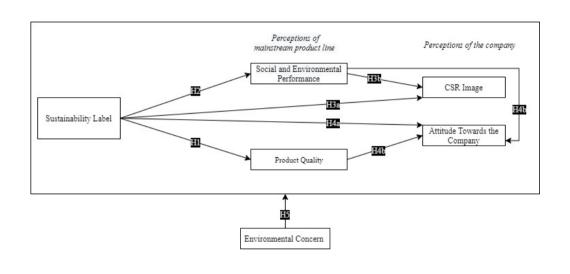
 $H_{5b}$ : Negative spillover effects from the sustainability label on the mainstream products' perceived social and environmental performance, will be more pronounced at higher levels of environmental concern.

 $H_{5c}$ : Positive spillover effects from the sustainability label on the company's CSR image, will be more pronounced at higher levels of environmental concern.

 $H_{5d}$ : Positive spillover effects from the sustainability label on the general attitude towards the company, will be more pronounced at higher levels of environmental concern.

# 2.6 Conceptual Framework

Figure 1: Conceptual Framework on Spillover Effects of Sustainability Labels



# 3.0 Methodology

This section aims to explain the process through which we will gather and analyse our data. We first describe the pilot study, the sample and the data collection before we explain the survey design.

To test the proposed model (Figure 1), a semi-structured interview and an online survey were conducted through a pilot study and a main study, respectively. The objective was to investigate the relationship between the introduction of a sustainability labelled product in an existing product line on perceptions of product quality, social and environmental performance, CSR image, and overall perception of the company moderated by environmental concern. The pilot study was conducted with the intention of defining preference for branded or unbranded products, determining product fit in terms of strength and efficiency attributes, and improving the fluency of the questionnaire. The main study consisted of a 2x2 between-subjects design. The experiment was survey-based and was conducted using a quantitative, self-administered questionnaire.

Inspired by previous studies on spillover effects (Ahluwalia et al., 2001; Anagnostou et al., 2015; Binnekamp & Ingenbleek, 2008; Roehm and Tybout, 2006), we tested spillover effects by measuring the difference in consumers' perceptions towards mainstream products between an experimental and a control group. We sought to identify the presence of positive or negative spillover effects as the positive or negative value of "belief change" between the two groups. If the group exposed to the labelled product was less/more satisfied compared to the group exposed to only mainstream products (lower product expectations, higher perception of CSR image etc.), it implies a spillover effect.

# 3.1 Sample and Collection of Data

We collected participants for the main study through our online social networks, classifying it as a non-probability sample (Wolf et al., 2016). With data obtained from a convenience sample, one can only make weak inferences about some characteristics of the sample itself, rather than formal inductive inference regarding the population of interest (Etikan, 2016). Therefore, theoretically, it is not useful to make any generalizations from a convenience sample. However, as

this exploratory research aims to generate ideas, insights and hypotheses, a convenience sample is accepted (Maholtra, 2010).

Conducting online sampling is convenient, fast and inexpensive (Dillman et al., 2014; Etikan, 2016). In addition, online sampling is known to increase the number of respondents as participants tend to trust researchers more as they share their personal information on their social profiles, as well as allowing respondents to take part when, wherever, and on their preferred device (Baltar, 2012; Maholtra, 2010). However, there are several disadvantages of online sampling that we had to consider. The most significant disadvantage is that the characteristics and demographics, such as gender, age, education level, and socioeconomic level are limited to the online population (Baltar, 2012, Couper & Miller, 2008; Maholtra, 2010). Taking this into account, and considering the exploratory aim of the work, combined with limited time and resources, the advantages outweigh the disadvantages.

Based on the following formula:  $Necessary\ Sample\ Size = \frac{(Zscore)^2\ x\ StdDev\ x\ (I-StdDev)}{(margin\ of\ error)^2} = \frac{(I,96)^2\ x\ 0,5\ x\ (I-0,5)}{(0,05)^2} \approx 385$  (Qualtrics, 2021). Our ideal sample size for the Norwegian population (5 391 369 million, SSB n.d) with a 95% confidence level is 385 respondents. However, as previously mentioned, our convenience sample is not generalizable to the entire population, so the ideal sample size was only used as an indication.

The survey was created and distributed using Qualtrics Survey Software. We collected the data in mid-April, and to stimulate participation, we offered them an incentive in the form of a gift card that gave them a chance to win one of NOK 500. To avoid fatigue and reduce participant mortality, the survey was kept short, about 2-3 minutes.

#### 3.1.1 Privacy Considerations

In order to conduct our research following basic considerations for data protection, such as personal integrity, privacy, and responsible use and storage of personal data (The National Committee for Research Ethics in the Social Sciences and the Humanities, 2019), the study included a section at the beginning of the survey asking participants to consent to the collection of their data. Participants were also informed that the study would not collect IP addresses, and their privacy would be maintained. At the end of the survey, participants were presented with

the option to enter their email address on a separate website that would not link their email address to the answers in the survey, if they wanted to participate in the gift card draw. The data was collected and treated following the internal BI guidelines for GDPR (Bjørseth, n.d.).

#### 3.1.2 Data Cleaning

The data contained a total of 363 respondents. It was extracted and transformed into IBM SPSS 27, the statistical program we use for further analyses.

When reviewing the collected data, we found that 134 respondents did not complete the survey satisfactorily for our analysis. However, participants who completed 89% or more of the survey were considered reliable responses. Out of the 134 respondents, only 3 answered 89% of the survey, while the rest of the 226 respondents completed 100% of the survey. Finally, we ended up with a sample of 229 respondents, with 55 in condition 1 (universal spray with label), 50 in condition 2 (universal spray without label), 61 in condition 3 (sunscreen with label) and 63 in condition 4 (sunscreen without label). We consider this sample size satisfactory to conduct all our analyses'.

To complete the missing values for the incomplete responses, we utilised the "replace missing values" command in IBM SPSS and replaced the non-values with the series mean. Mean imputation is convenient and the simplest way to replace missing values. However, this method can distort the distribution between variables, leading to complications with summary measures and pulling estimates of the correlation towards zero (Columbia University, n.d., p.532). On the other hand, biased estimates have been found not to occur if there are missing values for less than 10% of the respondents, which is the case in our dataset (Eekhout et al., 2014).

Lastly, the respondents' demographics concerning life-situation (student, full-time employee, part-time employee, non-working, retired and other) were coded as ordinal variables.

#### 3.1.3 Sample Descriptive

The final sample (n = 229) consisted of 74.2% female and 23.6% male. The participants are between 16 and 73 years old, with a mean age of 28.39. The vast majority of the respondents live in Norway, with 47.2% residing in Oslo,

15.7% in Viken and 10% in Innlandet. Additionally, the majority are full-time employees (48.9%) or students (48.5%), while 27.1% of the sample accounts for part-time employees. The sample is environmentally concerned and wants to make green decisions as consumers. A total of 94.3% of the sample had knowledge about the Nordic Swan before answering the survey (Table 1).

**Table 1**Descriptive Statistics

Respondents	n=229									
Gender	Male 23.60 %	Female 74.20		Not b		N/A 0.90 %				
Age	< 20 0.40 %	20-29 80.30	<b>%</b>	30-39 7 %		40-49 6.10 %	50-59 4.80 %	60+ 1.30 %	Mean 28.39	
Residence	Agder 4.80 %	Innland		Møre 1.30 %	& Romsdal	Nordland	d Oslo 47.20	Rogaland		
							%			
	Vestfold & Telemark	Troms		T		X7 .1	l Viken	Bor ikke i		
	6.60 %	1.70 %		Trønd 3.90 %		Vestland 4.40 %	1 Viken 15.70	Norge 1.30 %		
	Student	Part-tii		Full-t		Not working	Retired	Other		
Occupation	48.50 %		27.10 %		%	0.90 %	0.40 %	1.30 %		
Condition			Without si	ıs.label	Mean	Std.dev.	With sus. label		Mean	Std.dev
			Universal		5.2	1.13	Universal spray		5.04	1.14
Product Quality			Sunscreen		5.41 4.23	1.09	Sunscreen		5.07	1.28
Social & Environ	nmental Perform	ance	Universal Sunscreen		4.23	1.11 0.94	Universal spray Sunscreen		4.24 4.22	1.31 1.36
Bootar & Environ	innentar i errorm	unce	Universal		4.4	0.89	Universal spray		4.31	1.26
CSR-image			Sunscreen		4.3	0.88	Sunscreen		4.3	1.15
-			Universal	spray	5.04	1.77	Universal spray		5.09	1.4
General Attitude	Towards the Co	mpany	Sunscreen		5.3	1.14	Sunscreen		5.1	1.38
Eco-consciousness			Universal Sunscreen		5.14 5.01	0.97 1.07	Universal spray Sunscreen		5.21 5.15	1.18 0.99
Sustainability la	bel									
Have heard of "t		" before			Yes 94.30 %	No 5.70 %				

# 3.2 Survey Design

This section aims to explain the product selection and the questionnaire, scale development, procedure, and experimental manipulation.

The main study consisted of a 2x2 between-subjects design. Before making the main questionnaire, we conducted a pilot study (n=10) to identify the preference for branded or unbranded products and determine product fit in terms of strength and efficiency attributes (section 3.2.1.2). Before distributing the final questionnaire, we pre-tested it on a sample of respondents (n=4) to identify misperceptions of the questions, adjust prior to data collection, and reduce

measurement error (Malhotra, 2010). Respondents reported no difficulties on the pre-test, so we proceeded to collect the data.

### 3.2.1 Criteria for Product Selection

In order to select products for the study, it was necessary to set some criteria. Firstly, we decided that the products would be in the category of consumer-packaged goods since we wished to test products that consumers use frequently. Further, we preferred a product that naturally has several products in the same product line. This was necessary because we would test how the other products in the product line were perceived when one product was labelled with a sustainability label. Next, we believed that it would be valuable to conduct this research on inedible products. Mainly because we found that most studies regarding sustainability labelling were done on edible products, and because CPG consumption for edible and inedible products differ in several ways, e.g., absence of the health aspect (Annunziata & Vecchio, 2016; Berki-Kiss & Menrad, 2019; de Carvalho et al., 2015). Additionally, we suspect that adding a product with a sustainability label in a strong product line (Luchs et al., 2010) would negatively affect the perceived attributes of the mainstream products and that consumers would experience a negative spillover effect.

#### 3.2.2 The Pilot Study

The pilot study was conducted over one-hour Zoom meetings because the ongoing Covid-19 pandemic limited physical meetings. The subjects of the pilot study were young adults. Overall, we expected this population to be relatively homogeneous, with no significant differences in age and income. Nevertheless, to increase the external validity of our study, we purposely wanted to conduct the pilot study on a diverse sample of respondents with different education and study type, as this would have an impact on the level of knowledge about survey designs and brand familiarity. 10 respondents were presented with two versions (branded, unbranded) of the questionnaires that corresponded to the experimental groups. The main difference in the two versions presented to the participants was the product visualizations. In an attempt to make it more realistic for participants, one version contained an image of a selection of branded sunscreens and hand soaps (Appendix A1). The other version contained illustrations of the same products, without any real brands (Appendix B).

Subjects spent approximately 10 minutes on each version. In addition to completing the online questionnaire, we conducted a protocol analysis in which we asked respondents to "think out loud" and take notes as they completed the questionnaire. After completion, they were debriefed and asked additional questions (Maholtra, 2010). As expected, respondents had a consensus on their preferred questionnaire but provided great insight into possible improvements due to their differences.

From the result, we made several changes to the questionnaire. Most importantly, all respondents agreed that the questionnaire without the brand labels was the preferred version. It was argued that the brand labels have a strong influence and contaminate the answers in the questionnaire. In addition, some indicated that this was not their usual choice, leading to a discrepancy between the scenario text and the visualization. Since we are not investigating actual brand-related perceptions, it was natural to choose the unlabelled version for our final questionnaire and increase the degree of control for external factors and external validity by reducing the brand-related confounding variables.

In addition, respondents were asked to what extent they considered the products to be strong and effective (Appendix A2). All respondents agreed that they did not associate hand soap with strength and effectiveness. This led us to give respondents the opportunity to suggest products that they felt had these qualities. 7/10 respondents suggested cleaning sprays/a type of kitchen spray. The sustainability label was added to the products to account for both attribute levels (with and without the Nordic Swan), resulting in four different product conditions (Section 3.2.2.2). In addition, the vast majority of respondents preferred to write down the brand they usually purchase as they felt this helped guide them through the questionnaire. Finally, we made some minor changes to make the questionnaire more fluid and reduce respondent burden.

# 3.2.3 Questionnaire Development and Procedure

We created the survey using Qualtrics Survey Software. Using the randomization function in Qualtrics, participants were randomly assigned to one of four experimental conditions. All other variables were held constant. The questionnaire began with an introduction explaining the purpose of the questionnaire and ethical considerations, followed by a page explaining to participants that they would be presented with a scenario and illustrations.

Respondents were asked to look carefully at the illustration and read the question thoroughly before answering. Spillover effects were then tested in an experimental setting using scenarios in which respondents imagined going to their usual store to purchase their usual sunscreen/universal spray.

Scenarios
Please indicate the brand of sunscreen/universal spray you usually
buy

1) Imagine that you walk into your local store. You want to purchase the universal spray/sunscreen you usually do (the one you indicated in the previous question). You look for the universal spray/sunscreen on the store shelf and find the product. Next to this product, you discover another type of universal spray/sunscreen from the same brand, but with the Nordic Swan certification. As always, you purchase your usual universal spray/sunscreen and continue shopping.

About the Nordic Swan: the Nordic Swan indicates that the product is made with reduced environmental impact in all stages of production, from raw material to finished product. (The logo appears on the left of the image below.)

2) Imagine that you walk into your local store. You want to purchase the universal spray/sunscreen you usually do (the one you indicated in the previous question). You look for the universal spray/sunscreen on the store shelf and find the product. Next to this product, you discover many other well-known brands of universal spray/sunscreen. As always, you purchase your usual universal spray/sunscreen and continue shopping.

In order for respondents to have an image of their usual brand in mind, we asked everyone to first state the brand of sunscreen/universal spray they usually buy. Then they read the scenario adapted to their stimulus condition (Scenarios and Table 3). The scenario described a usual shopping experience in which consumers purchase their (indicated) usual brand of sunscreen/universal spray. In addition to the scenario text, respondents were presented with an illustration to help them visualize the scenario (Section 3.2.2.2). All bottles were labelled with

the same size (500 ml for universal spray and 150 ml for sunscreen) to avoid any influential biases.

Subjects in the experimental groups who encountered the product labelled with the Nordic Swan were presented with additional text defining the label. In addition, they were asked if they had any previous knowledge of the label. The control group read that they encountered many other well-known brands of the given product. Finally, both scenarios indicate that they purchase their usual product and continue shopping. Participants ended the online experiment by answering questions about their environmental concern and demographic data (Table 2). See Appendix C for the complete Qualtrics questionnaire presented to participants.

#### 3.2.3.1 Scale Development.

To ensure high reliability, we measured the dependent variables with existing multi-item scales that have been previously tested for reliability. The selected scales were adapted to the context of our study. All questions measuring the dependent variables were asked on Likert scales anchored by 1 and 7, where 1 = strongly agree and 7= strongly disagree (Table 2). Moreover, the statement regarding the frequency of consumers' sustainable purchases was anchored on Likert scales with scores of 1 and 7, where 1 = never and 7 = always.

For product quality, we modified the Buchganan et al. (1999) scale by retaining three items that fit the context of our study. Buchganan et al. (1999) originally created this scale along with two other variables (value and fair price) to measure brand equity dilution. The social and environmental product performance scale (Anagnostou et al., 2015) measures consumers' perceptions of the Fairtrade label on social and environmental product performance. The authors stated that they drew upon scales used in previous studies (Brown & Dacin, 1997). The scale was modified by shortening it and changing the Fairtrade attributes to fit our label. In this way, we measured the spillover effect in terms of the Nordic Swan relative to our context. CSR image was measured using Wagner et al. 's (2009) full three-point scale, which was developed to measure the degree to which a person believes that a particular company has a positive impact on society and minimizes its negative impact. In this context, we used a question from Goldsmith's (2000) scale to measure the general attitude towards the company. Finally, to measure the environmental concern of the samples, we adapted our own scale to obtain a

general perception of the level of environmental concern. Our final scale can be found in Table 2.

Table 2

Main Study Questionnaire

Concept	Scale	Questions and scale items					
Scenario	Open	Brand/label Familiarity (only used for block 2 and 4 with sustainability label)					
with/without a		1. Indicate the brand of Sunscreen/universal spray that you usually buy (QA)					
sustainability label		2. Have you heard of the Nordic Swan? (QB)					
	1-7	Perceived Product Quality					
		1. This product has a good quality (Q1)					
		2. This product is a superior product (Q2)					
		3. This product is better than the average product (Q3)					
		Social and Environmental Product Performance					
		1. This product was manufactured in an environmentally friendly manner(Q4)					
		2. This product is a socially responsible product (Q5)					
		3. This product is less harmful for the environment than other products (Q6)					
		4. Purchasing this product is a good environmental choice(Q7)					
		Perceived CSR of Producing Company					
		1. This company is a socially responsible company (Q8)					
		2. This company is concerned to improve the well-being of society(Q9)					
		3. This company follows high ethical standards (Q10)					
		General Attitude Toward the Company					
		1. My overall perception of the company is good (Q11)					
Environmental	1-7	1. In general, how important are environmental issues to you? (Q12)					
Concern		2. How important do you think it is to buy sustainable products? (Q13)					
		3. How important is it for you to ensure that your personal consumption does					
		not adversely affect the environment? (Q14)					
		4. How often do you buy sustainable products? (Q15)					
Demographic		Age, gender (male/female/non-binary/prefer not to say), work status, location					
Questions		(QC)					

# 3.2.3.2 Experimental Manipulation and Visual Stimuli.

Table 3

Experimental Manipulation and Visual Stimuli

Product Category	With the Nordic Swan	Without the Nordic Swan
Sunscreen	Condition 1	Condition 2
	* * *	* * * * * * * * * * * * * * * * * * *
Universal Spray	Condition 3	Condition 4

# 4.0 Analysis

# 4.1 Factor Analysis

A factor analysis was conducted to reduce the number of variables in four categories to fewer explanatory variables: product quality, social and environmental, CSR image and environmental concern. To check if it was appropriate to proceed with this analysis, several assumptions were tested. Initially, the factorability of the 14 items was examined. First, the Kaiser-Meyer-Olkin measure of sampling adequacy was meritorious with the value of .827, high above the commonly recommended value of .6. The high value indicates that the strength of the relationships among variables is high, thus it was acceptable to proceed with the analysis (Maholtra, 2010). Additionally, Bartlett's test of sphericity was significant ( $\chi 2$  (91) = 2125.912, p < .000). Further, it was observed that 14 of the 14 items correlated at least .3 with at least one other item, suggesting reasonable factorability (Table 4). Additionally, the anti-image correlation values were between .687 (How important do you think it is to buy sustainable products) and .905 (This product is a socially responsible product). This tells us that all variables can be included in the factor analysis (Appendix D1). All values of the diagonal of the anti-image correlation matrix were above .5. Based on these assumptions, we proceeded with the factor analysis of the 14 original items.

 Table 4

 Correlation Matrix

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q12	Q13	Q14	Q15
Q1	1.000													
Q2	0.546	1.000												
Q3	0.466	0.720	1.000											
Q4	0.261	0.398	0.327	1.000										
Q5	0.283	0.393	0.324	0.831	1.000									
Q6	0.159	0.364	0.304	0.807	0.791	1.000								
Q7	0.181	0.328	0.255	0.751	0.765	0.843	1.000							
Q8	0.314	0.409	0.363	0.530	0.539	0.414	0.412	1.000						
Q9	0.234	0.328	0.342	0.396	0.401	0.312	0.341	0.710	1.000					
Q10	0.301	0.285	0.270	0.403	0.433	0.313	0.323	0.640	0.681	1.000				
Q12	0.036	0.131	0.119	0.109	0.061	-0.004	-0.011	0.125	0.104	0.067	1.000			
Q13	0.065	0.109	0.107	0.146	0.079	-0.015	0.046	0.139	0.144	0.143	0.813	1.000		
Q14	0.042	0.067	0.129	0.189	0.089	0.039	0.047	0.137	0.083	0.103	0.659	0.747	1.000	
Q15	0.175	0.124	0.213	0.202	0.165	0.093	0.103	0.207	0.212	0.174	0.394	0.459	0.526	1.000

Table 5

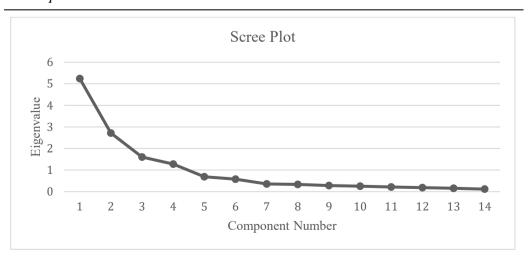
Rotated Component Matrix

		Component load	Component loading					
	Social and Environmental Performance	Environmental Concern	CSR image	Product quality				
Q6	0.927							
Q7	0.898							
Q4	0.862							
Q5	0.853							
Q13		0.916						
Q14		0.884						
Q12		0.875						
Q15		0.645						
Q9			0.866					
Q10			0.847					
Q8	0.328		0.775					
Q2				0.849				
Q3				0.829				
Q1				0.765				

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization

As the purpose was to increase interpretability and reduce our correlated observed variables into smaller sets of important independent composite, we ran a principal component analysis (Jolliffe & Cadima, 2016) (Table 5). The initial eigenvalues indicated that the first four factors explained 37.45%, 19.37%, 11.45% and 9.10% of the variance respectively. Further, the scree plot flats out after the fifth component.

Figure 2
Scree plot



Thus, solutions for four and five factors were examined using varimax and orthogonal rotations of the factor loading matrix. We proceeded with the four-factor solution, which explained 77.39% of the variance (Appendix D2). This was favoured because: (1) our interest lies in how product quality, social and environmental and CSR image is affected by the Nordic Swan as well as the impact the level of environmental concern has on this effect: (2) based on the scree plot, at least four factors should be considered because it is after factor 5 that the graph flattens (Figure 2); (3) low loading on the fifth factor which would increase difficulty in interpretation.

Varimax rotation provided the best-defined factor structure. All items in this analysis had primary loadings over .5. Only one item had a cross-loading above .3 (This company is a socially responsible company), however, this item had a strong primary loading of .77. The factor loading matrix for this final solution is shown in Table 5. The factor labels given suited the extracted factors related to our dependent variables (product quality, social and environmental performance, CSR image, environmental concern).

Even though we decided to measure the dependent variables with existing multi-item scales that were previously tested for reliability, we examined the reliability of our adopted scales to ensure internal consistency for each using Cronbach's alpha. The alphas were high; product quality  $\alpha = .805$ , social and environmental performance  $\alpha = .940$ , CSR image  $\alpha = .863$ , environmental concern  $\alpha = .860$ . By eliminating the question regarding green purchase frequency, this increased the environmental concern scale by .035. As the values are above .6, we consider the scales to have satisfactory internal consistency reliability (Maholtra, 2010).

We created composite scores for each of the four factors based on the means of the items that have the highest score loadings on each factor. The mean values were the following: product quality = 5.19; social and environmental performance = 4.26; CSR image = 4.33; environmental concern = 5.13.

We continued the analysis with four new variables: product quality (Q1, Q2 and Q3), social and environmental performance (Q4, Q5, Q6 and Q7), CSR image (Q8, Q9 and Q10) and environmental concern (Q12, Q13 and Q14).

### 4.2 Hypothesis Testing and Results

## 4.2.1 Product Quality

A univariate analysis of variance was conducted in order to confirm or reject the first hypothesis ( $H_1$ : The introduction of a product with a sustainability label, will negatively influence consumers product quality perceptions of the existing mainstream product line.)

From the Levene's Test of Homogeneity of Variances, we find the Levene's output F(3,225) = .649, p=.584. Thus, as p > .05 we do not reject the null hypothesis, and Equal variances are assumed (Appendix E).

Result revealed no significant main effect of products with a sustainability label, such that the mainstream products with the introduction of a sustainability label (M= 5.06, SD= 1.21) did not lead to a significantly lower perception of product quality compared to the mainstream products without the introduction of a product with a sustainability label (M= 5.32, SD = 1,11). Partial Eta Squared = .011. Results indicate no significant main effects for product type, such that sunscreen (M= 5,25, SD=1,20) had no significantly greater impact on perceived product quality than universal spray (M= 5,12, SD=1,14). Partial Eta Squared = .003. There was no statistically significant interaction between the effects of label and product on perceived product quality, F (1, 225) = .333, p = .565.

We cannot reject the null hypothesis. The result provides no statistical support for  $H_1$ . In other words, there is not enough evidence that the consumers' quality perceptions of the product line's mainstream products are negatively influenced by the introduction of a product with a sustainability label. However, the results indicated a non-significant trending in the predicted direction, indicating lower product quality perception of the product lines mainstream products.

 Table 6

 Descriptive Statistics for the Dependent Variable Product Quality

Group	Product	Mean	Std. Deviation	N
No Label	Sunscreen	5.4127	1.09039	63
	Universal	5.2000	1.13489	50
	Total	5.3186	1.11037	113
Label	Sunscreen	5.0765	1.28293	61
	Universal	5.0424	1.14406	55
	Total	5.0603	1.21393	116
Total	Sunscreen	5.2473	1.19610	124
	Universal	5.1175	1.13697	105
	Total	5.1878	1.16861	229

**Table 7**Tests of Between-Subjects Effects for the Dependent Variable Product Ouality

Source	df	Mean Square	F	Sig.	Partial Eta Squared
IV_Produkt	1	.864	.635	.426	.003
IV_Label	1	3.461	2.543	.112	.011
IV_Produkt * IV_Label	1	.453	.333	.565	.001
Error	225	1.361			

### 4.2.2 Social and Environmental Performance

A univariate analysis of variance was conducted in order to confirm or reject the second hypothesis ( $H_2$ : The introduction of a product with a sustainability label, will negatively influence consumers perceptions of the social and environmental performance of the existing mainstream product line).

From the Levene's Test of Homogeneity of Variances, we find the Levene's output F(3,225) = 2.582, p=.054. Thus, as p > .05 we do not reject the null hypothesis, and Equal variances are assumed (Appendix E).

Result revealed no significant main effect of products with a sustainability label, such that the mainstream products with the introduction of a sustainability label (M= 4.23, SD= 1.33) did not lead to a significantly lower perception of social and environmental performance compared to the mainstream products without the introduction of a product with a sustainability label (M= 4.29, SD = 1.02). Partial Eta Squared = .000. Results revealed no significant main effects for

product type, such that sunscreen (M=4.28, SD=1.68) had no significantly greater impact on perceived product quality than universal spray (M=4.24 SD=1.22). Partial Eta Squared = .000. There was no statistically significant interaction between the effects of label and product on perceived social and environmental performance, F(1, 225) = .159, p = .691.

We cannot reject the null hypothesis. The result provides no statistical support for H<sub>2</sub>. That is, there is not enough evidence to support that the perceptions of the mainstream products' social and environmental performance are being negatively influenced by the introduction of a product with a sustainability label.

Table 8

Descriptive Statistics for the Dependent Variable Social and Environmental Performance

Group	Product	Mean	Std. Deviation	N
No Label	Sunscreen	4.3373	0.94417	63
	Universal	4.2350	1.11850	50
	Total	4.2920	1.02148	113
Label	Sunscreen	4.2213	1.36634	61
	Universal	4.2455	1.31277	55
	Total	4.2328	1.33544	116
Total	Sunscreen	4.2802	1.16765	124
	Universal	4.2405	1.21831	105
	Total	4.2620	1.18868	229

**Table 9**Tests of Between-Subjects Effects for the Dependent Variable Social and Environmental Performance

Source	df	Mean Square	F	Sig.
IV_Label	1	3.461	2.543	.112
IV_Produkt	1	.864	.635	.426
IV_Label * IV_Produkt	1	.453	.333	.565
Error	225	1.361		

# 4.2.3 CSR Image

A univariate analysis of variance was conducted in order to confirm or reject the third hypothesis ( $H_{3a}$ : The introduction of a product with a

sustainability label to the mainstream product line, will positively influence consumers perception of the company's CSR image).

From the Levene's Test of Homogeneity of Variances, we find the Levene's output F(3,225) = 1.800, p=.148. Thus, as p > .05 we do not reject the null hypothesis, and Equal variances are assumed (Appendix E).

Results revealed no significant main effect for the product with a sustainability label such that mainstream products with the introduction of a sustainability label (M= 4.30, SD= 1.20) did not lead to a significantly greater perception of the company's CSR image compared to the mainstream products without the introduction of a product with a sustainability label (M= 4.34, SD = .88). Partial Eta Squared = .000. Results revealed no significant main effects for product type, such that sunscreen (M= 4.30, SD=1.01) had no significantly greater impact on the perceived CSR image than the product type universal spray (M= 4.35 SD=1.10). Partial Eta Squared = .001. There was no statistically significant interaction between the effects of label and product on the perceived CSR image of the company, F (1, 225) = .103, p = .748.

We cannot reject the null hypothesis. The result provides no statistical support for H<sub>3a</sub>. That is, there is not enough evidence to support that the perception of the company's CSR image is positively influenced by the introduction of a product with a sustainability label to the mainstream product line.

# 4.2.3.1 Social and Environmental Performance as a Mediator on CSR Image.

A simple mediation using the mediating effect of social and environmental concern in the relationship between Label and CSR image was conducted using PROCESS procedure in SPSS (Hayes, 2014).

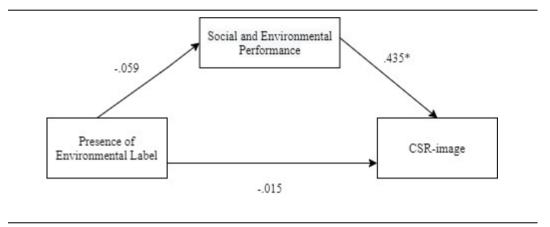
The results from the simple mediation, show no direct effect, suggesting that the label is not indirectly related to CSR image through its relationship with social and environmental performance. First, as can be seen in Figure 2, the group presented with the label did not report a significantly lower perception of social and environmental performance compared to the control group (-.059, p = .706). A higher reported perception of CSR image was subsequently related to the respondent's average perception of the company's social and environmental performance (.435, p=.000). A 95% bias-corrected confidence interval based on

5,000 bootstrap samples indicated that the indirect effect (ab = .026) was not different from zero (-.174 to .110). Moreover, the direct effect of the label on CSR image when holding all others constant is not statistically significant (-.015, p = .904).

We cannot reject the null hypothesis. The result provides no statistical support for  $H_{3b}$ . That is, there is not enough evidence to support that the perception of the company's CSR image is mediated by social and environmental performance when we introduce a product with a sustainability label.

Simple Mediation Using the Mediating Effect of Social and Environmental

Performance on the Relationship Between Sustainability Label and CSR image



\*p<.05

Figure 3

 Table 10

 Descriptive Statistics for the Dependent Variable CSR-Image

Group	Product	Mean	Std. Deviation	N
No Label	Sunscreen	4.3016	0.88134	63
	Universal	4.4067	0.89668	50
	Total	4.3481	0.88572	113
Label	Sunscreen	4.3005	1.14618	61
	Universal	4.3152	1.26916	55
	Total	4.3075	1.20077	116
Total	Sunscreen	4.3011	1.01606	124
	Universal	4.3587	1.10331	105
	Total	4.3275	1.05500	229

Table 11

Tests of Between-Subjects Effects for the Dependent Variable CSR image

Source IV_Label	df 1	Mean Square .122	F .108	Sig743	Partial Eta Squared .000
IV_Produkt	1	.203	.181	.671	.001
IV_Label * IV_Produkt	1	.116	.103	.748	.000
Error	225	1.126			

# 4.2.4 General Attitude Towards the Company

A univariate analysis of variance was conducted in order to confirm or reject hypothesis 4a ( $H_{4a}$ : The introduction of a product with a sustainability label to the mainstream product line, will positively influence consumers general attitude towards the company)

From the Levene's Test of Homogeneity of Variances, we find the Levene's output F(3,225) = 1.232, p=.299. Thus, as p > .05 we do not reject the null hypothesis, and Equal variances are assumed. (Appendix E).

Results revealed no significant main effect of the product with a sustainability label such that mainstream products with the introduction of a sustainability label (M=5.09, SD=1.38) did not lead to a significantly greater general attitude towards the company compared to the mainstream products without the introduction of a product with a sustainability label (M=5.19, SD=1.16). Partial Eta Squared = .003. There was no statistically significant interaction between the effects of label and product level on general attitude towards the company, F(1, 225) = .559, p=.456.

We cannot reject the null hypothesis. The result provides no statistical support for  $H_{4a}$ . That is, there is not enough evidence to support that the general attitude towards the company is positively influenced by the introduction of a sustainability label to the mainstream product line.

**Table 12**Descriptive Statistics for the Dependent Variable General Attitude Towards the Company

Group	Product	Mean	Std. Deviation	N
No Label	Sunscreen	5.30	1.145	63
	Universal	5.04	1.177	50
	Total	5.19	1.162	113
Label	Sunscreen	5.10	1.387	61
	Universal	5.09	1.391	55
	Total	5.09	1.383	116
Total	Sunscreen	5.20	1.269	124
	Universal	5.07	1.288	105
	Total	5.14	1.277	229

Table 13

Tests of Between-Subjects Effects for the Dependent Variable General Attitude

Towards the Company

Source IV_Label	df 1	Mean Square .329	F .201	Sig655	Partial Eta Squared .001
IV_Produkt	1	1.027	.626	.430	.003
IV_Label * IV_Produkt	1	.917	.559	.456	.002
Error	225	1.641			

# **4.2.4.1** Product Quality and Social and Environmental Performance as a Mediator on General Attitude Towards the Company.

A parallel mediation using the mediating effect of product quality and social and environmental concern in the relationship between label and general attitude towards the company was conducted using PROCESS procedure in SPSS (Hayes, 2014).

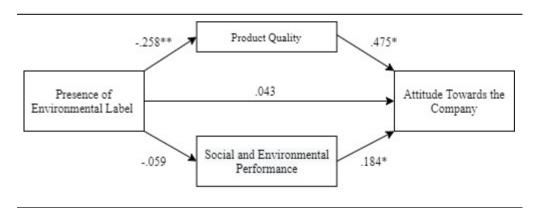
The results from the parallel mediation analysis shows no direct effect, suggesting that the label is not indirectly related to general attitude towards the company through its relationship with product quality and social and environmental performance. As aforementioned, the group presented with the label reported the company to have a lower perception of product quality than the

control group with a 90% confidence level (-.258, p=.09). Similarly, to CSR image the analysis suggested a higher reported overall attitude was subsequently related to the respondents average perception of product quality (.4751, p=.000) and social and environmental performance (.1843, p=.006). A 95% bias-corrected confidence interval based on 5,000 bootstrap samples suggests that the indirect effects through both the product quality and social and environmental performance were not different than zero (-.2929 to .0176 and -.854 to .491, respectively). See figure 4 for the effects corresponding to the pathways. Moreover, the direct effect of labels on general attitude when holding all others constant is not statistically significant (.0426, p = .7701).

We cannot reject the null hypothesis. The result provides no statistical support for H<sub>4b</sub>. That is, there is not enough evidence to support that the general attitude towards the company is mediated by social and environmental performance and product quality when we introduce a product with a sustainability label.

Figure 4

Simple Mediation Using the Mediating Effect of Product Quality and Social and Environmental Performance on the Relationship Between Sustainability Label and General Attitude Towards the Company



<sup>\*</sup>p<.05

<sup>\*\*</sup>p<.01

### 4.2.5 Environmental Concern

In order to confirm or reject hypothesis 5a, 5b, 5c and 5d and detect if potential differences between participants and their level of environmental concern would influence participants responses, we started by conducting a two-way multivariate analysis of variance (MANOVA). To find interaction effects between environmental concern within and between the groups, we first divided the participants into two groups based on high and low environmental concern, using the median (=5.33) (Lee et al, 2013).

The main effect of the label group (experimental vs. control) is not statistically significant. Wilk's Lambda=.986, F(4,222) = 2.618, p = .543 > .05, partial  $\eta 2 = .014$ . The other main effect, level of environmental concern, was not statistically significant. Wilk's Lambda=.998, F(4,222) = .119, p = .976 > .1, partial  $\eta 2 = .002$ . However, the interaction between the label group and the level of environmental consciousness (IV\_Label \*EC\_Level) is statistically significant; Wilk's Lambda=.955, F(4,222) = 2.618, p = .036, partial  $\eta 2 = .045$ .

This result tells us that the variation in average scores on our independent variables between the two groups does vary as a function of different levels of environmental concern among the participants. There is a significant interaction effect between label and environmental concern on the combined dependent variables (Table 14).

**Table 14**Two-Way- Manova- Summary. Multivariate Tests<sup>a</sup>

Effect		Value	F	Sig.	Partial Eta Squared
IV_Label	Wilks' Lambda	.986	.774 <sup>b</sup>	.543	.014
EC_Level	Wilks' Lambda	.998	.119 <sup>b</sup>	.976	.002
IV_Label * EC_Level	Wilks' Lambda	.955	2.618 <sup>b</sup>	.036*	.045

a. Design: Intercept + IV\_Label + EC\_Level + IV\_Label \* EC\_Level

b. Exact statistic

**Table 15**Level of Environmental Concerns Impact on Perceptions of the Dependent Variables

Dependent Variable	Level of Environmental Concern	Mean	SE
Product Quality	High	5.17	1.05
	Low	5.21	1.29
Social and Environmental Performance	High	4.25	1.25
	Low	4.27	1.10
CSR-image	High	4.35	1.11
	Low	4.29	0.99
General Attitude Towards the Company	High	5.15	1.20
	Low	5.13	1.35

To further test the interaction effects for our dependent variables we conducted four multiple linear regressions. This time all models included the interaction term with the original continuous variable for environmental concern (EC) by categorical (NoLabel, Label) to measure if there were interaction effects between the level of environmental concern and whether the product was labelled or not.

The overall regression model was only significant for product quality and general attitude (Appendix F). The ANOVA (table 16) demonstrates which regressions are significant. Based on this result, we reject hypothesis H<sub>5b</sub> and H<sub>5c</sub>, as the linear model for H<sub>5b</sub> and H<sub>5c</sub> is not supported. Thus, the further analysis will concentrate on the remaining hypothesis: H<sub>5a</sub> and H<sub>5d</sub>.

Table 16 demonstrates that the R2 is significantly higher than 0 for product quality and general attitude, suggesting that our predictions can account for the variance within these variables. All the VIF numbers that measure the variance inflation factor are well below 10, thus we do not have a problem with (multi)collinearity (Table 17). Results show that both the Nordic Swan and average environmental concern are not significant predictors of product quality and general attitude (Table 17).

Results indicate a significant interaction effect between level of EC and product quality t(3,228) = 1.998, p < .005 and level of EC and general attitude towards the company t(3,228) = 3.089, p < .005. When the participants are presented with the label, there is a positive relationship between how environmentally concerned they are and how they rate the product quality of the product they usually purchase. However, when participants are not presented with

the label, there is a negative relationship (Figure 4). Similarly, when the participants are presented with the label, there is a positive relationship between how environmentally concerned they are and how they rate their general attitude towards the company. However, when participants are not presented with the label, there is a negative relationship (Figure 5). This means that the label does have a significantly larger or lesser effect depending on whether they are environmentally concerned or not.

Figure 5

Interaction Effect: Product Quality \* Environmental Concern

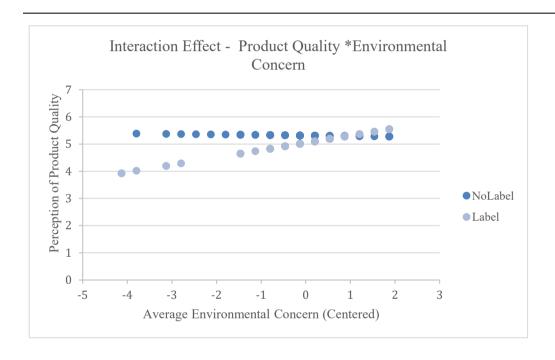
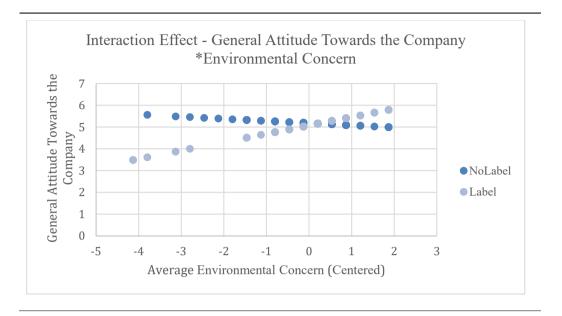


Figure 6:

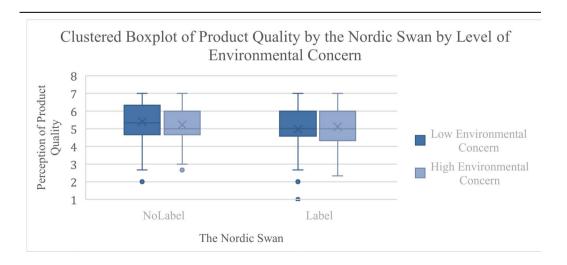
Interaction Effect: General Attitude Towards the Company \* Environmental Concern



Below, figures 7 and 8 show the distribution of response for the joint combinations of high/low environmental concern and NoLabel/Label. It is important to note, however, that these plots are created with the categorical variable of environmental concerns used in the two-way MANOVA, and we are not using these box plots to make a formal statistical inference about the effects.

Figure 7:

Clustered Boxplot of Product Quality by the Nordic Swan by Level of
Environmental Concern

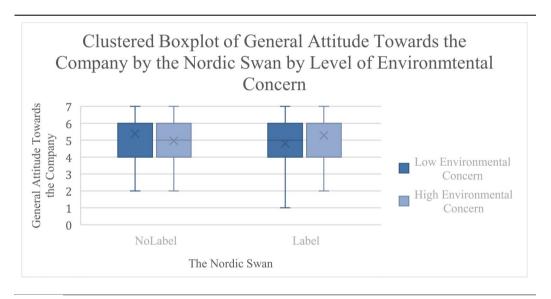


Interquartile ranges for both conditions are 4.33 to 6.33. Highly environmentally concerned participants in the non-labelled group have the highest mean values (6.33). Participants that are less environmentally concerned in the labelled group have the lowest mean values (4.97). There are a few outliers in both conditions, and highly environmentally friendly participants in the labelled group have the highest standard deviations. Overall, the participants have a high level of agreement with each other, as the boxplots are relatively short. However, there are noticeable differences in both conditions.

Figure 8:

Clustered Boxplot of General Attitude Towards the Company by the Nordic

Swan by Level of Environmental Concern



Interquartile ranges for both conditions are 4 to 6. Highly environmentally concerned participants in the labelled group have the highest mean values (5.29). Participants that are less environmentally concerned in the labelled group have the lowest mean values (4.80). There are no outliers, and less environmentally friendly participants in the labelled group have the highest standard deviations. Overall, the participants have a high level of agreement with each other, as the boxplots are relatively short.

In sum, we find support for H<sub>5d</sub>, and no support for H<sub>5a</sub> H<sub>5b</sub> and H<sub>5c</sub>. There is enough evidence to support that the positive spillover effects from the sustainability label on the general attitude towards the company, will be more

pronounced at higher levels of environmental concern. There is also statistical evidence to support that participants' level of environmental concern made a difference between the groups on perceptions of product quality, however the direction is opposite of what we predicted; thus, we reject H<sub>5a</sub>.

Table 16
ANOVA

Dependent variable	Model (1)	Sum of Squares	df	Mean Square	F	Sig.
Product Quality	Regression	13.752	3	4.584	3.466	.017 <sup>b*</sup>
	Residual	297.618	225	1.323		
	Total	311.370	228			
Social and Environmental	Regression	3.511	3	1.170	.826	.480 <sup>b</sup>
Performance	Residual	318.643	225	1.416		
	Total	322.154	228			
CSR image	Regression	6.962	3	2.321	2.116	.099 <sup>b</sup>
	Residual	246.808	225	1.097		
	Total	253.770	228			
General Attitude	Regression	21.604	3	7.201	4.630	.004 <sup>b*</sup>
	Residual	349.924	225	1.555		
	Total	371.528	228			

b. Predictors: (Constant). Interaction\_Environmental Concern\_LAb. Svanemerket. Avg\_Environmental Concern\_Centered

Table 17
Coefficients

Dependent variable	Independent variable					95.0% Confidence Interval for B			
		В	Std. Error	Beta	t	sig.	Lower Bound	Upper Bound	VIF
Product Quality	The Nordic Swan	272	.152	116	-1.785	.076	572	.028	1.003
	EC	019	.106	017	177	.860	227	.189	2.148
	The Nordic Swan*EC	.289	.145	.191	1.998	.047*	.004	.574	2.145
General Attitude	The Nordic Swan	106	.165	042	641	.522	431	.219	1.003
	EC	100	.115	083	871	.385	325	.126	2.148
	The Nordic Swan*EC	.484	.157	.292	3.083	.002*	.174	.793	2.145

<sup>\*</sup>p<.05

<sup>\*</sup>p<.05

# 4.3 Summary of Results

Table 18
Summary of Results

	Hypothesis	Results		
H <sub>1</sub>	The introduction of a product with a sustainability label, will negatively influence			
	consumers product quality perceptions of the existing mainstream product line.	supported		
H <sub>2</sub>	The introduction of a product with a sustainability label, will negatively influence	Not		
	consumers perceptions of the social and environmental performance of the existing	supported		
	mainstream product line			
Нза	The introduction of a product with a sustainability label to the mainstream product	Not		
	line, will positively influence consumers perception of the company's CSR image.	supported		
Нзь	The effect of the presence of a product with a sustainability label on CSR image is	Not		
	mediated by perceived social and environmental performance	supported		
H <sub>4a</sub>		Not		
	The introduction of a product with a sustainability label to the mainstream product line, will positively influence consumers general attitude towards the company.	supported		
H <sub>4b</sub>	The effect of the presence of a product with a sustainability label on general attitude	Not		
	towards the company is mediated by perceived social and environmental	supported		
	performance and product quality			
H <sub>5a</sub>	Negative spillover effects from the sustainability label on the mainstream products	Not		
	quality perceptions, will be more pronounced at higher levels of environmental	supported		
	concern.			
H <sub>5b</sub>	Negative spillover effects from the sustainability label on the mainstream products'	Not		
	perceived social and environmental performance, will be more pronounced at higher	supported		
	levels of environmental concern			
H <sub>5c</sub>	Positive spillover effects from the sustainability label on the company's CSR image,	Not		
	will be more pronounced at higher levels of environmental concern	supported		
H <sub>5d</sub>	Positive spillover effects from the sustainability label on the general attitude towards	Supported		
	the company, will be more pronounced at higher levels of environmental concern.			

### 5.0 General Discussion

The growing environmental movement is an opportunity for companies to offer more sustainable products and services (Chen & Chang, 2013). Thus, the sustainability label has become an essential tool in the increasing field of green marketing (Rex & Baumann, 2007).

Researchers suggest that the adaptation of sustainability labels is caused by traditional companies' fear that consumers will question their legitimacy if they are not sustainably certified in the presence of sustainable alternatives (Ingenbleek & Reinders, 2013). Since brands are the most important asset for companies (Keller, 2012), negative associations with products can harm the perception of the mainstream product line (Ingenbleek & Reinders, 2013). This led to the following research question:

Will the introduction of a product with a sustainability label spill over on the perceptions of the mainstream product line, general attitude towards the company, and perceived CSR image?

The results showed that consumers' perceptions of product quality and social and environmental performance of the mainstream product line were not significantly lowered in the presence of a sustainability label. Hence, H<sub>1</sub> and H<sub>2</sub> were not supported. However, the results showed a trend in the theoretically predicted direction, suggesting that consumers are influenced to some degree by the sustainability label, but not enough for it to have a significant impact on their perceptions of the product they usually purchase. Although previous studies also examined similar effects in fast-moving consumer goods, these results may suggest that the effect persists in some products and is absent in others when the product is sold under the same brand name as the mainstream products. Contrary to our beliefs and previous literature, consumers may have lower involvement in the purchase of sunscreen and household cleaning products, which also raises the question of whether the effect is present in other areas where consumers are more involved in their purchases, such as electronic goods, clothing brands, etc.

During a focus group interview, researchers Binnekap and Ingenbleek (2008) found that respondents are generally not impressed by sustainability labels, mainly because their emotions are "turned off" during the purchasing process.

This ultimately leads people to ignore emotional claims such as the Nordic Swan. However, research has also found that some consumers purchase green products even when they are of lower quality than alternative products (D'Souza et al., 2006; Kardash, 1974), which may explain why our label did not have a strong impact on the quality perception of the product usually purchased. Dekhili and Achabou (2014) also suggest that pre-existing brand attitudes influence how consumers respond to a label on a product. Consumers' brand perceptions may influence their preference for sustainability labels; through these perceptions, consumers may be reassured of the reliability of the sustainability label. In our case, participants' weak response to the label could have been caused by the fact that the label evoked the right associations, however, this did not outweigh the positive associations they had for their favourite product, but not enough to set a new relevant point of reference for product evaluations. Similarly, our manipulated product could have caused spillover effects on mainstream products in terms of product quality and social and environmental performance, but not to the extent that they were seen as a worse option.

Another reason may be that consumers are less likely to purchase a green product when they believe that the company intentionally made the product better for the environment than when the same environmental benefit occurred as an unintended side effect (Newman et al., 2014). This is especially evident for household cleaning products as they can be perceived less favourably because consumers believe that companies enhance greenness at the expense of product quality. When participants in our study unexpectedly encountered the green product, it was essentially the same, with the exception that it was intentionally made to be better for the environment. Similarly, research has found that mainstream brands' green offerings can suffer when the product's environmental friendliness is promoted through visual cues at the point of purchase (Wood et al., 2018).

The findings show that there are no statistically significant effects on a consumers' perception of the company's CSR image when in the presence of a sustainability label. Hence, H<sub>3a</sub> was rejected. Consequently, H<sub>3b</sub> demonstrates that perceived social and environmental performance does not have a statistically significant mediating effect on CSR image. This indicates that the sustainability label does not immediately increase consumers' perception of the company's CSR

image nor affect the social and environmental performance to a degree where it has a significant impact on the company's CSR image.

These findings do not support previous literature that found evidence for positive spillover effects for a company's CSR image when in the presence of a sustainability label (Anagnostou et al. 2015). Nor literature that suggests that introducing a sustainability labelled product option can create new and favourable attitudes towards a company and its products (Brown & Dacin, 1997; Chatterjee, 2009). A possible explanation for this could be that participants in our study lacked information about the company of the brand they gave up in the survey. The lack of knowledge could have resulted in difficulty evaluating the company's CSR efforts, leading respondents to answer "neither-nor", as the mean is equal to 4.26 for answers regarding the company's CSR image. This is evident from previous research which found that increased CSR knowledge, in turn, has a positive effect on perceived CSR and corporate reputation (Kim, 2019). Another possible explanation could be that consumers are more likely to punish companies for doing something "bad" rather than to reward them for doing something "good" (Binnekamp & Ingenbleek, 2008; Klein & Dawar, 2004; Sen & Bhattacharya, 2001). This indicates that if the participants had a positive perception of the company, it might not have had an immense impact on the results.

Furthermore, we could not find sufficient support that consumers' general attitude towards the company is positively influenced in the presence of a product with a sustainability label. Hence, H<sub>4a</sub> was rejected. Accordingly, H<sub>4b</sub> shows that perceived product quality and social and environmental performance does not have a statistically significant mediating effect on the general attitude towards the company. These results indicate that the presence of a sustainability label does not notably positively increase consumers' general attitude towards the company.

It is evident from previous findings that consumers show positive attitudes towards a company that cares about the environment (Joyner & Payne, 2002; Mohr & Webb, 2005; Schubert et al. 2010). Accordingly, consumers that experience a company as non-socially responsible may punish the company (Williams & Zinkin, 2008), leading to negative attitudes towards the company (Albus & Ro, 2017). Our findings do not show support to this literature. This might, as aforementioned, be because of respondents' lack of knowledge about the company, as well as their social and environmental performance, and therefore find it difficult to evaluate. This is evident from previous findings, which show

that stakeholders who have knowledge of a company's socially responsible efforts have a greater intent to purchase products from, seek employment with, and invest in the company, rather than those who are unaware of these efforts (Mohr & Webb, 2005; Sen, 2006).

A statistically significant interaction effect was found between the two groups and their level of environmental concern, for  $H_{5a}$  and  $H_{5d}$ . In other words, there was a difference in the mean scores of our dependent variable's product quality and general attitude towards the company, due to the difference in the participants' level of environmental concern. However, the results revealed a discovery we did not expect: The experimental group showed a positive relationship between their environmental concern and their perceptions of the product quality of the products they normally purchase. Ironically, this means that the group with higher environmental awareness rated the product they normally purchase as higher quality after seeing the labelled addition to the product line. In comparison, the control group showed a negative relationship. Thus, the results rejected our hypothesis for  $H_{5a}$ .

There could be several reasons for this paradox: for example, Diamantoplous et. al. (2003) observed that environmental concerns are a key factor in the consumer decision-making process and an important motivator of environmental attitudes (Yadav & Pathak, 2016). Thus, when we asked our participants to think of a product they normally purchase, our environmentally conscious participants may have named a product they consider green. Thus, the introduction of a green option may have shifted their image in a more positive direction and confirmed that the brand they normally purchase is even more environmentally friendly than they originally thought. These results also corroborate the findings of Chatterjee (2009) who found that green line extension added positive association to the parent brands products. Moreover, the majority of the respondents indicated "Jif" (75%) and "Nivea" (20.16%) and "Cliniderm" (16.12%) as the products they usually buy. These brands have in the last years improved their environmental profile (Bryson, 2020; Jif, 2021; Lindahl, 2017; Nivea, 2021; Renere valg, n.d.). Thus, the brand might have had an impact on the results. Furthermore, Lee et al. (2013) found that participants who rated themselves as engaging in environmentally friendly activities were less susceptible to the bias of sustainability labels positively affecting the product's impression, which may explain our results.

Not unexpectedly, we found a positive relationship between participants' environmental concern and their general attitude toward the company in the experimental group. Thus, the results confirm the hypothesis for H<sub>5d</sub>. Moreover, the control group again showed a negative relationship. One explanation for this pattern could be that the higher levels of pro-environmentalism made the participants more likely to be affected than the control group (Schuldt and Schwarz, 2010). Overall, the direction in our results is reminiscent of the findings that consumers show positive attitudes towards companies that care about the environment (Joyner & Payne, 2002; Mohr & Webb, 2005; Schubert et al. 2010) and that have a socially responsible brand image (Brown & Dacin, 1997; Lii & Lee, 2012).

Finally, it should be noted that the conclusions should be viewed in light of the respondents, who were primarily young, environmentally conscious, females rather than the average shopper. Although young adults are considered the primary stakeholders in sustainable consumption (Keeble, 2013; Jain & Gurmeet, 2006), as noted above, research has found that participants who categorized themselves as engaged in environmentally friendly activities were less susceptible to the bias that sustainability labels positively influence product impressions (Lee et al., 2013), which is reminiscent of the weak differences in our study. On the other hand, previous research has found that women are more concerned about sustainability labels than men (Grunert et al., 2014), suggesting that our predominantly female sample should have expressed a stronger effect when confronted with the label. That being said, the results are somewhat ambiguous regarding gender and environmental concern (Chen & Chai, 2010).

### 5.1 Theoretical Implications

This study contributes to the research of green strategies, green line extensions, spillover effects to mainstream products. Through our findings, we have identified that the former confirmed changes in perception when introducing a product with a sustainability label are not strong enough to contribute to an actual change in the perception of the rest of the product line, especially for inedible products that are considered to have strength related attributes.

Based on previous literature that found evidence for spillover effects, the Nordic Swan labelled product should have negatively spilt over to the perceived product quality and social and environmental performance on the mainstream

products in the product line. Although our findings showed a trend towards previous results, we did not find significant differences in these attributes on mainstream products in the presence of a product with the Nordic Swan. This is also evident when consumers evaluate a company's CSR image and the general attitude they have towards the company. These results are reminiscent of Binnekamp and Ingenbleek first study (2008), which showed that a spillover effect of sustainability labels in the consumer perception is unlikely when tested on similar variables.

However, in cases where consumers are environmentally concerned, the perceptions of product quality of the mainstream product line and consumers' general attitude towards the company positively increase. Our study suggests that for consumers with high levels of environmental concern, mainstream brands can potentially benefit from line extensions with sustainability labels because the Nordic Swan product signals that the producer of the mainstream product is legitimate (Anagnostou et al. 2015) and has a socially responsible brand image. As mentioned in the literature review (Section 2.4.3 and 2.4.2), consumers show positive attitudes towards companies that care about the environment (Joyner & Payne, 2002; Mohr & Webb, 2005; Schubert et al., 2010) and have a socially responsible brand image.

## **5.2 Managerial Implications**

Some managers have been concerned that the presence of sustainable alternatives in the market may harm brands that are not labelled as sustainable, as consumers might start questioning the legitimacy of existing, unlabelled brands (Anagnostou et al., 2015; Ingenbleek & Reinders, 2013). However, our findings show that introducing a green product into a mainstream product line might not lead consumers to perceive the existing unlabelled products as negatively as initially thought. Thus, managers do not need to be particularly concerned about negative consumer perceptions for the rest of their product line when exposed to a product with a sustainability label. This finding is especially vital for companies that produce inedible products, as previous findings have shown significant spillover effects for edible goods.

For managers of brand companies, our findings imply an overall positive outcome in terms of positively increasing the general attitude towards the company among young consumers that are highly environmentally concerned.

Notably, these consumers are considered the primary stakeholders in sustainable consumption (Keeble, 2013). However, managers should also consider educating all consumers about their CSR efforts, as more knowledge has shown to create more preferable perceptions of the company (Kim, 2019).

Our findings show a trend towards the introduction of green products diminishing the non-labelled product attributes in the same category. Considering long term implications, by satisfying the demand for socially responsible products, brands should be careful not to erode the value of their mainstream brands by gradually challenging the industry's legitimacy.

Though we did not test for the effects of a sustainability label on competitive advantage, literature shows that adding an eco-label, e.g., the Nordic Swan, is shown to give businesses a competitive advantage (Parida & Wincent, 2019; Sharma & Kushwaha, 2019), as eco-label is one of the significant tools for green marketing (Rex and Baumann, 2007). This is evident when companies begin adhering to the newly introduced norms of bringing the new product under their brand, compared to introducing a new brand (Anagnostou et al., 2015).

### 6.0 Limitations and Further Research

Throughout this study, there are limitations we will address in this section. These limitations might influence and guide further research. Therefore, they are important to acknowledge, as they might restrict the generalizability of our findings.

#### **6.1 Limitations**

Due to resource limitations, the study was conducted on a non-probability convenience sample of 229 respondents. To increase the generalizability (Maholtra, 2010), it could be of future interest to increase the sample size. Further, since we implemented a non-probability convenience sample, it led to an over-representation of young female adults in their mid-twenties (Table 1). This sampling technique results in a sample that is not representative of the general population. This may also have led to skewed results, as the respondents may have the same attitudes or beliefs, thus reduced external validity. Next, using social media as the channel to recruit participants to the main study, with similar demographics as the authors, is also a possible limitation.

The product categories presented to the participants were not directly comparable. We decided to base the package sizes equivalent to what is offered in the store, to increase ecological validity. However, another option would have been to make the package sizes equal across product categories. Further, we did not control for preferences of the products presented in the survey among respondents. Participants with strong positive or negative preferences about the product categories might have affected the final data. Additionally, the study only included two different product categories. For future research, the study could be replicated with a more extensive range of product categories to validate results further. Moreover, the study tested the effect of one third-party label, the Nordic Swan, instead of comparing sustainability labels based on the same underlying scheme, such as EU-ecolabel, Fairtrade, FSC and UTZ. However, we found it most desirable to utilise the label most Norwegian respondents were already familiar with.

In the survey, participants were asked to name the brand they usually purchase; however, it was hard for some participants, especially males, to remember what brand they usually purchase. An alternative would have been to

ask participants to think of a brand and not actively write it down. Moreover, the participants were presented with non-branded product illustrations, although they were asked for perceptions of an actual brand when responding. Thus, the responses might have been affected by the lack of having a visual brand logo, and they might be different if the respondents were exposed to predetermined branded products. To make the experiment more realistic, a solution would be to present a branded product that is already well-established and has a sustainable labelled option in their product line. Additionally, to pre-test the preferences for this brand, as well as familiarity. However, since we wanted to decrease the risk of respondents' absence of brand recognition with the products presented and control for external factors and validity, we chose not to include predetermined branded products.

It is also worth mentioning that the conditions regarding evaluating the company's CSR image and the general attitude towards the company could have been affected by the non-branded products presented. This might have caused confusion when the respondents had no other company to relate to other than one of the brands they were asked to write down at the beginning of the survey. Another limitation regarding these conditions might be that the respondents had limited knowledge about the companies and what they do. Additionally, the construct of CSR image might have been complex for some participants to comprehend, which led to most respondents answering "neither-nor" on these questions.

Lastly, we speculate that the large number of respondents who did not complete the survey (n=134) experienced technical difficulties in question QA (Table 2) because they had to zoom out of the frame in order to continue with the survey. We speculate this as the majority of these respondents answered the question but failed to move on to the scenario questions. In retrospect, to increase internal validity, we could have counteracted this by including a statement guiding the respondents to zoom out of the frame.

### 6.2 Further Research

In this section, we will address intriguing avenues for further research. Future research should investigate the long-term effects of sustainability labels. Our study looked at attitude at one specific moment in time; however, attitude and purchase intentions may change over time and lead to different preferences and

product choices. In line with this, future research should also look into different study designs to measure perceptions and attitude change. For example, we suggest a within-subject design where consumers' attitude towards the mainstream products are measured before exposure to a green product line extension and measured again post-exposure to identify any changes in the perceptions.

We believe that it would be interesting to test the spillover effects against a niche green brand, e.g., compare introductions from a large brand (e.g., Jif) to a brand that only sells environmentally friendly products (e.g. Klar). It will also be interesting to test the effect on different types of products, thus, not only to further investigate the presence of spillover effect for strong products but also the gentle product category. Similarly, previous research has found spillover effects for Fairtrade coffee, suggesting that studying comparisons between edible and inedible everyday purchases could be an interesting approach.

In recent years, brands have started introducing their own sustainability labels to signalise their environmentally friendly actions to the consumer, making it easier to choose more environmentally friendly options in supermarkets. Thus, it could be interesting to test the spillover effects for these labels, as consumers might believe that the sudden introduction of brand-made sustainability labels could attempt to greenwash their consumers. Along this line, future research should test consumers' attitudes towards the label, not only knowledge.

Researchers could add to this study by performing more qualitative research, e.g., a focus group, to get a broader understanding of the concept of spillover effects and the effect it has on consumers in general, especially in terms of green line extensions and green products. Lastly, the study mainly includes Norwegian respondents. Therefore, it could be interesting to replicate this study in other countries to validate the results further.

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### **Appendices**

#### **Appendix A1: Branded Pilot Study Questionnaire**

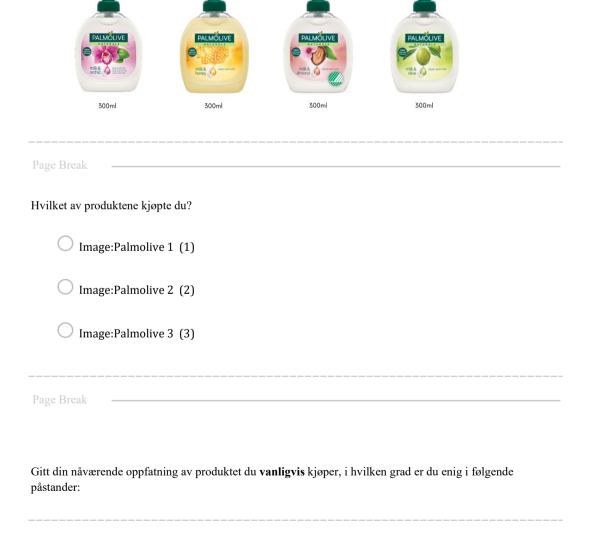
Du kommer nå til å bli presentert for et scenario som beskriver en vanlig handletur. Du vil også bli presentert for fire ulike produktbilder som skal hjelpe deg med å visualisere scenarioet. Det er viktig at du leser teksten og ser på bildene nøye på bildene før du besvarer spørsmålene.

**End of Block: Intro** 

Start of Block: Palmolive med svanemerket Likert

Vennligst les følgende tekst nøye. Se for deg at du går inn i din lokale matbutikk, som du vanligvis gjør. Du ønsker å kjøpe Palmolive håndsåpe. Du ser etter håndsåpen i butikkhyllen og får øye på produktet. Ved siden av dette produktet, oppdager du en annen type Palmolive håndsåpe, men **med Svanemerket**. Du kjøper håndsåpen du **vanligvis** gjør og fortsetter handleturen.

Om Svanemerket: Svanemerket indikerer at produktet er laget med redusert miljøpåvirkning i alle trinn av produksjonen, fra råstoff til ferdig produkt.



	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet er av høy kvalitet (1)	0	0	$\circ$	0	0	0	0
Dette produktet er det overlegende produktet (2)	0	0	$\circ$	$\circ$	0	0	0
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	0	0	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
				Verken			Helt
	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet ble produsert på en miljøvennlig måte (1)	uenig (1)	(4)	(7)	enig eller	(9)	(10)	enig
ble produsert på en miljøvennlig	uenig (1)	(4)	(7)	enig eller	(9)	(10)	enig
ble produsert på en miljøvennlig måte (1) Dette produktet e et samfunnsansvarli	uenig (1)	(4)	(7)	enig eller	(9)	(10)	enig
ble produsert på en miljøvennlig måte (1)  Dette produktet e et samfunnsansvarli produkt (2)  Dette produktet e mer skadelig mo miljøet enn andre	uenig (1)	(4)	(7)	enig eller	(9)	(10)	enig

	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)			
Palmolive er en samfunnsansvarli bedrift (1)	g	0	0	0	$\circ$	$\circ$	0			
Palmolive er opptatt av å forbedre velferder i samfunnet (2)	n O	0	0	0	0	0	0			
Palmolive holder høye etiske standarder (3)	0	0	0	0	0	0	0			
	Helt	(4)	(7)	Verken	(0)	(10)	Helt enig			
	uenig (1)	(4)	(7)	enig eller uenig (8)	(9)	(10)	(11)			
Min helhetlige oppfatning av bedriften er positiv (1)	0	0	0	0	0	0	0			
Mitt helhetlige inntrykk av bedriften er tilfredsstillende (2)	0	0	0	0	0	0	0			
Page Break — Har du hørt om Pal	molive før denn	e undersøkel	lsen?							
O Ja (1)										
O Nei (2)										
Har du hørt om Svanemerket før denne undersøkelsen?  Ja (1)										
Nei (2)										

Har du kjøpt produ	ıkter fra Palmo	live tidligere	?				
O Ja (1)							
O Nei (2)							
End of Block: Pa	lmolive med	svanemerk	et Likert				
Start of Block: Pa	almolive uter	ı svanemer	ket Likert				
Vennligst les følge ønsker å kjøpe Pal håndsåpen du vand som vand vand vand vand vand vand vand vand	molive håndsåj l <b>igvis</b> gjør og f	pe. Du ser ett ortsetter hand	ter håndsåp	en i butikkhylle			
Gitt din nåværende påstander:	e oppfatning av	produktet d	u <b>vanligvis</b>	kjøper, i hvilko	en grad er du	enig i følge	nde
	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet er av høy kvalitet (1)	0	0	0	0	0	0	0
Dette produktet er det overlegende produktet (2)	0	$\circ$	$\circ$	0	0	$\circ$	$\circ$
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	0	0	0	0	0	0	0

	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet ble produsert på en miljøvennlig måte (1)		0	0	0	0	0	0
Dette produktet e et samfunnsansvarli produkt (2)		0	$\circ$	$\circ$	0	0	0
Dette produktet e mer skadelig mo miljøet enn andre produkter (3)	t	0	0	0	0	0	0
Å kjøpe dette produktet er et godt valg for miljøet (4)		0	$\circ$	0	0	0	0
	Helt uenig (1)	(4)	(7)	Verken enig eller	(9)	(10)	Helt enig
Palmolive er en				uenig (8)			(11)
samfunnsansvarli bedrift (1)		$\bigcirc$	$\bigcirc$	$\circ$	$\circ$	$\circ$	$\circ$
Palmolive er opptatt av å forbedre velferde i samfunnet (2)	n O	0	$\circ$	$\circ$	0	0	0
Palmolive holder høye etiske standarder (3)		0	$\circ$	$\circ$	0	0	0
	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Min helhetlige oppfatning av bedriften er positiv (1)	0	0	0	0	0	0	0
Mitt helhetlige inntrykk av bedriften er tilfredsstillende (2)	$\circ$	0	0	0	0	0	0

Page Break ————————————————————————————————————
1 ago Dioux
Har du hørt om Palmolive før denne undersøkelsen?
O ja (1)
O Nei (2)
Har du kjøpt produkter fra Palmolive tidligere?
O Ja (1)
O Nei (2)
End of Block: Palmolive uten svanemerket Likert

Start of Block: Nivea med svanemerket Likert

Vennligst les følgende tekst nøye.

Se for deg at du går inn i din lokale matbutikk, som du vanligvis gjør. Du ønsker å kjøpe Nivea solkrem. Du ser etter solkrem i butikkhyllen og får øye på produktet. Ved siden av dette produktet, oppdager du en annen type Nivea solkrem, men **med Svanemerket**. Du kjøper solkremen du **vanligvis** gjør og fortsetter handleturen.

Om Svanemerket: Svanemerket indikerer at produktet er laget med redusert miljøpåvirkning i alle trinn av produksjonen, fra råstoff til ferdig produkt.



Daga Progle

Hvilket av produkte	ene kjøpte du?						
O Image:Ut	ten svanemerke	e (1)					
O Image:Ut	ten svanemerk	e 2 (2)					
O Image:Ut	ten svanemerke	e 3 (4)					
Page Break —							
Gitt din nåværende påstander:	oppfatning av p	oroduktet du	vanligvis l	kjøper, i hvilker	n grad er du e	enig i følger	nde
	Helt			Verken			Helt enig
	uenig (1)	(4)	(7)	enig eller uenig (8)	(9)	(10)	(11)
Dette produktet er av høy kvalitet (1)	0	0	$\circ$	0	0	0	0
Dette produktet er det overlegende produktet (2)	$\circ$	0	$\circ$	$\circ$	0	0	$\circ$
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	$\circ$	0	0	0	0	0	$\circ$
	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet ble produsert på en miljøvennlig måte (1)		0	0	0	0	0	0
Dette produktet e et samfunnsansvarli produkt (2)		$\circ$	$\circ$	$\circ$	$\circ$	$\circ$	0
Dette produktet e mer skadelig mot miljøet enn andre produkter (3)	t	$\circ$	0	$\circ$	0	0	0
Å kjøpe dette produktet er et godt valg for miljøet (4)	0	0	0	$\circ$	0	0	0

	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Nivea er en samfunnsansvarli bedrift (1)	g	$\circ$	0	0	$\circ$	0	0
Nivea er opptatt av å forbedre velferden i samfunnet (2)		0	0	0	0	0	0
Nivea holder høy etiske standarder (3)	e C	0	0	0	0	0	0
	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Min helhetlige oppfatning av bedriften er positiv (1)	0	0	0	0	0	0	0
Mitt helhetlige inntrykk av bedriften er tilfredsstillende (2)	0	0	0	0	0	0	0
Page Break —							
Har du hørt om Sva	anemerket før de	enne undersø	skelsen?				
○ Ja (1) ○ Nei (2)							

O Ja (1)		
O Nei (2)		
Har du kjøpt produkter fra Nivea	tidligere?	
O Ja (1)		
O Nei (2)		

Start of Block: Nivea uten svanemerket Likert

Har du hørt om Nivea før denne undersøkelsen?

Vennligst les følgende tekst nøye.Se for deg at du går inn i din lokale matbutikk, som du vanligvis gjør. Du ønsker å kjøpe Nivea solkrem. Du ser etter solkremen i butikkhyllen og får øye på produktet. Du kjøper solkremen du **vanligvis** gjør og fortsetter handleturen.




Gitt din nåværende oppfatning av produktet du **vanligvis** kjøper, i hvilken grad er du enig i følgende påstander:

	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet er av høy kvalitet (1)	0	0	0	0	0	0	0
Dette produktet er det overlegende produktet (2)	$\circ$	0	$\circ$	$\circ$	$\circ$	0	0
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	$\circ$	$\circ$	0	0	$\circ$	0	0
	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)
Dette produktet ble produsert på en miljøvennlig måte (1)	0	0	0	0	0	0	0
Dette produktet e et samfunnsansvarli produkt (2)		0	0	0	0	0	0
Dette produktet e mer skadelig mot miljøet enn andre produkter (3)	t o	0	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
Å kjøpe dette produktet er et godt valg for miljøet (4)	0	0	0	0	0	0	0
				Verken			Helt
	Helt uenig (1)	(4)	(7)	enig eller uenig (8)	(9)	(10)	enig (11)
Nivea er en samfunnsansvarli bedrift (1)	g	$\circ$	0	0	$\circ$	0	$\circ$
Nivea er opptatt av å forbedre velferden i samfunnet (2)	0	0	0	0	0	0	0
Nivea holder høye etiske standarder (3)		$\circ$	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$

	Helt uenig (1)	(4)	(7)	Verken enig eller uenig (8)	(9)	(10)	Helt enig (11)	
Min helhetlige oppfatning av bedriften er positiv (1)	0	0	0	0	0	0	0	
Mitt helhetlige inntrykk av bedriften er tilfredsstillende (2)	0	0	0	0	0	0	0	
Page Break —								
Har du hørt om Ni	vea før denne u	ndersøkelsei	n?					
O Ja (1)								
O Nei (2)								
Har du kjøpt produkter fra Nivea tidligere?								
O ja (1)								
O Nei (2)								
End of Block: Niv	vea uten svan	emerket Li	kert					

Start of Block: Environmental concern Likert

Vennligst vurde	r følgende spør	smål:					
	Ikke viktig i det hele tatt (1)	(2)	(3)	Verken viktig eler uviktig (4)	(5)	(6)	Svært viktig (7)
Generelt, hvor viktig er miljøspørsmål for deg? (1)	0	0	0	0	0	0	0
Hvor viktig synes du det er å kjøpe bærekraftige produkter? (2)	0	0	0	0	0	0	0
Hvor viktig er det for deg å sørge for at ditt personlige forbruk ikke påvirker miljøet negativt? (3)	0	0	0	0	0	0	0
	Aldri (1)	(2)	(3)	Verken eller (4)	(5)	(6)	Alltid (7)
Hvor ofte kjøper du bærekraftige produkter? (1)	0	0	0	0	0	0	0
End of Block: F	nvironmenta	l concern Li	kert				

#### Appendix A2: Additional planned questions from pilot study

(These questions were follow-up-questions if the respondents did not initiate these topics themselves).

Is it easy to understand that you are going to evaluate the product you usually purchase and not all the products you are presented with?

In the branded scenario, were your choices affected by the sun factor on the sunscreen bottle or the scent of the hand soap?

When presented with the Nordic Swan, did you think it was strange that you could not select this product to evaluate?

Did you prefer the unbranded version or the branded version of the survey?

We will ask you some questions of the effectiveness of the products. By that we mean how effectively the hand soap will clean your hands and how well the sunscreen will protect your skin from the sun.

- Would you consider hand soap/sunscreen a highly effective product?
- If yes, why would you consider these as highly effective?
- If not, why would you consider these as having low effectiveness?
- If you consider these products as moderately effective, why?
- What would you consider to be a highly effective product that can be purchased at Norwegian supermarkets and why?

# **Appendix B: Illustrated Products Used in Pilot Study**



#### Appendix C: Main Study Questionnaire (all four conditions)

#### Hei og takk for at du tar deg tid til å besvare vår undersøkelse.

Denne undersøkelsen er en del av vår masteroppgave i studieprogrammet Strategisk Markedsføringsledelse ved Handelshøyskolen BI. Du vil nå svare på spørsmål som vil ta ca. 3 minutter. Svarene dine vil forbli anonyme og vi samler ikke inn identifiserbar informasjon som navn, e-post eller IP-adresse. Dataene vil bli håndtert konfidensielt og kun bli brukt i vår masteroppgave. Du ha rett til å trekke deg fra undersøkelsen når som helst. All data vil også bli slettet i etterkant.

Hvis du frivillig godtar å delta i denne digitale spørreundersøkelsen, kan du klikke på knappen nedenfor for å

Dersom du skulle ha spørsmål om undersøkelsen, ta gjerne kontakt med oss på e-post: Amela Ramic info@amelaramic.no og/eller Andrea Skjellet Granerud andreagranerud5@gmail.com Takk igjen for at du ønsker å delta i vår undersøkelse!

Vennlig hilsen Amela & Andrea

starte.
O Jeg godtar at jeg frivillig ønsker å delta i denne digitale spørreundersøkelsen
Page Break ————————————————————————————————————
I denne undersøkelsen vil du bli presentert for et scenario som beskriver en vanlig handletur. Du vil også bli presentert for en illustrasjon som skal hjelpe deg med å visualisere scenarioet. Det er viktig at du leser teksten og ser nøye på bildene før du besvarer spørsmålene.
End of Block: Intro
Start of Block: Universalspray med svanemerket Likert
Hvilket merke av universalspray kjøper du vanligvis? (Velg kun ett merke).
Page Break ————————————————————————————————————
Har du hørt om Svanemerket?
O Ja (1)
O Nei (2)

Vennligst les følgende tekst nøye. Du kan alltid bla deg oppover på siden, dersom du ønsker å gå tilbake til scenarioet.

**Se for deg** at du går inn i din lokale butikk. Du ønsker å kjøpe universalsprayen du vanligvis gjør (den du oppga i forrige spørsmål). Du ser etter universalsprayen i butikkhyllen og får øye på produktet. Ved siden av dette produktet, oppdager du en annen type universalspray fra *samme* merke, men **med sertifiseringen Svanemerket**. Du kjøper din **vanlige** universalspray og fortsetter handleturen.

Om Svanemerket: Svanemerket indikerer at produktet er laget med redusert miljøpåvirkning i alle trinn av produksjonen, fra råstoff til ferdig produkt. (Logoen vises til venstre på bildet nedenfor.)



Gitt din nåværende oppfatning av **produktet** du **vanligvis** kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:

	Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)
Dette produktet er av høy kvalitet (1)	0	0	0	$\circ$	0	0	$\circ$
Dette produktet er det overlegne produktet (2)	0	0	$\circ$	$\circ$	0	0	0
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	0	0	0	0	0	$\circ$	0

		Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)		
Dette produk ble produser en miljøvenr måte (1)	t på	0	0	0	0	0	0	0		
Dette produkt et samfunnsansv produkt (2	arlig	0	0	$\circ$	0	0	$\circ$	$\circ$		
Dette produkt mindre skade for miljøet e andre universalspra (3)	elig enn	0	0	0	0	0	0	$\circ$		
Å kjøpe det produktet er godt valg fo miljøet (4	et or	0	0	0	0	0	0	0		
Gitt din nåværende oppfatning av <b>bedriften</b> som produserer produktet du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:										
		Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)		
Denne bedrifte en samfunnsansv bedrift (1)	arlig	0	0	0	0	0	0	0		
Denne bedrifte opptatt av forbedre velfe i samfunnet	å rden	0	0	0	0	0	0	0		
Denne bedrit holder høye e standarder (	tiske	0	0	$\circ$	0	0	$\circ$	$\circ$		
		elt Uer	nig (2) No		Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)		
Min helhetlige oppfatning av bedriften er positiv (1)		0	0	0	0	0	0	0		

End of Block: Universalspray med svanemerket Likert

Start of Block: Universalspray uten svanemerket Likert

Hvilket merke av universalspray kjøper du vanligvis? (Velg kun ett merke)

Vennligst les følgende tekst nøye. Du kan alltid bla deg oppover på siden, dersom du ønsker å gå tilbake til scenarioet.

**Se for deg** at du går inn i din lokale butikk. Du ønsker å kjøpe universalsprayen du vanligvis gjør (den du oppga i forrige spørsmål). Du ser etter universalsprayen i butikkhyllen og får øye på produktet. Ved siden av dette produktet, oppdager du *andre* velkjente merker av universalspray. Du kjøper din vanlige universalspray og fortsetter handleturen.



Gitt din nåværende oppfatning av **produktet** du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:

\_\_\_\_\_\_

	Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)
Dette produktet er av høy kvalitet (1)	0	$\circ$	$\circ$	0	0	0	0
Dette produktet er det overlegne produktet (2)	0	0	$\circ$	$\circ$	0	0	0
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	0	0	0	0	$\circ$	$\circ$	0

	Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)
Dette produktet ble produsert på en miljøvennlig måte (1)	0	0	0	0	0	0	0
Dette produktet er et samfunnsansvarlig produkt (2)	0	0	0	$\circ$	0	0	0
Dette produktet er mindre skadelig for miljøet enn andre universalsprayer (3)	0	0	0	0	0	0	0
Å kjøpe dette produktet er et godt valg for miljøet (4)	0	0	0	0	0	0	0

Gitt din nåværende oppfatning av **bedriften** som produserer produktet du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:

Verken

	Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)
Denne bedriften er en samfunnsansvarlig bedrift (1)	0	0	0	0	0	0	0
Denne bedriften er opptatt av å forbedre velferden i samfunnet (2)	0	0	0	0	$\circ$	0	$\circ$
Denne bedriften holder høye etiske standarder (3)	0	0	0	0	$\circ$	0	0

	Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)					
Min helhetlige oppfatning av bedriften er positiv (1)	0	0	0	0	0	0	0					
End of Block: Universalspray uten svanemerket Likert												
Start of Block:	Solkrem me	ed svanemerk	et Likert									
Hvilket merke a	av solkrem kj	øper du vanliş	gvis? (Velg ku	n ett merke)								
Page Break												
Har du hørt om	svanemerket	?										
O Ja (1	)											
O Nei (	(2)											
Page Break												

Vennligst les følgende tekst nøye. Du kan alltid bla deg oppover på siden, dersom du ønsker å gå tilbake til scenarioet.

**Se for deg** at du går inn i din lokale butikk. Du ønsker å kjøpe solkremen du vanligvis gjør (den du oppga i forrige spørsmål). Du ser etter solkremen i butikkhyllen og får øye på produktet. Ved siden av dette produktet, oppdager du en annen type solkrem fra *samme* merke, men **med sertifiseringen Svanemerket**. Du

kjøper din vanlige solkrem og fortsetter handleturen.

Om Svanemerket: Svanemerket indikerer at produktet er laget med redusert miljøpåvirkning i alle trinn av produksjonen, fra råstoff til ferdig produkt. (Logoen vises til venstre på bildet nedenfor.)



\_\_\_\_\_

Gitt din nåværende oppfatning av **produktet** du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:

	Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)
Dette produktet er av høy kvalitet (1)	0	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$	0
Dette produktet er det overlegne produktet (2)	0	0	0	0	0	0	0
Dette produktet er bedre enn et gjennomsnittlig produkt (3)	0	0	0	0	0	0	0

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		Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)		Enig (6)	Helt enig (7)		
Dette produk ble produser en miljøvenr måte (1)	t på	0	0	0	0	0	0	0		
Dette produkt et										
samfunnsansv produkt (2	)									
Dette produkt mindre skade for miljøet e andre solkrei (3)	elig enn	0	0	0	0	0	0	0		
Å kjøpe det produktet er godt valg fo miljøet (4	et or	0	0	$\circ$	0	0	0	0		
Gitt din nåværende oppfatning av <b>bedriften</b> som produserer produktet du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:  Helt Noe Verken Noe Franco Helt										
		uenig (1)	Uenig (2)	uenig (3)	enig eller uenig (4)	enia (5)	Enig (6)	enig (7)		
Denne bedrift en samfunnsansv bedrift (1)	arlig	0	0	0	0	$\circ$	0	0		
Denne bedrifte opptatt av forbedre velfe i samfunnet	å rden	0	0	$\circ$	0	0	0	0		
Denne bedrit holder høye e standarder (	tiske	0	0	$\circ$	0	0	0	$\circ$		
		elt g (1) Ue	nig (2) No	e uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)		
Min helhetlige oppfatning av bedriften er positiv (1)		0	0	0	0	0	0	0		

Page Break ————————————————————————————————————	
Start of Block: Solkrem uten svanemerket Likert	
Hvilket merke av solkrem kjøper du vanligvis? (Velg kun ett merke)	
Page Break	

Vennligst les følgende tekst nøye. Du kan alltid bla deg oppover på siden, dersom du ønsker å gå tilbake til scenarioet.

**Se for deg** at du går inn i din lokale butikk. Du ønsker å kjøpe solkremen du vanligvis gjør (den du oppga i forrige spørsmål). Du ser etter solkremen i butikkhyllen og får øye på produktet. Ved siden av dette produktet, oppdager du *andre* velkjente merker av solkrem. Du kjøper din vanlige solkrem og fortsetter handleturen.



Gitt din nåværende oppfatning av **produktet** du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:

uenig (1)	Uenig (2)	Noe uenig (3)	enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)
$\circ$	$\circ$	0	0	$\circ$	0	$\circ$
0	0	0	0	0	0	0
0	0	0	0	0	0	0
	uenig (1)	uenig (1) Cenig (2)	uenig (1) Uenig (2) uenig (3)			

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		Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)			
Dette produl ble produser en miljøven måte (1)	t på	0	0	0	0	0	0	0			
Dette produkt et samfunnsansv produkt (2	arlig	0	$\circ$	0	0	$\circ$	0	$\circ$			
Dette produkt mindre skade for miljøet e andre solkret (3)	elig enn	0	0	0	0	0	0	0			
Å kjøpe det produktet er godt valg f miljøet (4	et or	0	0	0	0	0	0	0			
Gitt din nåværende oppfatning av <b>bedriften</b> som produserer produktet du vanligvis kjøper (det du oppga tidligere), i hvilken grad er du enig i følgende påstander:											
		Helt uenig (1)	Uenig (2)	Noe uenig (3)	Verken enig eller uenig (4)		Enig (6)	Helt enig (7)			
Denne bedrift en samfunnsansv bedrift (1)	arlig	0	0	0	0	0	0	0			
Denne bedrift opptatt av forbedre velfe i samfunnet	å erden	0	0	0	0	0	0	0			
Denne bedrif holder høye e standarder (	tiske	0	0	0	0	0	0	0			
		elt g (1) U	enig (2)		Verken enig eller uenig (4)	Noe enig (5)	Enig (6)	Helt enig (7)			
Min helhetlige oppfatning av bedriften er positiv (1)		0	0	0	0	0	0	0			

End of Block: Solkrem uten svanemerket Likert

Start of Block: Environmental concern Likert

Vennligst vurder	følgende	spørsmål:

	Ikke viktig i det hele tatt (1)	Ikke viktig (2)	Noe uviktig (3)	Verken viktig eller uviktig (4)	Noe viktig (5)	Viktig (6)	Svært viktig (7)
Generelt, hvor viktig er miljøspørsmål for deg? (1)		0	0	0	0	0	0
Hvor viktig synes du det er å kjøpe bærekraftige produkter? (2)	synes du det er å kjøpe bærekraftige produkter?		0	0	0	$\circ$	0
Hvor viktig er det for deg å sørge for at ditt personlige forbruk ikke påvirker miljøet negativt? (3)		0	0	0	0	0	0
På en skala fra	1-7 hvor 1=ald 1 (Aldri) (1)	lri og 7=alltid, 2 (3)	hvor ofte kjø 3 (4)	øper du bærek 4 (5)	rraftige produl	kter? 6 (9)	7 (Alltid) (10)
1 (1)	0	0	0	0	0	0	0
End of Block:			kert				
Start of Block:  Hvor gammel e						_	

Kjønn	
O Kvinne	(1)
O Mann	(2)
O Ikke bir	nært (3)
O Ønsker	ikke å oppgi (4)
Hvilke av de følg	ende kategoriene beskriver din arbeidsstatus? (Kryss av på alle som gjelder deg)
	Student (1)
	Jobber fulltid (2)
	Jobber deltid (3)
	Ikke i arbeid (4)
	Pensjonert (5)
	Annet (6)
Bosted	
▼ Viken (1) B	or ikke i Norge (12)

# **Appendix D: Factor Analysis**

## **Appendix D1: Anti-Image Matrices**

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q12	Q13	Q14	Q15
Q1	0.628	·		·	·		·	·	·	·	·	·		
Q2	-0.162	0.382												
Q3	-0.061	-0.240	0.444											
Q4	-0.019	-0.013	0.011	0.221										
Q5	-0.034	0.003	-0.001	-0.095	0.234									
Q6	0.056	-0.017	-0.024	-0.073	-0.041	0.191								
Q7	-0.009	-0.004	0.020	-0.016	-0.050	-0.120	0.249							
Q8	-0.017	-0.040	0.006	-0.035	-0.041	0.013	0.008	0.373						
Q9	0.050	0.003	-0.053	-0.003	0.019	0.012	-0.029	-0.169	0.386					
Q10	-0.079	0.019	0.014	0.003	-0.035	-0.005	0.017	-0.093	-0.177	0.457				
Q12	0.025	-0.030	0.004	0.014	-0.013	-0.028	0.046	-0.020	-0.007	0.041	0.314			
Q13	-0.004	-0.012	0.018	-0.013	0.002	0.043	-0.043	0.024	-0.014	-0.033	-0.177	0.239		
Q14	0.022	0.036	-0.038	-0.040	0.024	-0.005	0.014	-0.024	0.047	-0.007	-0.041	-0.127	0.372	
Q15	-0.078	0.053	-0.060	-0.003	-0.016	0.001	0.006	0.000	-0.050	0.016	-0.003	-0.031	-0.148	0.663
Q1	.825ª													
Q2	-0.330	.781ª												
Q3	-0.115	-0.584	.788ª											
Q4	-0.051	-0.045	0.036	.894ª										
Q5	-0.089	0.009	-0.002	-0.417	.905ª									
Q6	0.163	-0.063	-0.082	-0.353	-0.194	.824ª								
Q7	-0.023	-0.013	0.059	-0.067	-0.208	-0.548	.853ª							
Q8	-0.036	-0.105	0.015	-0.123	-0.139	0.049	0.027	.881ª						
Q9	0.101	0.009	-0.128	-0.009	0.064	0.043	-0.093	-0.445	.807ª					
Q10	-0.147	0.046	0.031	0.009	-0.108	-0.016	0.050	-0.225	-0.422	.857ª				
Q12	0.056	-0.088	0.012	0.053	-0.047	-0.115	0.164	-0.058	-0.019	0.108	.725ª			
Q13	-0.010	-0.039	0.055	-0.055	0.008	0.201	-0.177	0.081	-0.047	-0.100	-0.647	.687ª		
Q14	0.046	0.095	-0.094	-0.141	0.081	-0.020	0.047	-0.066	0.125	-0.018	-0.121	-0.426	.795ª	
Q15	-0.122	0.105	-0.110	-0.008	-0.041	0.003	0.015	0.000	-0.100	0.029	-0.006	-0.077	-0.298	.866ª

a. Measures of Sampling Adequacy(MSA)

**Appendix D2: Total Variance Explained** 

Total Variance Explained

		Initial Eigenvalues						
Component	Total	% of Variance	Cumulative %					
1	5.243	37.453	37.453					
2	2.713	19.379	56.831					
3	1.603	11.452	68.283					
4	1.275	9.108	77.392					
5	0.689	4.919	82.311					
6	0.579	4.132	86.443					
7	0.357	2.552	88.995					
8	0.336	2.397	91.392					
9	0.283	2.020	93.412					
10	0.249	1.780	95.193					
11	0.217	1.548	96.741					
12	0.182	1.300	98.041					
13	0.159	1.133	99.174					
14	0.116	0.826	100.000					

Extraction Method: Principal Component Analysis.

**Appendix D3: Rotated Component Matrix** 

Rotated Component Matrix <sup>a</sup>										
_	Component Loading									
	Product Quality	Social and Environmental Performance	CSR image	Environmental Concern						
Q1	0.060	0.024	0.176	0.765						
Q2	0.252	0.065	0.137	0.849						
Q3	0.170	0.108	0.146	0.829						
Q4	0.862	0.139	0.244	0.178						
Q5	0.853	0.055	0.276	0.187						
Q6	0.927	-0.022	0.122	0.133						
Q7	0.898	-0.001	0.154	0.100						
Q8	0.328	0.105	0.775	0.235						
Q9	0.182	0.083	0.866	0.164						
Q10	0.194	0.069	0.847	0.137						
Q12	-0.010	0.875	0.009	0.043						
Q13	0.007	0.916	0.068	0.018						
Q14	0.061	0.884	0.014	0.005						
Q15	0.070	0.645	0.153	0.138						

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations.

# Appendix E: Levene's Test of Equality of Error Variances for the Dependent Variables. Product Quality. Social and Environmental Performance, CSR image, and General Attitude Towards the Company

Levene's Test of Equality of Error Variances for the Dependent Variables. Product Quality. Social and Environmental Performance, CSR-image and General attitude towards the company

		Levene Statistic	df1	df2	Sig.
PQ	Based on Mean	0.649	3	225	0.584
SE	Based on				
CSR	Mean Based on	2.582	3	225	0.054
	Mean	1.800	3	225	0.148
General Attitude	Based on Mean	1.232	3	225	0.299

# **Appendix F: Model Summary**

# Model summary

Dependent Variable	Independent Variable	Model		R	R Square	Adjusted R Square	F Change
Product Quality	The Nordic Swan EC The Nordic Swan*EC		1	.210	.044	.031	3.466
General Attitude	The Nordic Swan EC The Nordic Swan*General Attitude		1	.241	.058	.046	4.630
Social and Environmental Performance	The Nordic Swan EC The Nordic Swan*General Attitude		1	.104	.011	002	.826
CSR image	The Nordic Swan EC The Nordic Swan*General Attitude		1	.166	.027	.014	2.116