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Master Thesis

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When a brand adds an ecolabel - is it worth it?

"What effect does issuing a brand-made carbon-footprint label have on the perceived product quality, brand attitude and purchase intention of the consumer?"

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Maiken Eilen Eltoft and Vigdis Bonvik-Stone

Summary

This thesis examines the effect of a brand-issued carbon label on brand attitude, purchase intention and perceived product quality on the consumer. These effects are hypothesized to be moderated by the perceived fit between the eco-labeled pre-packaged meals and the product category (vice or virtue). Based on the literature, we argue that virtue foods have a better fit with eco-labeled foods, and therefore the ecolabel would have a significant positive effect on brand attitude and perceived product quality. Due to the low fit between the vice product category and eco-labeled food, we hypothesize a negative effect on brand attitude and perceived product quality. Further, we hypothesize that brand attitude and perceived product quality both significantly affect purchase intention.

The thesis provides insight to the changes in consumer responses, and contrary to our hypotheses, finds that even though brand attitude and perceived quality both are positive and significant, the consumers do not reward the company with significantly higher purchase intentions. The hypotheses about fit are also disregarded, as both vice and virtue foods gained positive and significant effects on brand attitude and perceived product quality when the label was included.

For marketing managers, and other strategic decision-makers in a company, our findings indicate that investing in an ecolabel does not immediately contribute to higher sales. However, there might be other benefits that surpass the quick reward of purchase intention the moment the ecolabel is introduced. As perceived product quality increases when the ecolabel is placed on the product, the brand status might be elevated in the mind of the consumer, and the ecolabels' positive effect on brand attitude could be an asset for the brand.

Depending on the managers' strategic goals, an ecolabel may or may not be a good investment for the brand, as the return on investment cannot be found in the immediate purchase intention, but rather in a general heightened appraisal of the brand and the perceived product quality. However, as is so often the case with marketing efforts, branding is a long game, and it is often hard to instantly quantify the results and return on investment.

1.0 Introduction

In the autumn of 2019, the Norwegian food brand Toro introduced a new ecolabel on a range of pre-packaged dinners, to indicate the products' low-carbon footprint. The goal was to "make it easier to choose climate-friendly foods in the supermarket" (Berg, 2019). In the same period, Yara, together with IBM, Danonne and Lantmännen, announced that they were also working on a label for marking the carbon footprint of groceries (Krekling, 2019). It has been found that a majority of Norwegian consumers agree with the fact that certification labels facilitate better choices in grocery stores, and that such labels are an important tool in making considered food choices. In fact, as much as two out of three consumers stated that they were affected by labels when making food choices in the supermarket (Heidenstrøm, Jacobsen, & Borgen, 2011).

In the past, other brands have issued their own types of ecolabels, such as Mondelez's "Cocoa Life" and Nespresso's "Nespresso AAA Sustainable Quality". This indicates that there may be commercial gains in issuing a brand-owned ecolabel. Some literature argues that such self-declarations are perceived less favorably by consumers than third-party certifications (e.g., Horne, 2009), because self-declarations are less credible due to the absence of a guarantee from an external body (e.g., Thøgersen, 2000; D'Souza, Taghian, & Lamb, 2006). However, others have found that company-issued ecolabels can be equally effective as independent third-party certification (e.g. Bougherara & Piguet, 2009), especially if issued by a well-known brand. The argument being that when consumers have positive associations to a brand, for example that it is responsible, competent or trustworthy, they judge the information conveyed by this brand to be credible (Dekhili & Achabou, 2014).

Previous research has found positive impact of low-carbon self-declarations on purchasing behavior in grocery stores (Vanclay et al., 2011), and in general, ecolabels have been found to increase purchase intentions (e.g. Young, Hwang, McDonald & Oates, 2010), perceived quality (e.g. Carpenter & Larceneux, 2008) and product preference (e.g. Sörqvist et al., 2013). This suggests that the Toro-issued carbon label might have positive effects on consumers in the marketplace. However, there is reason to believe that the impact of an ecolabel will be moderated by the perceived fit between the product category and the ecolabel. Since eco-

labeled foods are commonly perceived by the general public to be healthy and environmentally friendly (Tregear, Dent, & McGregor, 1994), such claims are more congruent with healthy than unhealthy foods (Van Doorn & Verhoef, 2011).

As brands are investing considerable resources in issuing self-made ecolabels, there is a need to better understand how (and if) consumers are affected by this type of on-pack information. In this thesis we present a study investigating consumer responses to an ecolabel on brand attitude, purchase intention and perceived product quality. Does such a label trigger the consumers to act in the way the company hopes and expects? In other words, do consumers reward companies for labeling their products as low-carbon emission?

In cooperation with Toro, we investigate the effects on issuing a brand-owned ecolabel on overall brand attitude, purchase intention and perceived product quality, moderated by the perceived fit between the product category and ecolabel.

This brought us to ask the following research question:

"What effect does issuing a brand-made carbon-footprint label have on the perceived product quality, brand attitude and purchase intention of the consumer?"

2.0 Literature Review

The literature review aims to guide the reader through ecolabeling as a concept, and then introduce the literature which generates each hypothesis. The focus of our research is a carbon ecolabel, and what effect it has on brand attitude, perceived product quality and purchase intention. The literature further reviews these concepts in the light of product fit.

The literature about carbon labeling is limited, so in order to learn about the effects of labeling, the literature review covers different types of labels. We assess that different types of health labels and ecolabels share common goals of communication, and often common associations. For example, Röös and Tjärnemo (2011) argue that altruism, ecology and universalism are values often associated with consumers of organic food, and that these underlying values should be common to the purchase of both organic- and carbon-labeled food products. Other authors have also emphasized that positive attitudes towards environmental issues have been found to positively correlate with the purchase of organic-labeled food (e.g. Grunert & Juhl, 1995). This shared environmental concern deems it realistic to assume that much of what is true for purchasing behavior for organic-labeled products, will also be true for carbon-labeled products.

2.1 Ecolabels

Ecolabels can be defined as "any symbol appearing on product packaging that seeks to inform consumers that a particular product is in some significant way less harmful to the environment than purchase alternatives" (Tang, Fryxel & Chow, 2004, p. 87), or simply as "a logo that indicates that a product or company has met a standard" (Poret, 2019, p. 1).

As sustainable products increase decision-making complexity (Branch, Walch & Shaw, 2018), ecolabels inform consumers of the environmental quality of goods, the production process and the quality of the products' hidden attributes (Brécard, 2014). Due to the fact that consumers cannot verify these green attributes directly, they must rely on signals such as ecolabels to authenticate the claims (Atkinson &

Rosenthal, 2014). This may reduce consumers' risk perceptions and further guide their decision-making (Teas & Agarwal, 2000; Brach et al., 2018).

Product attributes such as “eco friendliness” are called credence qualities in information economics. Credence qualities are hidden and hard for the customer to verify (Janssen & Hamm, 2012), and involve a high level of uncertainty from the consumer perspective (Darby & Karni, 1973). Such qualities can be exploited, and opportunistic behavior has been adopted by some companies as a legitimization strategy, by over-claiming the “greenness” of new launches (Truong & Pinkse, 2019). Scandals such as the 2015 Volkswagen diesel emissions fraud appear to illustrate a broad underlying reality — that companies are happy to flaunt their supposed green credentials even as they seek to game the system (Mitchell, 2020).

2.1.1 Categories of Environmental Labelling

There are different categories of environmental labelling (D'Souza et al., 2006). Product labelling can be either voluntary or mandatory, depending on the regulations for the product category (Horne, 2009). Labels can further be separated in first- and third-party verification (US EPA, 1998). First-party verification is performed by marketers on their own behalf to promote positive attributes of their product (Rubik & Frankl, 2005; 2017). Third-party verification is carried out by an independent source that awards products with labels, based on certain environmental criteria (Rubik & Frankl, 2005; 2017). Since consumers may question the validity of information provided by firms themselves, third-party certification provides the assurance of an objective evaluation of the product’s quality attributes. In this way, certifications help firms form credible claims (Golan, Kuchler, Mitchell, Greene & Jessup, 2001).

The International Organization for Standardization (ISO) has developed three types of voluntary labels. Type I is a multiple criteria-based third-party program that awards a license indicating the overall environmental preferability of a product in a category (ISO 14024:2018), such as the Nordic Swan. Type II labelling consists of informative environmental self-declaration claims or symbols regarding products made by retailers likely to benefit from the claim without independent third-party certification (ISO 14021:2016). Type III labelling is primarily intended for use in

business-to-business communication, and provides quantified environmental data for a product, under pre-set categories of parameters set by a third party and is verified by that, or another qualified third party (ISO 14025:2006). Ecolabels assist in identifying products as less harmful to the environment within a specific category and have traditionally been classified as a type I label, as they have been determined independently by an impartial third party to meet certain transparent environmental criteria (Global Ecolabelling, 2019).

The Toro-issued ecolabel, "Klodemerket" falls somewhere between a type II and a type III label, as it is a first-party self-declaration claim regarding products made by retailers but supported by the third-party RISE Research Institute. Klodemerket is a label which aims to communicate a product's low-carbon footprint and aims to help consumers be aware of how their choice of product or service contributes to the emission of greenhouse gases. The goal with such carbon-footprint labels is to help consumers contribute towards the fight against global warming through their product selection (Kimura et al., 2010).

Figure 1: Overview of Ecolables

2.2 Brand Attitude

Brand attitudes are a key component of brand image and brand equity (Keller, 1993), and play a vital role in driving a brand's success (Aaker & Jacobson, 2001). Brand attitudes represent the summary of a consumer's evaluation of a brand (Wilkie, 1994), and often form the basis for consumer behavior such as brand choice (Keller, 1993) and purchase intention (Rossiter, 2012). Brand attitudes relate to beliefs about product-related attributes and benefits, both functional and experiential (Zeithaml, 1988), as well as non-product-related attributes, such as symbolic and emotional benefits (Percy & Rossiter, 1997).

To measure brand attitude, researchers have suggested different multiple-attribute models. Perhaps the most famous, The Expectancy Value Model, was proposed by

Fishbein and Ajzen (1975; 1980). In this model, brand attitudes consist of three elements: product attributes relevant to the customer, the extent to which the customer believes the brand possesses these attributes, and lastly, customer evaluation of these attributes or how good/bad they consider it to be that the brand possesses these attributes. More specifically, brand attitude is represented by the sum of brand beliefs and attribute evaluations. MacKenzie (1986) suggests that the "evaluative judgment" component of the model (i.e., consumer perceptions of the favorability of an attribute) is both conceptually and empirically related to attribute importance. Fishbein and Ajzen (1975, p. 228) write, “attributes that are important are typically evaluated more positively or negatively (i.e., are more polarized) than attributes that are unimportant.” In other words, consumers are unlikely to view an attribute or benefit as very good or very bad if they do not also consider it to be important. Therefore, it is difficult to create a favorable association for an unimportant attribute (Keller, 1993). As the concern for the environment is growing in the general Norwegian public (Aasen & Vatn, 2018), it can be assumed that environmentally friendly product attributes are evaluated as more important and can therefore be a part of creating favorable brand associations. In fact, it has been found that consumer attitude towards the environment contributes significantly to their attitude towards green products (Chen & Chai, 2010).

Even though brand attitudes are relatively enduring, they can be influenced through various marketing actions (Keller & Lehmann, 2006), such as the introduction of green products to a brand portfolio (Olsen, Slotegraaf & Chandukala, 2014), or a new green brand element, such as a label, to reinforce a specific brand identity or change brand associations (Keller, 2013). Changes in brand attitude can be defined as “any change in consumers’ evaluation of an object of thought, which includes forming new evaluations toward a brand or object” (Glaser et al., 2015, p. 258).

2.2.1 Labelling as a Marketing Tool

As consumers are increasingly aware of social and environmental issues, firms are taking advantage of the green trend in favor of more environmentally and socially responsible products and services (Chen & Chang, 2013). Ecolabels have thus become a significant tool within the field of green marketing (Rex & Baumann, 2007), and help marketers differentiate their offerings in the mind of the consumer

(Bougherara & Piguet, 2009). Consumer knowledge about labels (e.g., Grunert, Hieke, & Wills, 2014; Laroche, Bergeron & Barbaro-Forleom, 2001; Auger, Devinney, Louviere, & Burke, 2008) and the standards they are based on, can play a significant role in influencing purchase decisions (e.g., McEachern & Warnaby, 2008; Brécard, 2014). Janssen and Hamm (2012, p. 21) write that "for a certification scheme to be successful, consumer awareness of the corresponding logo and positive attitudes towards the underlying scheme are of crucial importance". Ecolabels are thus the most effective on eco-conscious customers who know of, recognize, and like the label. In a similar manner, it has been found that when consumers have a positive attitude towards the labeled attribute, it increases product liking when the label is placed on the product (Aaron, Mela & Evans, 1994).

However, labels also affect consumers who lack knowledge of the label attributes (e.g. Heidenstrøm, et al., 2011). Sörqvist et al. (2013) found that "eco-friendly" coffee was perceived as better tasting than "normal coffee", even though the participants of the study were never informed of what made the coffee eco-friendly. The findings were especially prominent in participants who scored highly on eco-consciousness. These findings might be due to a type of "halo-effect" called "the ecolabel effect", whereby consumers of eco-labeled foods may rate the taste of the food, as well as other judgmental dimensions, higher than non-labeled foods (Sörqvist et al., 2015). The ecolabel effect might also affect other perceptions than taste, for example, organic-labeled products have been found to increase perceptions of health and environmental friendliness (Tregear, et al., 1994), as well as an increase in perception of product quality (Carpenter & Larceneux, 2008). Especially eco-conscious consumers have been found to experience both increased perceived quality and purchase intention towards green products (Sun, Teh, & Linton, 2018).

Still, labels can affect all consumers, and a majority of consumers have been found to prefer labeled products instead of unlabeled ones, as an indication of environmental quality (e.g., Heidenstrøm, et al., 2011). This can be because when deciding between equivalent brands, consumers take the environmental or social performance of the products into account to guide their choice (Peattie, 1999). Kardash (1974) made the point that when faced with a choice between two products that are identical except that one is environmentally superior; most would

differentiate in its favor. However, it should be mentioned that some authors (e.g. D'Astous & Legendre, 2009) indicate that some consumers reject the responsible behavior movement. This rejection could be because responsible initiatives can impact negatively on economic and social variables that are important to consumers (Dekhili & Achabou, 2014).

Also, pre-existing brand attitudes can affect how consumers respond to a label on a product. Dekhili and Achabou (2014) suggest that a brand's image can affect the consumer's preference for ecolabels, because the brand's image can reassure consumers regarding the reliability of the eco-labeling. This is a result of the fact that when consumers have positive associations with the brand, for example that it is responsible, competent or trustworthy, they judge the information conveyed by this brand to be credible.

To summarize, ecolabels are a powerful marketing tool, which can change brand attitudes. Further, as the general consumer is becoming increasingly more aware of environmental issues, green product attributes such as ecolabels might become more important for consumers, and positively affect the customers' evaluation of the brand. Therefore, we hypothesize that if a fast-moving-consumer-goods brand issues an ecolabel as a cue of product greenness, the introduction of the new ecolabel will have a positive influence on brand attitude.

H1: A new ecolabel introduction has a positive influence on the brand attitude.

2.3 Perceived Product Quality

In marketing, customers' perceptions of quality are vital (Parasuraman, Zeithaml, & Berry 1985). However, quality is a complex and multi-faceted concept that is often viewed differently (Garvin, 1984), and researchers in business have largely given up on a single definition of quality (Golder, Mitra & Moorman, 2012). Zeithaml (1988, p. 4) notes that "objective quality may not exist because all quality is perceived by someone". Garvin (1984) emphasizes consumers' judgement in product quality assessment and notes perceived quality as one of several dimensions of overall quality. While quality is a multidimensional concept that cannot be easily

defined or measured, a distinction can be made between objective quality and perceived quality (Tsiotsou, 2005). Objective product quality corresponds to the actual technical excellence of the product, as measured by standardized techniques and experts (Steenkamp, 1989). Perceived quality can on the other hand be defined as "the consumer's judgement about the superiority or excellence of a product" (Zeithaml, 1988, p. 5), and is similar to attitude in that it goes beyond objective and practical qualities (Zeithaml, 1988). This definition resembles Olshavsky (1985) view of perceived quality as an overall evaluation of a product, similar to an attitude. However, Garvin (1984) argues that quality is close to impossible to define from a consumer's standpoint without knowing the context to which one is referring. Castleberry and McIntyre (1992, p. 75.) propose the following consumer centric definition: "quality is a belief about the degree of excellence of a good or service that is derived by examining, consciously and/or unconsciously, relevant cues that are appropriate and available, and made within the context of prior experience, relative alternatives, evaluation criteria, and/or expectations".

Expected quality is based on perceived quality cues, which may be intrinsic or extrinsic (Grunert, Larsen, Madsen & Baadsgaard, 1995). Intrinsic attributes are qualities that imbue the product with its functionality and relate to its physical aspect (Brečić, Mesić & Cerjak, 2017). Further, intrinsic attributes relate to credence properties, such as the environmental friendliness of a product (Darby & Karni, 1973), as well as search and experience properties (Nelson, 1970; 1974). Extrinsic attributes strongly associate with the product (Brečić et al., 2017), and refer to for example price, brand name, advertising and labeling (Olson & Jacoby, 1972). For this thesis we focus on ecolabels as an extrinsic attribute, which functions as a quality cue prior to experiencing the product.

Consumers often need to have a sufficient amount of know-how in order to evaluate the quality of a specific product and are unable to evaluate the quality of pre-packaged meals until they have been consumed (Jover, Montes & Fuentes, 2004). Therefore, consumers use extrinsic cues such as brand imagery formed by previous experiences, advertising (Keller, 2013), visual cues, or characteristics implied through labeling, for expected quality assessments prior to consumption (Veale, Quester, Karunaratna, 2006). Both favorable brand and store information positively influenced perceptions of quality (Dodds, Monroe & Grewal, 1991), and consumers

often choose a label according to the image it conveys, rather than the intrinsic quality it guarantees (Brécard, 2014). As a matter of fact, in some situations, actual product attributes are discounted in favor of extrinsic cues believed by consumers to be more reliable than their own opinions (Kardes, Cronley, Kellaris & Posavac, 2004; Monroe, 1976; Teas & Agarwal, 2000). Accordingly, we propose the following hypothesis:

H2: A new ecolabel introduction has a positive influence on the perceived product quality.

2.4 Purchase Intention

The inclination to buy a product is referred to as purchase intention (Lakshmi & Kavida, 2016), and reflects consumer intentions to buy products or services based on their attitudes and emotions (Phau, Teah & Chuah, 2015). Attitudes are important predictors of behavior and behavioral intentions (e.g. Kalafatis, Pollard, East, & Tsogas, 1999) and are learned predispositions to respond to an object or class of objects in a consistently favorable or unfavorable way (Allport, 1935). Purchase intentions are formed by the effect of the consumers attitude toward the brand and their confidence in their judgement of its quality. Therefore, these are crucially important links in persuading a customer to purchase (Howard, 1994).

In the next two sections we first explore ecolabels as corporate social responsibility activities, and the effect brand attitude has on purchase intention. Then, we shift the focus to a product level, and explore the relationship between perceived quality and purchase intention, in the context of eco-labeled products.

2.4.1 Purchase Intention and Brand Attitude

In this thesis we follow the definition for brand attitude as the summary judgments and overall evaluations to any brand-related information (Keller, 2003). Brand attitude forms the basis for consumer shopping behavior and is determined by the importance and relevance of the brand’s attributes and benefits (Keller, 1993). Therefore, brand attitude can be used to predict consumers' responses to marketing

activities (e.g., Howard, 1994), such as purchase intention and market share (e.g., Arjun, 1999). Purchase intention and brand attitude are closely related (Keller, 2013), and some research includes perceived quality as a part of the construct "Overall Brand Evaluation" (e.g. Sirianni, Bitner, Brown & Mandel, 2013). However, Spears and Singh (2004) confirm that brand attitude and purchase intention are separate, but highly correlated concepts. The argumentation for this is that brand attitude is a summary of all evaluations about the brand, and purchase intention is the behavioral attitude of the customer. In other words, purchase intention is not the feeling the customer has toward a brand, but rather the motivation for an action they intend to perform (Ramesh, Saha, Goswami & Dahiya, 2019).

When consumers make buying decisions, they evaluate the brands available to them in their consideration set and form an intention to buy the preferred brand that meets the relevant needs (Keller & Kotler, 2012). Research has found that consumers' attitude towards the brand can affect purchase intention (e.g. Sicilia, Ruiz & Reynolds 2006; Keller, 2013; Jung & Seock, 2016), and for most product categories a favorable attitude to the brand is generally required for a buyer to consider making a purchase (Rossiter & Percy, 1992). However, a favorable attitude toward a brand may not necessarily be sufficient to result in a purchase (Ajzen & Fishbein, 1980). In the context of eco-friendly shopping behavior, research has confirmed that positive attitudes towards sustainable products influences the purchase of such commodities (e.g., Laroche et al., 2001; Smith, Haugtvedt & Petty, 1994). Therefore, marketers should aim to engage in activities that will create favorable attitudes to the brand.

When a brand invests in creating an ecolabel, it is a type of environmentally oriented corporate social responsibility (CSR). This refers to a company supporting environmental activities and incorporating environmental sustainability into business operations (Wu & Wang, 2014). Researchers have found that CSR activities have the ability to create new and favorable attitudes towards a company and the products it produces (e.g., Brown & Dacin, 1997), for example, that the firm is reliable, honest (McWilliams & Siegel, 2001) and trustworthy (Homburg, Stierl, & Bornemann, 2013). CSR activities can also support a brand's identity regarding environmental sustainability, and as a brand manager introduces new

green initiatives the sustainable identity is reinforced (Olsen et al., 2014). Building a brand's civic character, not just a business character, can build interest, respect, and loyalty (Kotler, 2000).

CSR activities have been suggested to enhance business competitiveness due to their impact on intangible assets such as brand image and corporate reputation (e.g., Porter & Kramer, 2006; Brammer & Pavelin, 2006; Giannarakis & Theotokas, 2011; Wu & Wang, 2014). Gatti, Caruana and Snehota (2012) conceptualize corporate reputation as an attitude and find that CSR activities have a positive influence on purchase intentions, due to the positive changes they provide in brand attitude. This finding is corroborated by other research that also confirms that CSR has a positive effect on purchase intention (e.g. Sen & Bhattacharya 2001; Boonpattarakan, 2012). This could be explained by consumers wishing to utilize their purchasing power to reward companies whose behavior they approve of (e.g., Sen & Bhattacharya, 2001; McWilliams & Siegel, 2001). Accordingly, we hypothesize that brand attitude will have a positive effect on the purchase intention of the eco-labeled products.

H3: Brand attitude has a positive effect on the purchase intention.

2.4.2 Purchase Intention and Perceived Quality

In earlier sections we define perceived quality as an overall evaluation of a product's quality, which is similar, but not the same as an attitude (Olshavsky, 1985). However, like attitudes, in many product categories perceived product quality influences consumer decision-making (e.g., Zeithaml, 1988; Klein, Ettenson & Morris, 1998; Knight, 1999), and can be considered a key element in influencing the choice of purchase (Kayaman & Arasli, 2007). In general, the intention to buy a product is often higher for customers who perceive a product offering of high quality, rather than of low quality (Gatti, Caruana, & Snehota, 2012). In other words, the brand with the highest perceived quality will be preferred for the purchase decision (e.g., Zeithaml, 1988; Zeithaml, Berry & Parasuraman, 1996; Lakshmi & Kavida, 2016).

Perceived quality provides value to customers by presenting them with a reason to buy, and to differentiate the brand from the competition (e.g., Wang, 2017). Because consumers make purchase decisions based on the quality signals they experience (Iyer & Kuksov, 2010), and perceived product quality is an important influence of purchase intention (e.g., Lin, Marshall, & Dawson, 2009), branding efforts influencing perceived product quality affects the consumers' buying decisions (e.g., Dodds et al., 1991).

One such branding effort is the use of ecolabels, which have been found to boost overall perceived quality (e.g. Carpenter & Larceneux, 2008; Benoît-Moreau, LarcOneux & Renaudin, 2012) and to generate new product beliefs, such as environmental friendliness and superior taste (Benoît-Moreau, Larceneux & Renaudin, 2012; Sörqvist et al. 2015). For example, in a qualitative study on consumer perceptions on organic food, French people expressed their belief that organic salmon offered better quality in terms of taste and health, though neither of these benefits were certified by the label (Beckman, 2005). This could be because of the green halo effect discussed by Sörqvist et al. (2015) (*section 2.2.1*).

Environmental values may create a predisposition to change purchase habits when ecolabels are present (Grankvist & Biel, 2001), as the label makes an environmentally friendly attribute salient (Benoît-Moreau, Larceneux & Renaudin, 2012). In general, ecolabels have been found to increase purchase intention (e.g. Young et al., 2010) as well as product preference (e.g. Sörqvist et al., 2013). Further, previous research has reported a positive impact of low carbon self-declarations on purchasing behavior in grocery stores (Vanclay et al., 2011).

Ecolabels have been found to increase perceived product quality and to increase purchase intention. Perceived quality has further been found to influence purchase intention. Accordingly, we hypothesize that in our study the perceived product quality will have significant positive affect on purchase intention.

H4: Perceived product quality has a positive effect on purchase intention.

2.5 Vice and Virtue Products

This thesis follows the categorization of consumer goods as *vice* or *virtue* products, as suggested by Wertenbroch (1998). Vice and virtue products are typically conceptualized in relation to each other as relative vices and relative virtues (Van Doorn & Verhoef, 2011). Relative vice products, also known as "wants", are products that give immediate pleasurable satisfaction, but contribute to negative long-term outcomes, such as future weight gain from eating too much chocolate cake. Relative virtue products, also known as "shoulds", are better for the consumers in the long run, but might be less instantly satisfying than the vice option, for example eating an apple for dessert instead of chocolate cake (Van Doorn & Verhoef, 2011; Wertenbroch, 1998). Versions of this categorization of goods are used in research about organic labeling, as well as in research about healthy foods, and green products (Olsen et al., 2014; Van Doorn & Verhoef, 2011; Raghunathan, Naylor, & Hoyer, 2006).

2.5.1 Product-Label Fit and Brand Attitude

For a product to be classified as vice or virtue by the consumer, the product needs to *fit* with other products from the same category. Conceptually, fit is an instance where two objects share some commonalities (Aaker & Keller, 1990), and exists to the degree that there are similarities between associations in consumer memory (Samuelsen, Olsen & Keller, 2015). The transfer of attitudes from one concept to another is enhanced when the two concepts fit together (Aaker & Keller, 1990; Misra & Beatty, 1990), and a logical fit between concepts can also affect the formation of positive brand attitudes (Bigné-Alcañiz, Currás-Pérez, Ruiz-Mafé, & Sanz-Blas, 2012). A potential explanation for this is that congruent information is more easily recalled into memory than incongruent information, and therefore is easier for consumers to remember (Misra & Beatty, 1990). Low fit on the other hand, may detract from the transfer of positive associations, and can stimulate undesirable beliefs and associations (Aaker & Keller, 1990). For example, companies that do not have a responsible brand image might get accused of greenwashing when making unproven green-product claims (e.g. Zara, 2013).

Several theoretical perspectives are compatible with this view, including categorization theory, which suggests that product fit with a given category depends on the match between the products' attributes and the typical attributes of the category as represented by the consumers' memory (Cohen & Basu, 1987). Categorization theory also posits that affective responses to products may be derived from the identification as a member of a specific category (Cohen, 1982). Another theory that is compatible with the notion of fit is cognitive balance theory (Heider, 1946). The theory suggests that objects can become "linked" in the mind of the consumer, and these links are balanced when two similarly valued objects become connected, such as a green product and an ecolabel. A balanced link is desirable for marketers, as it facilitates the transfer of positive attitudes from one object to another.

The vice or virtue nature of a product category is likely to influence responses to a green claim, as the two product categories have different levels of fit with an ecolabel. Virtue foods have been referred to as "healthy foods" in research (Mishra & Mishra, 2011), and have "less negative long-term consequences than vices" and are "a more prudent choice" (Van Doorn & Verhoef, 2011, p. 168). Eco-labeled foods, such as organic produce, are commonly perceived by the general public to be a healthy and environmentally friendly option (Tregear, et al., 1994). They are also perceived as good for the consumer and planet in the long term, which implies that ecolabels are more congruent with virtue than with vice foods (Van Doorn & Verhoef, 2011). Further, research on nutritional labels found that some of the attractiveness of vice foods lies in their perceived unhealthiness, and that the presence of a nutritional label leads to negative taste inferences for vice products (Raghunathan, et al., 2006).

Since an ecolabel signals that consumption of a vice product has positive benefits, the low fit might detract from the transfer of positive associations, stimulate undesirable beliefs and emotions, and take away from the guilty pleasure associated with vice consumption. This would not be the case for virtue products which are connected to virtuous associations, and therefore have a high fit with an ecolabel. Accordingly, we hypothesize that a perceived high fit between the ecolabel and the virtue product category will have a positive effect on brand attitude. We further

hypothesize, that a low fit, such as those found within a vice product category, will have a significantly negative effect on brand attitude.

H5: An ecolabel on a vice product lowers the brand attitude compared to an ecolabel on a virtue product.

2.5.2 Product-Label Fit and Perceived Product Quality

Consumers ascribe meaning to new information by drawing associations between new information, and information that already exists in their memories (Robertson, 1987), and thus, the degree of prior knowledge consumers have about a product will influence the cues used to make product quality assessments (Rao & Monroe, 1988). Consumers' expectations about quality are based on their perceptions of quality cues (Steenkamp, 1989), and ecolabeling can function as such a cue. However, as discussed, the transfer of the perceived quality will be enhanced when the two product classes, such as the product and the ecolabel, fit together (Aaker & Keller, 1990).

Van Doorn and Verhoef (2011) found that even though vice products were considered healthier when an organic label was included, the perceptions of product quality went down. The authors hypothesized that this was due to the claim taking away some of the guilty pleasure of vice foods, and that the treat lost its perceived quality if it was perceived as healthy. Therefore, we believe the fit between the food category and the ecolabel can moderate how a label affects the change in perceived quality. If the quality cue, such as an ecolabel, is placed on a product in a high-fit category (i.e. virtue product category), we hypothesize that it will have a positive effect on perceived quality. Similarly, if the ecolabel is placed on a low fit category, (i.e. vice product category), we hypothesize that it will have a negative effect on perceived quality.

H6: An ecolabel on a vice product lowers the perceived quality compared to an ecolabel on a virtue product.

2.6 Overview of Hypotheses

H1: A new ecolabel introduction has a positive influence on the brand attitude.

H2: A new ecolabel introduction has a positive influence on the perceived product quality.

H3: Brand attitude has a positive effect on the purchase intention.

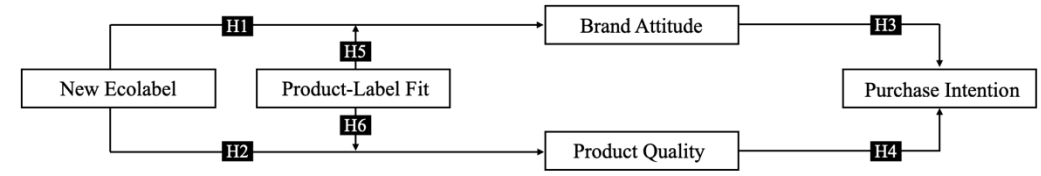
H4: Perceived product quality has a positive effect on the purchase intention.

H5: An ecolabel on a vice product lowers the brand attitude compared to an ecolabel on a virtue product.

H6: An ecolabel on a vice product lowers the perceived quality compared to an ecolabel on a virtue product.

2.7 Conceptual Model

Figure 2: Conceptual Model



3.0 Methodology

This section aims to provide a thorough explanation of the process through which we have gathered and analyzed our data. First, we explain the sample and collection of data, and second, an explanation of the survey design is provided.

Two online surveys, a pre-study and a main study, were conducted to test the proposed model (*figure 2*). The aim was to assess the relationship between the introduction of a new ecolabel on brand attitude, perceived product quality, and purchase intention, moderated by the product fit. The pre-study was conducted with the intention of classifying a selection of pre-packed meals as virtue or vice. The main-study consisted of a 2x4 within-subjects survey-based experiment and was conducted through a quantitative self-administrated questionnaire.

3.1 Sample and Collection of Data

Participants for the main study were recruited online from our personal networks and are thus classified as a non-probability convenience sample. A convenience sample is not representative to any definable population, and it is therefore not theoretically meaningful to generalize the sample to a population. Therefore, convenience samples are not recommended for descriptive or causal research, but they can be used in exploratory research for generating ideas, insights, or hypotheses (Malhotra, 2010), which is the case for our study. The sample was Norwegian, and a specific age segment was not targeted. However, the majority of the participants were young adults, due to the composition of our networks. We assess young adults to be an appropriate group for this study, especially since they are the primary stakeholders for sustainable consumption (Keeble, 2013). Understanding how these consumers react to ecolabels provides useful insight, as they will become the primary consumers of the future (Hume, 2010).

We found internet sampling advantageous as it is convenient, fast and inexpensive (e.g. Dillman, Smyth & Christian, 2014). Additionally, through an online survey the participants can take part whenever, wherever, and on their preferred device (Malhotra, 2010), which could facilitate more respondents in the sample. However, there are disadvantages connected to internet sampling which we considered, such

as representativeness and self-selection bias (e.g. Couper & Miller, 2008). Web surveys also lack control over the environment in which the experiment is taken, which is not ideal as a controlled environment can increase the efficiency and effectiveness of the study, due to diminishing external factors. As of the exploratory objective of the thesis, as well as limited resources, we found the advantages to outweigh the disadvantages of such a sampling technique.

For the Norwegian population (5.368 million, 2020) an ideal sample size with a 95% confidence level would be 385 people, using this formula: $\text{sample size} = \frac{(z\ scores)^2\ stddev\ (1-stddev)}{(margin\ of\ error)^2} = \frac{(1.96)^2 x\ .5(.5)}{(.05)^2} \approx 385$ (Qualtrics, 2020). However, since we have a convenience sample, our sample is not generalizable to the entire population, and the calculated number of an ideal sample was only used as an indication.

The data collection for the main study took place during the two first weeks of May 2020. The questionnaire was made in Qualtrics and distributed through an anonymous link to the online study. To avoid fatigue and reduce participant mortality the survey was kept short, approximately 5-8 minutes.

3.1.1 Privacy and Ethical Considerations

To comply with the guidelines for ethical research practice, a section at the beginning of the survey was included, which asked the participant to consent to the data collection. The participants were informed that the study would be ethically conducted, processed and would maintain their privacy (The Norwegian National Research Ethics Committees, 2016). The data was collected and treated following the internal BI guidelines for GDPR, and IP addresses were deleted immediately after data collection.

3.1.2 Data Cleaning

Due to time limitations we ended the data collection at 178 respondents. However, when analyzing the responses, we found a large number of respondents with incomplete data. We considered participants with less than 90% completion rate as not reliable and filtered them out of the survey. 109 participants were kept in the

sample, and the rest were deleted from the dataset as they had not completed the task satisfactorily. Of the 109, nine participants had a completion rate between 90-99%, the rest had a 100% completion rate. We consider our sample small, but of sufficient size to conduct all desired models and tests satisfactorily.

Missing values in this dataset were handled with arithmetic mean imputation, a single imputation method in which the missing value on a variable is replaced by the arithmetic mean of the available cases. Mean imputation is convenient as it produces a complete dataset, yet it does reduce the variability in the data as the technique imputes values around the center of the distribution (Enders, 2010). However, Eekhout et al., (2014) found that biased estimates do not occur if there are missing values for less than 10% of the subjects, which was the case in our dataset. Therefore, we assessed mean imputation as a suitable technique to handle the missing values.

During data exploration we realized that the questions concerning eco-consciousness had been coded incorrectly in the transfer of data between Qualtrics and SPSS (Q1-Q3). The coding for the Likert scale skipped #3 and added #8, so we re-coded these scales back to the original Likert scale of 1-7 (*appendix 1*). Brand Attitude, Perceived Product Quality and Purchase Intention were calculated by taking the arithmetic mean of all answers, and then a new mean variable was made for each construct (*section 4.1*). Products, ID and vice/virtue were coded as nominal variables, and Brand Attitude, Perceived Quality and Purchase Intention as scale variables. Lastly, in order to conduct mixed analysis, we created another SPSS file with stacked data. Each respondent was assigned eight rows. The stacked data function allowed us to create one column for each of the eight product conditions; the product 1 to 4, vice (=1) or virtue (=2), without ecolabel (=1) or with ecolabel (=2), and one column each for brand attitude, perceived quality and purchase intention (*appendix 2*).

3.1.3 Sample Descriptive

The final sample (n = 109) was predominantly female (65% female, 33% male), young adults between 20-29 years (60%), who feel a moral responsibility to purchase sustainable products and are skewed towards eco-consciousness. The

sample did, in general, have low knowledge about the ecolabel Klodemerket (*mean* = 1.54) but reported that they did understand (*mean* = 5.03) and like it (*mean* = 5.39). All questions are on a Likert scale from 1 to 7, where 1 is "highly disagree" and 7 is "highly agree".

Table 1: Descriptive Statistics

Respondents	n = 109							
Gender	Male 33.00% (n=36)	Female 65.10% (n=71)	N/A 1.80% (n=2)					
Age	20-29 60.20% (n=68)	30-39 17.43% (=19)	40-49 3.00% (n=4)	50-59 5.00% (=6)	60+ 2.00% (n=3)	N/A 17.00% (n=19)	Mean 30.05	Std.dev 9.05

Condition	*Without Ecolabel*	Mean	Std.dev	*With Ecolabel*	Mean	Std.dev
Brand Attitude	Toro Mac n Cheese	3.538	1.464	Toro Mac n Cheese	3.688	1.517
	Toro Bolognese	4.037	1.387	Toro Bolognese	4.284	1.471
	Mere Mat Tomatsuppe	4.243	1.289	Mere Mat Tomatsuppe	4.624	1.428
	Grønne Folk Bolognese	4.294	1.526	Grønne Folk Bolognese	4.482	1.636
Perceived Product Quality	Toro Mac n Cheese	2.417	1.138	Toro Mac n Cheese	2.688	1.329
	Toro Bolognese	3.362	1.399	Toro Bolognese	3.573	1.475
	Mere Mat Tomatsuppe	4.064	1.375	Mere Mat Tomatsuppe	4.275	1.477
	Grønne Folk Bolognese	4.234	1.459	Grønne Folk Bolognese	4.417	1.619
Purchase Intention	Toro Mac n Cheese	2.413	1.541	Toro Mac n Cheese	2.642	1.584
	Toro Bolognese	2.945	1.643	Toro Bolognese	3.028	1.750
	Mere Mat Tomatsuppe	3.239	1.621	Mere Mat Tomatsuppe	3.486	1.803
	Grønne Folk Bolognese	3.587	1.791	Grønne Folk Bolognese	3.596	1.881

Eco-consciousness	Mean	Std.dev
Effort in purchasing sustainable products	4.49	1.992
Moral responsibility purchase of sustainable products	5.72	1.537
Prefers sustainable products	5.51	1.172
Ecolabel	Mean	Std.dev
Seen "Klodemerket" before	1.514	0.502
Understand "Klodemerket"	5.037	1.581
Liking of "Klodemerket"	5.358	1.159
Trust in "Klodemerket"	4.706	1.410
"Klodemerket" food is of high quality	4.193	1.228
Purchase intention of "Klodemerket" food	4.853	1.290
Toro and "Klodemerket" fit together	4.523	1.288
It makes sense that Toro-products is "Klodemerket"	4.569	1.390

**Brand Attitude, Perceived Product Quality, Purchase Intention are presented as computed variables with the arithmetic mean (section 3.1.2)*
***"Mere Mat Tomatsuppe" and "Grønne Folk Bolognese" are manipulated with the Toro brand in the main study*

3.2 Survey Design

This section introduces the product selection, their attribute and attribute levels, as well as the questionnaire, scale development and experimental manipulation. The survey-based experiment was a 2x4 within-subjects design, with or without ecolabel and four product types (*table 2*). We used repeated measures, which

utilized only a single sample group, rather than an experimental group and a control group (Birks & Malhotra, 2006).

Table 2: Experiment Design

Product	*Product Category*	*With ecolabel*	*Without ecolabel*
Product 1 Product 2	Vice	No perceived product fit	Perceived product fit
Product 3 Product 4	Virtue	Perceived product fit	No perceived product fit

Before conducting the main study, we ran a pre-study to verify the product and category as either vice or virtue (*section 3.2.1*) and pretested the design of the main survey on a selection of respondents (n = 6). The pretest of the main survey was done in order to identify misperceptions of the questions, to make adjustments before the data collection, and to reduce measurement errors (Malhotra, 2010). The respondents encountered no difficulties, and the survey was perceived as easy to interpret. Since there were no recorded systematic errors, we proceeded to collect the data.

3.2.1 Pre-Study and Selection of Products

The aim of the pre-study was to verify the products and the product category as either vice or virtue. The pre-study (n = 39) was carried out through an online questionnaire using Qualtrics. The participants were shown 15 pre-packaged dinners (*figure 3*), in randomized order. The products used in the survey were chosen based on our own presumption of whether a product could be classified as vice or virtue.

Figure 3: Pre-Study Products

Based on the work of Wertenbroch (1998) and Van Doorn and Verhoef (2011) we made two statements on a 7-point Likert scale. The statements explored the general

healthiness of the meal, as well as believed long-term benefits (*table 3*). Virtue meals would typically score high on both statements, and vice meals would typically score low.

Table 3: Pre-Study Questionnaire

Block	Scale	Measurement
Block 1: Vice/virtue product assessment of the 15 products in figure 3	1-7	Highly Disagree / Quite Disagree / Somewhat Disagree / Neutral / Somewhat Agree / Quite Agree / Highly Agree
	Statements	This meal is healthy
		This meal is good for me in the long term
Block 2: Vice/virtue category assessment	1-7	Highly Disagree / Quite Disagree / Somewhat Disagree / Neutral / Somewhat Agree / Quite Agree / Highly Agree
	Statements	Pre-packed meals can be healthy
		Pre-packed meals can be good for me in the long term

Based on the results, we chose two products for each category. The selected vice products were *Toro Mac n Cheese* with an average mean of 1.51, and *Toro Bolognese* with an average mean of 2.13. The selected virtue products were *Mere Mat Tomatsuppe* with an average mean of 4.53 and *Grønne Folk Bolognese* with an average mean of 4.64 (*table 4*). Despite scoring the highest on perceived healthiness, *Gastro Salad* was disregarded due to it being a day-fresh pre-packed meal, unlike the rest of the product selection. In order to control for as many confounding variables as possible, we excluded the product. The final selection of products controls for the manipulation of the moderating variable: product-ecolabel fit (*figure 4*).

Table 4: Pre-Study Results

Respondents (n=39)					
	Perceived Healthiness		Perceived long-term benefits		
Products	*Mean*	*Std.dev.*	*Mean*	*Std.dev.*	*Avg. Mean*
Fjordland Pasta	2.26	1.352	2.05	1.169	2.16
Grandiosa Pizzarull	2.16	1.038	2.19	1.050	2.18
Findus Ovnsbakt Fiskefilet	4.41	1.312	4.13	1.454	4.27
Grønne Folk Bolognese	4.79	1.657	4.49	1.604	4.64
Toro Original Tomatsuppe	3.56	1.483	3.44	1.476	3.50
Toro Mac n Cheese	1.46	0.822	1.56	.912	1.51
Gastro Salat Falafel	5.64	.778	5.23	1.111	5.44
Toro Bolognese	2.15	1.369	2.10	1.209	2.13
Knorr Tomato Herb Soup	4.21	1.321	3.79	1.239	4.00
Gorbys	2.25	.938	2.05	1.005	2.15
Mere Mat Tomatsuppe	4.77	1.087	4.28	1.297	4.53
Lofoten Hjemmelaget Fiskegrateng	4.21	1.105	3.95	1.099	4.08
Iceland Vegetable Lasagne	4.03	1.347	3.69	1.360	3.86
Toro Sweet Potato Lasagne	3.54	1.354	3.41	1.332	3.48
Knorr Herby Tomato Soup	4.44	1.209	4.00	1.357	4.22
Product Category	4.79	1.380	3.82	1.745	4.31

A concern prior to conducting the experiment was that all pre-packaged meals were classified as vice foods in the mind of the consumer. Hence, utilizing the same scales as when classifying vice and virtue products, the participants of the pre-study, in block 2 (*table 3*), were asked to rate the perceived healthiness of pre-packed meals in general, and the perceived long-term benefits. The participants scored mean value of 4.79 on perceived healthiness. The average mean of both scales equal 4.31. By confirming pre-packed meals as potentially perceived as both vice and virtue, we were confident in continuing this classification in the main-study experiment.

To reduce brand-related confounding variables, the brand was manipulated to function as a control variable on each of the conditions (*section 7.0*). Therefore, we manipulated *Grønne Folk Bolognese* and *Mere Mat Tomatsuppe* to appear as Toro branded products. In this way the brand was kept constant to avoid the brand from influencing the effect of the independent variables on the dependent variables (Saunders, Lewis & Thornhill, 2016). The stimuli developed for the survey-based experiment is illustrated by four products, two in the vice category and two in the virtue category (*figure 4*), all under the Toro brand. The ecolabel was further added to the products to include both attribute levels, with and without the ecolabel, *Klodemerket*, which resulted in eight different product conditions.

Figure 4: Selected Products

**The Toro brand have been manipulated on product three and product four*

3.2.2 Questionnaire Development

The questionnaire began with an introduction to the thesis and ethical considerations, followed by a page asking the participants to attentively observe each photo presented before answering. The participants were presented with eight blocks of pictures, where each block contained one of the four products, with or without the ecolabel. We randomized the order of products presented to the participants to control for order bias (Malhotra, 2010). All other variables were kept

constant. Beneath each product the participant was asked to which degree they agreed or disagreed with several statements on a seven-point Likert scale. The questions were in the same order under each product, and we aimed to make the transitions as easy as possible to help the respondents to switch their train of thought (Malhotra, 2010). After the eight blocks of the experiment, the participants were asked general questions about Klodemerket, Toro, their overall eco-consciousness and demographic information (*table 1*).

3.2.2.1 Scale Development

To operationalize the constructs, we have utilized modifications of existing measurement scales to measure the dependent and mediating variables: Brand Attitude, Perceived Quality and Purchase Intention. The chosen scales have been shown in previous studies to have an acceptable level of reliability. However, they have been adapted to fit the context of our study. Further, all statements, including questions related to eco-consciousness, brand and ecolabel knowledge, were on Likert scales between 1 and 7, in which 1=Strongly Disagree and 7=Strongly Agree (*table 5*).

The scale "Overall Brand Evaluation" by Sirianni, Bitner, Brown and Mandel (2013) measures the desirability of a brand and the likelihood of shopping for it. The scale contains all the dependent and mediating variables of this study (Perceived Product Quality, Brand Attitude and Purchase Intention), so the scale was adapted to fit the context. Finally, the scale "Quality of the Meal" by Alavi, Bornemann and Wieseke (2015), measures a customer's belief that the meal is of high quality, this scale was also adapted to fit the context of the study.

For Brand Attitude, we modified the scale by Sirianni et al. (2013) by changing "dislike/like" to "Based on this product, I like Toro". In this way we were able to measure a change based on the task at hand, and not the general feelings the respondent might have towards Toro. For Perceived Product Quality, we chose to keep the third formulation from the scale by Alavi et al. (2015) and forgo the second as the products in the thesis are not premium products. Our final scale to measure Brand Attitude, Perceived Product Quality and Purchase Intention can be found in table 6.

Table 5: Scale Development of the Mediating and Dependent Variables

Variable	Scale	Measurement	Reference
Overall Brand Evaluation	1-7	Overall, how do you feel about ___? 1. Dislike / Like 2. Not at all trustworthy / Very Trustworthy 3. Very low quality / Very high quality 4. Not at all desirable / Very desirable 5. How likely are you to shop for ___? Not at all likely / Very likely	Sirianni, Bitner, Brown and Mandel (2013)
	Comments		
	This scale measures the desirability and likelihood of purchase. It is a scale used to measure multiple dimensions of brand equity, drawing items from a scale by Dawer and Pillutla (2000). The reliability, in the studies in which the scale was used by Sirianna et al. (2013), the scale's reported alphas ranged from .93 to .98. Despite the high alpha reported for the scale, there is no doubt that the items are typically used to measure several different constricts rather than an amalgamation of them (Bruner, 2015).		
Quality of the meal	1-7	The _ meal appears to be of good quality. The _ meal seems to be a premium product. The _ meal seems to contain high-quality ingredients.	Alavi, Bornemann and Wieseke (2015)
	Comments		
	The scale's alpha was .90 in Study 1 (Alavi, Bornemann, and Wieseke 2015, pp. 67, 76). (Even though the scale was used in several studies, reliability was only reported for Study 1.)		

Table 6: Scale of the Mediating and Dependent Variables

Variable	Scale	Measurement
Perceived Product Quality	1-7	Generally, I think this meal is of good quality This meal is made of quality ingredients
Purchase Intention	1-7	It is likely that I will purchase this product in the future
Brand Attitude	1-7	Based on this product, I trust Toro Based on this product I have a positive attitude towards Toro

In order to measure the samples eco-consciousness, knowledge and perceptions of the ecolabel Klodemerket, we adapted our own scale to fit the ecolabel without the context of a product, as well as including questions about the moral responsibility and perceived fit between Toro and Klodemerket (*table 7*).

Table 7: Main Study Questionnaire

Block	Scale	Question
Block 1: Introduction		
Block 2 - 9: Product assessment of each of the eight product conditions	1-7	Generally, I think this meal is of good quality This meal is made of quality ingredients It is likely that I will purchase this product in the future Based on this product, I trust Toro Based on this product I have a positive attitude towards Toro
Block 10: Knowledge about Toro, and attitude towards the ecolabel	Yes/no 1-7	Have you seen this ecolabel before (picture of label) I understand what this ecolabel that for I like this ecolabel I trust this ecolabel Klodemerket food is of high quality It is likely that I will purchase klodemerket food Toro and Klodemerket fits It makes sense that Toro products are labeled with Klodemerket
Block 11: Eco-Consciousness	1-7	I have a moral/ethical responsibility to purchase sustainable products I prefer to purchase sustainable products I put in an effort to find sustainable products
Block 12: Demographic questions		Age, and gender (male/female/i prefer not to say)

3.2.2.2 Experiment Manipulation

The perceived fit between the product and the ecolabel was manipulated through the utilization of the vice and virtue categories. Based on the literature, vice products and an ecolabel tend to have low perceived fit, whereas virtue products and an ecolabel have a high perceived fit.

Table 8: Experiment Manipulation

Condition	*Product Category*	*Ecolabel*	*Product fit*	*Condition*	*Product Category*	*Ecolabel*	*Product fit*
1	Product 1 (vice)	Without ecolabel	Yes	5	Product 3 (virtue)	Without ecolabel	No
2		With ecolabel	No	6		With ecolabel	Yes
3	Product 2 (vice)	Without ecolabel	Yes	7	Product 4 (virtue)	Without ecolabel	No
4		With ecolabel	No	8		With ecolabel	Yes

4.0 Analysis

Prior to the hypothesis testing, the study's validity and reliability was analyzed, and a factor analysis was conducted to assess the construct validity. The analysis confirmed that the mediating variables (Perceived Product Quality and Brand Attitude) and the dependent variable (Purchase Intention) were in fact correlated, but separate constructs (*section 4.1*). Assessing the reliability involved investigating the extent to which the results are stable and consistent when repeated measurements are made (Malhotra, 2010). In order to secure a high reliability, established measurement scales were used and adapted to fit the context of the study (*section 3.2.2.1*). Also, internal consistency reliability was analyzed by assessing the Cronbach's alpha (*section 4.1*) of the set of items forming the scale (Malhotra, 2010) for each variable: Brand Attitude, Perceived Product Quality and Purchase Intention.

In order to confirm or reject our hypotheses we further conducted multiple paired samples *t*-tests, a multiple linear regression, three mixed linear models, as well as a mediator test. The paired samples *t*-tests and the mixed linear models overlap in most of their conclusions. We performed both, first the paired samples t-tests to investigate the hypotheses and gain a general understanding of the results. Then the more complex mixed linear model was conducted to investigate the potential interaction effects between product type and whether the product is labeled, as well as investigating the differences in results between the labeled/unlabeled products, and between product categories. On a general note, for transparency, the relevant SPSS output of our analysis is in the appendix.

4.1 Factor Analysis

A factor analysis was conducted for the responses to each product, with and without the ecolabel, in order to reduce the number of variables to fewer explanatory factors. This reduced multicollinearity of highly intercorrelated variables (Malhotra, 2010), made the constructs convenient to interpret, and confirmed the reliability of the scales. Each factor is a linear combination of the variables, and by conducting a R-type analysis, we confirm construct validity of measures related to Brand Attitude, Perceived Product Quality and Purchase Intention.

The ordinal variables, *high quality meal (Q1)*, *quality ingredients (Q2)*, *purchase intention (Q3)*, *brand trust (Q4)* and *brand attitude (Q5)*, were on a Likert scale with more than 5 points, and are therefore treated as continuous variables to be able to capture their correlations (Malhotra, 2010). Further, by analyzing the correlation matrix for each product (*table 9*), and the relevant variables, there is a significant correlation between the variables measuring Purchase Intention (Q1 and Q2) and Brand Attitude (Q4 and Q5) for each of the products. Purchase Intention (Q3) has a somewhat lower correlation to the other variables and is therefore treated as its own variable.

Despite previous researchers having confirmed the reliability of the scales used for the main survey, we checked the reliability of our adopted scales to ensure that the internal consistency was still high. Perceived Product Quality for each new product with and without the ecolabel equals a coefficient alpha (α) of = 0.852 to α = 0.928, and Brand Attitude equals α = 0.891 to α = 0.944. When analyzing the scales of all products combined, α = 0.901 for Brand Attitude; α = 0.819 for Perceived Product Quality and; α = 0.829 for Purchase Intention. We assess this as acceptable as α > 0.6 generally indicates a satisfactory internal consistency reliability when conducting exploratory research (Hair, Black, Babin & Anderson, 2010).

Table 9: Correlation Matrix

Toro Mac n Cheese (vice), without label				*Condition: 1/8*		Toro Mac n Cheese (vice), with label			*Condition: 2/8*	
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
Q1	1.000	.787	.451	.478	.530	1.000	.769	.491	.474	.533
Q2	.787	1.000	.425	.451	.491	.769	1.000	.504	.539	.533
Q3	.451	.425	1.000	.384	.433	.491	.504	1.000	.449	.529
Q4	.478	.451	.384	1.000	.877	.474	.539	.449	1.000	.861
Q5	.530	.491	.433	.877	1.000	.533	.533	.529	.861	1.000
Toro Bolognese (vice), without label				*Condition: 3/8*		Toro Bolognese (vice), with label			*Condition: 4/8*	
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
Q1	1.000	.743	.636	.567	.651	1.000	.829	.646	.612	.697
Q2	.743	1.000	.543	.540	.547	.829	1.000	.592	.612	.637
Q3	.636	.543	1.000	.493	.589	.646	.592	1.000	.473	.570
Q4	.567	.540	.493	1.000	.821	.612	.612	.473	1.000	.873
Q5	.651	.547	.589	.821	1.000	.697	.637	.570	.873	1.000
Mere Mat Suppe (virtue), without label				*Condition: 5/8*		Mere Mat Suppe (virtue), with label			*Condition: 6/8*	
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
Q1	1.000	.787	.531	.654	.622	1.000	.866	.636	.642	.697
Q2	.787	1.000	.462	.712	.710	.866	1.000	.605	.661	.664
Q3	.531	.462	1.000	.471	.499	.636	.605	1.000	.542	.549
Q4	.654	.712	.471	1.000	.804	.642	.661	.542	1.000	.857
Q5	.622	.710	.499	.804	1.000	.697	.664	.549	.857	1.000
Grønne Folk (virtue), without label				*Condition: 7/8*		Grønne Folk (virtue), with label			*Condition: 8/8*	
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
Q1	1.000	.819	.678	.679	.721	1.000	.780	.619	.669	.721
Q2	.819	1.000	.597	.630	.678	.780	1.000	.666	.702	.763
Q3	.678	.597	1.000	.751	.677	.619	.666	1.000	.673	.720
Q4	.679	.630	.751	1.000	.861	.669	.702	.673	1.000	.894
Q5	.721	.678	.677	.861	1.000	.721	.763	.720	.894	1.000

As shown in the correlation matrix, all variables do indeed have a relatively high correlation to one another, and it could be argued that there is only one construct measured: "Overall Brand Attitude", which would contain Perceived Product Quality, Brand Attitude, and Purchase Intention. This is not surprising since many scales concerning Brand Attitude contains Perceived Product Quality and Purchase Intention (e.g. Dawar & Pillutla, 2000), and our scales were based on "Overall Brand Evaluation" by Sirianni et al., (2013).

Nonetheless, to us, it seems to be overly generalizing to assume that the three constructs are one, despite their correlation to one another. Because our interest lies in how each construct is affected by the ecolabel, we chose to continue with all three variables. Especially Purchase Intention is of interest as a single concept, since it can indicate the potential monetary value of adding an ecolabel to a product. Therefore, this thesis follows previous researchers such as Spears and Singh (2004) who separated purchase intention from brand attitude, and Zeithaml (1988) who referred to attitude and perceived quality as similar but separate constructs.

In this matter, we found it convenient to extract factors. A high KMO Measure of Sampling Adequacy indicates that it is convenient to extract separate variables (KMO = .715 to .850), with a significant Bartlett's test of Sphericity ($p < .000$) on each product measure with and without the ecolabel (*appendix 3*). We further performed a rotated principal component analysis with an orthogonal rotation and varimax procedure, which allowed us to minimize the number of variables with high loadings on a factor (Malhotra, 2010), thereby enhancing a clear distinction and interpretation of the factors for each product (*Table 10*), with the intention to accentuate the uncorrelatedness between the constructs. Further, instead of including the number of factors based on eigenvalue above 1 (Kaiser's rule), we found it necessary to force SPSS to create three new variables, because of the high correlation amongst all measurement indicators. The analysis was continued with the three variables: Brand Attitude (Q4 and Q5), Purchase Intention (Q3), and Perceived Product Quality (Q1 and Q2), for each product condition, as well as for each product category.

Table 10: Rotated Component Matrix

Product Category: Vice	Component Loading											
	Toro Mac n Cheese without ecolabel			*Toro Mac n Cheese with ecolabel*			*Toro Bolognese without ecolabel*			*Toro Bolognese with ecolabel*		
	BA	PQ	PI	BA	PQ	PI	BA	PQ	PI	BA	PQ	PI
Q1 High quality meal	.271	.880	.202	.239	.889	.208	.344	.759	.395	.360	.813	.340
Q2 Quality ingredients	.229	.905	.169	.292	.867	.208	.268	.903	.186	.324	.877	.237
Q3 Purchase intention	.206	.236	.950	.251	.271	.929	.270	.302	.903	.244	.323	.912
Q4 Trust in brand	.933	.227	.142	.921	.262	.149	.908	.281	.156	.912	.303	.155
Q5 Positive attitude	.906	.280	.193	.884	.278	.260	.847	.293	.324	.857	.344	.286

Product Category: Virtue	Component Loading											
	Mere Mat Tomatsuppe without ecolabel			*Mere Mat Tomatsuppe with ecolabel*			*Grønne Folk without ecolabel*			*Grønne Folk with ecolabel*		
	BA	PQ	PI	BA	PQ	PI	BA	PQ	PI	BA	PQ	PI
Q1 High quality meal	.299	.868	.289	.359	.842	.306	.350	.809	.353	.332	.865	.239
Q2 Quality ingredients	.492	.790	.153	.356	.863	.255	.318	.886	.206	.396	.778	.333
Q3 Purchase intention	.233	.235	.942	.264	.318	.910	.372	.325	.865	.349	.324	.878
Q4 Trust in brand	.842	.381	.194	.884	.315	.229	.816	.304	.423	.871	.346	.286
Q5 Positive attitude	.863	.322	.244	.860	.367	.225	.844	.418	.245	.793	.436	.349

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

4.2 Hypothesis Tests

4.2.1 Paired Samples *t*-tests

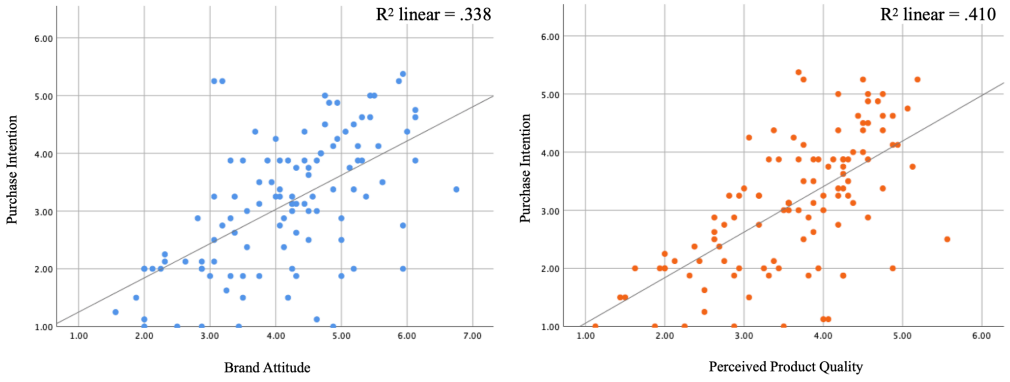
In order to confirm or reject H1 (*A new ecolabel introduction has a positive influence on the Brand Attitude*), H2 (*A new ecolabel introduction has a positive influence on the Perceived Product Quality*), H5 (*An ecolabel on a vice product lowers the brand attitude compared to an ecolabel on a virtue product*) and H6 (*An ecolabel on a vice product lowers the Perceived Product Quality compared to an ecolabel on a virtue product*) (*section 2.6*), several paired *t*-tests were conducted. The paired samples *t*-tests were consistently performed with the condition without the ecolabel as the first group of the pair, and with the ecolabel as the second. Multiple variations of paired samples *t*-tests were executed in order to test for differences in Brand Attitude, Perceived Product Quality and Purchase Intention between products (1-4) with or without the ecolabel, as well as the categories (vice or virtue) with or without the ecolabel.

4.2.2 Multiple Linear Regression

In order to test for H3 (*Brand Attitude has a positive effect on the Purchase Intention*) and H4 (*Perceived Product Quality has a positive effect on the Purchase Intention*) a multiple linear regression was conducted to confirm the direct effect of

Brand Attitude and Perceived Product Quality on Purchase Intention. Prior to conducting the multiple linear regression, two scatterplots (*figure 5*) were made in order to assess the correlation, assuming linearity, between the variables Brand Attitude and Purchase Intention, and between Perceived Product Quality and Purchase Intention (Malhotra, 2010), and a satisfactory indication of a positive linear correlation was found (R^2 Linear = .338 and .410). The model was further checked for assumptions regarding homogeneity of variance, normality, independence of residuals, model specification (Crowder, 2010) and collinearity, a state of high intercorrelations among the independent factors (Birks & Malhotra, 2006) which can cause problems in estimating the regression coefficients (UCLA, 2020a). The independence of observations was checked for by using Durbin-Watson (=2.049), meaning each participant is only counted as one observation. The standardized residuals were checked for using the Residuals Statistics (min = -2.708, max = 2.648), which indicates no outliers. Normality was checked for by using a frequency histogram and Normal P-P plot of Regression Standardized Residual. Also, the scatterplot of the standardized residuals versus the predicted values have no pattern, which means that data assumptions to go forward with a multiple regression model were met.

Figure 5: Multiple Linear Regression Scatterplot of All Products With the Ecolabel



4.2.3 Mixed Linear Model

To test H1 (*A new ecolabel introduction has a positive influence on the Brand Attitude*), H2 (*A new ecolabel introduction has a positive influence on the Perceived Product Quality*), H5 (*An ecolabel on a vice product lowers the brand attitude compared to an ecolabel on a virtue product*) and H6 (*An ecolabel on a vice product lowers the Perceived Product Quality compared to an ecolabel on a virtue product*),

a mixed linear model was conducted. The model checks for the change in the variables: Brand Attitude, Perceived Product Quality or Purchase Intention when the ecolabel is placed on a vice or virtue meal. The results are corroborated by the paired samples *t*-tests.

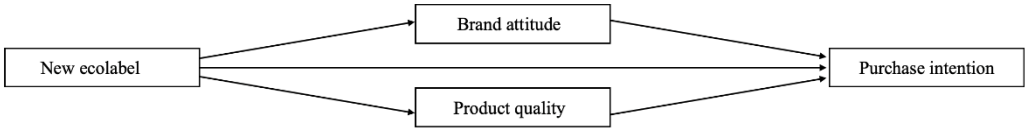
The major capabilities that differentiate mixed-effects models from general linear models are that mixed-effects handle correlated data and unequal variances, as well as more complex situations in which experimental units are nested in a hierarchy (Magezi, 2015). The mixed model was therefore appropriate for our analysis. In order to build the model, we computed new variables as a result of our factor analysis (*section 4.1*), and the data was stacked in a new dataset in SPSS, resulting in three columns; one for each mediating variable (Brand Attitude and Perceived Product Quality) and dependent variable (Purchase Intention) (*appendix 1*). Then, when building the model, the products were nested within their product category (vice or virtue), and an interaction effect between ecolabel and product category was included.

When a mixed-effects model includes categorical variables with three or more levels or interactions, this requires a multiple-degrees-of-freedom test (a Type III test) of fixed effects presented with the regression output (UCLA, 2020b). Since the study had four categorical variables (the products) and one interaction (with/without label*vice/virtue) the model utilized a Type III test for the output. Further, the Bonferroni correction was chosen in the mixed-linear model, as it is a multiple-comparison correction used when several dependent or independent statistical tests are being performed simultaneously, in order to avoid spurious positives (Weisstein, 2020).

H3 (*Brand Attitude has a positive effect on the Purchase Intention*) and H4 (*Perceived Product Quality has a positive effect on the Purchase Intention*) propose that Brand Attitude and Perceived Product Quality have a positive effect on Purchase Intention. However, we also wished to confirm the mediating effect of Brand Attitude and Perceived Product Quality on Purchase Intention. In order to test for parallel mediation (multiple mediators) we utilized the mixed model function in SPSS and constructed two new models to create a mediator model (*figure 6*). The first tested the direct effect between the ecolabel and Purchase

Intention. The second tested the effects between the ecolabel, Brand Attitude, Perceived Product Quality and Purchase Intention. Mediation was confirmed by comparing the significance of the direct effect between the ecolabel and Purchase Intention in the two mixed models.

Figure 6: Mediation Model



5.0 Results

5.1 Paired Samples t-tests

Each variable is presented with a summary of the findings from the paired samples *t*-tests (*table 11*). Then the results for each individual *t*-test is presented, followed by a section which confirms or rejects their assigned hypotheses.

5.1.1 Brand Attitude

The *t*-value for all pairs is negative, which indicates a higher Brand Attitude when products are eco-labeled. All pairs are significant with 95% confidence, except *Toro Mac n Cheese.* Paired samples *t*-tests were also conducted for the categories of vice/virtue with and without the ecolabel, and both pairs had a significant change in Brand Attitude when the ecolabel was included.

Results

Results do not indicate a significant change in Brand Attitude when the ecolabel is on the product *Toro mac n cheese* (M = 3.69, SD = 1.51) over when it is not (M = 3.53, SD = 1.43), t(108) = -1.59, p < .115.

Results indicate a significant change in Brand Attitude when the ecolabel is on the product Toro Bolognese (M = 4.28, SD = 1.47) over when it is not (M = 4.07, SD = 1.39), t(108) = -2.16, p < .033., on the product *Mere Mat Tomatsuppe* (M = 4.62, SD = 1.42) over when it is not (M = 4.24, SD = 1.29), t(108) = -3.85, p < .000., and on the product *Grønne Folk Bolognese* (M = 4.48, SD = 1.63) over when it is not (M = 4.29, SD = 1.53), t(108) = -2.05, p < .043.

Results indicate a significant change in Brand Attitude when the ecolabel is on vice products (M = 3.98, SD = 1.41) over when it is not (M = 3.79, SD = 1.27), t(108) = -2.49, p < .014., and results indicate a significant change in Brand Attitude when the ecolabel is on virtue products (M = 4.55, SD = 1.37) over when it is not (M = 4.27, SD = 1.24), t(108) = -3.78, p < .000.

H1 is confirmed for all products, except for the Toro *Mac n Cheese*. The ecolabel had a significant positive impact on Brand Attitude. H5 is not supported, as both vice and virtue products experienced significantly heightened Brand Attitude.

5.1.2 Perceived Product Quality

All the product pairs are significant with 95% confidence when tested for Perceived Product Quality, except *Toro Bolognese*. This means that all other products obtained a significant positive change in Perceived Product Quality, when presented with the ecolabel. When testing the categories as a whole, there was a significant change in Perceived Product Quality when the ecolabel was added for both categories.

Results

Results do not indicate a significant change in Perceived Product Quality when the ecolabel is on the product *Toro Bolognese* (M = 3.57, SD = 1.47) over when it is not (M = 3.36, SD = 1.4), $t(108) = -1.82$, $p < .072$.

Results indicate a significant change in Perceived Product Quality when the ecolabel is on the product *Toro Mac n Cheese* (M = 2.69, SD = 1.33) over when it is not (M = 2.42, SD = 1.14), $t(108) = -2.75$, $p < .007$., and on *Mere Mat Tomatsuppe* (M = 4.27, SD = 1.48) over when it is not (M = 4.06, SD = 1.37), $t(108) = -2.75$, $p < .046$. Results also indicate a significant change in Perceived Product Quality when the ecolabel is on the product *Grønne Folk Bolognese* (M = 4.42, SD = 1.47) over when it is not ($M = 4.23$, $SD = 1.46$, $t(108) = -2.12$, $p < .036$.

Results indicate a significant change in Perceived Product Quality when ecolabel is on vice products (M = 3.13, SD = 1.27) over when it is not (M = 2.89, SD = 1.14), $t(108) = -2.69$, $p < .010$., and when the ecolabel is on virtue products (M = 4.35, SD = 1.37) over when it is not (M = 4.15, SD = 1.19), $t(108) = -2.78$, $p < .006$.

H2 is confirmed, as the new ecolabel introduction has a positive influence on the Perceived Product Quality. H6 is not supported, as both vice and virtue products experience significantly higher Perceived Product Quality when presented with the ecolabel.

5.1.3 Purchase Intention

Only two of the four paired sample *t*-tests are significant with 95% confidence for Purchase Intention when compared without and with the ecolabel. When the category pairs are compared without/with the ecolabel, neither has a significant effect of the ecolabel on Purchase Intention. This indicates that Purchase Intention does not change significantly on either category if the ecolabel is included on the product.

Results

Results indicate a significant change in Purchase Intention when the ecolabel is on the product *Toro Mac n Cheese* (M = 2.64, SD = 1.58) over when it is not (M = 2.41, SD = 1.54), $t(108) = -2.21$, $p < .030$., and when the ecolabel is on the product *Mere Mat Tomatsuppe* (M = 3.49, SD = 1.80) over when it is not (M = 3.24, SD = 1.62), $t(108) = -2.75$, $p < .018$.

Results do not indicate a significant change in Purchase Intention when the ecolabel is on the product *Toro Bolognese* (M = 3.03, SD = 1.75) over when it is not (M = 2.94, SD = 1.64), $t(108) = -.65$, $p < .520$., nor when the ecolabel is on the product *Grønne Folk Bolognese* (M = 3.60, SD = 1.88) over when it is not (M = 3.59, SD = 1.79), $t(108) = -.079$, $p < .937$.

Results do not indicate a significant change in Purchase Intention when the ecolabel is placed on vice products (M = 2.83, SD = 1.34) over when it is not (M = 2.68, SD = 1.31), $t(108) = -1.82$, $p < .071$., nor when the ecolabel is on virtue products (M = 3.54, SD = 1.56) over when it is not (M = 3.41, SD = 1.41), $t(108) = -1.71$, $p < .091$.

Table 11: Paired t-tests

						95% Confidence interval of difference				
Dependent variable	*Product Category*	*Product*	*Mean*	*Std.Dev*	*Std.Error Mean*	*Lower*	*Upper*	*t*	*df*	*Sig. (2-tailed)*
Brand Attitude	Vice	Toro Mac n cheese	-.15138	.99421	.09523	-.34013	.03738	-1.590	108	.115
		Toro Bolognese	-.24771	1.19727	.11468	-.47502	-.02040	-2.160	108	.033
		Vice (all)	-.19954	.83526	.08000	-.35812	-.04096	-2.494	108	.014
	Virtue	Mere Mat	-.38073	1.03167	.09882	-.57660	-.18486	-3.853	108	.000
		Grønne Folk	-.18807	.95933	.09189	-.37021	-.00594	-2.047	108	.043
		Virtue (all)	-.28440	.78577	.07526	-.43359	-.13552	-3.779	108	.000
Perceived Product Quality	Vice	Toro Mac n cheese	-.27064	1.02409	.09809	-.46507	-.07621	-2.759	108	.007
		Toro Bolognese	-.21101	1.21200	.11609	-.44112	.01910	-.1.818	108	.072
		Vice (all)	-.24083	.996040	.09199	-.42317	-.05849	-2.618	108	.010
	Virtue	Mere Mat	-.21101	1.09353	.10474	-.41862	-.00339	-2.015	108	.046
		Grønne Folk	-.18349	.90180	.08638	-.35470	-.01227	-2.124	108	.036
		Virtue (all)	-.19725	.74152	.07102	-.33803	-.05646	-2.777	108	.006
Purchase Intention	Vice	Toro Mac n cheese	-.22936	1.08554	.10398	-.43536	-.02326	-2.206	108	.030
		Toro Bolognese	-.08257	1.33422	.12780	-.33588	.17074	-.646	108	.520
		Vice (all)	-.15596	.89416	.08565	-.32573	.01380	-1.821	108	.071
	Virtue	Mere Mat	-24771	1.07286	.10276	-.45140	-.04401	-2.410	108	.018
		Grønne Folk	-.00917	1.20566	.11548	-.23808	.21973	-.079	108	.937
		Virtue (all)	-.12844	.78588	.07527	-.27765	.02077	-1.706	108	.091

**Differences between with and without the ecolabel, product by product*

5.2 Multiple Linear Regression

The unstandardized beta coefficients highlight the effect on the dependent variable Purchase Intention, resulting in the multiple linear regression equation: $\hat{y} = 0.027 + 0.249 + 0.566$. The overall regression model was significant, $F(2, 106) = 41.388$, $p < .001$, $R^2 = .438$ (*appendix 4*). This means that the regression model accounts for as much as 43.8% of the variance ($R^2 = .438$), but still suggest that there are other variables not included in the model that affects Purchase Intention. This is an acceptable R-square in social sciences, with between a moderate and strong effect size (Ferguson, 2009). The R (= .662) shows that overall there is a moderate positive correlation. The ANOVA (*table 12*) further demonstrates that the regression is significant, i.e. the R^2 is significantly higher than 0, suggesting that our predictions can account for the variance within Purchase Intention.

Table 12: ANOVA

Model 1		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1	Regression	62.667	2	31.333	41.388	.000
	Residuals	80.248	106	.757		
	Total	142.915	108			

The results show that both Brand Attitude ($\beta = .249$, $p = .023$) and Perceived Product Quality ($\beta = .566$, $p = .000$) (*table 13*) are significant predictors of Purchase Intention. This means each of the independent variables accounts for unique variance in Purchase Intention and are not too highly correlated, i.e. Brand Attitude

explains something different from Perceived Product Quality for Purchase Intention. The VIF number, which measures the variance inflation factor, is 2.122. This means there is no reason for concern of multicollinearity, and therefore does not take away from the statistical significance of the independent variables. The correlations table confirms this, as well as that there are moderately strong positive correlations between variables.

Both H3 and H4 are confirmed. Both Brand Attitude and Perceived Product Quality do have a positive impact on Purchase Intention, with Perceived Product Quality showing the strongest positive effect.

Table 13: Coefficients

							95% Confidence interval for B			
Dependent variable	*Independent variable(s)*	*B*	*Std.Error*	*Beta*	*t*	*Sig.*	*Lower bound*	*Upper bound*	*Tolerance*	*VIF*
Purchase intention	Brand Attitude	.249	.108	.245	2.307	.023	.035	.464	.471	2.122
	Perceived Product Quality	.566	.130	.463	4.364	.000	.039	.824	.471	2.122

5.3 Mixed Linear Model

Three mixed-linear models were built: one for Brand Attitude, one for Perceived Product Quality and one for Purchase Intention. All models included the interaction term vice/virtue*label/no label in order to measure if there were interaction effects (*figure 7*) between the product type and whether the product was labeled or not. The interaction effect was not significant in any of the models.

5.3.1 Brand Attitude

There is a positive effect on Brand Attitude for all products when they display the label, however there is no significant interaction effect between product type and if the label is on the product or not (sig. = .669). This means that the label does not have a significantly larger or lesser effect based on whether it is on a vice or virtue product. There is a significant difference in Brand Attitude between unlabeled and labeled products (sig. = .015), and there is a significant difference in Brand Attitude depending on the product category (vice/virtue) (sig.= .000). These results are supported by the paired samples *t*-tests. H5 is rejected since the label does not have a significantly different effect on Brand Attitude based on product category.

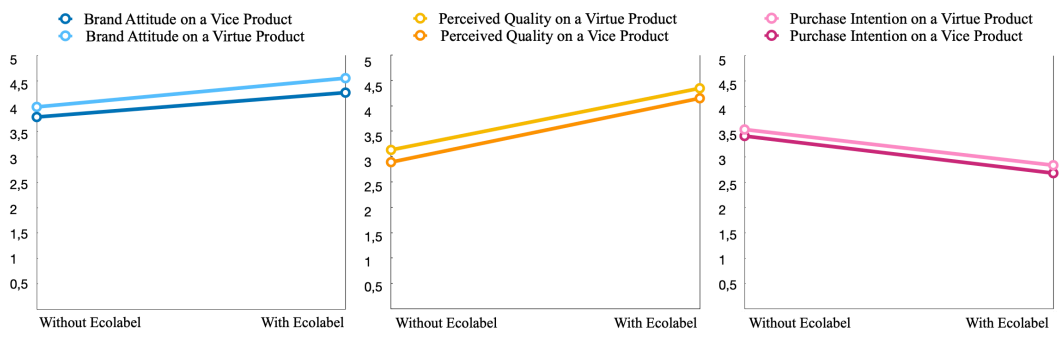
5.3.2 Perceived Product Quality

There is a positive effect on Perceived Product Quality for all products when they display a label, however there is no significant interaction effect between product type and whether the label is on the product or not (sig. = .820). Again, this means that the label does not have a significantly larger or lesser effect depending on whether it is on a vice or virtue product. For Perceived Product Quality there is a significant difference between unlabeled and labeled products (sig. = .022), and between product categories (sig. = .000). This finding is supported by the paired samples *t*-tests. H6 is also rejected as there is no difference in effect of Perceived Product Quality when the label is included based on product category.

5.3.3 Purchase Intention

There is a positive but insignificant effect on Purchase Intention for all products when they display a label. This is corroborated by the paired samples *t*-tests, which show that the effect of including an ecolabel on purchase intention was significant on two products. The mixed model shows that there is no significant interaction effect between product type and whether the label is on the product (sig. = .905), and there is no significant difference in Purchase Intention between labeled and unlabeled products (sig. = .218). However, there is a highly significant difference in Purchase Intention between vice and virtue products, suggesting that our sample prefers virtue foods (sig. = .000).

Figure 7: Interaction Between Product Categories and Ecolabelling



**the figures illustrate that there are no significant difference between the product types (vice/virtue) on either dependent variable*

Table 14: Type III Tests of Fixed Effects (interaction)

Dependent variable	*Factor*	*Numerator df*	*df*	*F*	*Sig.*
Brand Attitude	Vice/virtue	1	866	27.840	.000
	Without ecolabel/with ecolabel	1	866	5.935	.015
	Vice/virtue*without ecolabel/with ecolabel	1	866	.182	.669
Perceived Product Quality	Vice/virtue	1	866	167.090	.000
	Without ecolabel/with ecolabel	1	866	5.236	.022
	Vice/virtue*without ecolabel/with ecolabel	1	866	.052	.820
Purchase Intention	Vice/virtue	1	866	38.920	.000
	Without ecolabel/with ecolabel	1	866	1.517	.218
	Vice/virtue*without ecolabel/with ecolabel	1	866	.014	.905

**95% confidence interval*

5.3.4 Mediation

The mixed-model function was then used to build a mediation model for the mediators: Brand Attitude and Perceived Product Quality, between the ecolabel and Purchase Intention. Mediation was confirmed by comparing the direct effect of the ecolabel on Purchase Intention (sig. = .230), with the model containing ecolabel, Brand Attitude and Perceived Product Quality, the ecolabel became less significant (sig. = .603), suggesting that the mediators Brand Attitude (sig. = .000) and Perceived Product Quality (sig. = .000) are true mediators of the ecolabel effect on Purchase Intention. This means when an ecolabel is placed on a product, the Purchase Intention is affected by the Brand Attitude and the Perceived Product Quality of the consumer.

Table 15: Type III Tests of Fixed Effects (mediation)

Dependent variable	*Factors*	*df*	*F*	*sig.*
Purchase intention	With/without Ecolabel	870	1.48	.230
Purchase intention	With/without Ecolabel	846	.271	.603
	Brand Attitude	846	8.16	.000
	Perceived product quality	846	13.94	.000

5.4 Summary of Results

Table 16: Summary of Results

Hypothesis	*Variables*	*Results*
H1	A new ecolabel introduction has a positive influence on the brand attitude.	Supported
H2	A new ecolabel introduction has a positive influence on the perceived product quality.	Supported
H3	Brand attitude has a positive effect on the purchase intention.	Not supported
H4	Perceived product quality has a positive effect on the purchase intention.	Not supported
H5	An ecolabel on a vice product lowers the brand attitude compared to an ecolabel on a virtue product.	Not supported
H6	An ecolabel on a vice product lowers the perceived quality compared to an ecolabel on a virtue product.	Not supported

6.0 Discussion

Customers, and society at large, have placed an increasing emphasis on the importance of finding ways to lower their climate gas emissions (e.g. Aasen & Vatn, 2018), and in response companies are making significant investments to signal product eco-friendliness to their customers. One such measure is to issue a brand-made ecolabel, such as Klodemerket by Toro. Earlier literature has found positive effects of ecolabeling on customer responses (e.g. Sörqvist et al., 2013), however it is unclear if these effects are strong enough to justify the significant investments that go into making an ecolabel. This resulted in the following research question:

"What effect does issuing a brand-made carbon-footprint label have on the perceived product quality, brand attitude and purchase intention of the consumer?"

To answer this question, our research offers insight into the implications of adding a brand-made ecolabel on brand attitude, perceived product quality and purchase intention, revealing that the ecolabel has a positive effect both on brand attitude and on perceived quality, but does not have a significant effect on purchase intention. The effect of the ecolabel on purchase intention is not direct but mediated by brand attitude and perceived product quality.

The findings show that there is no significant difference between vice and virtue products on customer response to the ecolabel, i.e. the ecolabel has a positive effect on both categories. We also demonstrate that brand attitude and perceived product quality have a positive, but not significant effect on purchase intention. These findings indicate that the ecolabel does not immediately increase brand attitude nor perceived product quality enough for it to have a positive impact on purchase intention. Therefore, other product attributes should be considered added/altered to increase the brand attitude and perceived quality in order to significantly affect purchase intention.

The results show that contrary to our hypotheses, the ecolabel had a significant positive effect on brand attitude on *both* vice and virtue products. The hypotheses were derived from the literature stating that a perceived low fit between a vice

product and an ecolabel could detract from the transfer of positive associations and could stimulate undesirable beliefs and associations (Aaker & Keller, 1990). Moreover, we hypothesized that an ecolabel could possibly detract from the guilty pleasure the customers would experience when eating vice foods, similarly to what previously has been found with nutritional labels (Raghunathan, et al., 2006). However, this was not the case. One explanation for why brand attitude increased significantly on the vice products could be that the green claim introduced new information which perhaps offset negative long-term concerns and therefore helped improve brand attitude (Olsen et al., 2014). Consumers may find it more difficult to quantify the benefits of vice products and seek to justify consumption of those products. Green claims could be helpful in the attempt to quantify the benefits, and thus be more effective in influencing the attitude towards vice brands (Okada, 2005). Another reason the ecolabel could have had a positive effect on brand attitude, could be because the label offsets feelings of guilt. Previous research has found that guilt is an important pro-ethical emotion because it can turn into a moral obligation to compensate for harm caused (Baumeister, Bratslavsky, Muraven & Tice, 1998). We cannot prove that this is the case, however what we do know is that the same significantly positive effects were reaped by the low-fit condition as by the high-fit condition.

Our hypothesis that the change in perceived product quality would be significantly different on vice products compared to virtue products was also rejected, since the ecolabel had a significant positive effect on perceived product quality in both product categories. This shows that the high- or low-fit conditions did not matter to our sample, and perceived product quality is rewarded to both categories when an ecolabel is introduced. From the literature we know that quality judgments can be influenced by visual cues, by characteristics implied through labeling, or merely assumed by the consumer to exist (Veale & Quester, 2009). For our sample, the ecolabel seems to be a quality cue on both meal categories. This is interesting since the ecolabel used in the study is a low-carbon emissions label, which only tells the consumers about the environmental quality of the product, and not the intrinsic product quality.

These findings need to be seen in the context of our sample, which consisted of predominantly female, quite eco-conscious young adults (*section 3.1*). In the past it

has been found that women are more concerned about sustainability and use labels more often than men, even though there is no difference in level of understanding of such ecolabels (Grunert et al., 2014). Our findings on changes in brand attitude and perceived product quality can therefore be reminiscent of the research by Sörqvist et al. (2013; 2015) who found eco-claims to induce a "green halo effect", especially for eco-conscious consumers. The labels' effect was found, even when there was no immediate relation between the product label and what was being evaluated about the product.

Both our hypotheses on purchase intention were rejected, as brand attitude and perceived product quality both had a small, but not significant, effect on purchase intention. Further, the direct effect of the ecolabel to purchase intention was found to be mediated by brand attitude and perceived product quality. However, a discovery we were not expecting, especially in the context of our eco-conscious sample, was that the purchase intention did not change significantly between labeled and unlabeled products in either product category, which goes against previous literature reporting that ecolabels motivates consumers to purchase (e.g. Young et al., 2010). The results indicate that the change in brand attitude and perceived product quality were not strong enough to significantly change purchase intention.

Our findings are similar to the research by Ramesh, Saha, Goswami and Dahiya (2019), in which they found no direct impact of CSR activities on purchase intention but did confirm direct impact of CSR on brand attitude and perceived quality. However, Du, Bhattacharya and Sen (2010) argue that in the long run, CSR activities, such as eco-labeling, will create favorable attitude and behavior, purchase intention, and employment seeking, and it will also strengthen the advocacy behavior of the stakeholders.

The results of the linear regression model showed that brand attitude and perceived product quality explains 44% of purchase intention, so there are other factors not included in our model which also affect the consumer. This could include, for example, price or dietary preferences. Further, we know from the literature that consumer attitudes are not always transformed into purchasing behavior (e.g., Carrigan & Attalla, 2001). Thøgersen (2000) noted that if relevant information

competes for a consumer's attention, a consumer might fail to notice relevant labels in a purchase situation. In the context of food choice, a label competes with other information, such as healthfulness, and a general interest in sustainability may not necessarily translate into consumers using the sustainability information in a purchase situation (e.g., Grunert, 2011; Horne, 2009). Tang et al. (2004) found that the effects of ecolabeling on purchasing behaviors are only modest on low-cost, high-volume fast-moving consumer goods that would be purchased in supermarket or convenience stores, and therefore concluded that ecolabeling plays only a minor role in consumer-buying decision-making. This also seems to be true for our sample. In our case, the reasons for not seeing significant changes in purchase intention could be as simple as our convenience sample not favoring pre-packaged dinners, or otherwise being more favorable towards another brand.

The sample also reported low knowledge of the Klodemerket label, which could have affected the success of changing purchase intentions. As presented in the literature, Janssen and Hamm (2012) argue that for a certification scheme to be successful, consumer awareness and positive attitudes towards the underlying scheme are of crucial importance. The lack of knowledge could therefore have taken away from the effectiveness of the ecolabel.

6.1 Theoretical Implications

To the best of our knowledge, this study contributes to the marketing literature by showing that the previously confirmed changes in attitudes following the introduction of an ecolabel are not strong enough to contribute to an actual significant change in purchase intention. Therefore, in order to reach a higher purchase intention, ecolabels might need to be combined with the inclusion or exclusion of other brand or product attributes, communication campaigns and/or other marketing efforts.

The findings also contradict a sizable body of literature which claims that vice products and ecolabels should not be linked in the mind of the consumer due to the low fit between the product and the ecolabel. Based on the literature, we assumed that the negative associations to the vice product such as "unhealthy" and "not good for me long term", and the positive associations to ecolabels such as "greenness"

and “good for the planet in the long term”, would produce undesirable beliefs and associations. Following this school of thought, virtue products should have received a higher positive change in brand attitude as the high fit between the product category and the ecolabel theoretically should have facilitated the transfer of positive brand attitudes. However, both categories saw a significant positive change both in brand attitude and perceived product quality, and there was no significant difference in the change between the two, i.e. product category does not matter for the effectiveness of the ecolabel.

6.2 Managerial Implications

For marketing managers, and other strategic decision-makers in a company, our findings indicate that investing in an ecolabel does not immediately contribute to higher consumer purchase intention. However, there might be other benefits that surpass the quick reward of purchase intention the moment the ecolabel is introduced.

As perceived product quality increases when the ecolabel is placed on the product, the brand status might be elevated in the mind of the consumer, which could mean the labeled product will be compared to other products than before the placement of the ecolabel, allowing for a new set of competitors. This elevation could also allow for a higher price point. Further, the ecolabels’ positive effect on brand attitude could be an asset for the brand as a whole. The new ecolabel could reinforce a specific brand identity and change brand perceptions, which could allow for new types of communication and product introductions from the brand. Over time, the label could therefore be an integral part of the repositioning of a brand, allowing for a natural change in messaging, which can create compelling points of parity for the brand. This change in brand perception could establish environmental legitimacy, and thus offer source credibility for the future launch of green new products (Olsen et al., 2014). Also, as brand trust is a part of our construct for brand attitude, there might be other benefits not specifically related to purchase intentions, but rather to improvements in other areas of marketing, such as employer branding, positive reputation and heightened political power.

On a general note, managers should not forget that the main functions of ecolabels in green marketing are identified as the means to inform consumers about product environmental impact, as well as the quality and value of the product itself, and is as Sammer and Wüstenhagen (2006) states, an "important tool to overcome market failure due to information asymmetries for environmental products". Therefore, even if there are no immediate fiscal gains from labeling products, one could argue that managers have an ethical duty to overcome the information asymmetries and communicate the environmental impacts of the products they sell.

Depending on the managers' strategic goals, an ecolabel may or may not be a good investment for the brand, as the return on investment cannot be found in the immediate purchase intention, but rather in a general heightened appraisal of the brand and the perceived product quality. However, as is so often the case with marketing efforts, branding is a long game, and it is often hard to instantly quantify the results and return on investment.

7.0 Limitations and Further Research

Our study provides several implications for marketing theory and practice. Nonetheless, the research analysis was not without limitations. Most prominently, the lack of generalizability of our findings are important to acknowledge as they could influence and further guide future research. The next two sections will explore the limitations and future research.

7.1 Limitations

To us, one of the main limitations for this thesis was the lack of generalizability due to self-selection bias and small sample size, which was a product of our resource limitations (*section 3.1*). The study consisted of a relatively small convenience sample (n = 109), with primarily young consumers. However, younger people are crucial consumers of green products, and therefore we considered exploring their reactions to eco-labels an important undertaking. Despite the lack of generalizability to an entire population, we continuously sought to maximize the validity and reliability of the experiment by selecting products rated as true members of each of the two product categories and utilizing reliable scales. Further, despite not being able to generalize the study, our exploratory study still has the advantage of producing valuable ideas, insights, and hypotheses (Malhotra, 2010), regarding ecolabeling within the pre-packed meal category.

Based on feedback following the main study, we speculate the rather large mortality-rate of our respondents (n=69) could be because participants mistakenly thought the experimental design to be faulty, as the same products were shown twice. The participants might not have noticed the ecolabel manipulation, and therefore decided to end the survey midway. In retrospect, we could have counteracted this by altering the welcome message to the respondents prior to the experimental conditions, and included a statement saying that there were no errors regarding the product inclusion in the study.

We further identify limitations related to the product manipulation (*section 3.2.1*). The two virtue products originate from *Grønne Folk* and *Mere Mat*, i.e. neither are Toro-branded products in the market. The product packaging was therefore altered

by changing the brand presented. This poses restrictions regarding the real-life shopping implications of the findings, since the two virtue products are not available as real purchasing alternatives. Nevertheless, the findings regarding the effect of including an ecolabel on products of either category could be relevant for Toro when evaluating whether or not to add an ecolabel. The findings presented in the thesis could also be of interest if Toro was contemplating making an expansion into pre-packed virtue meals.

The decision to manipulate the virtue brands was based on the pre-study, in which we learned that none of the included Toro-branded pre-packed meals were perceived as healthy, or even relatively healthy. Therefore, the most convenient evaluated solution was to manipulate products from other brands that scored highly on the virtue scales, in order to reduce brand-related confounding variables and to ensure that the products truly were considered vice and virtue. However, the manipulation of the product packaging design should have been more critically assessed prior to conducting the main survey. It would have been beneficial to obtain the respondents' previous knowledge regarding the samples' familiarity of *Mere Mat Tomato Soup* and *Grønne Folk Bolognese*. If knowledge of the products was low, it would make our measurements more reliable as we would be able to assess whether the respondents had any previous attitudes towards the products presented. However, we had no knowledge regarding the previous attitudes and knowledge towards the two manipulated products, which might have affected the results.

Another limitation was the use of a single brand-made ecolabel, instead of comparing ecolabels, such as a comparison between self-declarations and third-party ecolabels. The reason for focusing our research on the effect of including one single brand-issued ecolabel is that at the time of writing this thesis, there are no Norwegian carbon labels to compare the Klodemerket with. We found it less than desirable to compare the Klodemerket with a known third-party label, such as Svanemerket, because it is based on a different underlying scheme. We could have chosen the international Carbon Footprint label from Carbon Trust however this label does not exist in the Norwegian market and would therefore not communicate the necessary information needed to get a reliable result. Also, the carbon label from YARA, Carbon Footprint CO_2 Guarantee, was considered. The label was developed

to provide information about the complex relationship between fertilizers, climate protection and food safety. However, this label is intended for B2B purposes, between farmers and distributors, and is not placed on products available for general consumers. We therefore assessed that both comparing the Klodemerket with another labeling scheme readily available in the Norwegian market, comparing it with the Carbon Footprint label unknown to the Norwegian market, or with a B2B carbon label would make for an unreliable experiment. This is because all three options introduced too many confounding variables we could not control for. Therefore, we chose not to compare labels, but rather compare the effect the self-declaration from Toro had on a selection of products.

Finally, the decision to keep the variables in three constructs instead of the larger construct "Overall Brand Evaluation" could pose limitations, as each construct only consists of one or two scales. This could result in carrying the analysis too far, resulting in an overanalyzes of the data.

7.2 Future Research

There are several exciting and related areas of research we did not have the capacity to investigate.

We believe studying an entire brand portfolio could give a more accurate representation of how ecolabels affect the brand attitude of a selected brand. Additionally, a study which focuses on the change in brand attitude, perceived product quality and purchase intention over time, could further contribute to both marketing research and to companies looking to invest in using ecolabels. In our current study we did not have the opportunity to evaluate our sample's attitude prior to the launch of the ecolabel, and therefore could not measure if the participants were consciously or unconsciously affected by the ecolabel. If researchers studied a brand before and after the launch of an ecolabel, this bias could be accounted for.

For us it was not possible to satisfactorily compare the Klodemerket with other ecolabels on the Norwegian market. However, it could be of interest to explore different audience predispositions and attitudes, for instance changes and differences in attitudes towards government-controlled labels, third-party labels or

other corporate self-declaration claims. It could also be useful to analyze an ecolabel on multiple brands, rather than on a single brand, as presented in our study, as well as analyze the effect of the ecolabel on other products and product categories. Further, from a branding perspective, it could be interesting to investigate ecolabels as brands in their own right and measure the differences in effects when co-branding with a branded product (e.g. Toro prepackaged dinners).

From a communication point of view, it would be interesting to explore how consumers would react to ecolabels when they are presented in other presentation formats than those considered in this thesis, for example, in different advertising campaigns and/or other marketing efforts.

To gain more in-depth knowledge on the theme of brand-issued ecolabels, it could be interesting for researchers to adopt a more qualitative research approach, for example by conducting interviews with different consumers to get a broader understanding of their interpretations of ecolabels in general, as well as of the brand-issued one. It could also be relevant to conduct a true experiment, by observing consumers in a real purchasing situation, to further explore and gain an understanding of shopping behavior when consumers interact with ecolabels in the real purchasing environment. Additionally, studying the effect of the ecolabel in a between-subjects survey-based experiment, instead of a within-subjects design, would allow for the comparison of several products, brands and ecolabels on a larger scale.

Finally, we wonder if there are any product attributes, or forms of communication which could help the ecolabel to have a significant effect on purchase intention - because if not, why invest?

8.0 Literature

Aaker, D., & Jacobson, R. (2001). The Value Relevance of Brand Attitude in High-Technology Markets. *Journal of Marketing Research, 38(4),* 485-493.

Aaker, D. A., & Keller, K. L. (1990). Consumer evaluations of brand extensions. *Journal of Marketing, 54(1),* 27–41.

Aaron, J. I., Mela, D. J., & Evans, R. E. (1994). The influences of attitudes, beliefs and label information on perceptions of reduced-fat spread. *Appetite*, *22*(1), 25-37.

Aasen, M. & Vatn, A. CICEROS Klimaundersøkelse (2018). Cicero senter for klimaforskning.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Upper Saddle River, N.J: Prentice-Hall.

Alavi, S., Bornemann, T., & Wieseke, J. (2015). Gambled Price Discounts: A Remedy to the Negative Side Effects of Regular Price Discounts. *Journal of Marketing, 79(2),* 62-78.

Allport, G. W. (1935). Attitudes: a handbook of social psychology. *Clark University Press, Worcester*.

Arjun, C. (1999). Dose brand loyalty mediate brand equity outcomes? Journal of Marketing Theory and Practice, 7(2), 136-146.

Atkinson, L., & Rosenthal, S. (2014). Signaling the Green Sell: The Influence of Eco-Label Source, Argument Specificity, and Product Involvement on Consumer Trust. *Journal of Advertising, 43(1),* 33-45.

Auger, P., Devinney, T., Louviere, J., & Burke, P. (2008). Do social product features have value to consumers? *International Journal of Research in Marketing, 25(3),* 183-191.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? Journal of Personality and Social Psychology, 74, 1252–1265.

Beckman, S. C. (2005). Information, consumer perceptions, and regulations: The case of organic salmon. In S. Karup (Ed.), Environment, information and consumer behaviour (pp. 197–215). Chettenham: Edward Elgar.

Benoît-Moreau, Florence, Larceneux, Fabrice, & Renaudin, Valérie. (2012). Why Might Organic Labels Fail to Influence Consumer Choices? Marginal Labelling and Brand Equity Effects. *Journal of Consumer Policy, 35*(1), 85-104.

Berg, C. (2019, May 3rd.). Orkla innfører klimamerking på middagen. *Dagbladet.* Retrieved from https://www.dagbladet.no/mat/ny-toro-detalj-vekker-oppsikt---modig/71011409.

Bigné-Alcañiz, E., Currás-Pérez, R., Ruiz-Mafé, C., & Sanz-Blas, S. (2012). Cause-related marketing influence on consumer responses: The moderating effect of cause–brand fit. *Journal of Marketing Communications, 18(4),* 265-283.

Birks, D. F., & Malhotra, N. K. (2006). Marketing Research: an applied approach. Pearson Education UK.

Boonpattarakan, A. (2012). An experimental design to test the main and interaction effects of CSR involvement, brand naming and pricing on purchase intentions in Thailand. *International Journal of Business and Management, 7(16),* 62-79.

Bougherara, D., & Piguet, V. (2009). Market behavior with environmental quality information costs. *Journal of agricultural & food industrial organization, 7(2).*

Brach, S., Walsh, G., & Shaw, D. (2018). Sustainable consumption and third-party certification labels: Consumers' perceptions and reactions. *European Management Journal, 36(2),* 254-265.

Brammer, S., & Pavelin, S. (2006). Corporate Reputation and Social Performance: The Importance of Fit. *Journal of Management Studies, 43*(3), 435-455.

Brécard, D. (2014). Consumer confusion over the profusion of eco-labels: Lessons from a double differentiation model. *Resource and Energy Economics, 37(C),* 64-84.

Brečić, R., Mesić, Ž., & Cerjak, M. (2017). Importance of intrinsic and extrinsic quality food characteristics by different consumer segments. *British Food Journal*.

Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. *Journal of marketing*, *61*(1), 68-84.

Bruner, G. C., II. (2016) *Multi-Item Measures for Consumer Insight Research: Multi-Item Measures for Consumer Insight Research*, GCBII Productions, LLC.

Castleberry, S., & McIntyre, F. (1992). Consumers' Quality Evaluation Process. *Journal of Applied Business Research, 8(3),* 74-82.

Carpenter, M., & Larceneux, F. (2008). Label equity and the effectiveness of values-based labels: An experiment with two French protected geographic indication labels. *International Journal of Consumer Studies, 32(5),* 499–507.

Carrigan, M., & Attalla, A. (2001). The myth of the ethical consumer—Do ethics matter in purchase behaviour? Journal of Consumer Marketing, 18, 560–578.

Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: Consumers' perspective. *Management science and engineering, 4(2),* 27-39.

Chen, Y., & Chang, C. (2013). Greenwash and Green Trust: The Mediation Effects of Green Consumer Confusion and Green Perceived Risk. *Journal of Business Ethics, 114(3),* 489-500.

Cohen, J. B. (1982). THE ROLE OF AFFECT IN CATEGORIZATION: TOWARD A RECONSIDERATION OF THE CONCEPT OF ATTITUDE. *Advances in consumer research, 9(1).*

Cohen, J. B., & Basu, K. (1987). Alternative models of categorization: Toward a contingent processing framework. *Journal of Consumer Research, 13(4),* 455-472.

Couper, M., & Miller, P. (2008). WEB SURVEY METHODS: INTRODUCTION. *Public Opinion Quarterly, 72*(5), 831-835.

Crowder, M. (2010). Applied Survey Data Analysis by Steven G. Heeringa, Brady T. West, Patricia A. Berglund. *International Statistical Review, 78*(3), 463.

Darby, M. R., & Karni, E. (1973). Free competition and the optimal amount of fraud. The *Journal of law and economics, 16(1),* 67-88.

Dawar, N., & Pillutla, M. M. (2000). Impact of product-harm crises on brand equity: The moderating role of consumer expectations. *Journal of marketing research*, *37*(2), 215-226.

D'Astous, A., & Legendre, A. (2009). Understanding Consumers' Ethical Justifications: A Scale for Appraising Consumers' Reasons for Not Behaving Ethically. Journal of Business Ethics, 87(2), 255-268.

Dekhili, S., & Akli Achabou, M. (2014). Eco-labelling brand strategy. *European Business Review, 26(4),* 305-329.

Dillman, D., Smyth, J., & Christian, L. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (Fourth ed.). Hoboken, New Jersey: Wiley.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of marketing research, 28(3),* 307-319.

D'Souza, C., Taghian, M., & Lamb, P. (2006). An empirical study on the influence of environmental labels on consumers. *Corporate Communications: An International Journal, 11*(2), 162-173.

Du, S., Bhattacharya, C. B., & Sen, S. (2010). Maximizing business returns to corporate social responsibility (CSR): The role of CSR communication. *International journal of management reviews*, *12*(1), 8-19.

Eekhout, I., De Vet, H., Twisk, J., Brand, J., De Boer, M., & Heymans, M. (2014). Missing data in a multi-item instrument were best handled by multiple

imputation at the item score level. *Journal of Clinical Epidemiology, 67*(3), 335-342.

Enders, C. (2010). *Applied missing data analysis* (Methodology in the social sciences). New York: Guilford Press.

Ferguson, C. (2009). An Effect Size Primer: A Guide for Clinicians and Researchers. *Professional Psychology: Research and Practice, 40*(5), 532-538.

Fishbein, M., & Ajzen, I. (1975). Intention and Behavior: An introduction to theory and research.

Fishbein, M., & Ajzen, I. (1980). Understanding attitudes and predicting social behavior.

Garvin, D. (1984). Product quality: An important strategic weapon. *Business Horizons, 27*(3), 40-43.

Gatti, L., Caruana, A., & Snehota, I. (2012). The role of corporate social responsibility, perceived quality and corporate reputation on purchase intention: Implications for brand management. Journal of Brand Management, 20(1), 65-76.

Giannarakis, G., & Theotokas, I. (2011). The effect of financial crisis in corporate social responsibility performance. International Journal of Marketing Studies, 3(1), 2-10.

Glaser, T., Dickel, N., Liersch, B., Rees, J., Süssenbach, P., & Bohner, G. (2015). Lateral Attitude Change. Personality and Social Psychology Review, 19(3), 257-276.

Global ecolabelling. (2019). *What is ecolabeling?* Derived from https://globalecolabelling.net/what-is-eco-labelling/

Golan, E., Kuchler, F., Mitchell, L., Greene, C., & Jessup, A. (2001). Economics of food labeling. *Journal of consumer policy*, *24*(2), 117-184

Golder, P., Mitra, D., & Moorman, C. (2012). What Is Quality? An Integrative Framework of Processes and States. Journal of Marketing, 76(4), 1-23.

Grunert, K. G. (2011). Sustainability in the food sector: A consumer behaviour perspective. *International Journal on Food System Dynamics, 2(3),* 207-218.

Grunert, S., & Juhl, H. (1995). Values, environmental attitudes, and buying of organic foods. *Journal of Economic Psychology, 16(1),* 39-62.

Grunert, K. G., Hieke, S., & Wills, J. (2014). Sustainability labels on food products: Consumer motivation, understanding and use. *Food Policy, 44,* 177-189.

Grunert, K. G., Larsen, H. H., Madsen, T. K., & Baadsgaard, A. (1995). *Market orientation in food and agriculture*. Springer Science & Business Media.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). Multivariate data analysis: A global perspective (7th ed., Global ed.). Upper Saddle River, N.J: Pearson.

Heider, F. (1946). Attitudes and cognitive organization. *The Journal of Psychology: Interdisciplinary and Applied, 21,* 107–112.

Heidenstrøm, N., Jacobsen, E. & Borgen, S. O. (2011). *Seleksjon og ignorering Forbrukerstrategier for å manøvrere i merkemangfoldet.* (SIFO Oppdragsrapport nr. 2-2011). Retrieved from https://www.regjeringen.no/globalassets/upload/lmd/vedlegg/brosjyrer_veiledere_rapporter/oppdragsrapport_2_2011_merkeordning.pdf

Horne, R. E. (2009). Limits to labels: The role of eco-labels in the assessment of product sustainability and routes to sustainable consumption. *International Journal of consumer studies, 33(2),* 175-182

Huang, Y., Yang, M., & Wang, Y. (2014). Effects of green brand on green purchase intention. *Marketing Intelligence & Planning, 32(3),* 250-268.

ISO Labeling standard. (2018). *Environmental labels and declarations — Type I environmental labelling — Principles and procedures.* (**ISO 14024:2018**). Retrieved from https://www.iso.org/standard/72458.html

ISO Labeling standard. (2016). *Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling).* (**ISO 14021:2016**). Retrieved from https://www.iso.org/standard/66652.html

ISO Labeling standard. (2015). *Environmental labels and declarations — Type III environmental declarations — Principles and procedure*. (**ISO 14025:2006**). Retrieved from https://www.iso.org/standard/38131.html

Iyer, G., & Kuksov, D. (2010). Consumer feelings and equilibrium product quality. *Journal of Economics & Management Strategy*, *19*(1), 137-168.

Janssen, M., & Hamm, U. (2012). Product labelling in the market for organic food: Consumer preferences and willingness-to-pay for different organic certification logos. *Food Quality and Preference, 25(1),* 9-22.

Jover, A. J. V., Montes, F. J. L., & Fuentes, M. D. M. F. (2004). Measuring perceptions of quality in food products: the case of red wine. *Food Quality and preference*, *15*(5), 453-469.

Jung, N. Y., & Seock, Y. K. (2016). The impact of corporate reputation on brand attitude and purchase intention. *Fashion and Textiles*, *3*(1), 20.

Kalafatis, S., Pollard, M., East, R., & Tsogas, M. (1999). Green marketing and Ajzen's theory of planned behaviour: A cross-market examination. *Journal of Consumer Marketing,16*(5), 441-460.

Kardash, W. J. (1974). Corporate responsibility and the quality of life: developing the ecologically concerned consumer. *Ecological Marketing, American Marketing Association, Chicago, IL*, 5-10.

Kardes, F. R., Cronley, M. L., Kellaris, J. J., & Posavac, S. S. (2004). The role of selective information processing in price-quality inference. *Journal of Consumer Research, 31(2),* 368-374.

Kayaman, R., & Arasli, H. (2007). Customer based brand equity: evidence from the hotel industry. Managing Service Quality: An International Journal, 17(1), 92–109.

Kimura, A., Wada, Y., Kamada, A., Masuda, T., Okamoto, M., Goto, S., . . . & Dan, I. (2010). Interactive effects of carbon footprint information and its accessibility on value and subjective qualities of food products. *Appetite, 55(2),* 271-278.

Keeble, J. (2013). Young consumers hold the key to sustainable brands. *The Guardian*. Retrieved from https://www.theguardian.com/sustainable-business/young-consumers-key-sustainable-brands

Keller, K. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing, 57(1),* 1-22.

Keller, K. L. (2003). Brand synthesis: The multidimensionality of brand knowledge. *Journal of consumer research*, *29*(4), 595-600.

Keller, K. (2013). *Strategic brand management: Global edition*. Pearson Higher Ed.

Keller, K., & Lehmann, D. (2006). Brands and Branding: Research Findings and Future Priorities. (2006). *Marketing Science, 25(6),* 740-759.

Klein, J. G., Ettenson, R., & Morris, M. D. (1998). The animosity model of foreign product purchase: An empirical test in the People's Republic of China. Journal of Marketing, 62, 89–100.

Knight, G. A. (1999). Consumer preferences for foreign and domestic products. *Journal of consumer marketing*.

Kotler, P. (2000). Future markets. *Executive Excellence, 17*(2), 6.

Krekling, D. (2019, September 18th.) Snart kan du enkelt velge maten som gir lavest utslipp. *NRK*. Retrieved from https://www.nrk.no/norge/snart-kan-du-enkelt-velge-maten-som-gir-lavest-utslipp-1.14691388

Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of consumer marketing, 18(6),* 503-520.

Lin, C.-Y., Marshall, D., & Dawson, J. (2009). Consumer attitudes towards a European retailer's private brand food products: An integrated model of Taiwanese consumers. Journal of Marketing Management, 25, 875–891.

MacKenzie, S. B. (1986). The role of attention in mediating the effect of advertising on attribute importance. *Journal of Consumer Research*, *13*(2), 174-195.

Magezi, D. (2015). Linear Mixed-effects models for within-participant psychology experiments: and introductory tutorial and free, graphical interface (LMMgui). *Front. Psychol., 22. January 2015.* Retrieved from https://www.frontiersin.org/articles/10.3389/fpsyg.2015.00002/full

Malhotra, N. K. (2010). *Marketing research: an applied orientation* (6th ed.). Boston: Pearson Education.

McEachern, M., & Warnaby, G. (2008). Exploring the relationship between consumer knowledge and purchase behaviour of value-based labels. *International Journal of Consumer Studies, 32(5),* 414-426.

McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management. The Academy of Management Review, 26*(1), 117-127.

Mishra, A., & Mishra, H. (2011). The influence of price discount versus bonus pack on the preference for virtue and vice foods. *Journal of Marketing Research*, *48*(1), 196-206.

Misra, S., & Beatty, S. (1990). Celebrity spokesperson and brand congruence: An assessment of recall and affect. *Journal of Business Research, 21(2),* 159-173.

Mitchell, J. (2020, February 12th.). Is greenwashing a necessary evil? *Financial Times*. https://www.ft.com/content/28688bd3-cc09-442e-ba53-43b1ff284408

Monroe, K. B. (1976). The influence of price differences and brand familiarity on brand preferences. *Journal of Consumer Research, 3(1),* 42-49.

Nelson, P. (1970). Information and consumer behavior. *Journal of political economy*, *78*(2), 311-329.

Nelson, P. (1974). Advertising as information. *Journal of political economy, 82(4),* 729-754.

Okada, E. M. (2005). Justification Effects on Consumer Choice of Hedonic and Utilitarian Goods. *JMR, Journal of Marketing Research, 42*(1), 43-53.

Olsen, M., Slotegraaf, R., & Chandukala, S. (2014). Green Claims and Message Frames: How Green New Products Change Brand Attitude. *Journal of Marketing, 78(5),* 119-137.

Olshavsky, R. W. (1985). Perceived quality in consumer decision making: an integrated theoretical perspective. *Perceived quality*, *4*(1), 3-29.

Olson, J. C., & Jacoby, J. (1972). Cue utilization in the quality perception process. *ACR Special Volumes*.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of marketing, 49(4),* 41-50.

Phau, I., Teah, M., & Chuah, J. (2015). Consumer attitudes towards luxury fashion apparel made in sweatshops. *Journal of Fashion Marketing and Management, 19(2),* 169-187.

Peattie, K. (1999). Trappings versus substance in the greening of marketing planning. *Journal of Strategic Marketing, 7(2),* 131-148.

Percy, L., & Rossiter, J. R. (1992). A model of brand awareness and brand attitude advertising strategies. *Psychology & Marketing*, *9*(4), 263-274.

Poret, S. (2019). Label wars: Competition among NGOs as sustainability standard setters. *Journal of Economic Behavior & Organization*, *160*, 1-18.

Porter, M. E., & Kramer, M. R. (2006). The link between competitive advantage and corporate social responsibility. *Harvard business review*, *84*(12), 78-92.

Qualtrics (2020). Determining sample size: how to make sure you get the correct sample size. Retrieved from https://www.qualtrics.com/experience-management/research/determine-sample-size/

Raghunathan, R., Naylor, R. W., & Hoyer, W. D. (2006). The unhealthy= tasty intuition and its effects on taste inferences, enjoyment, and choice of food products. *Journal of Marketing*, *70*(4), 170-184.

Ramesh, K., Saha, R., Goswami, S., & Dahiya, R. (2019). Consumer's response to CSR activities: Mediating role of brand image and brand attitude. *Corporate Social Responsibility and Environmental Management*, *26*(2), 377-387.

Rao, A. R., & Monroe, K. B., The Moderating Effect of Prior Knowledge on Cue Utilization. (1988). *Journal of Consumer Research, 15(2),* 253-264.

Rex, E., & Baumann, H. (2007). Beyond ecolabels: what green marketing can learn from conventional marketing. *Journal of cleaner production, 15(6),* 567-576.

Robertson, K. (1987). Recall and recognition effects of brand name imagery. *Psychology and Marketing, 4(1),* 3-15.

Röös, E., & Tjärnemo, H. (2011). Challenges of carbon labelling of food products: A consumer research perspective. *British Food Journal, 113*(8), 982-996.

Rossiter, J. (2012). Advertising management principles are derived mostly from logic and very little from empirical generalizations. *Marketing Theory, 12(2),* 103-116.

Rubik, F. & Frankl, P. (Eds.) (2005) *The Future of Eco-labelling,* Greenleaf, London, UK.

Rubik, F., & Frankl, P. (2017). *The future of eco-labelling: Making environmental product information systems effective*. Routledge.

Percy, L., & Rossiter, J. R. (1997). *Advertising communications and promotion management*. McGraw-Hill.

Sammer, K., & Wüstenhagen, R. (2006). The influence of eco-labelling on consumer behaviour–Results of a discrete choice analysis for washing machines. *Business Strategy and the Environment, 15(3),* 185-199.

Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of marketing Research*, *38*(2), 225-243.

Sicilia, M., Ruiz, S., & Reynolds, N. (2006). Attitude formation online: How the consumer's need for cognition affects the relationship between attitude towards the website and attitude towards the brand. *International Journal of Market Research, 48(2),* 139–154.

Sirianni, N. J., Bitner, M. J., Brown, S. W., & Mandel, N. (2013). Branded service encounters: Strategically aligning employee behavior with the brand positioning. *Journal of Marketing*, *77*(6), 108-123.

Smith, S. M., Haugtvedt, C. P., & Petty, R. E. (1994). Attitudes and recycling: does the measurement of affect enhance behavioral prediction? *Psychology & Marketing*, *11*(4), 359-374.

Spears, N., & Singh, S. (2004). Measuring Attitude toward the Brand and Purchase Intentions. *Journal of Current Issues & Research in Advertising, 26(2),* 53-66.

Steenkamp, J. (1989). Product quality: An investigation into the concept and how it is perceived by consumers. Assen: Van Gorcum.

Sun, H., Teh, P. L., & Linton, J. D. (2018). Impact of environmental knowledge and product quality on student attitude toward products with recycled/remanufactured content: Implications for environmental education and green manufacturing. *Business Strategy and the Environment, 27(7),* 935-945.

Sörqvist, P., Haga, A., Langeborg, L., Holmgren, M., Wallinder, M., Nöstl, A., ... & Marsh, J. E. (2015). The green halo: Mechanisms and limits of the eco-label effect. *Food quality and preference*, *43*, 1-9.

Sörqvist, P., Hedblom, D., Holmgren, M., Haga, A., Langeborg, L., Nöstl, A., & Kågström, J. (2013). Who needs cream and sugar when there is eco-labeling? Taste and willingness to pay for "eco-friendly" coffee. *PloS one*, *8*(12).

Tang, E., Fryxell, G. E., & Chow, C. S. (2004). Visual and verbal communication in the design of eco-label for green consumer products. *Journal of International Consumer Marketing*, *16*(4), 85-105.

Teas, R. K., & Agarwal, S. (2000). The effects of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value. *Journal of the Academy of marketing Science, 28(2),* 278-290.

The Norwegian National Research Ethics Committees, (2016). Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology.

Retrieved from https://www.etikkom.no/en/ethical-guidelines-for-research/guidelines-for-research-ethics-in-the-social-sciences--humanities-law-and-theology/b-respect-for-individuals/

Thøgersen, J. (2000). Psychological Determinants of Paying Attention to Eco-Labels in Purchase Decisions: Model Development and Multinational Validation. *Journal of Consumer Policy, 23(3),* 285-313.

Tregear, A., Dent, J., & Mcgregor, M. (1994). The Demand for Organically Grown Produce. *British Food Journal, 96*(4), 21-25.

Truong, Y., & Pinkse, J. (2019). Opportunistic behaviors in green signaling: When do firms engage in symbolic green product preannouncement? *International Journal of Production Economics, 218,* 287-296.

Tsiotsou, R. (2005). Perceived quality levels and their relation to involvement, satisfaction, and purchase intentions. *Marketing Bulletin*, *16*(4), 1-10.

UCLA, Institute for Digital Research & Education. Statistical consulting (2020)a. HOW CAN I GET TYPE III TESTS OF FIXED EFFECTS IN R? Retrived from https://stats.idre.ucla.edu/r/faq/how-can-i-get-type-iii-tests-of-fixed-effects-in-r/

UCLA, Institute for Digital Research & Education. Statistical consulting (2020)b. INTRODUCTION TO REGRESSION WITH SPSS LESSON 2: SPSS REGRESSION DIAGNOSTICS Retrived from https://stats.idre.ucla.edu/spss/seminars/introduction-to-regression-with-spss/introreg-lesson2/

US EPA (US Environmental Protection Agency). (1998). Environmental labeling issues, policies and practices worldwide. *Publication prepared by Abt Associates and Gary Davis.*

Van Doorn, J., & Verhoef, P. (2011). Willingness to pay for organic products: Differences between virtue and vice foods. *International Journal of Research in Marketing, 28(3),* 167-180.

Vanclay, J., Shortiss, K., Aulsebrook, J., Gillespie, S., Howell, A., Johanni, M., . . . Yates, M. (2011). Customer Response to Carbon Labelling of Groceries. Journal of Consumer Policy, 34(1), 153-160.

Veale, R., & Quester, P. (2009). Tasting quality: The roles of intrinsic and extrinsic cues. Asia Pacific Journal of Marketing and Logistics, 21(1), 195-207.

Veale, R., Quester, P., & Karunaratna, A. (2006, July). The role of intrinsic (sensory) cues and the extrinsic cues of country of origin and price on food product evaluation. In *3rd International Wine Business and Marketing Research Conference, Refereed Paper. Montpellier* (pp. 6-8).

Wang, E. S. (2017). Different Effects of Utilitarian and Hedonic Benefits of Retail Food Packaging on Perceived Product Quality and Purchase Intention. Journal of Food Products Marketing, 23(3), 239-250.

Weisstein, E. W. (2020). Bonferroni Correction. *MathWorld- A Wolfram Web Resource.* Retrieved from https://mathworld.wolfram.com/BonferroniCorrection.html

Wertenbroch, K. (1998). Consumption self-control by rationing purchase quantities of virtue and vice. *Marketing science*, *17*(4), 317-337.

Wilkie, W. (1994). *Consumer behavior* (3rd ed.). New York: Wiley.

Wu, S. I., & Wang, W. H. (2014). Impact of CSR perception on brand image, brand attitude and buying willingness: A study of a global café. International Journal of Marketing Studies, 6(6), 43.

Young, W., Hwang, K., McDonald, S., & Oates, C. (2010). Sustainable consumption: Green consumer behaviour when purchasing products. *Sustainable Development, 18(1),* 20-31.

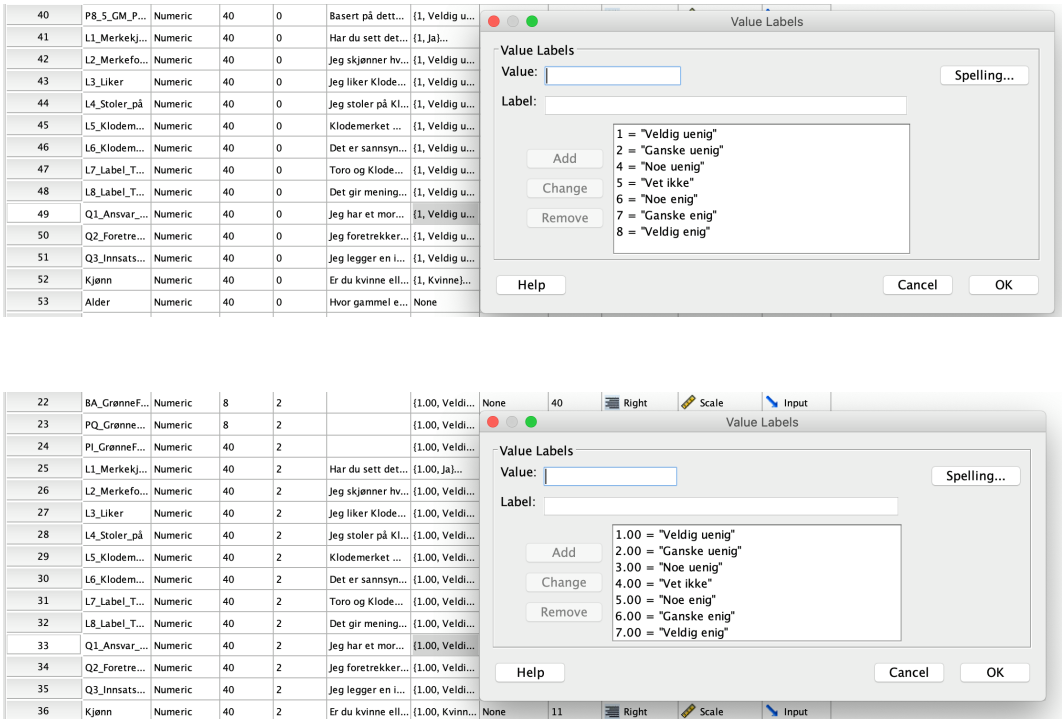
Zara, C. (2013, March 3rd.). Coca-Cola Company (KO) Busted For 'Greenwashing': PlantBottle Marketing Exaggerated Environmental Benefits, Says Consumer Report. *International Business Times.* Retrieved from https://www.ibtimes.com/coca-cola-company-ko-busted-greenwashing-plantbottle-marketing-exaggerated-1402409

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of marketing*, *52*(3), 2-22.

Zeithaml, V. A., Berry, L. L. & Parasuraman, A. (1996). *Delivery Quality Service: Balancing Customer Perception and Expectation.* The Free Pers New York, USA.

9.0 Appendix

9.1 Recoding of Faulty Scaling*



**only the selected variables Q1-Q3 regarding eco-consciousness*

9.2 Stacking in SPSS*

	id	Index_Product_1_8	Product_1_4	VICE_1_VIRTUE_2	UTEN_Label_1_MED_Label_2	Brand_Attitude	Perceived_Quality	Purchase_Intention
1	1	1.0	1.00	1.00	1.00	1.0	1.0	1.0
2	1	2.0	1.00	1.00	2.00	2.5	1.0	1.0
3	1	3.0	2.00	1.00	1.00	5.0	3.0	1.0
4	1	4.0	2.00	1.00	2.00	5.0	5.5	5.0
5	1	5.0	3.00	2.00	1.00	4.0	4.0	1.0
6	1	6.0	3.00	2.00	2.00	5.0	5.0	1.0
7	1	7.0	4.00	2.00	1.00	6.0	5.5	5.0
8	1	8.0	4.00	2.00	2.00	6.0	6.0	6.0
9	2	1.0	1.00	1.00	1.00	3.0	4.5	5.0
10	2	2.0	1.00	1.00	2.00	3.0	4.5	5.0
11	2	3.0	2.00	1.00	1.00	3.0	4.5	6.0
12	2	4.0	2.00	1.00	2.00	3.0	4.5	6.0
13	2	5.0	3.00	2.00	1.00	3.0	4.5	5.0
14	2	6.0	3.00	2.00	2.00	3.0	4.5	5.0
15	2	7.0	4.00	2.00	1.00	3.0	4.5	5.0
16	2	8.0	4.00	2.00	2.00	3.5	4.5	5.0
17	3	1.0	1.00	1.00	1.00	2.0	1.5	1.0
18	3	2.0	1.00	1.00	2.00	3.5	1.5	1.0
19	3	3.0	2.00	1.00	1.00	2.5	2.0	2.0
20	3	4.0	2.00	1.00	2.00	5.0	3.0	2.0
21	3	5.0	3.00	2.00	1.00	3.5	4.5	2.0
22	3	6.0	3.00	2.00	2.00	5.0	4.5	2.0
23	3	7.0	4.00	2.00	1.00	4.0	4.5	3.0
24	3	8.0	4.00	2.00	2.00	4.5	5.0	2.0

**until row 872.*

9.3 Factor Analysis Output*
Correlation Matrix, Factor Loading Component Matrix before and after rotation, KMO and Bartlett's Test of Sphericity and Total Variance Explained

In separate attachment.

*Illustrated in the stated order from the heading

9.4 Linear Regression: Model Summary, Residuals, ANOVA, Coefficients*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.662[a]	.438	.428	.87009	2.049

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.662[a]	.438	.428	.87009

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.3085	4.4304	3.1170	.76174	109
Residual	-2.35638	2.30426	.00000	.86200	109
Std. Predicted Value	-2.374	1.724	.000	1.000	109
Std. Residual	-2.708	2.648	.000	.991	109

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.667	2	31.333	41.388	.000[b]
	Residual	80.248	106	.757		
	Total	142.915	108			

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.027	.350		.076	.940	-.668	.721		
	BA_Alle_Produkter	.249	.108	.245	2.307	.023	.035	.464	.471	2.122
	PQ_Alle_Produkter	.566	.130	.463	4.364	.000	.309	.824	.471	2.122

*In the illustrated order, Dependent Variable: Purchase Intention for all products, Predictors: Perceived Product Quality and Brand Attitude for all products

9.5 Mixed Linear Model: Model Dimensions*

		Number of Levels	Number of Parameters
Fixed Effects	Intercept	1	1
	VICE_1_VIRTUE_2	2	1
	Product_1_4(VICE_1_VIRTUE_2)	4	2
	UTEN_Label_1_MED_Label_2	2	1
	VICE_1_VIRTUE_2 * UTEN_Label_1_MED_Label_2	4	1
Residual			1
Total		13	7

*Model dimensions are same for all mixed linear model analysis of the variables Brand Attitude, Perceived Product Quality and Purchase Intention.

9.6 Mixed Linear Model: Descriptive Statistics*

Brand Attitude mean av to variabler

Product: 1 MacNCheese, 2 Bologne, 3 MereMat, 4 Grønnefolk	Product Category: Vice 1, Virtue 2	Label: Med label 1, Uten label 2	Count	Mean	Standard Deviation	Coefficient of Variation
Toro_MacnCheese_UTEN_MED_Label_VICE	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	109	3.537	1.4636	41.4%
		MED_Label	109	3.688	1.5166	41.1%
		Total	218	3.612	1.4888	41.2%
Toro_Bolognese_UTEN_MED_Label_VICE	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	109	4.037	1.3873	34.4%
		MED_Label	109	4.284	1.4710	34.3%
		Total	218	4.161	1.4318	34.4%
Mere_Mat_UTEN_MED_Label_VIRTUE	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	109	4.243	1.2885	30.4%
		MED_Label	109	4.624	1.4275	30.9%
		Total	218	4.433	1.3700	30.9%
GrønneFolk_UTEN_MED_Label_VIRTUE	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	109	4.294	1.5263	35.5%
		MED_Label	109	4.482	1.6357	36.5%
		Total	218	4.388	1.5811	36.0%
Total	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	218	3.787	1.4446	38.1%
		MED_Label	218	3.986	1.5202	38.1%
		Total	436	3.886	1.4845	38.2%
	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	218	4.268	1.4094	33.0%
		MED_Label	218	4.553	1.5333	33.7%
		Total	436	4.411	1.4778	33.5%
	Total	UTEN_Label	436	4.028	1.4457	35.9%
		MED_Label	436	4.269	1.5511	36.3%
		Total	872	4.149	1.5034	36.2%

Totals that are aggregated over either a single category of a variable or a split file variable are omitted.

Perceived Quality mean av to variabler

Product: 1 MacNCheese, 2 Bologne, 3 MereMat, 4 Grønnefolk	Product Category: Vice 1, Virtue 2	Label: Med label 1, Uten label 2	Count	Mean	Standard Deviation	Coefficient of Variation
Toro_MacnCheese_UTEN_MED_Label_VICE	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	109	2.417	1.1376	47.1%
		MED_Label	109	2.688	1.3295	49.5%
		Total	218	2.553	1.2418	48.6%
Toro_Bolognese_UTEN_MED_Label_VICE	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	109	3.362	1.3992	41.6%
		MED_Label	109	3.573	1.4748	41.3%
		Total	218	3.468	1.4381	41.5%
Mere_Mat_UTEN_MED_Label_VIRTUE	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	109	4.064	1.3745	33.8%
		MED_Label	109	4.275	1.4774	34.6%
		Total	218	4.170	1.4275	34.2%
GrønneFolk_UTEN_MED_Label_VIRTUE	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	109	4.234	1.4586	34.5%
		MED_Label	109	4.417	1.6195	36.7%
		Total	218	4.326	1.5404	35.6%
Total	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	218	2.890	1.3574	47.0%
		MED_Label	218	3.131	1.4694	46.9%
		Total	436	3.010	1.4180	47.1%
	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	218	4.149	1.4165	34.1%
		MED_Label	218	4.346	1.5482	35.6%
		Total	436	4.248	1.4854	35.0%
	Total	UTEN_Label	436	3.519	1.5223	43.3%
		MED_Label	436	3.739	1.6257	43.5%
		Total	872	3.629	1.5778	43.5%

Totals that are aggregated over either a single category of a variable or a split file variable are omitted.

Purchase Intention

Product: 1 MacNCheese, 2 Bologne, 3 MereMat, 4 Grønnefolk	Product Category: Vice 1, Virtue 2	Label: Med label 1, Uten label 2	Count	Mean	Standard Deviation	Coefficient of Variation
Toro_MacnCheese_UTEN_MED_Label_VICE	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	109	2.413	1.5409	63.9%
		MED_Label	109	2.642	1.5842	60.0%
		Total	218	2.528	1.5633	61.9%
Toro_Bolognese_UTEN_MED_Label_VICE	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	109	2.945	1.6434	55.8%
		MED_Label	109	3.028	1.7504	57.8%
		Total	218	2.986	1.6943	56.7%
Mere_Mat_UTEN_MED_Label_VIRTUE	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	109	3.239	1.6210	50.1%
		MED_Label	109	3.486	1.8034	51.7%
		Total	218	3.362	1.7152	51.0%
GrønneFolk_UTEN_MED_Label_VIRTUE	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	109	3.587	1.7910	49.9%
		MED_Label	109	3.596	1.8813	52.3%
		Total	218	3.592	1.8325	51.0%
Total	Toro_MacnCheese_Toro_Bolognese	UTEN_Label	218	2.679	1.6115	60.2%
		MED_Label	218	2.835	1.6767	59.1%
		Total	436	2.757	1.6444	59.6%
	Mere_Mat_GrønneFolk_Bolognese	UTEN_Label	218	3.413	1.7131	50.2%
		MED_Label	218	3.541	1.8393	51.9%
		Total	436	3.477	1.7765	51.1%
	Total	UTEN_Label	436	3.046	1.7013	55.9%
		MED_Label	436	3.188	1.7931	56.2%
		Total	872	3.117	1.7482	56.1%

Totals that are aggregated over either a single category of a variable or a split file variable are omitted.

*Descriptive statistics for all three variables

9.7 Mixed Linear Model: Type III Tests of Fixed Effects*

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	866	6977.849	.000
VICE_1_VIRTUE_2	1	866.000	27.840	.000
Product_1_4(VICE_1_VIRTUE_2)	2	866.000	7.668	.001
UTEN_Label_1_MED_Label_2	1	866.000	5.935	.015
VICE_1_VIRTUE_2 * UTEN_Label_1_MED_Label_2	1	866.000	.182	.669

a. Dependent Variable: Brand Attitude mean av to variabler .

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	866	5748.803	.000
VICE_1_VIRTUE_2	1	866	167.090	.000
Product_1_4(VICE_1_VIRTUE_2)	2	866.000	23.512	.000
UTEN_Label_1_MED_Label_2	1	866	5.236	.022
VICE_1_VIRTUE_2 * UTEN_Label_1_MED_Label_2	1	866	.052	.820

a. Dependent Variable: Perceived Product Quality mean av to variabler .

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	866	2916.153	.000
VICE_1_VIRTUE_2	1	866	38.920	.000
Product_1_4(VICE_1_VIRTUE_2)	2	866.000	4.934	.007
UTEN_Label_1_MED_Label_2	1	866	1.517	.218
VICE_1_VIRTUE_2 * UTEN_Label_1_MED_Label_2	1	866	.014	.905

a. Dependent Variable: Purchase Intention .

*Type III tests of fixed effects for all three variables

9.8 Mixed Linear Model: Mediation Type III Tests of Fixed Effects*

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	870	2773.334	.000
UTEN_Label_1_MED_Label_2	1	870	1.443	.230

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	846.000	2493.999	.000
Brand_Attitude	12	846	8.172	.000
Perceived_Quality	12	846	13.937	.000
UTEN_Label_1_MED_Label_2	1	846	.271	.603

*Dependent variable: Purchase Intention, Mediators Brand Attitude and Perceived Product Quality as true mediators