# Launch of sustainability labels: Effects of linking sustainability to major drivers for choice

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# Acknowledgements

# Abstract

Many food producers improve the sustainability of their products and look for ways of communicating the improvement. One approach is to launch a new sustainability label. However, little is known about how to launch new sustainability labels effectively. We suggest that such labels should not be launched in isolation, but rather linked to major drivers for choice, such as taste, convenience, or healthiness. We tested this prediction across three categories with different levels of sustainability, using a 2 (label communicated separately vs linked to driver for choice) x 3 (sustainability level of category: high/medium/low) between-subjects design. The results provided partial support for the hypothesis that linking sustainability labels to major drivers for choice is more effective than a stand-alone launch of labels. The effect seems to be independent of the sustainability level of the product category.

# Contents

# List of Figures

# List of tables

# 1. Introduction

*"Infinite growth of material consumption in a finite world is an impossibility"*
- E.F Schumacher (1990)

A quote that emphasizes the challenges of the utilization of resources in consumption and production. Climate change is one of the most well-known environmental consequences of unsustainable production and consumption. Given that private households are responsible for up to two-thirds of global greenhouse gas emissions, household consumption and habits can significantly affect global warming (United Nations, 2022a).

Consequently, environmental awareness is gaining traction among consumers as they become more aware of how their habits and consumption affect the planet (Majer et al., 2022), and there is a strong desire to engage in more green consumption and purchasing (Norad, 2018). To adapt to new consumer expectations and thus increase competitiveness, in addition to facilitating more green consumption patterns, sustainability labels and associated sustainability communication have been extensively used (Nikolaou & Tsalis, 2018). However, although consumers report positive attitudes toward acting more sustainably, an actual change in behavior is lacking due to the existence of various trade-offs tied to green products (i.e. price, taste, quality etc.) (Sachdeva et al., 2015). In addition, many consumers suspect companies to be performing greenwashing, meaning that they are skeptical as to whether this type of communication is genuine (TerraChoice Environmental Marketing, 2007). Thus, sustainable communication does not necessarily increase the attractiveness nor the perceived sustainability of the brand or product. At worst, it can have a negative impact on the brand's reputation.

It is therefore of interest to look at how sustainability can be communicated in a reliable matter that changes the perceived sustainability of the product and that manages to facilitate changes in product judgments. Previous research points to communication that provides straightforward yet comprehensive information about the sustainability impacts of products (e.g., Turunen & Halme, 2021). However, based on an extensive literature review, Supphellen (2020) suggests that informational sustainability claims alone will not have a meaningful impact on making sustainability a part of the brand if it is not linked to other important drivers for choice. To look further into this, the research question guiding this thesis is:

**RQ1:** What messages are more effective when launching a new sustainability label?

Moreover, we believe that the effectiveness can be different under various conditions, such as for product categories of different sustainability levels. Literature suggests that products that are perceived as more healthful and providing long-term benefits do not have as much to gain from being introduced as green as the less healthful ones, due to the redundant information (Olsen et al., 2014). Although research points to a sustainability liability, leading consumers to infer lower product functionality among products with strength-related benefits for sustainable products (Luchs et al., 2010), this liability effect diminishes when the consumer cognitively reflects on the sustainability message (Skard et al., 2019). If this cognitive reflection takes place when the message is linked to other drivers, the expected improvement in product evaluation among less healthy products that also have strength-related attributes can be assumed to take place. Therefore, our second research question is:

**RQ2:** Will the sustainability level of the product category moderate the effect of launch messages?

Another condition that we believe could influence the effectiveness of sustainability communication is the consumer's perceived importance of sustainability. The target group for green food products is typically individuals with high concerns for sustainability, as they are more likely to see the value of green product attributes. Individuals that are less concerned with sustainability, however, are less likely to accept the trade-offs tied to choosing green products (Olsen & Ougland, 2021) Our third research question is, therefore:

**RQ3:** Will the perceived importance of sustainability moderate the effect of launch messages?

We find that the research field of sustainability communication is still an emerging field that needs to be explored further, as many companies still struggle to successfully make sustainability a part of their brand. Research on how to integrate sustainability into the brand position is still limited, and we believe that this master thesis could be a meaningful contribution to the existing literature. Seeing that sustainability communication could be an important tool in pushing sustainable consumption, we find it relevant, important, and interesting to investigate the different conditions that could affect its effectiveness.

To answer the research questions, the study will navigate through several important research steps. First, we will review the current academic literature related to sustainability, green consumerism, consumer-oriented sustainability communication, branding, and sustainability across product categories. Next, three hypotheses are derived from the literature. Moreover, the methodology of our research will be introduced. Furthermore, the data analysis and results will be presented, before being discussed in the next chapter. In addition, this study's validity, limitations, and suggestions for future research are discussed.

# 2. Literature Review

This chapter will present literature relevant to answer the three research questions (Saunders et al., 2012). To begin with, the widely used but vague concept of "sustainability" and its associated terminology will be defined and clarified. Secondly, the relevant literature on green consumption will address aspects of consumer behavior linked to sustainability. Thirdly, literature on consumer-oriented sustainability communication in terms of sustainability labels and free-form communication will be addressed. Further, the relevant literature on branding will be presented to assess which communicative prerequisites apply in making sustainability a part of the brand. Lastly, sustainability across product categories will be introduced, including a discussion of the target groups of eco-friendly food products, and their demands.

## 2.1 Sustainability

### 2.1.1 Concept and scope

Over the past few decades, interest in sustainability topics has steadily increased (Fischer et al., 2020), and currently, sustainability is on the agenda of customers, companies, and authorities (Jørgensen & Pedersen, 2018). Despite this, sustainability is a complex and challenging term to define. However, many refer to sustainability as *sustainable development*, which the United Nations Brundtland Commission has defined as *"meeting the needs of the present without compromising the ability of future generations to meet their own needs"* (UN General Assembly, 1987, p. 24). This definition is a broad and sociopolitical definition, which could be hard to conceptualize for some. It is, therefore, interesting to look at other definitions. Cambridge dictionary defines the general term for sustainability as *"the quality of being able to continue over a period of time,"* while when connected to the environment, sustainability is defined as *"the quality of causing little to no damage to the environment and therefore able to continue for a long time"*.

The concept of sustainability is examined and researched from different angles, such as institutional, political, and ethical, and it is therefore hard to land on a definition that covers all its facets (Fischer et al., 2020). However, a prevalent description of "sustainability" uses three interconnected "aspects" which encompass economic, social, and environmental sustainability (Purvis et al., 2019). To represent these three aspects of sustainability, the term "triple-bottom-line" was coined by Elkington (1998). The three aspects are also referred to as "people, planet, and profit" (Wilson, 2015). Numerous organizations and agencies have adopted the triple-

bottom-line concept, including the United Nations World Assembly, which in 2005 stated that *"We reaffirm that development is a central goal in itself and that sustainable development in its economic, social and environmental aspects constitutes a key element of the overarching framework of United Nations activities"* (United Nations, 2005, p.2).

### 2.1.2 Sustainable development goals

A great deal of the current sustainability literature is linked to the United Nations diverse set of sustainable development goals, referred to as SDGs (Purvis et al., 2019). The SDGs are part of The United Nations 2030 Agenda for sustainable development, which was launched in 2016, and consists of 17 goals and 169 targets (United Nations, 2022b). The SDGs balance the three aspects of sustainable development—the economic, social, and environmental.

For this master's thesis, SDG number 12: Ensuring sustainable consumption and production patterns, is especially relevant (United Nations, 2022c). This goal emphasizes that over the last century, economic and social progress has been accompanied by environmental degradation that threatens our future development and survival (United Nations, 2022c). In other words, even though global consumption and production drive the global economy, it comes at the cost of our natural environment and resources

## 2.2 Green consumption

### 2.2.1 Definition and scope

In line with SDG number 12, consumers are becoming more aware of how their daily consumption and habits affect the environment (Majer et al., 2022). A survey from The Norwegian Agency for Development Cooperation (Norad), found that four out of five Norwegian consumers are willing to change their daily habits for the environment (Norad, 2018). These consumers could be considered *green consumers*, which is defined by Gleim et al (2013) as "one that takes into account his or her impact on the physical environment when making product purchases" (Gleim et al., 2013, p.45). The sum of consumer initiatives and actions that protect the environment and reduce the negative impact of consumption could be defined as green consumerism or green consumption (Riva et al., 2022; Pieters, 1991; Yang et al., 2015). This term has been used differently and sometimes interchangeably with other terms such as socially responsible consumption, ecologically responsible consumption, and environmentally responsible consumption, to mention some (Nguyen et al., 2019). Hence, there

has been a lack of clarity in their definitions and usage in the literature (Tan et al., 2016). Nevertheless, there is a common theme: minimizing the unwanted environmental consequences of consumption (Nguyen et al., 2019). However, the term green could in a broader sense be defined as "oriented toward sustainable development." (Nguyen et al., 2019).

Green Consumption can play a significant part in lowering per-person greenhouse gas emissions and is an easy way for consumers to participate in pro-environmental and sustainable behavior (Sachdeva et al., 2015). Various measures to promote green consumption can be implemented, including eco-labeling schemes, public awareness campaigns, standards, and certifications that are eco-efficient (Akenji, 2014)

Akhtar et al. (2021) found that consumers' willingness to buy green products is significantly influenced by their environmental attitudes. According to Chekima et al., (2016), consumers' environmental attitudes are determined by how they perceive the environment, what they feel about sustainability issues, and how they are willing to act. This perceived importance of sustainability, together with the company's environmental reputation, will further have an impact on the consumers' actual green purchase behavior (Riva et al., 2022). Although attitudes differ between generations, industries, and nations, 85% of consumers globally indicate that they have become more concerned with buying sustainable products in the past five years. Furthermore, 50% of consumers state that sustainability is one of their top five value drivers (Simon-Kucher & Partners, 2021).

## 2.2.2 Attitude-behavior gap

However, a value-action gap, also known as an attitude-behavior gap, is revealed by psychological research that examines the relationship between environmental attitudes and behaviors (Sachdeva et al., 2015). Relatively few consumers act consistently green despite considering themselves as green, as shown by the low market share of sustainably preferable products and the observation that labeled products typically are not market leaders (OECD, 2005; Pedersen & Neergaard, 2006). Purchases are often led by habit, leading labeled products to be deprioritized (Horne, 2009; Gallastegui, 2002). In addition, few individuals would be prepared to give up affordability, comfort, and simplicity, in favor of a product's "greenness," even though most people might support pro-environmental ideals. Green consumerism often proposes the dilemma of a trade-off for the customer (Sachdeva et al., 2015). Choosing between

personal gains, such as a low price for a less sustainable product vs. a higher price for another more sustainable product, could be challenging for the consumer. There is evidence of a disconnection between customers' stated opinions and actual purchasing behavior for sustainable items, indicating that barriers to sustainable consumption still play a significant role in many consumer decisions (Skard et al., 2019). Overall, this emphasizes the importance of finding ways to break consumer habits and to execute green communication that ensures the consumer of the maintenance of other key product benefits, removing the trade-off dilemma.

## 2.3 Consumer-oriented sustainability communication

When consumers choose to follow greener consumption patterns, the *perceived sustainability* of the product is of importance. Perceived sustainability is defined by Lee (2019) as "the degree to which a consumer believes a company's sustainable actions meet the needs and aspirations of the present and the future" (Lee, 2019, p 1541). This implies that the company will be seen as more credible in its green communication, which is essential for the communication to be effective (Tiwari et al., 2011). Lee (2019) argues that increasing the perceived sustainability should be at the center of the design and execution of all sustainability communication.

Sustainability communication directed to consumers mainly comes in two forms: sustainability labels (Horne, 2009; Testa et al., 2015) and free-form sustainability communication (Peattie and Crane, 2005). In the following, we will look further into the two types.

### 2.3.1 Sustainability labels

The sustainable attributes of a product could be communicated by sustainability labels, either as a complementary to free-form sustainability communication, or stand-alone.

*2.3.1.1. Definition and scope*

It can be difficult for customers to make sustainable choices due to differing levels of knowledge about corporate environmental performance and a product's environmental status (Nikolaou & Tsalis, 2018). This is referred to as an "information gap" or "information asymmetry" (Nikolaou & Tsalis, 2018), and is just one out of many barriers to sustainable consumption (Majer et al., 2022). Sustainability labels for products and businesses have been proposed to provide information and contribute to closing the knowledge gap for consumers (Nikolaou & Tsalis, 2018). A label is a logo that confirms that a firm or product has complied

with a standard (Poret, 2019); accordingly, sustainability labels signalize that a firm or product has complied with a sustainability standard. They are, therefore, an easy-to-implement, cheap policy tool to promote sustainable purchase habits and raise transparency and trust in sustainability-related product qualities.

### 2.3.1.2 Types of sustainability labels

Sustainability standards and labels are the results of both public and private initiatives (Grunert et al., 2014), and can be set by NGOs, governments, companies, and multi-stakeholder initiatives (Lambin and Thorlakson, 2018). Inevitably, sustainability labels are coming from all directions. According to Torma and Thøgersen (2021), due to the abundance of complex, redundant, and ambiguous information in the sustainability label landscape, the labels are no longer widely recognized as an effective tool for guiding consumers toward more ecologically friendly choices. This implies that even though sustainability labels are informative, they could also cause customer confusion (Torma & Thøgersen, 2021).

According to a study by Atkinson and Rosenthal (2014) the source of the sustainability label could influence the perceived credibility of the label in low-involvement situations, whereby claims made by private companies are seen as less credible than those made by government agencies (Atkinson & Rosenthal, 2014). The table below (Table 1) aims to clarify the various label sources, sorting the labels based on lead stakeholders. The table is a copy from Lambin & Thorlakson (2018), adapted with relevant examples.

| Lead-stakeholder | Standard | Who Sets | Who Monitors | Example label |
|---|---|---|---|---|
| Government | Voluntary governmental-led certification | Government, often with input from NGOs, companies, and producers | Third party | EU ecolabel |
| NGO | NGO certification | NGO | Third party | Fairtrade |
| | Multistakeholder certification | NGOs, companies, producers | Second or third party | FSC |
| Company | Company-led standards | Company | First, second or third part | Klodemerket |

*Table 1: Sustainability labels by stakeholder, Lambin & Thorlakson (2018) p. 6/371*

*2.3.1.3 Environmental labels and carbon footprint labels*

Most sustainability labels are standalone, single-issue labels that concentrate on aspects of sustainability (Torma & Thøgersen, 2021). The mass of these single-issue labels focuses on the environmental aspect of sustainability, which can be referred to as environmental labels or Eco-labels (See appendix A.1 for other focus areas). Eco-labels work as *"certification marks or seals of approval to cue consumers about the environmental qualities of a product or service while assuring consumers of the truthfulness of these claims"* (Atkinson & Rosenthal, 2014, p.34). Having an eco-label on a product could therefore be helpful, as consumers may not be able to determine how it affects the environment (Minkov et al., 2020). According to the Eco Label Index, the global directory of eco-labels, there are 456 ecolabels in 199 countries and 25 industry sectors per 22.09.2022 (Ecolabel Index, 2022). With the abundance of eco-labels, there have been many approaches to classify them. Throughout the literature, the categorization presented by The International Organization for Standardization (ISO) is commonly used (Golden, et al., 2010; Stø et al., 2005; Minkov, et al., 2020). The ISO categorization along with label-examples can be found in Appendix A.2.

The various eco-labels are focusing on different environmental issues. Climate change is one of the most prominent environmental issues we face today and taking climate action is a critical goal put on the agenda of The United Nations (SDG nr.13) (United Nations, 2022d). Commonly known to contribute to global warming and climate change is the greenhouse gas carbon dioxide (United Nations, n.d). According to UN Climate Change News, global-energy-related carbon dioxide levels were at their highest level ever in 2021 (United Nations, 2022e). Consequently, there is also a lot of focus on carbon dioxide, which has made a market for carbon footprint labels. The term "carbon footprint" has become widely used in media, by governments, and by the business world, reflecting a growing concern in the fight against the threat of global warming (Kimura, et al., 2010). A carbon footprint label informs consumers of the quantity of carbon dioxide equivalents released throughout a product's production, distribution, usage, and disposal (Thøgersen & Nielsen, 2016). Thus, carbon footprint labeling helps consumers to be informed about the carbon dioxide emissions from products and contribute to battling global warming (Kimura, et al., 2010).

*2.3.1.4 Effectiveness of sustainability labels*

The effectiveness of sustainability labels is found to be mixed. Sustainability labeling has been researched extensively in the last two decades, but conclusions haven't always been clear about its effectiveness in promoting sustainable consumption (Majer et al., 2022). Majer et al. (2022) carried out a systematic literature review where they investigated the effects of sustainability labeling on consumer perception and behavior. Mainly looking into food products, Majer et al. (2022) suggest that sustainability labels "do have overall positive effects on psychological and behavioral outcome variables". In particular, the study implies that labels influence attitudes, provide a purpose for consumers, boost willingness to pay, and, in fact, have the power to alter behavior.

However, other research indicates that knowledge and label understanding is an essential factor for the effectiveness of sustainability labels. Consumer confusion caused by label overload and knowledge gaps regarding both the general concept of sustainability and specific sustainability labels may restrict the use of sustainability labels (Comas Marti and Seifert, 2012, Grunert, 2011, Horne, 2009). Thøgersen (2005) found that consumers must be aware of the label, understand what it means, and be motivated to consider the information it represents when making decisions for an ecolabel to have an impact on their purchasing decisions (Thøgersen & Nielsen, 2016). Food manufacturers are therefore suggested to implement environmental sustainability labels along with efficient informational strategies to raise customer awareness (Aprile & Punzo, 2022). For an overview of additional success factors that are of relevance for the implementation of sustainability labels, see the table in Appendix A.3.

## 2.3.2 Free-form sustainability communication

In addition to employing eco-labels, appealing to the more cognitive side of the consumer, businesses tend to appeal to the emotional side through free-form communication concerning the sustainability of their products. For instance, they might give promises of ethically grown and traceable cocoa beans in chocolate that is "slave free" (Tonys Chocolonely, 2019) or that they distance themselves from unethical materials or ingredients (e.g. fashion brands becoming fur-free, see PETA, 2019), or that they are dedicated to developing "sustainable" collections or sub-brands (H&Ms "conscious collection", 2019). These are examples of free-form sustainability communications that seek to evoke emotional reactions in consumers.

This type of communication includes a lot of non-comparable environmental terminology (e.g. Caniato et al., 2012), and has a tendency of coming close to environmental advertising.

Instead of using specific and clear terminologies, claims are often vague promises of being "environmentally friendly" or "all-natural" (Delmas & Burbano, 2011). Consequently, consumers tend to be skeptical of the increasing amount of these ambiguous sustainability statements that appear to be purely utilized for the purpose of capitalization (Turunen & Halme, 2021).

### 2.3.3 Sustainability as a main business driver

In summary, the perceived sustainability of a product does not necessarily increase with the presence of sustainability labels nor of free-form communication (Turunen & Halme, 2021). However, there are measures that can increase the effectiveness of sustainability communication. According to Olsen & Boxenbaum (2009), those who appear as the most legitimate sustainable players are those who make sustainability a main business driver. This includes both external drivers (i.e. seeing sustainability as a tool to accomplish performance goals or to obey stakeholder expectations) and internal drivers (i.e., being self-motivated by a normative belief that the business should be sustainable) (Maignan and Ralston, 2002). If this normative approach is not present, sustainability tends to become an "add-on" strategy, not being a central part of the corporate brand identity (Stuart, 2011). This includes focusing on more peripheral issues (e.g., recycling paper) instead of looking at how relevant sustainability issues can be handled and integrated into the overall business strategy. However, if the company manages to improve existing processes by integrating the sustainability strategy into the overall business strategy, it could potentially increase product quality (Jørgensen & Pedersen, 2018) and be able to refer to specific sustainability measures – consequently appearing as more legitimate.

This is particularly relevant in terms of communicating sustainability to consumers that do not necessarily have a goal of simplifying their lifestyles through green consumerism. As for any other product innovation, all changes must offer a relative advantage. Not all consumers are willing to accept higher prices for "green products" unless there are observable benefits tied to the sustainability claim (Stuart, 2011). This implies that in addition to being clearer in the sustainability terminology, companies would benefit from also communicating the related benefits to the sustainability aspects, tying it to other core drivers for choice. This makes it relevant to address the branding literature, to see how companies can make sustainability a part of the brand's identity.

## 2.4 Branding

Brands play an important role in building long-term relationships between the company and the consumer. A successful brand manages to uniquely deliver some key benefits (i.e. symbolic, functional or experiential), that make important drivers for choice (Park et al., 1995). In this case, the benefits set to differentiate the brand (i.e., the brand concept) is well received and cognitively considered by the consumer, forming key associations to the brand elements (Park et al., 1995).

### 2.4.1 Brand elements

Brand elements are verbal or visual information that functions as tools that help identify and differentiate a brand (Kotler & Keller, 2009). Typical brand elements are brand names, logos and symbols, brand characters, slogans, and packaging. Brand elements serve as a key tool to build brand equity. According to Keller's (2001) Customer-based brand equity (CBBE) model, a strong brand can be built through a series of steps, each of which depends on the success of the previous one. The first step involves ensuring consumers can identify and associate the brand with a specific product category or need. Attaining the correct identity includes building brand awareness, which consists of the process of linking brand elements to certain associations in the consumer's memory – making them able to recognize or recall the brand in different user situations. This identification will give the consumers something to attach new information to, enabling them to build favorable, unique, and strong brand associations that differentiate the brand. Eventually, the understanding of the brand's usage and meaning can enable consumers to elicit positive brand feelings and judgment, and eventually build a strong relation to the brand (Keller, 2001).

There are different schools of thought in the advertising industry on what role brand elements should have. Some practitioners recommend a trivial role, claiming that salient brand elements signal that the message of the advertisement is of no interest to the audience (Aitchinson, 1999, p.61, Pieters & Wedel, 2004, Kover, 1995). Within the research community, however, it is clear agreement that the brand elements should have a salient role and be shown upfront the communications. A study by Pieters & Wedel (2004) shows that attention captured by salient brand elements will facilitate attention to other elements of the ad, such as the message, instead of what brand the ad is representing. Thus, the role assigned to the brand elements has a significant impact on the interpretation of the advertisement.

Having salient brand elements is especially important when the consumer has low motivation to process the message. The Elaboration Likelihood Model (ELM) provides a structuring framework for persuasion that presents two routes of persuasion depending on the consumer's motivation and abilities: peripheral and central routes. Being on opposing ends of a continuum, they denote the probability of cognitive effort being used to process a message (Schumann et al., 2011). A person's elaboration likelihood will either be low or high depending on their abilities and motivation, which again will decide the route to which persuasion may take place (Petty & Cacioppo, 1983). To obtain the effects of brand elements during peripheral and passive processing (where motivation is low), it is a prerequisite to have salient exposure of brands. If this is not the case, the consumer will not be able to identify the sender, and the communication will not have any effect. Using the same prominent brand elements makes the consumer recall the brand rapidly, and positive associations are immediately triggered.

## 2.4.2 Positioning

The emotions and attitudes the consumer has towards a brand, places it in a certain position in the consumer's consciousness, where it is seen in relation to competing brands. As this is the perception of the consumer, it will not always be a match between the brand's desired position and the brand's actual position. Thus, it becomes essential to close this gap - changing the brand image, with current (possibly unwanted) consumer associations, to a desired position (Samuelsen et al., 2019). This refers to the process of brand positioning, i.e., clarifying which associations it is wanted for the consumer to have with the brand. If the brand positioning is effective, it serves to direct the marketing strategy by outlining the brand's core values, its unique selling proposition, how it differs from rival brands, and the reasons why customers should buy and consume it. This is essential, as positive differentiation is directly linked to profit and survival.

*2.4.2.1. Target network model*

Supphellen et al. (2014) have developed a model to clarify the target brand perception; *The target network model.* An exemplifying illustration based on graphics from the book "Markedsføring - verdibasert forventningsledelse" by Supphellen et al. (2014) is shown below.
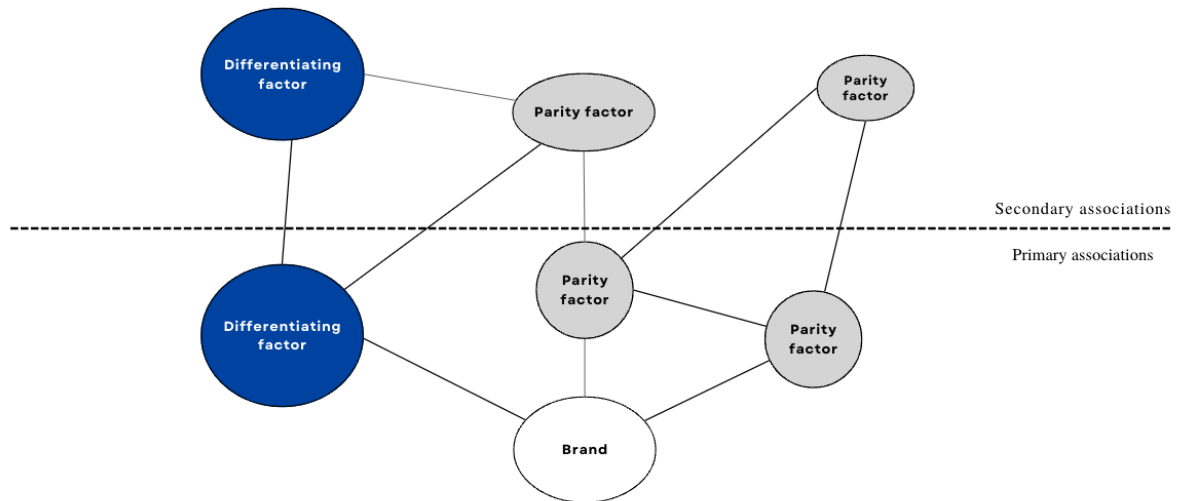
*Figure 1: Exemplifying illustration of a strategic brand positioning*

An important step of the strategic positioning process is to ensure that the brand is placed in the correct category. The product category gives the consumer an idea of the basic needs the brand covers in a specific situation, and thus also what competing brands the brand is to be compared to. Thus, it will give access to a frame of reference for the consumer (Samuelsen et al., 2019). Ideally, the position should build on the most important drivers for choice in the category that the brand operates in (Supphellen et al., 2014). However, it is not sufficient to simply meet the general expectations tied to the product category. It also is necessary to create and realize expectations on *differentiated* value deliveries that separate the brand from competing brands.

To differentiate the brand, main drivers of choice must be defined. These should always be rooted in the company's strategic resources and be hard to copy (Supphellen et al., 2014, s. 401). The main drivers of choice make *primary associations* that should contain perceptions directly tied to the brand (Supphellen et al., 2014), and reflect the main drives of the overall category (Keller & Swaminathan, 2019). To provide further meaning to the drivers, *secondary associations* must be defined. For example, the primary association "high quality" could be supported with the secondary associations "rich in protein" and "unique production facilities". The combination of the primary and secondary associations is ideally unique for the specific brand and will make the brand stand out from competing brands (Keller, 1993).

The target associative network should consist of points of parity (POP) and points of differentiation (POD), which are the two most fundamental types of brand associations (Keller,

2012). The former (POP) refers to factors of the brand that are similar to competing brands. These are tied to the most basic needs in the category, which customers expect to be fulfilled by all brands in the specific category (Keller & Swaminathan, 2019). If the brand cannot deliver on these "must-haves" or does not perform at the same level as competing brands on delivering them, they will be excluded from being a valid alternative (Kannan, 2020). Thus, these are so-called "hygiene factors", meaning that they are essential for the brand to be included in the consumer's consideration set.

PODs refer to unique, favorable, and strong perceptions of a brand, that differentiates it from competitors (Webster & Keller, 2004), and thus make central motivational factors to choose the specific brand (Samuelsen et al., 2019). Differentiating factors are areas in which the brand performs considerably better than its competitors, or that the competitor does not offer at all. For the differentiating factors to be relevant, they must meet the needs of the target group. When customers' needs are identified and potential points of differentiation have been determined, the company must assess whether they have the strategic resources to deliver them (Supphellen, 2020). If that is not the case, the strategic resources must be evaluated in more detail to detect other points of differentiation that are more relevant. There should not be too many differentiating factors identified by a company (Kotler, 2005). This could be experienced as confusing by customers, in addition to not always being viable due to the limited resourced that most companies have (Khurram & Lunden, 2021).

### 2.4.3 Sustainable brand positioning

*Sustainable branding* refers to the activity of integrating perspectives on sustainability into the practices of brand management. This involves creating, maintaining, and projecting a brand that successfully offers sustainability benefits (Foroudi & Palazzo, 2021).

Due to the increased awareness of the damage that brands inflict on the environment (Deloitte, 2002), and consumers' growing appetite for sustainable products, sustainable branding is an unavoidable trend that companies should follow (Chen, 2010). Brands that are not able to communicate their sustainability will risk losing brand equity (Supphellen, 2020; Harjoto & Salas, 2016). Yet, the brands that do communicate their efforts but fail to do so in a trustworthy manner risk being suspected of performing *greenwashing*. This term refers to a process of providing misleading marketing, conveying a false impression that the company is doing more

for the environment than it truly is (TerraChoice Environmental Marketing, 2007). If this is the case, the brand equity will be highly vulnerable, as it paints the brand as dishonest. However, brands that manage to place sustainability into their brand position in a clear and trustworthy way can differentiate themselves positively and strengthen their brand equity (Supphellen, 2020; Gupta et al., 2013; Wang, 2017). In addition, a clear sustainable brand identity would require less cognitive reflections of the consumer to act green, making it easier for the consumer to take sustainable actions (See Keller, 2008).

Even though companies tend to increase their focus on sustainability, the effect on consumers could still be questioned due to the mentioned attitude-behavior gap. This gap indicates that the benefits of sustainability by itself are not enough to drive the everyday consumer to a sustainable choice. Although some researchers state that the gap can be closed through comprehensive, yet simple information of the products' sustainability features (Turunen & Halme, 2011), one must acknowledge that sustainability only makes one of many factors affecting how the consumer perceives the brand. Regardless of the increased awareness of sustainable choices and consumerism, sustainability might not be the primary driver of choice compared to other factors related to the brand. Therefore, it is necessary to *integrate* sustainability into the brand position (Supphellen, 2020). This refers to combining sustainability benefits with other drivers that are important for purchase so that they reinforce each other and strengthen the total brand. Ideally, this will increase both the overall judgments of the brand and the perceived greenness of the brand (as sustainability aspects will make more sense to the consumer and thus become easier to recall) (Keller & Swaminathan, 2019). In other words, integrating sustainability into the brand position can increase the overall reliability and attractiveness of the brand.

If sustainability is not clearly integrated into the brand positioning, it will become a sub-topic that is less prioritized and that is not strategically relevant in the daily brand building (Supphellen, 2020). This is typically the case if the positioning is narrow and sets focus on a certain type of communication message (e.g., the premium quality taste experience in Nespresso) – giving no room for the sustainability drivers. Another reason why sustainability tends to be left out from the brand position is incorrect measures of how sustainability effects consumer preference and choice. Typically, it is often the direct effect of the sustainability-features that are measured. This may lead to incorrect conclusions that sustainability is of low importance. However, sustainability often has an *indirect* effect on consumer

preferences/choice, when communicated through other attributes. For example, the sustainability trait can amplify other traits such as healthiness, quality, taste, etc., which further affects purchase intention (Cho & Baskin, 2019). As this is overlooked by many companies, there are plenty of incorrect assessments of whether sustainability should be a part of the brand positioning.

In most cases, sustainability is included in the positioning as an attribute that is of importance, but not a decisive factor. This implies that sustainability tends to be a POP. However, competition can be strengthened if sustainability is managed to be made a valued, clear, and differentiated part of the brand (POD), in *combination* with other factors av importance for the target group (Supphellen, 2020).

The role sustainability should play in the brand positioning will depend on different factors and must be adjusted to the brand and market situation. In case of uncertainty around linking sustainability to other drivers or to take an individual role, the rule should be to always search for links and interactions with other associations. This will give the sustainability dimension more value (Supphellen, 2020). The Norwegian vegan cooking book "En skikkelig digg kokebok" is an example of how sustainability can be linked to core benefits of providing tasteful food. This link to central drivers is assumed to increase purchase intention significantly more than a rational approach of why one should eat vegan food due to environmental factors.

## 2.5 Sustainability across product categories

Over the past years, brands have been introducing organic food products on the market (Willer et al., 2018). As organic food includes neither synthetic fertilizer nor pesticides, it is significantly more sustainable than normal food production (Zimmerman, 2020). Thus, introducing new organic food products has been a way for brands to take on a more sustainable position. However, studies show that only some of the organic product introductions have benefitted from the trend. According to Schäufele & Janssen (2021), the product categories that are the most successful on the organic market are vegetables, milk, and eggs, while other product categories such as meat, sweets, cheese, and frozen food remain to be niche categories, having a low share in the organic food market (Schäufele & Janssen, 2021). This corresponds to the results from a global consumer survey in the UK, asking consumers what food they recall purchasing that was sustainable/eco-friendly. Most participants answered with fruit and

vegetables (25%), followed by dairy products (15%), tea (15%), and fish (13%), whereas ready-made meals (7%), snacks (7%), and frozen food (6%) were at the bottom of the listed product types (Kunst, 2021). When evaluating actual footprints in terms of levels of carbon, water, and nitrogen per kg product type, they were the lowest for fruit and vegetables, nuts, pulses, wheat, etc., and the highest for meat products. Milk, fish, and eggs were somewhere in between, placed right behind the various meat products (Leach, et al., 2016).

## 2.5.1 The target group of eco-friendly product categories

The consumers that typically purchase eco-friendly food products are those who are health- and environmentally conscious – making a relatively small target group, typically having low consumption levels within the less sustainable product categories (i.e. sweets, processed foods, meat, cheese). The focus on satisfying the needs of this narrow target group (health- and environmental benefits) makes it hard to make organic food products appealing for a broader group of people. These broader group is less likely to accept the trade-offs tied to choosing green products (i.e., lower quality, higher prices etc.), and be unwilling to choose green products that do not deliver on important criteriums tied to their own values (Olsen & Ougland, 2021).

## 2.5.2 The attitude-behavior gap for the various food categories

Studies show that the attitude-behavior gap for green products is significantly bigger for less successful organic categories than for the successful ones. As consumers that are less health- and environmentally conscious tend to consume a higher level of processed foods (Olsen & Ougland, 2021), they tend to be relatively convenience-oriented – seeking to ease their consumption through convenient products like frozen food, instant gravy, canned food, etc. Consumers with such an orientation have been shown to have low organic budget shares, as they are driven by the ease-of-use rather than high quality (Schäufele & Janssen, 2021). The convenience factor did not affect the attitudes toward organic products negatively, but it did have a significant negative impact on purchase behavior. This is because convenience-oriented consumers typically are less willing to invest excessive search costs, which further reasons for the lack of organic food in convenience-product-categories. In contrast to the convenience-oriented consumers, the more enjoyment- and quality-conscious consumers are typically less price sensitive. However, they tend to sense that the healthiness and/or adjusted production methods tied to organic alternatives goes on behalf of the pleasure of consumption and/or

quality of the product (Schäufele & Janssen, 2021). This also explains why sweets and more luxurious types of cheese/meat etc. perform less successfully in the organic product range.

Overall, in the food choice context, sustainability competes with other preferences, such as convenience, healthfulness and sensory quality, meaning that positive attitude to sustainability does not necessarily translate to utilizing available sustainability information when being in a purchase situation (Grunert et al., 2014).

## 2.5.3 Sustainability in vice and virtue product categories

Studies show that there are some product types that have more to benefit from being introduced as green than others. According to Olsen et al. (2014), any product category will contain a continuum of virtue and vice attributes. Categories with a high share of virtue attributes hold products that tend to be more healthful, offering long-term benefits, while categories containing a high share of vice attributes include products that deliver instant gratification and typically are less healthful (Wertenbroch, 1998). Their study shows that products in the latter category will have more to gain from introducing new green products compared to brands operating in a category that already is seen as healthful, offering positive consequences. This can be explained by the consumers' existing brand attitudes.

The consumers attitudes reflect their beliefs towards an object – an evaluation that could be positive and or negative (Fishbein A. &., 1980). When consumers are presented to new information that is redundant, the information will not have as strong an influence on the evaluation of the object (Eagly & Chaiken, 1993). As green and virtue products both focus on health and long-term benefits, the effect of introducing green product claims in such "high virtue" product categories will not be as effectful as it is likely to be absorbed by the existing evaluations of the brand. For vice product categories that are seen as less healthful and leading to negative long-term consequences, green new product introductions will introduce new information that will counterbalance the negative concerns and further improve the overall evaluation of the brand, and thus the brand attitudes (Olsen et al., 2014). This is, however, given that the sustainability elements that are introduced do not deviate from the brand identity (Keller & Swaminathan, 2019).

## 2.5.4 Strength-related vs gentleness-related product attributes

According to Luchs et al. (2010), product sustainability affects consumer preferences differently depending on whether the product has strength-related attributes (strong, effective, tough, powerful, getting the job done) and gentleness-related attributes (mild, healthy, good for children, safe). For products containing the latter attributes, sustainability enhances product preference, while for products containing strength-related attributes, the consumer tends to prefer less sustainable alternatives. The reason for this is that they expect the product functionality to weaken, losing its strength. Seo et al., (2016) found that examples of products ranking high in having gentleness-related attributes are dairy products like yogurt (typically having associations of being mild and safe, often appealing to children). Further, their study found that products aimed at providing energy, i.e., energy drinks (typically having associations to being effective, powerful) rank high in strength-related attributes.

Skard et al., (2019) found that this liability effect was removed when consumers were performing more cognitively demanding tasks. This refers to making them reflect over what implication the green characteristic has for the product's functional quality. As an example, Skard et al. (2019) suggest informing consumers that core attributes of the product are the same as before.

# 3. Model and hypotheses

This chapter introduces the conceptual model for the study in addition to three hypotheses based on the literature review. The hypotheses will form the foundation of the research project.

## 3.1 Conceptual model

The objective of this study is to gain insight into what messages are the most effective when launching a sustainability label, in terms of strengthening the product attitude and the perceived sustainability of the product. Furthermore, the study aims to investigate if the sustainability of product categories and the consumers perceived importance of sustainability will moderate this relationship. The figure below (fig. 2) demonstrates the conceptual model that sets the guidelines for the master's thesis and functions as the foundation for the research.
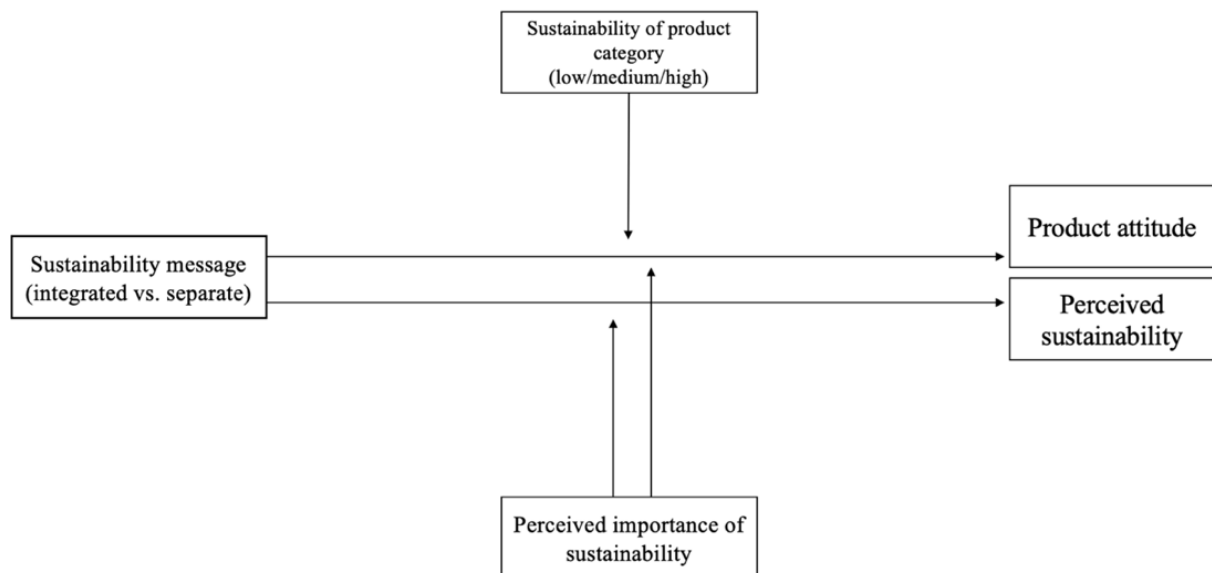


*Figure 2: Conceptual model*

The independent variable in the conceptual model is the type of *sustainability message,* which is expected to cause the change to the dependent variables (Saunders et al., 2012). For this study, the sustainability message is either integrated into the brand position– and thereby links sustainability to a driver for choice or presented separately - not linked to a driver for choice.

Further, the conceptual model's two moderating variables are: *sustainability of product category,* including product categories of low, medium, and high levels of sustainability, and *perceived importance of sustainability,* including measures on the participant's individual opinions of sustainability efforts.

Moreover, the conceptual model encompasses two dependent variables. The first dependent variable is *product attitude.* Product attitude is found to be of vital importance to manufacturers (Herpen & Hooge, 2019). According to previous research, the term attitude is used to refer to an observer's overall evaluation of persons, objects, and issues (Lee, 2008). Product attitude in this thesis, therefore, represents the participant's overall evaluation of the object/product. The second dependent variable is *perceived sustainability,* which includes various measures of how sustainable the participants perceive the product.

## 3.2 H1: Sustainability linked to a driver for choice

Although sustainability labels *"do have overall positive effects on psychological and behavioral outcome variables" (Majer et al., 2022),* issues tied to consumer awareness and understanding are limiting the effectiveness of the label usage. To overcome these issues, food manufacturers are encouraged to launch sustainability labels along with informational strategies – meaning that they could benefit from being launched as complementary to free-form sustainability communication. However, neither the presence of sustainability labels nor free-form communication does necessarily succeed in persuading the average consumer to make a sustainable choice (Turunen & Halme, 2021).

Several studies present evidence of a gap between consumers' expressed attitudes and actual purchasing behavior for sustainable goods, showing that obstacles to sustainable consumption still have a significant influence on a lot of consumer choices (Skard et al., 2019). According to the branding literature, this could be because sustainability is just one of many factors that affect how consumers perceive the brand. This implies that, despite increased awareness of sustainable choices and consumerism, sustainability may not be the primary influence of brand choice (Supphellen, 2020). It is, therefore, questionable how much of a significantly positive effect sustainability communication has when it is presented as a separate attribute. We, therefore, expect that brands can achieve more positive product evaluations and be perceived as more sustainable when sustainability is integrated into the brand positioning, compared to being a separate attribute. Our first hypothesizes is, therefore:

**H1-A**: *When sustainability is linked to a driver for choice, it has a greater positive effect on product attitude than when sustainability is presented as a separate attribute.*

**H1-B:** *When sustainability is linked to a driver for choice, it has a greater positive effect on the perceived sustainability than when sustainability is presented as a separate attribute.*

## 3.3 H2: Sustainability of product category as a moderator

The literature shows that products that are not associated with being healthful and providing more long-term benefits - i.e. less sustainable food products like meat, frozen/canned/processed food, snacks etc. (Schäufele & Janssen, 2021), will have more to benefit from being introduced as green compared to products that are associated with such traits. This is because the new, green elements will counterbalance the negative concerns and eventually improve the overall evaluation of the brand, compared to being perceived as redundant (Olsen et al., 2014). Note that this is under the assumption that the introduced sustainability elements is not in conflict with the existing brand identity (Keller & Swaminathan, 2019).

When the consumer believes that there is a trade-off tied to green products, implying that the functionality of main drivers is reduced, the products will not benefit from being introduced as green. For gentleness-related products (being mild, healthy, safe), sustainability is expected to enhance product performance. Yet, for strength-related products, the consumer is likely to expect reduced functionality (Luchs et al., 2010). Based on the ranking of other food products, we assume that this is the case for several of the less sustainable products (e.g. meat, alcohol, convenient food), as they fit the description of being heavy, satiating, and typically valued for being tough, effective, and getting the job done (Seo et al., 2016).

As the literature presented, this liability effect is removed when consumers face a cognitively more demanding task (Skard et al., 2019). If companies successfully can integrate sustainability into their brand positioning, consumers are more likely to reflect on the implication of the green characteristics in terms of how it strengthens other core drivers (as opposed to weakening them). This leads us back to the literature of Olsen et al. (2014). Given that the integration of the sustainability message creates a link between the green characteristics and the product functionality, products that initially are seen as less healthful are expected to benefit more from gaining new green attributes, as it provides an additional factor – strengthening already existing core benefits. Thus, we propose the following hypothesizes:

**H2-A:** *The effect of integrating sustainability and drivers in the message on product attitude*

*is moderated by the sustainability of the product category. Specifically, we expect a stronger effect of integration for less sustainable products.*

**H2-B:** *The effect of integrating sustainability and drivers in the message on perceived sustainability is moderated by the sustainability of the product category. Specifically, we expect a stronger effect of integration for less sustainable products.*

## 3.4 H3: Perceived importance of sustainability as a moderator

The literature review suggests that the target groups of eco-friendly food (health and environmentally conscious consumers) typically are more likely to accept the tradeoffs tied to green consumerism (i.e., higher price levels, taste, reduced functionality etc.) than the broader target group (the less health- and environmentally conscious consumers) (Olsen & Ougland, 2021). This implies that the target group is more likely to accept a sustainability claim on its own, while the broader target group has a greater need to be ensured that the claimed green product also delivers on important criteriums (Olsen & Ougland, 2021).

Therefore, we have reason to believe that linking sustainability to key drivers for choice will make the product more attractive among people who do not value sustainability claims on its own and thus increase their product attitude. Furthermore, when sustainability in isolation is not that important to people, we believe that they will appreciate that sustainability reinforces a driver that is important to them, and thus be more aware of the sustainability of the product when the message is tied to a key driver. Thus, we suggest the following hypothesis:

**H3-A:** *The effect of integrating sustainability and drivers in the message on product attitude is moderated by the perceived importance of sustainability. Specifically, we expect a stronger effect of integration for individuals who are less concerned with sustainability*

**H3-B:** *The effect of integrating sustainability and drivers in the message on perceived sustainability is moderated by the perceived importance of sustainability. Specifically, we expect a stronger effect of integration for individuals who are less concerned with sustainability.*

# 4. Methodology

This chapter will present the methodological approach for the research project. The book *Research Methods for Business Students* by Saunders et al. (2012) will function as the primary source for the chapter, supplemented by other literature. Initially, the research design will be presented, followed by a description of the data collection, sampling, and preparation for data analysis. Moreover, the choice of product categories to include in the experiment, questionnaire, measures, and reliability of the construct will be discussed.

## 4.1 Research design

The research design is the framework of techniques and research methods chosen to conduct the study (Saunders et al., 2012, 2016). As the hypotheses concern cause-effect, an experimental research design is needed. To ensure high internal validity, the experiment is performed through a questionnaire, ensuring quantitative data from a large population sample.

Overall, the research is of an explanatory nature, focusing on explaining the relationship between messages and product attitude/perceived sustainability. Further, it has a deductive approach, as the hypotheses are derived from existing literature, and as the research will collect primary data to answer them.

### 4.1.1 Design Description

For this study, a 2x3 between-subjects-factorial experimental design will be adapted. In a between-subjects design, experimental results can be compared between experimental and control groups, making it suitable for this study (Saunders et al., 2012). The independent variables in the between-subjects-design are the sustainability message (label communicated separately vs linked to driver for choice) and the sustainability level of product category (high/medium/low). The independent variables will be manipulated to test the combined effect on product attitude and perceived sustainability. Due to the 2x3 design, it is necessary to conduct the experiment on 6 different participant groups. Each sample group was exposed to contrived website extracts showcasing different communication messages together with the sustainability label.

Moreover, it is essential to establish a time horizon for the study in the research design (Saunders et al., 2012). Firstly, this is a master thesis, written over approximately four months

(20. August - 20. December), which limits the data collection period. Second, the study is assumed to be representative of a specific point in time. The dependent variables being measured (i.e. product attitude and perceived sustainability) can change over time due to other factors (i.e., user experiences, new information, campaigns). Due to these time constraints, a cross-sectional time horizon is considered appropriate for this study. Cross-sectorial studies is the study of a particular phenomenon at a particular time (Saunders et al., 2012).

The table below (table 2) shows the 2x3 between-subjects-factorial experimental design, for more detailed illustrations, see Appendix B.



*Table 2: Between-subjects Factorial Design*

## 4.2 Data collection and procedure

The objective of the study was to examine the relationship among the selected variables in detail. We were unable to locate other research on the effect on linking sustainability to main drivers of choice in the context of launching sustainability labels. Therefore, we based the

research on primary data, i.e., firsthand data, explicitly collected for the purpose of the research (Saunders et al., 2016).

To collect the data, we used a web-based questionnaire. This method is well suited to collect quantitative data from a large sample size, being the case for a between-subject design. Furthermore, questionnaires are best suited for standardized and close-ended questions that allow confronting all respondents with an identical approach (Saunders et al., 2016; Robson, 2011). Therefore, questionnaires work particularly well for explanatory research. Additionally, using a web-based questionnaire allows for self-completion among the respondents, which is beneficial when having time- and resource constraints (Saunders et al., 2016).

The respective questionnaire was outlined, programmed, and distributed by Norstat, the leading data collector in Northern Europe for market research and owner of the most extensive consumer panel in Norway, Norstatpanel. By outsourcing the questionnaire through Norstat, we quickly reached a large population and generated robust findings (Brewer, 2000).

The questionnaire included various sections (Appendix B). To begin with, the participants were given a brief introduction to the questionnaire. Then, the respondents were assigned to one of six groups where they were shown a brand's webpage with a product description for a particular product. Each product description had an illustration showing the product and the attached sustainability label. In the textual message, sustainability was either linked to another major driver for choice (taste) or presented as a separate attribute (good for the environment. The respondents were asked to review the communication carefully as it made the base for the following questions. The introductory questions included basic demographic questions (i.e. gender, age, and region), before moving on to questions concerning attitude towards the product, intention to buy the product, and the perceived sustainability of the specific product and the product category in general. Further, the questionnaire addresses the respondent's perceived importance of sustainability and how often they normally purchase products in the product category. In the final question, the sustainability label is specifically addressed in terms of the label usage is perceived.

The questionnaire was designed to be completed in a time frame of 3 minutes, as a long duration increases the likelihood of boredom, inattention, fatigue, and thereby also the mortality rate.

Additionally, only close-ended questions were included in the questionnaire. This makes it easier to structure the data, which is helpful for data analysis (Saunders et al., 2016).

A pilot test of the questionnaire was carried out prior to its release to gather input on its functionality, clarity, and comprehensiveness as well as any ambiguities or errors (Saunders et al., 2016; Bell, 2014). After adjusting the questionnaire for errors, the questionnaire was approved for distribution.

## 4.3 Sampling and preparation for data analysis

For this study, a probability sampling was used to collect the data. This is often associated with experiment- and survey research strategies, where each subject of the population is given an equivalent chance of being selected as a representative sample. In probability sampling, a randomization technique is used. This implies that the representatives are chosen to be a part of the sample randomly, where the probabilities of selection are fixed and known. Thus, the results that are generated are non-biased, and the sample is better suited to represent the population compared to a non-probability sampling where subjects are chosen arbitrarily (Saunders et al., 2016).

When using probability sampling, it is crucial that the sample size is sufficient to provide the required level of confidence in the data (Saunders et al., 2016). Also, between-subject designs typically require sizeable samples compared to within-subject designs to achieve credibility (Charness et al., 2012). Taking the project scope into consideration, a sample size of 40 participants per group was considered sufficient, which implies a total of 240 (6x40) valid replies. As the sampling was outsourced, the total number of respondents that finished the full scope of the questionnaire was fixed to correspond with the planned sample size. No participants were excluded, as no outliers nor careless respondents were detected.

The sample included 240 adult individuals (above the age of 18) among the Norwegian population, distributed between the country's regions. The sample was divided between 54,6% (131) men and 43,8% (105) women, that was aged 18-85 years ($M_{age} = 50,39$), from various regions ($n_{NordNorge} = 24$, $n_{Midt-Norge} = 33$, $n_{Vestlandet} = 47$, $n_{Østlandet} = 74$, $n_{Sørlandet} = 20$, $n_{Oslo} = 41$). The population was divided into six groups, being exposed to a message that either did or did not link sustainability to main drivers for choice. The groups

were further divided across three different product categories, which based on a pre-test were assumed to have three levels of perceived sustainability (low/medium/high).

## 4.4 Choice of stimuli

### 4.4.1 Sustainability Label

A sustainability label was present throughout all the experiments. As we believe that less credible labels could benefit more from providing consumers with additional sustainability communication, we chose a privately owned label as the label-stimuli. These tend to be seen as less credible compared to third-party-verified labels (Atkinson and Rosental, 2014). Due to our collaboration with Orkla, the relatively newly launched sustainability label, Klodemerket, became a natural choice. Klodemerket (translated into *The Globe Label*), is a carbon footprint label launched in 2020. Being launched by Orkla, it is a company lead standard, where the company Orkla is the one who sets the standards and is the lead stakeholder (c.f. table 1).

*Figure 3: Sustainability label: Klodemerket / The globe label (Toro,2022)*

Products that entail Klodemerket leave a relatively "low carbon footprint" in the world (Toro, 2022). Orkla defines the meal as having a "low" carbon footprint if the emissions are 2,1 kg $CO_2$ in total (0,8 kg $CO_2$ per portion), compared to today's average carbon emission of a dinner, which is 4,2 kg $CO_2$ in total (1,6 kg $CO_2$ per portion) (Toro, 2022). The goal is to make it simpler for consumers to select meals that are more climate-friendly so that they may be confident that the environment is considered.

### 4.4.2 Product category

The product category stimuli chosen to represent various levels of sustainability were based on a pre-test using a 1-10 Likert scale, asking the respondents how sustainable they perceived the product categories, where 1=unsustainable and 10=sustainable. Based on the literature on sustainability levels across product categories, several product categories were included in the pretest. The results showed three categories that stood out with regard to different levels of sustainability: frozen pizza (low), instant soup (medium), and granola (high). The perceived sustainability of these categories was tested using a convenience sample of 26 respondents. The mean scores were clearly different across categories: Frozen pizza: 3.81; Instant soup:

4.85; Granola: 6.73. Wilk's Lamda for the repeated measures analysis was .430 and highly significant (F=15, 918; 0=.001). All contrasts were also significant (all p's < .01).

As the thesis is written in collaboration with Orkla, food brands from the Orkla group were prioritized to represent the three product categories. The brand Grandiosa was set to represent frozen pizza, Toro was set to represent instant soup, and BareBra was set to represent granola. These are all well-known Norwegian food brands, with a high degree of brand recognition. When referring to the selected product stimulus throughout the thesis, brand names and the associated product category will be mentioned.

### 4.4.3 Communications

Six stimuli were developed in collaboration with supervisor Magne Supphellen (See 4.1). For each of the three product categories, respondents were exposed to an illustration of a contrived webpage showcasing a product description. The webpage was designed to match the original, having salient brand elements to facilitate attention to the message instead of what brand or product the website represented. The sustainability label was present for all groups, and the associated communication varied based on whether sustainability was linked to a key driver for choice or not. As taste is a significant driver in all food products, this was the chosen driver for all product categories. To ensure that all groups are subject to the same external influences, making the intervention the only explanation for changes in the DV (Saunders et al., 2016), the stimuli were set to be as similar as possible. The communications only variated with the brand name and statements of providing good taste (main driver) vs being good for the environment (separate attribute).

## 4.5 Questionnaire and measurements

The questions in the survey were carefully selected and analyzed by the authors. Additionally, the supervisor provided feedback on the questions included (Appendix B), where some adjustments and additional questions were added. The final questionnaire contained 18 questions and was sent to Norstat for programming and distribution to respondents.

The questionnaire was separated into three parts consisting of (1) demographic questions, (2) stimuli exposure, and (3) personal opinions. First, to gain information about the respondent, the respondents received three demographic questions regarding age, gender, and location

(region). Second, the respondent received the illustration of the product description placed on the brand's webpage. As mentioned, due to the 2x3 design, the respondents were separated into six respondent groups, receiving six different illustrations. Finally, for the central part of the questionnaire, the respondent received opinion questions linked to the communication they had been exposed to, as well as questions regarding their own perceived importance of sustainability.

The questionnaire mainly involved Likert-style rating questions, which is a standard tool for collecting opinion data (Saunders et al., 2012). The respondent was asked to which extent they agree or disagree with a statement on a unipolar 7-point Likert scale, where 1= Fully disagree and 7= Fully agree (Saunders et al., 2012). However, one question (Q6), in addition to demography questions (Q1, Q2, and Q3) were category questions, allowing respondents to select an answer they find suitable from a list of options (See Appendix B).

Since the respondents were Norwegian, the survey and questions were proposed in the Norwegian language. The questions will however be translated into English in the following chapters, in accordance with recommendations from Saunders et al. 2012. The questions can be found in their original language in Appendix B.

## 4.5.1 Dependent variable

*Product attitude*
To test the respondents' attitude to the product stimuli, the questionnaire included three questions measured on a 7-point Likert scale. The questions followed the guidelines of Sternthal et al (1994) and are adapted from questions utilized by Lee et al. (2008). The questions covered statements regarding product liking, and the product's perceived goodness and temptingness.

> *I like the product that was shown*
> *This is a good product*
> *This product is tempting*

*Perceived product sustainability*

Moreover, to measure the effects of perceived sustainability of the product category, we included four questions concerning both environmental and social sustainability aspects. Regarding the questions related to the environment, this study adopted questions from Chen and Chang (2012), that were altered to fit the study. For the questions regarding social sustainability, questions by Kim et al. (2015) were adapted and utilized in the questionnaire.

> *This product is good for the environment*
> *This product helps to reduce climate problems*
> *This product contributes to more social sustainability*
> *This product is socially responsible*

## 4.5.2 Independent variable

*Message*

The independent variable of the study is the message of the sustainability communication, shown in the contrived product description. The message was manipulated to either be linked to the key driver "good taste" or presented as a separate attribute, not linked to a major driver; "good for the environment".

## 4.5.3 Moderating variable

The first variable assumed to have a moderating effect was the product category. This variable was manipulated based on a pretest (cf. 4.4.2) that showed significant differences ($p<.05$) in perceived sustainability for the product categories frozen pizza (low), instant soup (medium), and granola (high).

Furthermore, the respondent's perceived importance of sustainability was assumed to have a moderating effect. The respondents were therefore faced with three statements on their thoughts about climate and environment, sustainability goals, and the society's focus on sustainability. This study was inspired by questions from Newton et al. (2015), regarding environmental concern. However, the questions have been altered to cover sustainability concerns in general.

> *Climate and environment issues concern me*

> *The sustainability goals are important to me*
> *There is far too much talk about sustainability*

## 4.5.4 Additional and control variables

*Purchase intention*

The respondent's intention to use the product is measured by asking them to take a stand on the likelihood that they would buy the product, or *consider* buying the product, within the next weeks.

> *It is likely that I will consider purchasing this product within the next few weeks.*
> *It is likely that I will purchase this product within the next few weeks.*

*Evaluation of label usage*

To measure if the communication enhances the usage of the selected sustainability label (Klodemerket), the respondents were instructed to assess how well they perceive the label usage for the specific brand.

> *It is good that Grandiosa / Toro / BareBra uses Klodemerket*

*Perceived sustainability of the product category*

To ensure that the chosen product category stimulus was categorized correctly and was significantly different as found in the pretest, statements regarding the perceived sustainability of the product category were included in the questionnaire.

> *My view is that the frozen pizza/instant soup/granola category is generally sustainable.*

*Usage of product*

To investigate the personal relationship the participant has to the product, questions regarding usage of the product were included. This was assessed through a 5-point Likert scale ranging from 1=weekly to 5=never.

> *How often do you use the type of products within this product category of frozen pizza/granola/instant soup?*

*Demography*

Finally, being a standard practice in most research (Saunders et al., 2016; Tumasjan & Braun, 2012), socio-demographic data was collected.

> *What gender do you identify with?*
> *What is your age?*
> *In what region are you based?*

# 4.6. Reliability of construct

For the purpose of the study, several index variables were made by aggregating multiple variables that were aimed at measuring the same construct. For variables having numerical scoring scales pulling in a negative direction, the score scale was reversed to ensure that all aggregated variables pulled in the same direction. Indexes were made for the dependent variables' *product attitude* and *perceived product sustainability* (in addition to separate indexes for social and environmental sustainability)*,* for the moderating variable *perceived importance of sustainability,* and for the additional variable *purchase intention* (c.f. 4.5.)*.* When generating indexed variables, reliability concerns are important to address. Therefore, to ensure that the measures depict consistency, reliability measures were carried out (Saunders et al., 2016).

Cronbach's Alpha is a statistical practice that is frequently used to assess "the consistency of responses across a set of questions (scale items) designed together to measure a particular concept (scale)" (Saunders et al., 2016, p. 714). The Cronbach's Alpha ranges between 0 and 1, whereby values of $\alpha = 0.7$ or above indicates an internal consistency of the set of variables (Saunders et al., 2016).

Table 3 include the indexed variables together with their corresponding Cronbach's alpha. The results lead to the conclusion that these dimensions are reliable, as $\alpha \geq 0.7$. This was also the case when splitting the data based on product categories (See appendix C8).

| Indexed variable | Cronbach's Alpha | Number of Items |
|---|---|---|
| Product attitude | 0.931 | 3 |
| Perceived product sustainability (in total) | 0.923 | 4 |
|     - Perceived social sustainability | 0.906 | 2 |

| | | |
|---|---|---|
| - Perceived environmental sustainability | 0.870 | 2 |
| Perceived importance of sustainability | 0.86 | 3 |
| Purchase intention | 0.943 | 2 |

*Table 3: Reliability of construct*

## 4.7 Descriptive Statistics

Table 4 presents means and standard deviations from the descriptive statistics. The complete model with information on more detailed descriptions across all variables can be found in Appendix C1.

| Message | Product Category | | Product Attitude | Sum Perceived Sustainability | Perceived environmental sustainability | Perceived social sustainability | Perceived Importance of Sustainability | Purchase Intention | Evaluation of label use | Purchase frequency |
|---|---|---|---|---|---|---|---|---|---|---|
| Not integrated | Grandiosa | Mean | 3.9167 | 3.5250 | 3.6875 | 3.3625 | 4.8000 | 2.9000 | 4.63 | 3.1000 |
| | | Std. Deviation | 1.40967 | 1.19936 | 1.24904 | 1.29093 | 1.46137 | 1.67638 | 1.644 | 1.19400 |
| | Toro | Mean | 3.8417 | 3.8000 | 4.0125 | 3.5875 | 5.0000 | 3.3000 | 4.75 | 2.4750 |
| | | Std. Deviation | 1.59948 | 1.62729 | 1.73755 | 1.65981 | 1.67093 | 1.98003 | 1.836 | 1.06187 |
| | BareBra | Mean | 3.9000 | 3.6688 | 3.9125 | 3.4250 | 4.3167 | 2.7250 | 4.65 | 2.7250 |
| | | Std. Deviation | 1.34652 | 1.06727 | 1.18693 | 1.16877 | 1.72950 | 1.59707 | 1.594 | 1.44980 |
| Integrated | Grandiosa | Mean | 4.1583 | 4.0125 | 4.0625 | 3.9625 | 4.5583 | 3.4125 | 4.72 | 2.9750 |
| | | Std. Deviation | 1.47145 | 1.44886 | 1.45085 | 1.53751 | 1.80438 | 1.69421 | 1.320 | .99968 |
| | Toro | Mean | 3.8417 | 3.6938 | 3.8500 | 3.5375 | 4.5000 | 2.5875 | 4.50 | 2.5250 |
| | | Std. Deviation | 1.41821 | 1.36754 | 1.48151 | 1.43396 | 1.30308 | 1.44065 | 2.025 | .96044 |
| | BareBra | Mean | 4.2167 | 4.3188 | 4.4750 | 4.1625 | 5.0917 | 2.8000 | 5.10 | 2.4750 |
| | | Std. Deviation | 1.60048 | 1.47630 | 1.61702 | 1.44288 | 1.44803 | 1.90748 | 1.614 | 1.35850 |

*Table 4: Descriptive statistics*

The descriptive statistics indicate that there are differences between the message conditions. While the mean score across all variables is higher for the integrated sustainability message among those exposed to Grandiosa (frozen pizza), and BareBra (granola), the results are the opposite or show no difference across variables for those exposed to Toro (instant soup).

In specific, the overall perceived sustainability (environmental and social) scores higher for the integrated sustainability message across the product categories of low and high levels of sustainability, respectively Grandiosa (frozen pizza) and BareBra (Granola). The opposite is shown for the product of medium sustainability, Toro (instant soup). However, the difference between mean scores linked to each message type is considerably smaller for the latter category. Furthermore, respondents across all product categories exposed to the integrated sustainability message report a higher or equal (Toro, instant soup) product attitude compared to the group exposed to the stand-alone message. The observed values regarding purchase intention also show a higher mean score for the integrated sustainability message for Grandiosa

(frozen pizza) and BareBra (granola). Yet, for the Toro (instant soup), the purchase intention is noticeably higher among those exposed to the stand-alone message. Moreover, the evaluation of label usage on average is positive under all conditions, and especially under the condition of the most sustainable product category, BareBra (granola). Regarding the respondent's perceived importance of sustainability, we observe an overall high concern for sustainability.

A Pearson's correlation matrix was created to assess the strength of the relationship between the variables. Table 5 presents the correlation matrix for the complete sample, while correlation matrixes for selected foci are places in the appendices (cf. Appendix C1.4, C1.5, C1.6)

Overall, there are three factors that appear to be relatively strongly correlated with the dependent variable *Sum Perceived Sustainability*: *Product Attitude* (R=.58, p<.001) and *Purchase Intention* (R=.438, p<.001), which is in line with expectations based on the literature review concerning green consumerism (cf. Chapter 2.2), and the *Evaluation of Label Usage* (R=.669, p<.001). Additionally, this dependent variable is also observed to have a relatively weak positive correlation to *Perceived importance of Sustainability* (R=.267, p<.001), as well as to *Purchase Frequency* (R=.173, p=.0072). Furthermore, the dependent variable has a weak positive correlation (R=.124) to the independent variable *Message,* being significant on a marginal level (p=.0548). Looking at the correlation matrixes for each foci (Appendix C1.4, C1.5, C1.6), there is a weak positive, and significant, correlation to *Message* for BareBra, being in the product category perceived as the most sustainable, but none of the other foci. For Grandiosa, however, being in the least sustainable product category, there is a weak positive correlation (R=.182) being marginally significant on a p<0.1 level (p=0.105).

Looking at the dependent variable *Product attitude,* a strong positive correlation is observed to *Purchase Intention* (R=.720, p<.001), which is expected. Furthermore, there is a weak positive correlation to multiple factors: *Perceived importance of sustainability* (R=.113, p=.004), *Purchase Frequency* (R=.397, p<.001) and *Evaluation of label usage* (R=.309, p<.001). Overall, the variable does not appear to have a strong or significant correlation to *Message,* which is contrary to our expectations. This is the case also when looking at the correlation matrixes for each foci.

| | | Age | Gender | Product Category | Message | Product Attitude | Perceived Sustainability of Product Category | Sum Perceived Sustainability | Perceived environmental sustainability | Perceived social sustainability | Perceived Importance of Sustainability | Purchase Intention | Purchase frequency | Evaluation of label use |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | Pearson Correlation | -- | | | | | | | | | | | | |
| Gender | Pearson Correlation | .085 | -- | | | | | | | | | | | |
| | Sig. (2-tailed) | .190 | | | | | | | | | | | | |
| Product Category | Pearson Correlation | .019 | .051 | -- | | | | | | | | | | |
| | Sig. (2-tailed) | .774 | .429 | | | | | | | | | | | |
| Message | Pearson Correlation | .048 | .075 | .000 | -- | | | | | | | | | |
| | Sig. (2-tailed) | .461 | .244 | 1.000 | | | | | | | | | | |
| Product Attitude | Pearson Correlation | -.033 | .075 | .006 | .063 | -- | | | | | | | | |
| | Sig. (2-tailed) | .608 | .248 | .929 | .328 | | | | | | | | | |
| Perceived Sustainability of Product Category | Pearson Correlation | .055 | -.062 | .150* | -.061 | .468** | -- | | | | | | | |
| | Sig. (2-tailed) | .395 | .338 | .020 | .344 | <.001 | | | | | | | | |
| Sum Perceived Sustainability | Pearson Correlation | -.068 | .041 | .066 | .124 | .581** | .527** | -- | | | | | | |
| | Sig. (2-tailed) | .294 | .529 | .306 | .055 | <.001 | <.001 | | | | | | | |
| Perceived environmental sustainability | Pearson Correlation | -.056 | .026 | .089 | .088 | .526** | .510** | .952** | -- | | | | | |
| | Sig. (2-tailed) | .387 | .692 | .171 | .174 | <.001 | <.001 | <.001 | | | | | | |
| Perceived social sustainability | Pearson Correlation | -.073 | .052 | .037 | .149* | .580** | .492** | .950** | .809** | -- | | | | |
| | Sig. (2-tailed) | .257 | .420 | .567 | .021 | <.001 | <.001 | <.001 | <.001 | | | | | |
| Perceived Importance of Sustainability | Pearson Correlation | -.051 | .251** | .006 | .004 | .133* | .048 | .267** | .255** | .252** | -- | | | |
| | Sig. (2-tailed) | .431 | <.001 | .921 | .957 | .040 | .457 | <.001 | <.001 | <.001 | | | | |
| Purchase Intention | Pearson Correlation | .043 | .020 | -.093 | -.012 | .720** | .409** | .438** | .364** | .470** | .148* | -- | | |
| | Sig. (2-tailed) | .504 | .760 | .151 | .853 | <.001 | <.001 | <.001 | <.001 | <.001 | .022 | | | |
| Purchase frequency | Pearson Correlation | -.047 | -.111 | -.149* | -.045 | .397** | .301** | .173** | .134* | .195** | -.037 | .442** | -- | |
| | Sig. (2-tailed) | .467 | .088 | .021 | .485 | <.001 | <.001 | .007 | .038 | .002 | .573 | <.001 | | |
| Evaluation of label use | Pearson Correlation | -.096 | .138* | .049 | .030 | .309** | .321** | .669** | .641** | .631** | .349** | .250** | .037 | -- |
| | Sig. (2-tailed) | .140 | .033 | .452 | .646 | <.001 | <.001 | <.001 | <.001 | <.001 | <.001 | <.001 | .563 | |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

*Table 5: Correlation matrix*

## 4.8 Assumptions of analysis

Typically, in inferential statistics, several assumptions must be verified. This section will address the underlying assumptions that are of relevance to this statistical study, using reliability analyses, ANOVA analyses, and moderation analyses (Pallant, 2010).

First, the assumption of *homoscedasticity* must be fulfilled. Levene's test for equality of variances was performed and passed for all relevant analyses, verifying that variances were equal across groups. Second, the assumption of *independence* must be met. The data in each sample was collected through random sampling across the nation, performed by a professional data collector. Thus, the risk that observations were related to each other is very low. Third, the *level-of-measurement* is of importance, as it is essential that the outcome variable is continuous when using an ANOVA-analysis (Pallant, 2010). This was followed for all the analyses conducted. Fourth, it was ensured that there was *no multicollinearity* among the independent variables, meaning that none of the predictor variables were highly correlated with each other (See table 5.). Finally, the assumption of normality is met. Most variables have a skewness and kurtosis between -1 and +1, which means that they are normally distributed (See appendix C1.1). However, a few values lay between –1.5 and +1.5 in skewness/kurtosis, but never higher. Nonetheless, when skewness and kurtosis stay between -2 and +2, it is reasonable to assume that data are normally distributed (Khan, 2012).

# 5. Data analysis and results

In the following chapter, the collected data will be analyzed in order to test the hypotheses presented in chapter 3. These analyses were conducted using the statistical software program SPSS, where several statistical techniques were used.

## 5.1 Hypothesis testing

The following chapter will describe how the hypotheses of the study are tested. The hypotheses will be tested using frequency tables, correlation matrixes, ANOVA analyses and Hayes process-model 1.

### 5.1.1 Effects on product attitude

A one-way ANOVA was conducted to answer the following hypothesis:

> **H1-A**: *When sustainability is linked to a driver for choice, it has a greater positive effect on product attitude than when sustainability is presented as a separate attribute.*

The analysis compared the effect on the product attitude between the two message groups (integrated or stand-alone). See Appendix C2 for results. Descriptive statistics were also used to assess mean scores (Appendix C1).

The effect on product attitude between sustainability messages that were integrated (M= 4.072, SD=1.49) and separate (M=3.886, SD=1.44) was not significantly different (p=.328). Equal variances between the groups are assumed, given the high p-value produced in Levene's test (Sig. =.805). The differences in mean scores were small ($\Delta$M=0.186). An ANCOVA analysis was performed to control for variables that may co-variate with the dependent variable (age, gender), but there was no change in levels of significance.

To test if there is a significant effect under specific conditions, an ANOVA analysis was also conducted for each product category. Comparing message groups, positive differences in mean scores were detected for both Grandiosa (frozen pizza) ($\Delta M = .24$) and BareBra (granola) ($\Delta M = .32$). However, the mean is unaffected for Toro (instant soup) ($\Delta M = 0$). Nevertheless, no significant effect was detected under any foci.

To conclude, H1 is not supported.

## 5.1.2 Effects on perceived product sustainability

The same measures were conducted to test H1-B:

**H1-B:** *When sustainability is linked to a driver for choice, it has a greater positive effect on the perceived product sustainability than when sustainability is presented as a separate attribute.*

The analysis compares the perceived product sustainability between the two message groups (integrated or stand-alone). Again, see Appendix C2 for results.

Respondents exposed to the integrated sustainability message had a marginally significantly $(F(1,238)=[3.725], p=0.055)$ higher perceived sustainability of the product (M=4.0083) than respondents exposed to the stand-alone message (M=3.6646). The Levene's test is passed, meaning that equal variances are assumed (Sig.=.585). The mean differences are small also for this dependent variable $(\Delta M = .343)$.

Integrating the sustainability message had a positive effect on perceived sustainability for groups exposed to Grandiosa (frozen pizza) $(\Delta M = .65)$ and BareBra (granola) $(\Delta M = .488)$. However, for the group exposed to Toro (instant soup), the effect of integrating the sustainability message was negative $(\Delta M = -.106)$. Nevertheless, the effect was only significant under the condition of BareBra (granola) (p=.027), not for Grandiosa (frozen pizza) (p=.105) or Toro (instant soup) (p=.753).

To summarize, H2 is partly supported for the overall sample. Under the condition of the most sustainable product, BareBra (granola), the hypothesis is supported.

## 5.1.3 Moderating effect of Product Category

Hayes (2018) process-macro was used to test hypothesis 2A and B:

**H2-A:** *The effect of integrating sustainability and drivers in the message on product attitude is moderated by the sustainability of the product category. Specifically, we expect a stronger effect of integration for less sustainable products.*

**H2-B:** *The effect of integrating sustainability and drivers in the message on the perceived sustainability is moderated by the sustainability of the product category. Specifically, we expect a stronger effect of integration for less sustainable products.*

The purpose of the analysis is to estimate whether the sustainability of the product category will have an influence on the relationship between the message and the dependent variables, and if so in which direction. Please see Appendix C3 for results.

Initially, a one-way ANOVA ensures that there are significant [$F_{(2,237)}$ =3.11, p=.046] differences in the perceived sustainability between the chosen product categories in general ($M_1 = 3,13$, $M_2 = 3.21$, $M_3 = 3.60$), meaning that the conditions are suited to investigate the following H2-testing. This implies that frozen pizza is considered the least sustainable category, instant soup as moderately sustainable, and granola as the most sustainable.

To investigate the influencing effect of the sustainability of the product category, a simple moderation analysis was conducted using Hayes's (2018) process-macro in SPSS. The predictor variable was Message, and the moderator variable was Sustainability of Product Category. Further, the outcome variable was either set as Product Attitude or Perceived Sustainability.

**Product attitude**

The interaction between the sustainability of product category and message was *not* found to be significant [B=.0375, 95%, C.I.(-.422,.4972), p=.872].

The results, therefore, show no support for the hypothesis assuming a negative moderating effect of product category on the relationship between the message and the product attitude. Thus, H2-A is not supported. However, this is expected, as there was no direct effect observed between the independent and dependent variables.

**Perceived sustainability**

As stated for H1-B, the integrated sustainability message only had a significant positive effect on perceived sustainability [$F_{(1,78)}$=5.093, p=.027) for granola - being the *most* sustainable (Appendix C.2.3.). This initially indicates that our assumptions of a negative moderating effect of sustainability of the product category are incorrect.

The simple moderation analysis shows that the interaction effect between product category and message was slightly positive, but *not* found to be significant [B=.0813, 95%, C.I.(-.3492, .5117), p=.7103]. Thus, we observe no support for the hypothesis of a moderating effect of product category on the relationship between the message and perceived product sustainability.

## 5.1.4 Moderating effect of Perceived Importance of Sustainability

Hayes (2018) process macro was also used for hypothesis 3A and B:

> ***H3-A:*** *The effect of integrating sustainability and drivers in the message on product attitude is moderated by the perceived importance of sustainability. Specifically, we expect a stronger effect of integration for individuals who are less concerned with sustainability*

> ***H3-B:*** *The effect of integrating sustainability and drivers in the message on perceived sustainability is moderated by the perceived importance of sustainability. Specifically, we expect a stronger effect of integration for individuals who are less concerned with sustainability.*

The analysis investigates whether an individual's perceived importance of sustainability will have an influence on the relationship between the sustainability message and the dependent variables, and if so in which direction. See Appendix C4 & C5 for results.

Firstly, an independent t-test shows that there is a large, significant mean difference between the group of low concerns and the group of high concerns in terms of their overall rating of product attitude ($\Delta M = .48, p = .035$), perceived sustainability ($\Delta M = .81, p < .001$), evaluation of label usage ($\Delta M = 1.24, p < .001$), as well as purchase intention ($\Delta M = .75, p = .006$) (Appendix D6). Thus, the prerequisite for the hypothesis that eco-friendly products appeal more to environmentally conscious consumers is fulfilled. Equal variances were assumed for all variables (Sig>.005).

The grouping variable was defined by a cut point of 3.5 (mid-scale), meaning that one should be aware of the skewed distribution of the variable, as the average concern for sustainability (M=4.7) is higher than the cut-point. In addition, one should be aware of the possibility of information loss (Saunders et al., 2012). The grouped construct has been used to obtain a clear basis for comparison, but for the process analysis, the ungrouped construct is utilized.

For Hayes (2019) process-macro, the predicting variable was Message, and the moderator variable was Perceived importance of Sustainability. The outcome variable was either set as Product Attitude or Perceived Sustainability.

**Product attitude**

Comparing ratings on product attitude, we observe that mean differences between message groups are more substantial for individuals of low concerns ($\Delta M = 0.55$), compared to those of high concerns ($\Delta M = 0.07$). However, as discussed in H1, the positive effect of message on product attitude is not significant.

The observed interaction effect of perceived importance of Sustainability and Message was negative, but not significant [B=-.0629, 95%, C.I.(-.2980, .1723), p=.5989]. The interaction effect was neither significant under specific conditions (i.e. different levels of sustainability in product categories).

To conclude, there is no support for H3-A.

**Perceived sustainability**

Comparing ratings on perceived sustainability, the mean differences between message groups are bigger ($\Delta M = 0.75$) for individuals that are less concerned with sustainability compared to the more concerned individuals ($\Delta M = 0.2$). However, the effect was only significant for the group of low concerns [F(1,49)=4.115, p=.048].

The moderation analysis shows no significant moderating effect of the perceived importance of sustainability on the relationship between message and perceived sustainability (B=.0011, 95%, C.I.(-.2135, .2158), p=.9919]. The interaction effect was neither significant under specific conditions.

In conclusion, there is no support for H6.

## 5.2 Summary of results

The table below presents a summary of the findings, regarding whether the hypothesis is supported or not.

| | *Hypoteses* | Result |
|---|---|---|
| H1A | *When sustainability is linked to a driver for choice, it has a greater positive effect on product attitude than when sustainability is presented as a separate attribute.* | Not supported |
| H1B | *When sustainability is linked to a driver for choice, it has a greater positive effect on perceived sustainability than when sustainability is presented as a separate attribute.* | Partly supported. Supported under the condition of "BareBra" granola. |
| H2A | *The effect of integrating sustainability and drivers in the message on product attitude is moderated by the sustainability of the product category. Specifically, we expect a stronger effect of integration for less sustainable products.* | Not supported |
| H2B | *The effect of integrating sustainability and drivers in the message on the perceived sustainability is moderated by the sustainability of the product category. Specifically, we expect a stronger effect of integration for less sustainable products.* | Not supported. |
| H3A | *The effect of integrating sustainability and drivers in the message on product attitude is moderated by the perceived importance of sustainability. Specifically, we expect a stronger effect of integration for individuals who are less concerned with sustainability* | Not supported. |
| H3B | *The effect of integrating sustainability and drivers in the message on perceived sustainability is moderated by the perceived importance of sustainability. Specifically, we expect a stronger effect of integration for individuals who are less concerned with sustainability.* | Not supported. |

*Table 6: Summary of results*

# 6. Discussion of results

The present study analyzed the effect of linking sustainability to main drivers of choice on product attitude and perceived sustainability. Moderating effects (sustainability of product categories and perceived importance of sustainability) have also been investigated. In this chapter, the results will be discussed for each hypothesis. Further, the study's contribution to literature and practical implications will be assessed.

## 6.1 H1 - Direct effect of integrating the message

**Effect on product attitude**

The results indicate that linking sustainability messages to a major driver of choice does not yield significantly different product attitudes alone. This may suggest that there are other factors that are important in shaping the overall product attitudes (i.e., price, taste, brand identity etc.) (SurveyMonkey, Nd), leaving the textual message alone to have a limited influence on overall evaluations. This can especially be the case for this research, as the experiment makes use of well-known existing brands, that the respondents already have formed an opinion on. As well-established evaluations are hard to change (Bar-Tal & Hameiri, 2020), the manipulated information might not be enough to change their product attitude.

**Effect on perceived sustainability**

The findings further indicate that integrating the sustainability message into the brand position does yield a marginally significant change in perceived sustainability, and the effect was decidedly significant under the condition of BareBra (granola). In sum, this means that the product is perceived as more genuinely sustainable when the sustainability message is integrated. This could further indicate that the suspicion of greenwashing tied to the sustainability communication decreases for integrated message types. Assessing the different aspects of the sustainability construct, the effect was only significant for the social sustainability aspects, not the environmental ones. We do find this strange, as the message does not directly address social aspects. One potential explanation could be that the statement of short-traveled food ingredients creates associations with improved working conditions, as Norwegian working conditions are ranked among the highest in the world (ITUC, 2015). Nevertheless, this finding suggests that the sustainability communication should be designed based on what type of sustainability features the company wants to establish for the product.

**General discussion**

Overall, the positive direct effect of message on the dependent variables is either low or non-significant. This could potentially be explained by the design of the experiment, in terms of the manipulation of the sustainability message.

First, the integrated sustainability message argues that short-traveled ingredients provide better taste. This information may not be sufficient, as the link between good taste and short-traveled food (i.e. coming from Norway) may not be as strong and meaningful to the consumer as initially expected. This will particularly be the case for the product categories where the country of origin is of importance. For example, for the frozen pizza, respondents are likely to infer better taste to the product if the communication refers to being produced in Italy, a country that is known to be specialists in the "pizza category". Similarly, for the instant soup (presented by a tomato soup in the experiment), a linkage to Spain could have led to better taste associations than a linkage to Norway. For the granola category, on the other hand, the claim of short-traveled, Norwegian ingredients is probably easier to associate with great taste, as many Norwegian farmers specialize in growing wheat, barley and oats (Opplysningskontoret for Brød & Korn, 2022). This could be an explanation to why the message only had a significant positive effect under the condition of BareBra (granola).

Second, the choice of the main driver, taste, could be another explanation for the weak/non-significant results. The results for Toro (instant soup) constantly deviate from the results in the other conditions, weakening the overall effect of the sustainability message. The product is known to offer a simple and relatively healthy meal in a hectic everyday situation, meaning that linking sustainability to "taste" might not be the *most* suitable. Although "taste" is confirmed by Orkla to be a major driver for choice for Toro (instant soup), one can expect convenience and easy access to nutrition to be more prominent drivers than a unique taste experience. Additionally, Toro Tomato Soup is marketed as *mild* in taste, and suitable for the whole family. Thus, when claiming that the eco-labeled tomato soup is "rich in taste", this could appear contradictory to the existing brand promise. If so, the sustainability message will not be as integrated into the brand's position to the same degree as for the other product categories, which can explain why there were deviating results for Toro instant soup.

Based on the preceding discussion, we found it relevant to run a new analysis that excluded Toro (instant soup) from the sample. A general linear model shows an overall significant

positive effect of integrating the sustainability message when Toro (instant soup) is excluded, Wilks Lambda =.943, [$F(3,154)=3.10$, p=.029]. More precisely, a significant difference is observed for both environmental (p=.049) and social sustainability (p=.004), but not for product attitude (p=.286). When the complete sample was included, however, Wilks Lambda was not significant =.974, $F(3,234)=2.057$, p=.107. Thus, if the main driver had been chosen under closer consideration, one could expect that integrating the sustainability message into the brand position would have had an overall bigger influence on the dependent variables.

## 6.2 H2 - Moderating effect of product category

No significant moderating effect of product category on the relationship between message and product attitude or message and perceived product sustainability was detected. The non-significant interaction effects were slightly positive for product attitude and slightly negative for perceived sustainability. However, these effects are indifferent as the minimal variations could have occurred by chance.

The lack of significant effects could be explained due to small differences in the perceived sustainability of the chosen categories in general. Although significant, the magnitude of the mean differences between sustainability levels of the categories is minimal, being $\Delta M = .08$ between frozen pizza (low) and instant soup (medium), and $\Delta M = .39$ between instant soup (medium) and granola (high) (Appendix C1.3). Overall, although significant differences, there were no extreme ratings on sustainability levels (mean scores were ranging from $3.12 - 3.6$ on a 7-point Likert scale). Thus, the differences in sustainability of the chosen product categories are not very optimal to see significant effects. Furthermore, it is also possible that other factors, such as the specific messaging used (as discussed for H1) could have influenced the results.

## 6.3 H3 - Moderating effect of perceived importance of sustainability

The expected effect of the perceived importance of sustainability on the relationship between message and product attitude was non-significant.

One potential explanation for the lack of significant effects could be tied to the skewed distribution in the sample regarding sustainability concerns, as 51 respondents reported a

concern for sustainability below 3.5, and 189 reported a concern for sustainability above 3.5. Additionally, the relationship between the perceived importance of sustainability and the effectiveness of integrating the sustainability message could be more complex than initially thought, meaning that other factors may need to be considered to understand the full picture. Further research would be needed to explore these possibilities and to determine the exact reasons for the lack of significant results.

## 6.4 Contribution to Literature

In the context of everyday food products, this research study contributes to the emerging field of sustainability communication and facilitating green consumer behavior.

Firstly, findings from the research confirm the positive attitudes to sustainable behavior suggested by previous research (Norad, 2022, Simon-Kucher & Partners, 2021) In addition, the study also supports previous findings (e.g. Akthar et al, 2021) that sustainable products perform better among more sustainably conscious consumers. Moreover, the study contributes to the literature on the value-action gap (e.g. Sachdeva et al., 2015; Skard et al., 2020; Cowe & Williams, 2000), through findings on how integrated sustainability communication could be used as a tool to reduce the inference of trade-offs (e.g., taste, quality) tied to greener products, and thus potentially reduce the gap.

The results further contribute to research on sustainability communication through findings that both partially support and contradict arguments proposed in the literature. Literature suggests making sustainability a key business driver (Olsen & Boxenbaum, 2009), where it is a central part of the corporate brand identity (Stuart, 2011). More specifically, Supphellen (2021) proposes that integrating sustainability into the brand position can be an effective way to build a more sustainable image and make the brand more attractive. Our findings provide evidence that partially supports the assumption that integrating sustainability into the brand position will increase the perceived sustainability of the product. However, we observe that the effect seems to depend on the extent to which sustainability is linked to the *most* important driver for choice, which is an important contribution to the literature. In addition, the findings suggest that integrating the message will not have any influence on product attitudes. Future research in this area may benefit from this information.

The findings further contribute to the research field of sustainability labels. By utilizing additional sustainability communication that is integrated into the brand position when introducing a sustainability label, companies can provide a clearer message to the consumer of what the sustainability element means (Keller, 2008). This implies that consumer confusion potentially could be reduced by adding integrated sustainability communication (Torma & Thøgersen, 2021), and thus enhance the effect of introducing the label.

Moreover, the study contributes to research on the effect of green introductions in various product categories. Olsen et al. (2014), argues that green introductions will perform better for vice products (less healthful), and Luchs et al., (2019) suggest that products of more gentleness-related attributes will perform better. However, our findings challenge the argumentation, as no significant differences were found across the three product categories consisting of different attributes. This could encourage future research experimenting with more distinct sustainable food products.

The study shows no significant difference between the various levels of perceived importance of sustainability. This contributes to the literature on sustainability communication (e.g. Supphellen, 2020), implying that the effect of integrating sustainability into the brand position will apply to everyone – both individuals of low and high concerns for sustainability. This could help to inform future research and marketing strategies in this area.

## 6.5 Practical implications

In the following, we will review the managerial implications that the study can provide for managers of food products and marketing practitioners.

Food producers are increasingly looking to improve the sustainability of their products, and many choose to introduce sustainability labels to their products. In doing so, it is crucial that managers are aware of how this can be done most effectively. To increase the perceived sustainability of the product, the findings from this study encourage managers to link the sustainability label to the most important drivers for choice. This is further found to be significantly positively correlated to consumers' purchase intention, meaning that the company could also improve overall sales and turnover. Results were relatively similar for both genders

and age groups, meaning that the insight and suggestions can be applied to food products targeted across age groups and genders.

Furthermore, the thesis provides some valuable insights for the management of the collaborative company, Orkla. Their carbon footprint label, Klodemerket, has currently only been launched for two of the brands represented in the research (Grandiosa and Toro), and is yet to be launched for BareBra. Our study suggests that consumers are positive about BareBra using the sustainability label. Further, the findings show that BareBra (granola), can be perceived as significantly more sustainable if sustainability is linked to the main drivers for choice (e.g. taste) compared to using stand-alone sustainability messages. Thus, we recommend Orkla to launch Klodemerket on products from BareBra, while ensuring that they link the label to the main drivers of choice when doing so.

# 7. Limitation and future research

This chapter will address the internal and external validity of the research, along with construct validity. Lastly, suggestions for future research will be presented.

## 7.1 Limitations

### 7.1.1 Internal validity

The internal validity of a study refers to the extent to which the researchers can confidently assert that the relationship between variables is not influenced by any other variables, factors, or aspects of the study (Saunders et al., 2012). In this section, threats to the internal validity of this study will be discussed.

Whenever respondents think or feel they could be negatively affected by the results of a research study, it is referred to as a threat of testing (Saunders et al., 2012). Therefore, the participants were informed about their anonymity, giving the participants a sense of security (Podsakoff et al., 2003). Furthermore, to prevent respondents from adjusting their responses due to bias, the introduction of the questionnaire did not disclose the subject matter or purpose of the study. Additionally, by manipulating the independent variables, the research design itself facilitates increased control. To avoid a systematic bias, the respondents were randomly assigned to one of the six conditions in the experiment. As they were unaware of the other six conditions, these factors allowed blinding the respondents (Saunders et al., 2012).

The website extracts were carefully designed to be as similar as possible, having the same communication on all extracts, except for a change of product name and the driver of choice (good taste or good for the environment). Thus, the threat of instrumentation was also reduced. Additionally, all graphics were designed to identically match the real product page from the Orkla website, and the sustainability label had the same size and placement on all products. Due to the small changes in the design base, we assume that the observed effects between the groups did not occur due to the experiment design. The set of questions in the associated questionnaire was kept consistent across all groups.

Past or recent events could also be a threat to internal validity and might have an unforeseen effect on a planned study (Saunders et al., 2016). The experiment is based on well-known brands and products, meaning that there could be factors such as ongoing product campaigns,

etc. that could affect the study. We are aware that Toro ran a campaign related to sustainability around the time the survey was conducted. This could have influenced the participant's perception of the products, and thereby reduced the internal validity.

Moreover, self-reporting could threaten the internal validity of the study. According to research by Whitehead et al., (2016), it is estimated that approximately 50% of individuals overestimate their intentions when self-reporting their behavior. It could therefore be the case that some of the participants wrongly estimated their responses to the behavioral questions (e.g. perceived importance of sustainability and purchase intention).

Finally, by collecting the data through a professional data collector that is obligated to provide the agreed number of respondents, the threat of mortality was avoided. This implies that all participants completed the questionnaire. Additionally, it was assured that there were no careless respondents by assessing the standard deviation of values across all relevant variables.

## 7.1.2 External validity

The external validity of a research study is the extent to which its findings can be generalized to all relevant contexts (Saunders et al., 2012).

As mentioned in chapter 4.3, this study employs probability sampling, also called representative sampling. Data that are generated tough probability sampling are better suited to represent the population compared to non-probability sampling where subjects are chosen arbitrarily (Saunders et al., 2016). For the data collection, the probabilities of selection were fixed and known to ensure external validity. As mentioned in chapter 4.3, the participants were representative between genders, age groups and came from different parts of Norway. We, therefore, consider the external validation to be strong.

Only Norwegian residents participated in the study. Thus, the results might not be generalized to the population of other countries. However, it is reasonable to assume that the perceived importance of stainability among Norwegian residents is similar to those among residents of nationalities that have the same standard of living and attention to sustainability as Norway (i.e., other Scandinavian countries, Netherlands, Germany, etc.). As the experiment explored the participants' attitudes and perceptions tied to sustainability communication, the results could therefore be more generalizable to the population of these countries, compared to

countries where sustainability is less of a priority (e.g due to other issues like war or a lower standard of living).

Further, one can assess whether the results can be generalized to apply to other product categories of the same sustainability categorization. The perceived sustainability of the product categories was tested both in a pretest (only mentioning the product categories) and the questionnaire (where the respondents had been exposed to a specific product in the category), which give similar and significantly different results regarding the level of sustainability of the product category. However, there were no extreme ratings for any of the product categories. In addition, the differences between the products placed in the "low" and "medium" sustainability categories were minor. Therefore, one could argue that the differences between the sustainability of the product categories might not have been sufficient and optimal. Overall, this limits the generalization of results to apply to other products of the same sustainability levels.

The survey had 240 participants in total, divided into six groups of 40 participants per group. Although the sample size is sufficient (>30), the sample size is relatively small. When having a small sample size (which is the case when looking at the number of participants per group), it is more likely that errors occur in generalizing the results to the population (Saunders et al., 2012). Thus, the sample size could potentially be a threat to the external validity of the study.

Due to the scope of our research the study, we did not use a multi-method approach for the research design. This study was conducted over a short time frame, and therefore only used a mono method, through a quantitative study. If a multi-method had been conducted (e.g., including follow-up interviews) this could have provided a richer approach to the data collection, the analysis, and the interoperation (Saunders et al., 2012). Nevertheless, this could also have threatened the anonymity of the participants.

Finally, the questionnaire was tested and optimized thoroughly for usability and graphics. The graphics in the first pilot test of the questionnaire were misplaced and incorrectly constructed. If not adjusted, this could have led to errors in the results. The second pilot test was approved for distribution.

### 7.1.3 Construct validity

Construct validity is the extent to which the measures of the research are measuring what is intended (Saunders et al., 2012). The measures in the questionnaire were carefully chosen based on well-established measurements taken from existing academic and peer-reviewed literature. These established measures were adapted and applied to the questionnaire, which contributed to measuring the intended constructs and fulfilling construct validity. We cannot, however, exclude the possibility that some questions were misinterpreted once adapted for our specific objective.

## 7.2 Future research

The field of research on sustainability labels is already well-established and explored. However, there is little research on how they are launched effectively. Considering our discrepancies and the short timeframe of a master's thesis, further research into this topic is recommended. Since the results of the study conflict with other academic findings, additional research is required. This chapter will discuss suggestions for future research, based on the findings and the limitations of this research.

First, we would like to address the direct effect of linking sustainability to drivers of choice. As discussed, the results provided partial support for the hypothesis that linking sustainability labels to major drivers for choice is more effective in increasing the perceived sustainability than a stand-alone launch of labels. However, when excluding Toro (instant soup) from the analysis, the direct effect was found to be decidedly significant ($p<.05$), providing full support for the hypothesis. As argued, convenience is believed to be the most important driver for choice for this product, not "taste" which was used in the manipulated message. Thus, these findings may suggest that the effect of integrating the sustainability message will depend on the extent to which sustainability is linked to the *most* important driver for choice. Therefore, we encourage future research to further investigate this tendency, experimenting with more relevant drivers of choice.

Further, it was observed that the effect of linking sustainability to drivers for choice on perceived sustainability only had a significant effect under the condition of the highly sustainable product category, BareBra (granola). As mentioned in the discussion in chapter 6, we suspect this might be because short-travelled Norwegian ingredients are easier to associate

with great taste for corn products. We, therefore, suggest future research to investigate how Norway can exploit its reputation for sustainability, and to further evaluate the effect of linking country-of-origin associations to an integrated sustainability communication.

Second, we investigated the moderating effects of product category and perceived importance of sustainability, neither being significant. As discussed under the limitations concerning external validity (cf. 7.1.2), the differences between the product categories in terms of sustainability levels might not have been sufficient to see any clear results. We therefore encourage future research to study product categories of more prominent sustainability levels, to see if this would have an impact on the result.

Finally, we found no significant results regarding the moderating effect of perceived importance of sustainability, suggesting that the direct effect of linking sustainability to main drivers appears to apply to individuals of both low and high sustainability concerns. However, future research could potentially experiment with a sample that includes a more even distribution of individuals of low and high sustainability concerns to further validate this finding.

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# Appendices

## Appendix A: Tables in the literature

### Appendix A.1: Sustainability label categorization based on focus area

| Focus area | Label | Lead Stakeholder | Information |
|---|---|---|---|
| Environment | EU Eco Label | Government | Volunatry |
| | Miljømerket svanen | NGO | Voluntary |
| | Klodemerket | Company | Voluntary |
| Ethics/Social | Austalia Ethical clothing | Guvernement | Voluntary |
| | Fairtrade | NGO | Voluntary |
| | C.A.F.E Practices | Company | Voluntary |

### Appendix A.2: ISO categorization of eco-labels

| Type | Description | Example |
|---|---|---|
| Type 1 | Voluntary, multiple-criteria-based, third-party programs that awards a license that authorizes the use of environmental labels on products indicating overall environmental preference of a product within a particular product category based on life cycle | EU Eco-label |
| TYPE 2 | Informative environmental self-declaration claims | Klodemerket |
| TYPE 3 | Voluntary programs that provide quantified environmental data of a product, under pre-set categories of parameters set by a quantified third party | Fairtrade |

## Appendix A.3: Various success factors for labels

| Success factors | Guidelines | Reference |
|---|---|---|
| *The characteristics of the eco label* | The eco-label should be easy to recognize and simple, using more visual elements than textual elements. | Pieters, R., & Wedel, M. (2004, April 1). Attention Capture and Transfer in Advertising: Brand, Pictorial, and Text-Size Effects. Journal of Marketing vol. 68, pp. 35-50. |
| *Eco-label presentation at the packaging/ads.* | The eco label should be presented in relatively big formats at the front of the packaging and ideally placed close to the brand- or corporate name. | Donato & Adiguzel, (2022, July). Visual complexity of eco-labels and product evaluations in online setting: Is simple always better? Journal of Retailing and Consumer Services Volume 67. https://doi.org/10.1016/j.jretconser.2022.102961 |
| *Additional information* | The sustainability label should be implemented along with efficient informational strategies to raise customer awareness | Aprile, M. C., & Punzo, G. (2022). How environmental sustainability labels affect food choices: Assessing consumer preferences in southern Italy. Journal of Cleaner Production (332). |
| *Integrating sustainable elements into the brand position* | Elements from the eco-labels positioning should be brought into the brand positioning. | Supphellen, M. (2020, Oktober). *Hvorfor og hvordan integrere bærekraft i merkeposisjoneringen*. Magma, pp. 44-54. |
| *Criteria for admitting participants into the labeling program* | The admittance must be based on calculations on climate emissions to ensure the legitimacy of the eco label. There should be outlined certain guidelines or requirements that label users must adhere to in terms of sustainability communications. | Keller, & Swaminathan. (2019). *Strategic Brand Management: Building, measuring, and Managing Brand Equity*. UK: Pearson Education Limited. UK: Pearson Education Limited. |

# Appendix B: Questionnaire

## *Criteria:*
Age 18+, N = 240, Geo = Norway

## *Demography:*

Adjust gender to this:
1. Kvinne
2. Mann
3. Ikke binært/tredje kjønn
4. Foretrekker å ikke si

Agegroups, use these:

- 18-29 år
- 30-39 år
- 40-49 år
- 50-59 år
- 60+ år

Region, use these:
- Nord-Norge
- Midt-Norge
- Vestlandet
- Østlandet
- Sørlandet inkludert TeVe
- Oslo

---

## *Introductory information*

Info_1
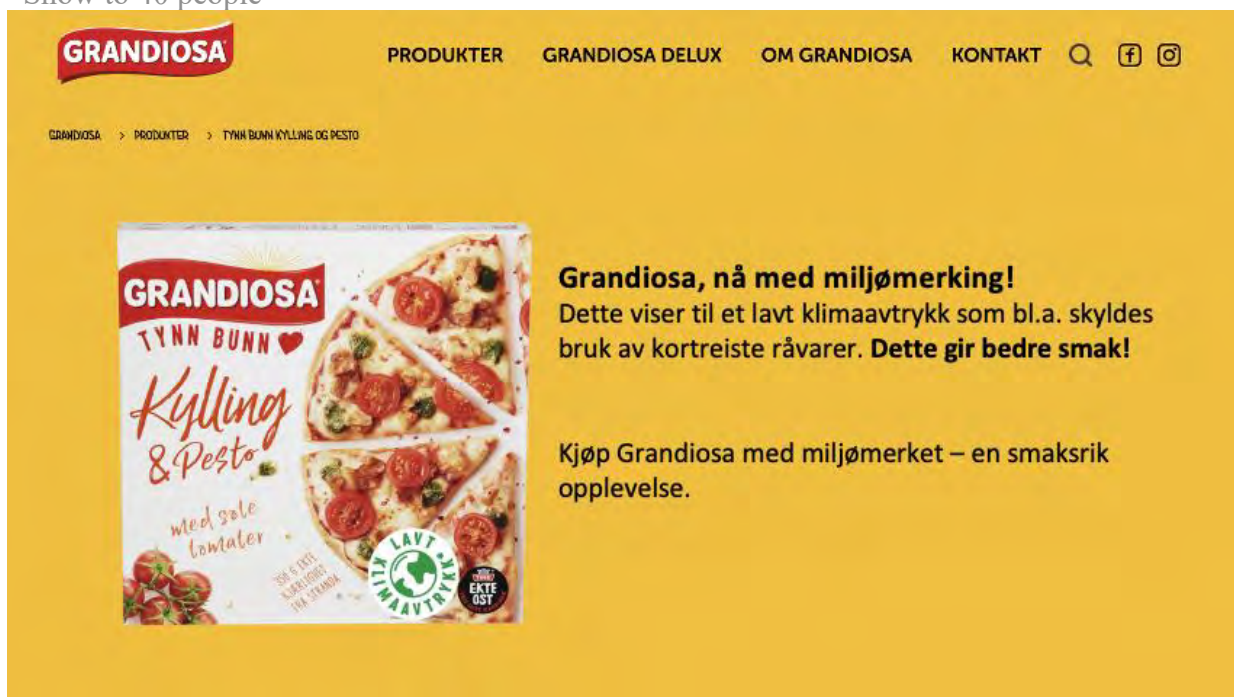
Takk for at du tar deg tid til å svare på denne undersøkelsen!

På neste side vil du se en tekst fra en hjemmeside til en bedrift. Les teksten nøye og klikk deg videre til spørsmålene.

*On next page, show 1 of the contrived web pages pr respondent (make a quota so that 40 people see each). Then make a new page with only info_2 text. Then show Q1 on the next page and so on.*

---

REKLAME 1_1) Se på utdraget fra hjemmesiden og les produktbeskrivelsen nøye.
*Show to 40 people*



REKLAME 1_2) Se på utdraget fra hjemmesiden og les produktbeskrivelsen nøye.
*Show to 40 people*

REKLAME 2_1) Se på utdraget fra hjemmesiden og les produktbeskrivelsen nøye.
*Show to 40 people*



REKLAME 2_2) Se på utdraget fra hjemmesiden og les produktbeskrivelsen nøye.
*Show to 40 people*

REKLAME 3_1) Se på utdraget fra hjemmesiden og les produktbeskrivelsen nøye.
*Show to 40 people*



**Bare Bra Granola, nå med miljømerking!**
Dette viser til et lavt klimaavtrykk som bl.a. skyldes bruk
av kortreiste råvarer. **Dette gir bedre smak!**

Kjøp Bare Bra Granola med miljømerket – en smaksrik
opplevelse.

REKLAME 3_3) Se på utdraget fra hjemmesiden og les produktbeskrivelsen nøye.
*Show to 40 people*



**Bare Bra Granola, nå med miljømerking!**
Dette viser til et lavt klimaavtrykk som bl.a. skyldes bruk av
kortreiste råvarer. **Dette gir et mer bærekraftig produkt.**

Kjøp Toro tomatsuppe med miljømerket – bra for kloden.

## *Opinion questions*

Nå vil vi stille deg noen spørsmål om hvordan du oppfattet utdraget fra hjemmesiden du nettopp så.

---

**Q1** (Included for other research)

---

**Q2:** Hvor uenig eller enig er du i følgende påstander:
    Q2-A: Jeg har sans for produktet som ble vist
    Q2- B: Dette er et godt produkt
    Q2- C: Dette produktet er fristende

    Scale:
        o   1 Helt uenig
        o   2
        o   3
        o   4
        o   5
        o   6
        o   7 Helt enig

---

**Q3:** Hvor uenig eller enig er du i følgende påstander:
    Q3-A: Det er sannsynlig at jeg kommer til å vurdere å kjøpe dette produktet i løpet av de neste ukene
    Q3-B: Det er sannsynlig at jeg kommer til å kjøpe dette produktet i løpet av de neste ukene

    Scale:
        o   1 Helt uenig
        o   2
        o   3
        o   4
        o   5
        o   6
        o   Helt enig

---

**Q4:** Hvor uenig eller enig er du i følgende påstander:
    1.  Q4-A: Dette produktet er bra for miljøet
    2.  Q4-B: Dette produktet bidrar til å redusere klimaproblemene
    3.  Q4-C: Dette produktet bidrar til mer sosial bærekraft
    4.  Q4-D: Dette produktet er sosialt ansvarlig

    Scale:
        o   1 Helt uenig

- o 2
- o 3
- o 4
- o 5
- o 6
- o Helt enig

---

**Q5:** Hvor uenig eller enig er du i følgende påstander:
1. Q5-A: Klima og miljø er saker som opptar meg
2. Q5-B: Bærekraftsmålene er viktige for meg
3. Q5-C: Det er alt for mye snakk om bærekraft
4. Q5-D: Min oppfatting er at kategorien [insert pipe word] generelt er bærekraftig

   Scale:
   - o 1 Helt uenig
   - o 2
   - o 3
   - o 4
   - o 5
   - o 6
   - o Helt enig

---

**Q6:** Hvor ofte spiser du produkter som inngår i kategorien **[insert piped word]**?

   Scale:
   - o Ukentlig
   - o Ca 2-3 ganger pr måned
   - o Ca. 1 gang i måneden
   - o Sjeldnere enn 1 gang i måneden
   - o Aldri

---

**Q7:** I produktbeskrivelsen du så er det med et miljømerke. Hvor uenig eller enig er du i den følgende påstanden: Det er bra at [insert pipe word] har tatt i bruk et slikt miljømerke.

   Scale:
   - o 1 Helt uenig
   - o 2
   - o 3
   - o 4
   - o 5
   - o 6
   - o Helt enig

---

End of survey -

# Appendix C: Data-analysis

## Appendix C1: Descriptive statistics and correlations

*C1.1 Overall descriptive statistics of questionnaire – frequencies.*

| Mes | Cat | | I like the product | It is a good product | The product is tempting | Likelihood to consider purchasing | Likelihood to purchasing | This product is good for the environment | The product contributes to reduce climate issues | The product contributes to more social sustainability | The product is socially responsible | Climate and environmental issues concern me | The sustainability goals are important to me | People talk to much of sustainability (reversed) | Evaluation of label use | Purchase frequency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Not integrated | Grandiosa | N Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Mean | 4.05 | 3.93 | 3.78 | 2.93 | 2.88 | 3.83 | 3.55 | 3.28 | 3.45 | 4.72 | 4.55 | 2.88 | 4.63 | 3.1000 |
| | | Std. Deviation | 1.449 | 1.421 | 1.544 | 1.670 | 1.727 | 1.217 | 1.449 | 1.339 | 1.358 | 1.432 | 1.648 | 1.742 | 1.644 | 1.19400 |
| | | Skewness | -.517 | -.313 | -.086 | .472 | .705 | -.456 | -.158 | .140 | .143 | -.590 | -.672 | .967 | -.269 | .084 |
| | | Std. Error of Skewness | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 |
| | | Kurtosis | .311 | .056 | -.109 | -.809 | -.164 | -.097 | -.853 | -.316 | .055 | -.003 | -.231 | .256 | -.333 | -.912 |
| | | Std. Error of Kurtosis | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 |
| | Toro | N Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Mean | 3.95 | 4.08 | 3.50 | 3.43 | 3.18 | 4.30 | 3.73 | 3.45 | 3.73 | 5.33 | 5.00 | 3.33 | 4.75 | 2.4750 |
| | | Std. Deviation | 1.724 | 1.716 | 1.601 | 2.123 | 1.933 | 1.814 | 1.826 | 1.739 | 1.710 | 1.607 | 1.881 | 2.055 | 1.836 | 1.06187 |
| | | Skewness | -.077 | -.026 | .059 | .253 | .300 | -.473 | .111 | .027 | .032 | -.758 | -.657 | .488 | -.736 | .813 |
| | | Std. Error of Skewness | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 |
| | | Kurtosis | -.796 | -.743 | -1.228 | -1.328 | -1.130 | -.343 | -.646 | -.707 | -.432 | -.073 | -.422 | -.886 | -.279 | .023 |
| | | Std. Error of Kurtosis | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 |
| | BareBra | N Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Mean | 3.85 | 4.22 | 3.63 | 2.78 | 2.68 | 4.13 | 3.70 | 3.45 | 3.40 | 4.35 | 4.15 | 3.55 | 4.65 | 2.7250 |
| | | Std. Deviation | 1.369 | 1.330 | 1.628 | 1.672 | 1.639 | 1.244 | 1.436 | 1.319 | 1.128 | 1.733 | 1.791 | 2.112 | 1.594 | 1.44980 |
| | | Skewness | -.094 | -.161 | -.104 | .272 | .371 | -.501 | -.315 | -.415 | -.303 | -.169 | -.068 | .374 | -.548 | .509 |
| | | Std. Error of Skewness | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 |
| | | Kurtosis | -.089 | -.123 | -.912 | -1.452 | -1.402 | 1.112 | -.214 | -.686 | .251 | -.867 | -.880 | -1.152 | -.024 | -1.196 |
| | | Std. Error of Kurtosis | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 |
| Integrated | Grandiosa | N Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Mean | 4.28 | 4.08 | 4.13 | 3.50 | 3.33 | 4.22 | 3.90 | 3.93 | 4.00 | 4.63 | 4.45 | 3.40 | 4.72 | 2.9750 |
| | | Std. Deviation | 1.585 | 1.403 | 1.604 | 1.695 | 1.774 | 1.441 | 1.614 | 1.575 | 1.569 | 1.821 | 1.934 | 2.073 | 1.320 | .99968 |
| | | Skewness | .009 | -.140 | .100 | -.017 | .319 | -.091 | -.099 | -.036 | -.210 | -.077 | -.144 | .395 | .187 | -.110 |
| | | Std. Error of Skewness | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 |
| | | Kurtosis | -.256 | .326 | -.482 | -.919 | -.786 | -.114 | -.576 | -.466 | -.461 | -1.259 | -.996 | -1.173 | -.672 | -.297 |
| | | Std. Error of Kurtosis | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 |
| | Toro | N Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Mean | 3.83 | 4.18 | 3.53 | 2.70 | 2.48 | 3.95 | 3.75 | 3.38 | 3.70 | 4.78 | 4.25 | 3.53 | 4.50 | 2.5250 |
| | | Std. Deviation | 1.662 | 1.583 | 1.536 | 1.667 | 1.377 | 1.467 | 1.721 | 1.480 | 1.652 | 1.544 | 1.629 | 1.867 | 2.025 | .96044 |
| | | Skewness | -.166 | -.058 | .196 | .575 | .365 | .399 | .314 | .307 | .400 | -.438 | -.464 | .394 | -.458 | .565 |
| | | Std. Error of Skewness | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 |
| | | Kurtosis | -.953 | -.547 | -.468 | -.723 | -1.269 | .452 | -.375 | .268 | -.061 | -.462 | -.148 | -.835 | -.826 | -.099 |
| | | Std. Error of Kurtosis | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 |
| | BareBra | N Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Mean | 4.33 | 4.35 | 3.98 | 2.80 | 2.80 | 4.53 | 4.43 | 4.15 | 4.18 | 4.97 | 4.88 | 2.58 | 5.10 | 2.4750 |
| | | Std. Deviation | 1.817 | 1.562 | 1.672 | 1.924 | 1.977 | 1.552 | 1.781 | 1.442 | 1.551 | 1.702 | 1.713 | 1.551 | 1.614 | 1.35850 |
| | | Skewness | -.270 | -.068 | .041 | .481 | .607 | -.828 | -.372 | -.384 | -.177 | -.649 | -.409 | .721 | -.786 | .475 |
| | | Std. Error of Skewness | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 | .374 |
| | | Kurtosis | -.686 | -.193 | -.528 | -1.263 | -.980 | .750 | -.478 | .411 | -.085 | -.106 | -.469 | -.579 | .249 | -.983 |
| | | Std. Error of Kurtosis | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 | .733 |

*C1.2. Frequencies of constructs and central variables, split on message and product category*

| Message | Product Category | | Product Attitude | Sum Perceived Sustainability | Perceived environmental sustainability | Perceived social sustainability | Perceived Importance of Sustainability | Purchase Intention | Evaluation of label use | Purchase frequency |
|---|---|---|---|---|---|---|---|---|---|---|
| Not integrated | Grandiosa | Mean | 3.9167 | 3.5250 | 3.6875 | 3.3625 | 4.8000 | 2.9000 | 4.63 | 3.1000 |
| | | Std. Deviation | 1.40967 | 1.19936 | 1.24904 | 1.29093 | 1.46137 | 1.67638 | 1.644 | 1.19400 |
| | Toro | Mean | 3.8417 | 3.8000 | 4.0125 | 3.5875 | 5.0000 | 3.3000 | 4.75 | 2.4750 |
| | | Std. Deviation | 1.59948 | 1.62729 | 1.73755 | 1.65981 | 1.67093 | 1.98003 | 1.836 | 1.06187 |
| | BareBra | Mean | 3.9000 | 3.6688 | 3.9125 | 3.4250 | 4.3167 | 2.7250 | 4.65 | 2.7250 |
| | | Std. Deviation | 1.34652 | 1.06727 | 1.18693 | 1.16877 | 1.72950 | 1.59707 | 1.594 | 1.44980 |
| Integrated | Grandiosa | Mean | 4.1583 | 4.0125 | 4.0625 | 3.9625 | 4.5583 | 3.4125 | 4.72 | 2.9750 |
| | | Std. Deviation | 1.47145 | 1.44886 | 1.45085 | 1.53751 | 1.80438 | 1.69421 | 1.320 | .99968 |
| | Toro | Mean | 3.8417 | 3.6938 | 3.8500 | 3.5375 | 4.5000 | 2.5875 | 4.50 | 2.5250 |
| | | Std. Deviation | 1.41821 | 1.36754 | 1.48151 | 1.43396 | 1.30308 | 1.44065 | 2.025 | .96044 |
| | BareBra | Mean | 4.2167 | 4.3188 | 4.4750 | 4.1625 | 5.0917 | 2.8000 | 5.10 | 2.4750 |
| | | Std. Deviation | 1.60048 | 1.47630 | 1.61702 | 1.44288 | 1.44803 | 1.90748 | 1.614 | 1.35850 |

*C1.3 – Frequencies of perceived importance of sustainability and perceived sustainability of product category, split on product category.*

| Product category | | | Personal attitude to sustainability | Perceived Sustainability of Product category |
|---|---|---|---|---|
| Grandiosa | N | Valid | 80 | 80 |
| | | Missing | 0 | 0 |
| | Mean | | 4.6792 | 3.13 |
| | Median | | 4.8333 | 3.00 |
| | Std. Deviation | | 1.63596 | 1.195 |
| | Skewness | | -.432 | .118 |
| | Std. Error of Skewness | | .269 | .269 |
| | Kurtosis | | -.611 | .259 |
| | Std. Error of Kurtosis | | .532 | .532 |
| Toro | N | Valid | 80 | 80 |
| | | Missing | 0 | 0 |
| | Mean | | 4.7500 | 3.21 |
| | Median | | 4.6667 | 3.00 |
| | Std. Deviation | | 1.50993 | 1.481 |
| | Skewness | | -.331 | .318 |
| | Std. Error of Skewness | | .269 | .269 |
| | Kurtosis | | -.293 | -.049 |
| | Std. Error of Kurtosis | | .532 | .532 |
| BareBra | N | Valid | 80 | 80 |
| | | Missing | 0 | 0 |
| | Mean | | 4.7042 | 3.60 |
| | Median | | 4.8333 | 4.00 |
| | Std. Deviation | | 1.63213 | 1.143 |
| | Skewness | | -.281 | -.044 |
| | Std. Error of Skewness | | .269 | .269 |
| | Kurtosis | | -.880 | .298 |
| | Std. Error of Kurtosis | | .532 | .532 |

*C1.4 – Frequency of response variables (including both aspects of sutsianability), split on message.*

Statistics

| Mes | | | SumSustainability | Perceived environmental sustainability | Perceived social sustainability | Product Attitude |
|---|---|---|---|---|---|---|
| Not integrated | N | Valid | 120 | 120 | 120 | 120 |
| | | Missing | 0 | 0 | 0 | 0 |
| | Mean | | 3.6646 | 3.8708 | 3.4583 | 3.89 |
| | Std. Deviation | | 1.31351 | 1.40751 | 1.38051 | 1.444 |
| | Skewness | | -.140 | -.156 | .047 | -.129 |
| | Std. Error of Skewness | | .221 | .221 | .221 | .221 |
| | Kurtosis | | -.160 | -.142 | -.287 | -.463 |
| | Std. Error of Kurtosis | | .438 | .438 | .438 | .438 |
| Integrated | N | Valid | 120 | 120 | 120 | 120 |
| | | Missing | 0 | 0 | 0 | 0 |
| | Mean | | 4.0083 | 4.1292 | 3.8875 | 4.07 |
| | Std. Deviation | | 1.44250 | 1.52775 | 1.48304 | 1.495 |
| | Skewness | | -.126 | -.100 | -.115 | -.060 |
| | Std. Error of Skewness | | .221 | .221 | .221 | .221 |
| | Kurtosis | | -.242 | -.274 | -.229 | -.392 |
| | Std. Error of Kurtosis | | .438 | .438 | .438 | .438 |

## C1.5 - Correlation matrix Grandiosa

| | | Age | Gender | Product category | Message | Product Attitude | Sum Sustainability | Perceived environmental sustainability | Perceived social sustainability | Personal atitude sustainability | Purchase Intention | Purchase frequency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gender | Pearson Correlation | .176 | | | | | | | | | | |
| | Sig. (2-tailed) | .119 | | | | | | | | | | |
| | N | 80 | | | | | | | | | | |
| Product category | Pearson Correlation | .a | .a | | | | | | | | | |
| | Sig. (2-tailed) | . | . | | | | | | | | | |
| | N | 80 | 80 | | | | | | | | | |
| Message | Pearson Correlation | .072 | .075 | .a | | | | | | | | |
| | Sig. (2-tailed) | .528 | .508 | . | | | | | | | | |
| | N | 80 | 80 | 80 | | | | | | | | |
| Product Attitude | Pearson Correlation | -.081 | .125 | .a | .085 | | | | | | | |
| | Sig. (2-tailed) | .476 | .270 | . | .455 | | | | | | | |
| | N | 80 | 80 | 80 | 80 | | | | | | | |
| Sum Sustainability | Pearson Correlation | -.046 | .126 | .a | .182 | .647** | | | | | | |
| | Sig. (2-tailed) | .684 | .265 | . | .105 | <.001 | | | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | | | | | | |
| Perceived environmental sustainability | Pearson Correlation | -.016 | .104 | .a | .139 | .592** | .957** | | | | | |
| | Sig. (2-tailed) | .885 | .358 | . | .219 | <.001 | <.001 | | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | | | | | |
| Perceived social sustainability | Pearson Correlation | -.071 | .137 | .a | .209 | .649** | .962** | .842** | | | | |
| | Sig. (2-tailed) | .533 | .227 | . | .062 | <.001 | <.001 | <.001 | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | | |
| Personal atitude sustainability | Pearson Correlation | .022 | .377** | .a | -.074 | .124 | .295** | .315** | .253* | | | |
| | Sig. (2-tailed) | .847 | <.001 | . | .512 | .275 | .008 | .004 | .024 | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | |
| Purchase Intention | Pearson Correlation | .051 | .091 | .a | .152 | .697** | .459** | .388** | .489** | .148 | | |
| | Sig. (2-tailed) | .654 | .425 | . | .178 | <.001 | <.001 | <.001 | <.001 | .191 | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| Purchase frequency | Pearson Correlation | -.099 | -.311** | .a | -.057 | .323** | .210 | .203 | .200 | -.236* | .304** | |
| | Sig. (2-tailed) | .382 | .005 | . | .613 | .003 | .061 | .071 | .075 | .035 | .006 | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | |
| Evaluation of label use | Pearson Correlation | .032 | .345** | .a | .034 | .321** | .658** | .649** | .614** | .409** | .300** | -.031 |
| | Sig. (2-tailed) | .779 | .002 | . | .765 | .004 | <.001 | <.001 | <.001 | <.001 | .007 | .782 |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

## C1.6 - Correlation matrix Toro

| | | Age | Gender | Product category | Message | Product Attitude | Sum Sustainability | Perceived environmental sustainability | Perceived social sustainability | Personal atitude sustainability | Purchase Intention | Purchase frequency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gender | Pearson Correlation | .023 | | | | | | | | | | |
| | Sig. (2-tailed) | .842 | | | | | | | | | | |
| | N | 80 | | | | | | | | | | |
| Product category | Pearson Correlation | .a | .a | | | | | | | | | |
| | Sig. (2-tailed) | . | . | | | | | | | | | |
| | N | 80 | 80 | | | | | | | | | |
| Message | Pearson Correlation | .049 | .000 | .a | | | | | | | | |
| | Sig. (2-tailed) | .665 | 1.000 | . | | | | | | | | |
| | N | 80 | 80 | 80 | | | | | | | | |
| Product Attitude | Pearson Correlation | .023 | .022 | .a | .000 | | | | | | | |
| | Sig. (2-tailed) | .843 | .848 | . | 1.000 | | | | | | | |
| | N | 80 | 80 | 80 | 80 | | | | | | | |
| Sum Sustainability | Pearson Correlation | -.052 | -.066 | .a | -.036 | .606** | | | | | | |
| | Sig. (2-tailed) | .646 | .563 | . | .753 | <.001 | | | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | | | | | | |
| Perceived environmental sustainability | Pearson Correlation | -.092 | -.069 | .a | -.051 | .571** | .952** | | | | | |
| | Sig. (2-tailed) | .417 | .545 | . | .654 | <.001 | <.001 | | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | | | | | |
| Perceived social sustainability | Pearson Correlation | -.005 | -.056 | .a | -.016 | .580** | .947** | .803** | | | | |
| | Sig. (2-tailed) | .963 | .624 | . | .886 | <.001 | <.001 | <.001 | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | | |
| Personal atitude sustainability | Pearson Correlation | -.167 | .093 | .a | -.167 | .104 | .382** | .403** | .320** | | | |
| | Sig. (2-tailed) | .138 | .414 | . | .140 | .359 | <.001 | <.001 | .004 | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | |
| Purchase Intention | Pearson Correlation | .034 | .009 | .a | -.204 | .735** | .488** | .417** | .512** | .105 | | |
| | Sig. (2-tailed) | .763 | .940 | . | .070 | <.001 | <.001 | <.001 | <.001 | .353 | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| Purchase frequency | Pearson Correlation | -.059 | -.152 | .a | .025 | .491** | .233* | .151 | .294** | .006 | .560** | |
| | Sig. (2-tailed) | .600 | .179 | . | .826 | <.001 | .038 | .182 | .008 | .961 | <.001 | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | |
| Evaluation of label use | Pearson Correlation | -.145 | -.036 | .a | -.065 | .249* | .642** | .622** | .597** | .329** | .166 | -.059 |
| | Sig. (2-tailed) | .199 | .749 | . | .565 | .026 | <.001 | <.001 | <.001 | .003 | .142 | .604 |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

## C1.7 - Correlation matrix Barebra

| | | Age | Gender | Product category | Message | Product Attitude | Sum Sustainability | Perceived environmental sustainability | Perceived social sustainability | Personal atitude sustainability | Purchase Intention | Purchase frequency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gender | Pearson Correlation | .042 | | | | | | | | | | |
| | Sig. (2-tailed) | .711 | | | | | | | | | | |
| | N | 80 | | | | | | | | | | |
| Product category | Pearson Correlation | .ᵃ | .ᵃ | | | | | | | | | |
| | Sig. (2-tailed) | . | . | | | | | | | | | |
| | N | 80 | 80 | | | | | | | | | |
| Message | Pearson Correlation | .018 | .152 | .ᵃ | | | | | | | | |
| | Sig. (2-tailed) | .877 | .179 | . | | | | | | | | |
| | N | 80 | 80 | 80 | | | | | | | | |
| Product Attitude | Pearson Correlation | -.045 | .086 | .ᵃ | .108 | | | | | | | |
| | Sig. (2-tailed) | .690 | .449 | . | .341 | | | | | | | |
| | N | 80 | 80 | 80 | 80 | | | | | | | |
| Sum Sustainability | Pearson Correlation | -.124 | .068 | .ᵃ | .248* | .488** | | | | | | |
| | Sig. (2-tailed) | .271 | .548 | . | .027 | <.001 | | | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | | | | | | |
| Perceived environmental sustainability | Pearson Correlation | -.067 | .046 | .ᵃ | .197 | .420** | .949** | | | | | |
| | Sig. (2-tailed) | .553 | .687 | . | .080 | <.001 | <.001 | | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | | | | | |
| Perceived social sustainability | Pearson Correlation | -.171 | .084 | .ᵃ | .274* | .506** | .942** | .788** | | | | |
| | Sig. (2-tailed) | .129 | .458 | . | .014 | <.001 | <.001 | <.001 | | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | | |
| Personal atitude sustainability | Pearson Correlation | -.020 | .269* | .ᵃ | .239* | .173 | .124 | .053 | .187 | | | |
| | Sig. (2-tailed) | .858 | .016 | . | .033 | .124 | .272 | .643 | .098 | | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | | |
| Purchase Intention | Pearson Correlation | .052 | -.023 | .ᵃ | .022 | .741** | .391** | .319** | .423** | .193 | | |
| | Sig. (2-tailed) | .649 | .840 | . | .849 | <.001 | <.001 | .004 | <.001 | .086 | | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | | |
| Purchase frequency | Pearson Correlation | .009 | .098 | .ᵃ | -.090 | .396** | .125 | .108 | .129 | .097 | .462** | |
| | Sig. (2-tailed) | .939 | .387 | . | .429 | <.001 | .269 | .340 | .253 | .392 | <.001 | |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | |
| Evaluation of label use | Pearson Correlation | -.184 | .154 | .ᵃ | .141 | .370** | .714** | .656** | .695** | .331** | .329** | .180 |
| | Sig. (2-tailed) | .103 | .172 | . | .213 | <.001 | <.001 | <.001 | <.001 | .003 | .003 | .111 |
| | N | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

## C1. 8 Reliability of constructs

### Reliability statistics for Product Attitude (overall and split on product category)

*Case Processing Summary*

| | | N | % |
|---|---|---|---|
| Cases | Valid | 240 | 100.0 |
| | Excludedᵃ | 0 | .0 |
| | Total | 240 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

*Case Processing Summary*

| Product category | | | N | % |
|---|---|---|---|---|
| Grandiosa | Cases | Valid | 80 | 100.0 |
| | | Excludedᵃ | 0 | .0 |
| | | Total | 80 | 100.0 |
| Toro | Cases | Valid | 80 | 100.0 |
| | | Excludedᵃ | 0 | .0 |
| | | Total | 80 | 100.0 |
| BareBra | Cases | Valid | 80 | 100.0 |
| | | Excludedᵃ | 0 | .0 |
| | | Total | 80 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

*Reliability Statistics*

| Cronbach's Alpha | N of Items |
|---|---|
| .931 | 3 |

*Reliability Statistics*

| Product category | Cronbach's Alpha | N of Items |
|---|---|---|
| Grandiosa | .956 | 3 |
| Toro | .912 | 3 |
| BareBra | .935 | 3 |

## Reliability statistics for Perceived Environmental Sustainability (overall and split on product category)

### Case Processing Summary

|        |                       | N   | %     |
|--------|-----------------------|-----|-------|
| Cases  | Valid                 | 240 | 100.0 |
|        | Excluded[a]           | 0   | .0    |
|        | Total                 | 240 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

### Case Processing Summary

| Product category |       |             | N  | %     |
|------------------|-------|-------------|----|-------|
| Grandiosa        | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |
| Toro             | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |
| BareBra          | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .870             | 2          |

### Reliability Statistics

| Product category | Cronbach's Alpha | N of Items |
|------------------|------------------|------------|
| Grandiosa        | .875             | 2          |
| Toro             | .871             | 2          |
| BareBra          | .860             | 2          |

## Reliability statistics for Perceived Social Sustainability (overall and split on product category)

### Case Processing Summary

|        |                       | N   | %     |
|--------|-----------------------|-----|-------|
| Cases  | Valid                 | 240 | 100.0 |
|        | Excluded[a]           | 0   | .0    |
|        | Total                 | 240 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

### Case Processing Summary

| Product category |       |             | N  | %     |
|------------------|-------|-------------|----|-------|
| Grandiosa        | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |
| Toro             | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |
| BareBra          | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .906             | 2          |

### Reliability Statistics

| Product category | Cronbach's Alpha | N of Items |
|------------------|------------------|------------|
| Grandiosa        | .938             | 2          |
| Toro             | .871             | 2          |
| BareBra          | .919             | 2          |

Reliability statistics for Sum Perceived Sustainability (overall and split on product category)

*Case Processing Summary*

| Product category | | | N | % |
|---|---|---|---|---|
| Grandiosa | Cases | Valid | 80 | 100.0 |
| | | Excluded[a] | 0 | .0 |
| | | Total | 80 | 100.0 |
| Toro | Cases | Valid | 80 | 100.0 |
| | | Excluded[a] | 0 | .0 |
| | | Total | 80 | 100.0 |
| BareBra | Cases | Valid | 80 | 100.0 |
| | | Excluded[a] | 0 | .0 |
| | | Total | 80 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

*Case Processing Summary*

| | | N | % |
|---|---|---|---|
| Cases | Valid | 240 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 240 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

*Reliability Statistics*

| Cronbach's Alpha | N of Items |
|---|---|
| .923 | 4 |

*Reliability Statistics*

| Product category | Cronbach's Alpha | N of Items |
|---|---|---|
| Grandiosa | .938 | 4 |
| Toro | .916 | 4 |
| BareBra | .918 | 4 |

Reliability statistics for Personal Attitude to Sustainability (overall and split on product category)

*Case Processing Summary*

| Product category | | | N | % |
|---|---|---|---|---|
| Grandiosa | Cases | Valid | 80 | 100.0 |
| | | Excluded[a] | 0 | .0 |
| | | Total | 80 | 100.0 |
| Toro | Cases | Valid | 80 | 100.0 |
| | | Excluded[a] | 0 | .0 |
| | | Total | 80 | 100.0 |
| BareBra | Cases | Valid | 80 | 100.0 |
| | | Excluded[a] | 0 | .0 |
| | | Total | 80 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

*Case Processing Summary*

| | | N | % |
|---|---|---|---|
| Cases | Valid | 240 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 240 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

*Reliability Statistics*

| Cronbach's Alpha | N of Items |
|---|---|
| .865 | 3 |

*Reliability Statistics*

| Product category | Cronbach's Alpha | N of Items |
|---|---|---|
| Grandiosa | .906 | 3 |
| Toro | .802 | 3 |
| BareBra | .887 | 3 |

## Reliability statistics for Purchase Intention (overall and split on product category)

### Case Processing Summary

|        |                       | N   | %     |
|--------|-----------------------|-----|-------|
| Cases  | Valid                 | 240 | 100.0 |
|        | Excluded[a]           | 0   | .0    |
|        | Total                 | 240 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

### Case Processing Summary

| Product category |       |             | N  | %     |
|------------------|-------|-------------|----|-------|
| Grandiosa        | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |
| Toro             | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |
| BareBra          | Cases | Valid       | 80 | 100.0 |
|                  |       | Excluded[a] | 0  | .0    |
|                  |       | Total       | 80 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .943             | 2          |

### Reliability Statistics

| Product category | Cronbach's Alpha | N of Items |
|------------------|------------------|------------|
| Grandiosa        | .963             | 2          |
| Toro             | .926             | 2          |
| BareBra          | .942             | 2          |

# Appendix C2: Analysis H1 A and B

## C.2.1 Differences in dependent variables between message groups

*ANOVA*

|  |  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| SumSustainability | Between Groups | 7.090 | 1 | 7.090 | 3.725 | .055 |
|  | Within Groups | 452.929 | 238 | 1.903 |  |  |
|  | Total | 460.018 | 239 |  |  |  |
| Perceived environmental sustainability | Between Groups | 4.004 | 1 | 4.004 | 1.856 | .174 |
|  | Within Groups | 513.496 | 238 | 2.158 |  |  |
|  | Total | 517.500 | 239 |  |  |  |
| Perceived social sustainability | Between Groups | 11.051 | 1 | 11.051 | 5.384 | .021 |
|  | Within Groups | 488.523 | 238 | 2.053 |  |  |
|  | Total | 499.574 | 239 |  |  |  |
| Product Attitude | Between Groups | 2.078 | 1 | 2.078 | .962 | .328 |
|  | Within Groups | 514.151 | 238 | 2.160 |  |  |
|  | Total | 516.229 | 239 |  |  |  |

## C2.2  Levenes test: Oneway - Dependent variables between message groups

*Tests of Homogeneity of Variances*

|  |  | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| SumSustainability | Based on Mean | .300 | 1 | 238 | .585 |
|  | Based on Median | .479 | 1 | 238 | .489 |
|  | Based on Median and with adjusted df | .479 | 1 | 237.592 | .489 |
|  | Based on trimmed mean | .324 | 1 | 238 | .570 |
| Perceived environmental sustainability | Based on Mean | .698 | 1 | 238 | .404 |
|  | Based on Median | .677 | 1 | 238 | .411 |
|  | Based on Median and with adjusted df | .677 | 1 | 236.818 | .411 |
|  | Based on trimmed mean | .741 | 1 | 238 | .390 |
| Perceived social sustainability | Based on Mean | .005 | 1 | 238 | .944 |
|  | Based on Median | .001 | 1 | 238 | .974 |
|  | Based on Median and with adjusted df | .001 | 1 | 237.976 | .974 |
|  | Based on trimmed mean | .002 | 1 | 238 | .968 |
| Product Attitude | Based on Mean | .061 | 1 | 238 | .805 |
|  | Based on Median | .123 | 1 | 238 | .726 |
|  | Based on Median and with adjusted df | .123 | 1 | 237.819 | .726 |
|  | Based on trimmed mean | .068 | 1 | 238 | .795 |

# C2.3 ANOVA split on product categories measuring differences in DV's between message groups

| Product Category | | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lower Bound | Upper Bound | | |
| Grandiosa | Sum Perceived Sustainability | Not integrated | 40 | 3.5250 | 1.19936 | .18964 | 3.1414 | 3.9086 | 1.00 | 5.75 |
| | | Integrated | 40 | 4.0125 | 1.44886 | .22909 | 3.5491 | 4.4759 | 1.00 | 7.00 |
| | | Total | 80 | 3.7688 | 1.34410 | .15027 | 3.4696 | 4.0679 | 1.00 | 7.00 |
| | Perceived environmental sustainability | Not integrated | 40 | 3.6875 | 1.24904 | .19749 | 3.2880 | 4.0870 | 1.00 | 6.00 |
| | | Integrated | 40 | 4.0625 | 1.45085 | .22940 | 3.5985 | 4.5265 | 1.00 | 7.00 |
| | | Total | 80 | 3.8750 | 1.35828 | .15186 | 3.5727 | 4.1773 | 1.00 | 7.00 |
| | Perceived social sustainability | Not integrated | 40 | 3.3625 | 1.29093 | .20411 | 2.9496 | 3.7754 | 1.00 | 6.00 |
| | | Integrated | 40 | 3.9625 | 1.53751 | .24310 | 3.4708 | 4.4542 | 1.00 | 7.00 |
| | | Total | 80 | 3.6625 | 1.44252 | .16128 | 3.3415 | 3.9835 | 1.00 | 7.00 |
| | Product Attitude | Not integrated | 40 | 3.9167 | 1.40967 | .22289 | 3.4658 | 4.3675 | 1.00 | 7.00 |
| | | Integrated | 40 | 4.1583 | 1.47145 | .23266 | 3.6877 | 4.6289 | 1.00 | 7.00 |
| | | Total | 80 | 4.0375 | 1.43690 | .16065 | 3.7177 | 4.3573 | 1.00 | 7.00 |
| Toro | Sum Perceived Sustainability | Not integrated | 40 | 3.8000 | 1.62729 | .25730 | 3.2796 | 4.3204 | 1.00 | 7.00 |
| | | Integrated | 40 | 3.6938 | 1.36754 | .21623 | 3.2564 | 4.1311 | 1.00 | 7.00 |
| | | Total | 80 | 3.7469 | 1.49445 | .16708 | 3.4143 | 4.0794 | 1.00 | 7.00 |
| | Perceived environmental sustainability | Not integrated | 40 | 4.0125 | 1.73755 | .27473 | 3.4568 | 4.5682 | 1.00 | 7.00 |
| | | Integrated | 40 | 3.8500 | 1.48151 | .23425 | 3.3762 | 4.3238 | 1.00 | 7.00 |
| | | Total | 80 | 3.9313 | 1.60644 | .17961 | 3.5738 | 4.2887 | 1.00 | 7.00 |
| | Perceived social sustainability | Not integrated | 40 | 3.5875 | 1.65981 | .26244 | 3.0567 | 4.1183 | 1.00 | 7.00 |
| | | Integrated | 40 | 3.5375 | 1.43396 | .22673 | 3.0789 | 3.9961 | 1.00 | 7.00 |
| | | Total | 80 | 3.5625 | 1.54136 | .17233 | 3.2195 | 3.9055 | 1.00 | 7.00 |
| | Product Attitude | Not integrated | 40 | 3.8417 | 1.59948 | .25290 | 3.3301 | 4.3532 | 1.00 | 6.67 |
| | | Integrated | 40 | 3.8417 | 1.41821 | .22424 | 3.3881 | 4.2952 | 1.00 | 7.00 |
| | | Total | 80 | 3.8417 | 1.50197 | .16793 | 3.5074 | 4.1759 | 1.00 | 7.00 |
| BareBra | Sum Perceived Sustainability | Not integrated | 40 | 3.6688 | 1.06727 | .16875 | 3.3274 | 4.0101 | 1.00 | 6.00 |
| | | Integrated | 40 | 4.3188 | 1.47630 | .23342 | 3.8466 | 4.7909 | 1.00 | 7.00 |
| | | Total | 80 | 3.9938 | 1.32107 | .14770 | 3.6998 | 4.2877 | 1.00 | 7.00 |
| | Perceived environmental sustainability | Not integrated | 40 | 3.9125 | 1.18693 | .18767 | 3.5329 | 4.2921 | 1.00 | 6.00 |
| | | Integrated | 40 | 4.4750 | 1.61702 | .25567 | 3.9579 | 4.9921 | 1.00 | 7.00 |
| | | Total | 80 | 4.1938 | 1.43750 | .16072 | 3.8738 | 4.5137 | 1.00 | 7.00 |
| | Perceived social sustainability | Not integrated | 40 | 3.4250 | 1.16877 | .18480 | 3.0512 | 3.7988 | 1.00 | 6.00 |
| | | Integrated | 40 | 4.1625 | 1.44288 | .22814 | 3.7010 | 4.6240 | 1.00 | 7.00 |
| | | Total | 80 | 3.7938 | 1.35640 | .15165 | 3.4919 | 4.0956 | 1.00 | 7.00 |
| | Product Attitude | Not integrated | 40 | 3.9000 | 1.34652 | .21290 | 3.4694 | 4.3306 | 1.00 | 7.00 |
| | | Integrated | 40 | 4.2167 | 1.60048 | .25306 | 3.7048 | 4.7285 | 1.00 | 7.00 |
| | | Total | 80 | 4.0583 | 1.47818 | .16527 | 3.7294 | 4.3873 | 1.00 | 7.00 |

| Product Category | | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|---|
| Grandiosa | Sum Perceived Sustainability | Between Groups | 4.753 | 1 | 4.753 | 2.687 | .105 |
| | | Within Groups | 137.969 | 78 | 1.769 | | |
| | | Total | 142.722 | 79 | | | |
| | Perceived environmental sustainability | Between Groups | 2.813 | 1 | 2.813 | 1.535 | .219 |
| | | Within Groups | 142.938 | 78 | 1.833 | | |
| | | Total | 145.750 | 79 | | | |
| | Perceived social sustainability | Between Groups | 7.200 | 1 | 7.200 | 3.573 | .062 |
| | | Within Groups | 157.188 | 78 | 2.015 | | |
| | | Total | 164.388 | 79 | | | |
| | Product Attitude | Between Groups | 1.168 | 1 | 1.168 | .563 | .455 |
| | | Within Groups | 161.942 | 78 | 2.076 | | |
| | | Total | 163.110 | 79 | | | |
| Toro | Sum Perceived Sustainability | Between Groups | .226 | 1 | .226 | .100 | .753 |
| | | Within Groups | 176.211 | 78 | 2.259 | | |
| | | Total | 176.437 | 79 | | | |
| | Perceived environmental sustainability | Between Groups | .528 | 1 | .528 | .203 | .654 |
| | | Within Groups | 203.344 | 78 | 2.607 | | |
| | | Total | 203.872 | 79 | | | |
| | Perceived social sustainability | Between Groups | .050 | 1 | .050 | .021 | .886 |
| | | Within Groups | 187.637 | 78 | 2.406 | | |
| | | Total | 187.687 | 79 | | | |
| | Product Attitude | Between Groups | .000 | 1 | .000 | .000 | 1.000 |
| | | Within Groups | 178.217 | 78 | 2.285 | | |
| | | Total | 178.217 | 79 | | | |
| BareBra | Sum Perceived Sustainability | Between Groups | 8.450 | 1 | 8.450 | 5.093 | .027 |
| | | Within Groups | 129.422 | 78 | 1.659 | | |
| | | Total | 137.872 | 79 | | | |
| | Perceived environmental sustainability | Between Groups | 6.328 | 1 | 6.328 | 3.146 | .080 |
| | | Within Groups | 156.919 | 78 | 2.012 | | |
| | | Total | 163.247 | 79 | | | |
| | Perceived social sustainability | Between Groups | 10.878 | 1 | 10.878 | 6.310 | .014 |
| | | Within Groups | 134.469 | 78 | 1.724 | | |
| | | Total | 145.347 | 79 | | | |
| | Product Attitude | Between Groups | 2.006 | 1 | 2.006 | .917 | .341 |
| | | Within Groups | 170.611 | 78 | 2.187 | | |
| | | Total | 172.617 | 79 | | | |

# Appendix C3: Analysis H2-A and B

*C3.1: ANOVA – perceived sustainability of product categories between categories*

ANOVA

Perseived Sustainability of Product Category

|  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 10.225 | 2 | 5.113 | 3.112 | .046 |
| Within Groups | 389.338 | 237 | 1.643 |  |  |
| Total | 399.563 | 239 |  |  |  |

*C3.2: Hayes process Y=Product Attitude, X=Message, W=Product Category*

```
Model  : 1
    Y  : Att
    X  : Mes
    W  : Cat

Sample
Size:  240

************************************************************************
OUTCOME VARIABLE:
 Att

Model Summary
         R        R-sq        MSE          F        df1        df2          p
     .0646       .0042     2.1783      .3293     3.0000   236.0000      .8042

Model
              coeff         se          t          p       LLCI       ULCI
constant     3.7917      .7971     4.7569      .0000     2.2214     5.3620
Mes           .1111      .5041      .2204      .8257     -.8820     1.1043
Cat          -.0458      .3690     -.1242      .9012     -.7727      .6811
Int_1         .0375      .2334      .1607      .8725     -.4222      .4972

Product terms key:
 Int_1   :        Mes      x        Cat

Test(s) of highest order unconditional interaction(s):
      R2-chng         F        df1        df2          p
X*W      .0001      .0258     1.0000   236.0000      .8725
----------
    Focal predict: Mes        (X)
          Mod var: Cat        (W)

Conditional effects of the focal predictor at values of the moderator(s):

       Cat     Effect         se          t          p       LLCI       ULCI
    1.1818      .1554      .2697      .5762      .5650     -.3760      .6868
    2.0000      .1861      .1905      .9768      .3297     -.1893      .5615
    2.8182      .2168      .2697      .8037      .4224     -.3146      .7482
```

*C3.3. Hayes process Y=Sum Perceived sustainability, X=Message, W=Product Category*

```
Model  : 1
    Y  : SumS
    X  : Mes
    W  : Cat

Sample
Size:  240

*************************************************************************
OUTCOME VARIABLE:
 SumS

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      .1428       .0204     1.9095     1.6372     3.0000   236.0000      .1814

Model
              coeff         se          t          p       LLCI       ULCI
constant     3.3396      .7463     4.4750      .0000     1.8694     4.8098
Mes           .1813      .4720      .3840      .7013     -.7486     1.1111
Cat          -.0094      .3455     -.0271      .9784     -.6900      .6712
Int_1         .0813      .2185      .3719      .7103     -.3492      .5117

Product terms key:
 Int_1    :         Mes        x        Cat

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0006      .1383     1.0000   236.0000      .7103
----------
    Focal predict: Mes       (X)
          Mod var: Cat       (W)

Conditional effects of the focal predictor at values of the moderator(s):

        Cat     Effect         se          t          p       LLCI       ULCI
     1.1818      .2773      .2526     1.0979      .2734     -.2203      .7748
     2.0000      .3438      .1784     1.9269      .0552     -.0077      .6952
     2.8182      .4102      .2526     1.6243      .1056     -.0873      .9078
```

There are no statistical significance transition points within the observed
range of the moderator found using the Johnson-Neyman method.

# Appendix C4: Analysis H3 – A

*C4.1. Independent t-test comparing ratings from different groups of perceived importance of sustainability (groups defined by cut-off point 3.5)*

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| Att | Equal variances assumed | 2.070 | .151 | 2.120 | 238 | .018 | .035 | .48812 | .23023 | .03457 | .94167 |
| | Equal variances not assumed | | | 2.002 | 73.620 | .024 | .049 | .48812 | .24377 | .00236 | .97388 |
| SumS | Equal variances assumed | .636 | .426 | 3.819 | 238 | <.001 | <.001 | .81318 | .21295 | .39367 | 1.23269 |
| | Equal variances not assumed | | | 3.796 | 78.475 | <.001 | <.001 | .81318 | .21421 | .38677 | 1.23959 |
| Purchase Intention | Equal variances assumed | .903 | .343 | 2.783 | 238 | .003 | .006 | .75101 | .26981 | .21949 | 1.28253 |
| | Equal variances not assumed | | | 2.915 | 84.437 | .002 | .005 | .75101 | .25763 | .23872 | 1.26330 |
| Evaluation of label use | Equal variances assumed | 1.711 | .192 | 4.919 | 238 | <.001 | <.001 | 1.244 | .253 | .746 | 1.743 |
| | Equal variances not assumed | | | 4.578 | 72.378 | <.001 | <.001 | 1.244 | .272 | .703 | 1.786 |

*C4.2 Comparison of means across all values for the perceived importance of sustainability index*

| Mes | PersA | Att | Sus | Mes | PersA | Att | Sus | Change Attitude | Change Sus |
|---|---|---|---|---|---|---|---|---|---|
| Not integrated | Helt Uenig | 2,44 | 2,42 | Integrated | Helt Uenig | 1,00 | 1,25 | -0,72 | -0,58 |
| | 1.33 | 1,00 | 3,00 | | 1.33 | 2,50 | 1,75 | 0,75 | -0,63 |
| | 1.67 | 3,33 | 2,00 | | 1.67 | 3,67 | 3,75 | 0,17 | 0,88 |
| | 2 | 2,00 | 2,75 | | 2 | 4,22 | 4,75 | 1,11 | 1,00 |
| | 2.33 | 3,06 | 2,96 | | 2.33 | 4,25 | 3,44 | 0,60 | 0,24 |
| | 2.67 | 4,08 | 3,44 | | 2.67 | 5,11 | 4,08 | 0,51 | 0,32 |
| | 3 | 3,47 | 3,15 | | 3 | 3,52 | 3,36 | 0,03 | 0,10 |
| | 3.33 | 5,50 | 3,25 | | 3.33 | 4,67 | 4,67 | -0,42 | 0,71 |
| | 3.67 | 4,27 | 4,30 | | 3.67 | 3,83 | 3,10 | -0,22 | -0,60 |
| | 4 | 3,67 | 3,54 | | 4 | 4,37 | 4,10 | 0,35 | 0,28 |
| | 4.33 | 4,30 | 3,78 | | 4.33 | 4,15 | 3,98 | -0,07 | 0,10 |
| | 4.67 | 3,96 | 4,00 | | 4.67 | 3,48 | 3,69 | -0,24 | -0,15 |
| | 5 | 3,78 | 3,77 | | 5 | 3,67 | 3,89 | -0,06 | 0,06 |
| | 5.33 | 4,21 | 3,91 | | 5.33 | 4,64 | 4,48 | 0,21 | 0,28 |
| | 5.67 | 5,33 | 4,75 | | 5.67 | 4,89 | 5,75 | -0,22 | 0,50 |
| | 6 | 4,04 | 3,72 | | 6 | 4,50 | 4,38 | 0,23 | 0,33 |
| | 6.33 | 4,50 | 4,33 | | 6.33 | 4,76 | 5,18 | 0,13 | 0,42 |
| | 6.67 | 4,13 | 4,06 | | 6.67 | 4,00 | 4,92 | -0,06 | 0,43 |
| | Helt Enig | 3,19 | 3,46 | | Helt Enig | 3,84 | 3,94 | 0,32 | 0,24 |
| | Total | 3,89 | 3,66 | | Total | 4,07 | 4,01 | 0,09 | 0,17 |

*C4.3. Frequency statistics on response variables, split on low and high concerns for sustainability (cut-off value at 3.5) and message type.*

*Statistics*

| Group_PerAt | Mes | | | SumS | Att |
|---|---|---|---|---|---|
| Low values | Not integrated | N | Valid | 27 | 27 |
| | | | Missing | 0 | 0 |
| | | Mean | | 2.8426 | 3.3333 |
| | | Median | | 2.5000 | 3.0000 |
| | | Std. Deviation | | 1.09665 | 1.57437 |
| | Integrated | N | Valid | 24 | 24 |
| | | | Missing | 0 | 0 |
| | | Mean | | 3.5938 | 3.8889 |
| | | Median | | 3.5000 | 4.0000 |
| | | Std. Deviation | | 1.53370 | 1.55625 |
| High values | Not integrated | N | Valid | 93 | 93 |
| | | | Missing | 0 | 0 |
| | | Mean | | 3.9032 | 4.0466 |
| | | Median | | 4.0000 | 4.0000 |
| | | Std. Deviation | | 1.27903 | 1.37137 |
| | Integrated | N | Valid | 96 | 96 |
| | | | Missing | 0 | 0 |
| | | Mean | | 4.1120 | 4.1181 |
| | | Median | | 4.0000 | 4.1667 |
| | | Std. Deviation | | 1.40809 | 1.48441 |

*C4.4. ANOVA: Differences in response variables between message groups, split on low and high concerns for sustainability*

*ANOVA*

| Tosplit | | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|---|
| Low concerns | Att | Between Groups | 3.922 | 1 | 3.922 | 1.599 | .212 |
| | | Within Groups | 120.148 | 49 | 2.452 | | |
| | | Total | 124.070 | 50 | | | |
| | SumS | Between Groups | 7.169 | 1 | 7.169 | 4.115 | .048 |
| | | Within Groups | 85.370 | 49 | 1.742 | | |
| | | Total | 92.539 | 50 | | | |
| High concerns | Att | Between Groups | .241 | 1 | .241 | .118 | .732 |
| | | Within Groups | 382.349 | 187 | 2.045 | | |
| | | Total | 382.590 | 188 | | | |
| | SumS | Between Groups | 2.059 | 1 | 2.059 | 1.136 | .288 |
| | | Within Groups | 338.863 | 187 | 1.812 | | |
| | | Total | 340.921 | 188 | | | |

*C4.5. Hayes process - Y: Product Attitude, X: Message, W: Perceived importance of Sustainability*

```
***************************************************************************
Model  : 1
    Y  : Att
    X  : Mes
    W  : PersA

Sample
Size:  240


***************************************************************************
OUTCOME VARIABLE:
 Att

Model Summary
          R         R-sq        MSE           F         df1         df2           p
      .1508        .0227     2.1377      1.8298      3.0000    236.0000       .1424

Model
             coeff         se           t           p        LLCI        ULCI
constant    2.6886      .9224      2.9147       .0039       .8713      4.5059
Mes          .4810      .5932       .8108       .4183      -.6877      1.6496
PersA        .2151      .1854      1.1605       .2470      -.1501       .5804
Int_1       -.0629      .1194      -.5267       .5989      -.2980       .1723

Product terms key:
 Int_1   :         Mes        x        PersA

Test(s) of highest order unconditional interaction(s):
       R2-chng          F         df1         df2           p
X*W       .0011      .2774      1.0000    236.0000       .5989
----------
    Focal predict: Mes       (X)
          Mod var: PersA     (W)

Conditional effects of the focal predictor at values of the moderator(s):

      PersA      Effect         se           t           p        LLCI        ULCI
     3.1238       .2846      .2675      1.0639       .2885      -.2424       .8115
     4.7111       .1848      .1888       .9789       .3286      -.1871       .5566
     6.2984       .0850      .2674       .3177       .7510      -.4419       .6118
```

# Appendix C5: Analysis H3 – B

*C6.1 Hayes Process: DV: Sum Perceived Sustainability, IV: Message, Moderator: Perceived importance of Sustainability*

```
*************************************************************************
Model  : 1
    Y  : SumS
    X  : Mes
    W  : PersA

Sample
Size:  240

*************************************************************************
OUTCOME VARIABLE:
 SumS

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      .2937       .0863     1.7811     7.4270     3.0000   236.0000      .0001

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.2363      .8420     2.6560      .0084      .5775     3.8951
Mes           .3360      .5415      .6205      .5356     -.7308     1.4027
PersA         .2310      .1692     1.3652      .1735     -.1024      .5644
Int_1         .0011      .1090      .0101      .9919     -.2135      .2158

Product terms key:
 Int_1   :         Mes        x         PersA

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W        .0000      .0001     1.0000   236.0000      .9919
-----------
    Focal predict: Mes        (X)
          Mod var: PersA      (W)

Conditional effects of the focal predictor at values of the moderator(s):

    PersA      Effect         se          t          p       LLCI       ULCI
   3.1238       .3394      .2441     1.3902      .1658     -.1416      .8204
   4.7111       .3412      .1723     1.9801      .0488      .0017      .6806
   6.2984       .3429      .2441     1.4048      .1614     -.1380      .8238
```

# Appendix D1: Discussion

## D1.1. Multivariate general model analysis – overall sample

**General Linear Model**

*Between-Subjects Factors*

| | | Value Label | N |
|---|---|---|---|
| Product category | 1,00 | Grandiosa | 80 |
| | 2,00 | Toro | 80 |
| | 3,00 | BareBra | 80 |
| Message | 1,00 | Not integrated | 120 |
| | 2,00 | Integrated | 120 |

*Multivariate Tests[a]*

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|---|---|---|---|---|---|---|
| Intercept | Pillai's Trace | ,908 | 768,027[b] | 3,000 | 234,000 | ,000 |
| | Wilks' Lambda | ,092 | 768,027[b] | 3,000 | 234,000 | ,000 |
| | Hotelling's Trace | 9,847 | 768,027[b] | 3,000 | 234,000 | ,000 |
| | Roy's Largest Root | 9,847 | 768,027[b] | 3,000 | 234,000 | ,000 |
| Product_category | Pillai's Trace | ,018 | ,699 | 6,000 | 470,000 | ,651 |
| | Wilks' Lambda | ,982 | ,696[b] | 6,000 | 468,000 | ,653 |
| | Hotelling's Trace | ,018 | ,694 | 6,000 | 466,000 | ,655 |
| | Roy's Largest Root | ,013 | ,992[c] | 3,000 | 235,000 | ,397 |
| Message | Pillai's Trace | ,026 | 2,057[b] | 3,000 | 234,000 | ,107 |
| | Wilks' Lambda | ,974 | 2,057[b] | 3,000 | 234,000 | ,107 |
| | Hotelling's Trace | ,026 | 2,057[b] | 3,000 | 234,000 | ,107 |
| | Roy's Largest Root | ,026 | 2,057[b] | 3,000 | 234,000 | ,107 |

a. Design: Intercept + Product_category + Message

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

## D.1.2. Multivariate general model analysis – sample excluding Toro

**Multivariate Tests[a]**

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|---|---|---|---|---|---|---|
| Intercept | Pillai's Trace | .464 | 44.498[b] | 3.000 | 154.000 | <.001 |
| | Wilks' Lambda | .536 | 44.498[b] | 3.000 | 154.000 | <.001 |
| | Hotelling's Trace | .867 | 44.498[b] | 3.000 | 154.000 | <.001 |
| | Roy's Largest Root | .867 | 44.498[b] | 3.000 | 154.000 | <.001 |
| Product_category | Pillai's Trace | .020 | 1.056[b] | 3.000 | 154.000 | .370 |
| | Wilks' Lambda | .980 | 1.056[b] | 3.000 | 154.000 | .370 |
| | Hotelling's Trace | .021 | 1.056[b] | 3.000 | 154.000 | .370 |
| | Roy's Largest Root | .021 | 1.056[b] | 3.000 | 154.000 | .370 |
| Message | Pillai's Trace | .057 | 3.100[b] | 3.000 | 154.000 | .029 |
| | Wilks' Lambda | .943 | 3.100[b] | 3.000 | 154.000 | .029 |
| | Hotelling's Trace | .060 | 3.100[b] | 3.000 | 154.000 | .029 |
| | Roy's Largest Root | .060 | 3.100[b] | 3.000 | 154.000 | .029 |