



UNIVERSITY  
OF TWENTE.

**THE IMPACT OF SUSTAINABILITY COMMUNICATION ON CONSUMERS'  
BRAND ASSOCIATIONS IN THE FOOD AND BEVERAGE INDUSTRY**

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Sanja Axelsson

Examiners: Professor Olli Kuivalainen D.Sc.  
Assistant Professor Jenni Sipilä D.Sc.  
Professor Dr. Raymond Loohuis MBA  
Assistant professor Dr. Agata Leszkiewicz

## ABSTRACT

<b>Author</b>	Sanja Axelsson
<b>Title</b>	The impact of sustainability communication on consumers' brand associations in the food and beverage industry
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<b>Examiners</b>	Professor Olli Kuivalainen D.Sc. (LUT) Assistant Professor Jenni Sipilä D.Sc (LUT) Professor Dr. Raymond Loohuis MBA (UT) Assistant professor Dr. Agata Leszkiewicz (UT)
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With sustainability concerns receiving increasing attention in many fields, it is important to study how sustainability-related communication affects brand equity. This study investigates sustainability communication and its effect on the ways in which brand associations create value in the food and beverage industry. Aaker's 1991 framework for brand equity is utilized as the basis of the framework used in this study. In order to find how brand associations, a facet of brand equity, are affected by sustainability communication, five hypotheses are developed on the basis of the five ways brand associations create value identified by Aaker. These five ways are: Processing and retrieving information, Differentiation and positioning, Reason-to-buy, Positive feeling and attitudes, and Brand extensions.

The empirical part of this study is quantitative in nature. An experiment was conducted through the use of an online questionnaire, where respondents were randomly assigned an experimental condition. As the context of the empirical section is the coffee industry, respondents were shown communication examples from a coffee brand. Half were shown sustainability-related communication, and the rest non-sustainability related communication. The data was analyzed in the statistical software platform SPSS to assess the hypothesized causal relationships.

The hypothesis testing led to results which were not statistically significant. The correlation analysis showed strong correlations between some ways in which brand associations create value and sustainability-related questions, providing avenues for further research. The results of the correlation analysis indicate that a brand's level of perceived sustainability strongly positively correlates with three of the ways in which brand associations create value: Differentiation and positioning, Reason-to-buy, and Positive feelings and attitudes.

## TIIVISTELMÄ

<b>Tekijä</b>	Sanja Axelsson
<b>Tutkielman nimi</b>	Kestävyysviestinnän vaikutus kuluttajien brändiassosiaatioihin ruoka- ja juoma-alalla
<b>Tiedekunta</b>	School of Business and Management
<b>Pääaine</b>	International Marketing Management (MIMM)
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<b>Tarkastajat</b>	Professori Olli Kuivalainen D.Sc. (LUT) Apulaisprofessori Jenni Sipilä D.Sc (LUT) Professori Dr. Raymond Loohuis MBA (UT) Apulaisprofessori Dr. Agata Leszkiewicz (UT)
<b>Avainsanat</b>	kestävyysviestintä, kestävä kehitys, brändiassosiaatiot, brändipääoma, koe, ruoka- ja juomateollisuus, kahvisektori

Koska kestävään kehitykseen liittyvät kysymykset ovat kasvavissa määrin saaneet huomiota monilla eri aloilla, on tärkeää tutkia miten kestävään kehitykseen liittyvä viestintä vaikuttaa brändipääomaan. Tämä tutkimus tutkii kestäväan kehityksen kommunikointia ja sen vaikutusta niihin tapoihin, joilla brändiassosiaatiot luovat arvoa ruoka- ja juomateollisuudessa. Tässä tutkimuksessa käytetyn viitekehyksen perustana on käytetty Aakerin vuonna 1991 julkaisemaa brändipääoman kehystä. Jotta kestävyysviestinnän vaikutusta brändiassosiaatioihin voidaan tutkia, viisi hypoteesia on luotu käyttäen Aakerin tunnistamaa viittä tapaa, joilla brändiassosiaatiot luovat arvoa. Nämä viisi tapaa ovat: Informaation prosessointi ja mieleenpalauttaminen, Differentiaatio ja positiointi, Syy ostaa, Positiiviset tunteet ja asenteet sekä Brändin laajennus.

Tämän tutkimuksen empiirinen osa on luonteeltaan kvantitatiivinen. Internetissä käytettävää kyselytyökalua hyödyntäen luotiin koe, jossa vastaajille määrättiin satunnaisesti kokeellinen ehto. Koska empiirisen osion kontekstina toimi kahvisektori, vastaajille näytettiin kahvibrändin viestintäesimerkkejä. Noin puolelle vastaajista näytettiin kestäväan kehitykseen liittyviä viestintäesimerkkejä, ja muille näytettiin viestintäesimerkkejä, jotka eivät liity kestäväan kehitykseen. Jotta oletettuja kausaalisia suhteita voitiin tutkia, data analysoitiin tilastollista ohjelmistoa SPSS hyödyntäen.

Hypoteesitestausta johti tuloksiin, jotka eivät olleet tilastollisesti merkitseviä. Korrelaatioanalyysissä löytyi positiivisia korrelaatioita joidenkin brändiassosiaatioiden arvonluontitapojen ja kestäväan kehitykseen liittyvien kysymysten välillä, mikä luo pohjan mahdollisille jatkotutkimuksille. Korrelaatiotutkimuksen tulokset osoittavat, että brändin koettu kestävyys korreloi voimakkaasti ja positiivisesti kolmen eri tavan kanssa, joilla brändiassosiaatiot luovat arvoa. Nämä ovat: Differentiaatio ja positiointi, Syy ostaa, ja Positiiviset tunteet ja asenteet.

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# 1. Introduction

Sustainability has been a widely discussed and researched topic in recent decades. Sustainability is the concept of meeting current needs without compromising future generations' ability to do so as well. Sustainability-related issues have often been categorized into three groups: environmental, social, and economic sustainability (United Nations 2022). As consumers' interest and knowledge regarding sustainability continues to grow, it is important to assess the effect of sustainability communication on brand equity in different industries. As brands which operate the food and beverage industry, which is a part of the fast-moving consumer goods industry, face pressure to become increasingly sustainable, it is imperative for the owners of these brands to assess how sustainability communication affects their brand equity. Thus, this study seeks to assess the impact of sustainability communication on the ways in which brand associations create value, which is one facet of brand equity.

## 1.1 Background

In order to mitigate the sustainability challenges associated with the food and beverage industry, different forms of sustainability governance have been implemented. To address challenges related to sustainability, companies utilize different kinds of governance mechanisms, such as programs related to corporate social responsibility, or CSR, voluntary sustainability standards, or VSSs, direct producer relations, and other tools. (Bager and Lambin 2020)

As the food and beverage industry seeks to tackle different kinds of sustainability challenges, it can be expected that sustainability communication plays a significant part in consumers' brand associations regarding brands active in the industry. Adopting sustainability strategies helps companies to mitigate the potential negative environmental effects and other sustainability issues in their business operations and supply chain. Voluntarily adopting these strategies can also help to meet different stakeholder expectations, reduce regulatory risk, protect the brand and reputation, increase income, and differentiate themselves in the market. (Bager and Lambin 2020)



The empirical section of this study will investigate the impact of sustainability communication on consumers' brand associations in the coffee sector. The coffee sector is selected as the context for the empirical section of this study due to coffee being a widely consumed beverage worldwide, as well as the strong existing linkages between coffee and sustainability, such as the prevalence of sustainability labels. The coffee industry specifically is even regarded as one of the pioneering industries in terms of sustainability certification (Reinecke et al. 2012). According to Statista almost 56% of the global population consumes coffee at least once a week (Statista 2015). A study on coffee drinkers' brains shows that generally, it is perceived to be a significant and meaningful part of people's lives (Kenney et al. 2022). Although coffee is deeply ingrained in the daily routines of vast amounts of consumers worldwide, the industry faces many issues and threats when it comes to sustainability.

Sustainability has been widely discussed in relation to the coffee industry. One of the reasons for this is that climate change poses a significant threat to the coffee industry on a fundamental level, as heat waves and droughts, rising average temperatures, and other effects caused by climate change threaten many of the areas currently suitable for producing coffee (Bianco 2020). This proximity to environmental issues related to climate change, as well as the rise of more sustainability-conscious consumers and increasing attention in the media means that sustainability is a relevant and contemporary issue in the coffee industry. Some of the main sustainability challenges faced by the coffee industry include environmental effects such as water pollution, loss of biodiversity, soil erosion, and deforestation, as well as exploitation of labor (Bager and Lambin 2020). In terms of the carbon footprint resulting from the entire coffee value chain, it is found that the cultivation and consumption stages are hotspots where the carbon footprint is the highest. Additionally, when also taking into account impacts on water scarcity, cultivation is the most important step in the value chain when attempting to improve the environmental performance in the entire value chain. In order to reduce negative environmental impacts in the value chain, it is recommended that coffee companies engage their suppliers in order to manage greenhouse gas emissions, improve irrigation practices, and balance amounts of agricultural inputs (Usva et al. 2020).

The way consumers perceive brands is expected to change based on companies' ability to conduct business in a sustainable way, and their ability to communicate this commitment to

sustainability to consumers. The following literature review seeks to assess the current state of the literature regarding the impact of sustainability communication on consumers' brand associations in the food and beverage industry, as well as identifying aims for further research. The following sections provide a brief overview of the previous literature, and an in-depth literature review is conducted in chapter 2.

## 1.2 Previous research

Sustainability labelling is one of the most widely researched areas of sustainability communication in the food and beverage industry. Sustainability labels are used by consumers as tools to assess specific different aspects of sustainability of a given food product. During recent decades different kinds of voluntary sustainability schemes along with their corresponding sustainability labels have been developed, which emphasize various different sustainability aspects. (Van Loo et al. 2015)

Another way in which brands communicate their commitment to sustainability and seek to establish a unique positioning or differentiation in markets is through sustainability-related advertising. A 2021 study by Sander et al. investigates consumer reactions to environmental and social sustainability advertising. It is found that sustainability advertising, especially when it has an environmental focus rather than a social one, can be an effective tool in enforcing the creation of favorable brand personalities and fostering positive brand attitudes and increased purchase intention. (Sander et al. 2021)

One study by Donato and D'Aniello (2022) investigates the impacts which eco-labels and other sustainability-related information on food packaging has on consumers' perceptions of food products. It is found that food-related eco-labels increase the perceived safety and quality of food products. It is also found that when the eco-labels are accompanied with an ecological claim acting as an explanation of the eco-label, both food-related and packaging-related eco-labels positively affect the perceived food quality and safety (Donato and D'Aniello 2022). Additionally, according to Chen, specifically indicating which sustainability-related ethical or environmental issues a sustainably labeled product attempts to solve may help to strengthen consumers' self-identity as sustainable consumers, helping to translate these feelings into sustainable consumption behavior (Chen 2020).

Based on the results of their study, Donato and D’Aniello (2020) claim that it can be inferred that consumer knowledge about eco-labels is generally low, as there is a lack of understanding regarding the benefits which are associated with eco-labels. When it comes to the mechanism which impacts the relationship between the eco-labels and evaluations of food, the authors suggest that the feeling of pride consumers experience when they purchase items with eco-labels may be responsible for the positive relationship. Adding ecological claims which explain specific ecological benefits of the featured eco-labels either on packaging or in other communication can thus increase consumer awareness of what the labels mean, also increasing their feelings of pride when purchasing the food product in question. (Donato and D’Aniello 2020)

Along with investigating the effects of sustainability communication on consumers’ purchase intention and consumption habits, it is also important to study the impact of these communications on consumers’ brand perceptions. In their study about sustainability labels in the Dutch coffee market, Anagnostou et al. state that responding to and adopting new sustainability labels can enhance the image consumers have of a branded company overall, as well as the image of the company’s corporate social responsibility. However, the authors note that once a certain branded product features a new sustainability label, the brand’s other products may be affected by a negative spillover effect, wherein consumers notice that other branded products do not adhere to this new norm of sustainability. In order to avoid this from happening, the authors recommend companies be more proactive regarding sustainability-related issues, not only including sustainable products in their product lines, but also anticipating changes in societal norms and uplifting entire product lines to high sustainability standards. (Anagnostou et al. 2015)

Although consumers’ reactions to sustainability communication in the food and beverage industry have been studied, the results produced have been somewhat inconsistent. Whilst consumers have been found to generally respond positively to different types of sustainability communication in terms of brand attitudes and purchase intention (Sander et al. 2021; Donato and D’Aniello 2020), it is also found that consumers’ knowledge and usage of available sustainability information remains generally low (Donato and D’Aniello 2020; Grunert et al. 2014). It is also found that research on the impact of sustainability

communication on brand associations has not received as much attention in the literature. The theoretical basis for this research is developed using Aaker's five asset model of brand equity as a basis. This research seeks to address the inconsistencies in existing research on the impact of sustainability communication by analyzing brand associations, which, according to Aaker, are a component of brand equity and thus one of the predecessors of purchase intention (Aaker 1991).

### 1.3 Research problems and questions

The aim of this research is to find out how sustainability communication affects the ways in which brand associations create value in the context of the food and beverage sector. In order to assess the impact of sustainability communication on consumers' brand associations, branded coffee products are used as an example in the empirical section in order to study the phenomenon. The significance of adhering to sustainable business practices for coffee companies has been discussed in the previous sections, along with ways in which coffee companies can communicate sustainable values and practices to consumers.

Research questions:

In order to assess how sustainability communication can affect the ways in which brand associations create value in the context of food and beverage brands, the main research question seeks to find how brand association is affected by sustainability communication. In order to accurately answer this question, the sub-questions have been formulated based on these five ways identified by Aaker in 1991. The sub-questions and their corresponding hypotheses are discussed in chapter 3.

Main research question: How is brand association affected by sustainability communication?

Sub-question 1: Does sustainability communication help consumers to process and retrieve information regarding the brand?

Sub-question 2: Does sustainability communication help to differentiate and position the brand?

Sub-question 3: Does sustainability communication provide consumers with a reason-to-buy?

Sub-question 4: Does sustainability communication create positive feelings and attitudes?

Sub-question 5: Does sustainability communication provide a basis for creating brand extensions?

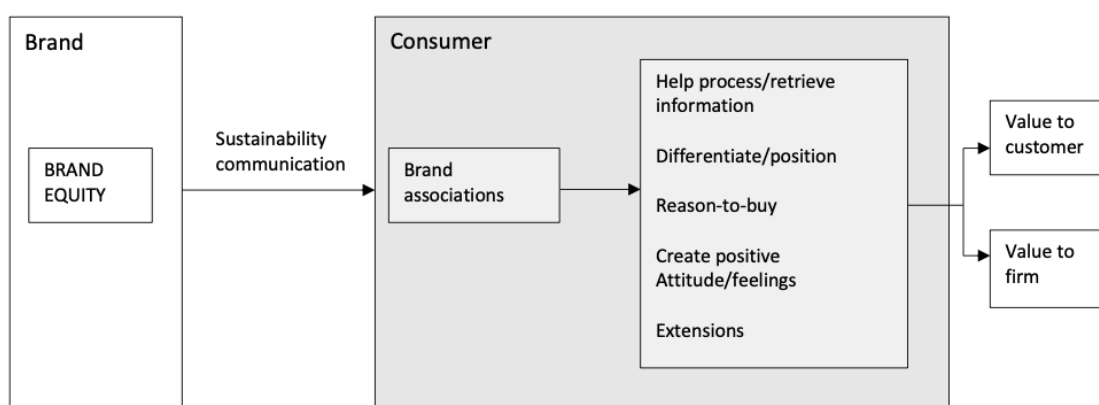
#### 1.4 Theoretical framework

The theoretical framework utilized in order to understand the impact of sustainability communication on consumers' brand associations is based on Aaker's 1991 framework for brand equity. The framework in question can be found in appendix I. According to Aaker, brand equity is a combination of name awareness, perceived quality, brand loyalty, brand associations, and other proprietary brand assets. The combination of these provides value to customers through enhancing their use satisfaction, confidence in the purchasing decision, and the interpreting or processing of information. On the company side, brand equity provides value by enhancing competitive advantage, the possibility for brand extensions, trade leverage, brand loyalty, improved prices or margins, and effectiveness and efficiency in terms of marketing programs. (Aaker 1991)

According to Aaker, establishing unique brand associations has been done through using product names, packaging, attributes, advertising, and distribution strategies. Aaker specifies five ways in which brand associations create value. These five ways in which brand associations create value are utilized as the basis of the research sub-questions. Brand associations help consumers to process and retrieve information, provide a basis for differentiation or positioning, provide consumers a reason-to-buy, create positive attitudes and feelings, and provide a basis for extensions. (Aaker 1991)

Aaker's seminal work does not discuss the role of sustainability communication in terms of its impact on consumers' brand associations. It is stated that product names, attributes,

packages, advertising, and distribution strategies are all utilized by brands to create brand associations which are unique (Aaker 1991). This research seeks to expand the knowledge regarding how a brand’s sustainability communications can affect brand associations by assessing how the five ways in which brand associations create value are impacted. The framework below, which is based on Aaker’s model, provides a visualization of the researched phenomenon and context.



*Figure 1: Framework for the impact of sustainability communications on consumers’ brand associations based on Aaker’s 1991 framework for brand equity*

### 1.5 Definitions of key concepts

#### Brand equity:

According to Aaker, brand equity is defined as “a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm’s customers” (Aaker 1991, p. 15). The five categories used to group the abovementioned assets and liabilities are: brand loyalty, name awareness, brand associations, perceived quality, and other proprietary brand assets.

#### Brand associations:

According to Aaker, “unique brand associations have been established using product attributes, names, packages, distribution strategies, and advertising” (Aaker 1991, p. 7). They are specific associations consumers have regarding the brand in question, and can create positive feelings, help to retrieve and process information, provide a reason to buy,

help to differentiate and position the brand, and can be a basis for brand extensions. They are what the underlying value of a brand name is often based on. (Aaker 1991)

Value to customer:

According to Aaker, brand equity assets can subtract or add value for customers. Brand equity can provide value to the customer through enhancing the interpretation and processing of large amounts of information regarding brands and products, providing increased use satisfaction through perceived quality and existing brand associations, and increasing the customer's confidence in their purchasing decision as a result of familiarity with the brand or positive past-use experiences. (Aaker 1991)

Value to firm:

In his 1991 framework for brand equity, Aaker states that as a result of adding value to customers, brand equity can add value to the firm through generating marginal cashflow in a variety of ways. Examples of ways in which this can occur are through brand equity assets enhancing the efficiency and effectiveness of marketing programs, building competitive advantage and trade leverage, increasing brand loyalty, enhancing prices and margins, and providing a basis for brand extensions. (Aaker 1991)

Sustainability:

Sustainable development is defined by the United Nations as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations 2022). Three core elements of sustainability are identified: environmental protection, social inclusion, and economic growth (United Nations 2022).

Corporate social responsibility:

Corporate social responsibility, or CSR, is defined by Carroll as “the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time” (Carroll 1979, p. 500). The discretionary expectations mentioned have thereafter been amended within the definition to philanthropic expectations (Carroll and Shabana 2010).

Sustainability communication:

Sustainability communication in the context of this research refers to all communications originating from the brand and directed towards consumers which deal with the brand's commitment to environmental, social, or economic sustainability. This includes sustainability labels on packaging (Van Loo et al. 2015, Chen 2020, Maciejewski et al. 2019), documents and other forms of communication released by companies regarding their corporate social responsibility initiatives (Maciejewski et al. 2019, Bianco 2020), and sustainability-related advertising (Sander et al. 2021).

## 1.6 Delimitations

The research in question focuses on only one of the five elements of brand equity identified by Aaker (Aaker 1991). The impact of sustainability communication on brand loyalty, brand awareness, perceived quality, and other proprietary brand assets is not taken into account in this study, and thus they may interact with the effect on brand associations in ways which are not identified.

Another limitation of this research is the level to which the results of the empirical study can be generalized. One of these limiting factors is the sample of the study, as respondents may be geographically concentrated in certain countries. Furthermore, other demographic factors, such as the respondents' age, may produce different results when compared with a potentially more representative sample. These limitations are discussed in detail in section 6.3.

The extent to which the results of the research can be extended to other fast-moving consumer goods, as well as within the food and beverage sector is also a limitation of this study. As the coffee sector has been considered one of the leading sectors in terms of sustainability certification, it can be expected that consumers have been exposed to more sustainability communication from coffee brands than many other fast-moving consumer goods brands. Thus, in the context of the coffee sector, consumers may be more sensitive to sustainability-related communications, as they may already associate the coffee sector with a higher standard of sustainability. Furthermore, studies conducted in Europe and North America may be overrepresented in the existing literature regarding sustainability, which



could lead to the results of this research not being as generalizable outside these regions, as variables such as cultural context and language are not taken into consideration.

### 1.7 Research methodology and data collection plan

As evidenced by the research questions discussed earlier, this study is causal in nature. Firstly, a literature review is conducted. The literature utilized consists mainly of peer-reviewed journal articles sourced from reputable and topical academic journals, as well as books by established academics. Other publications published by reputable sources such as the United Nations are also utilized.

In order to collect quantitative data for the empirical research, an online questionnaire with an experimental manipulation is developed on the basis of the five sub-research questions provided earlier. The contents of the questionnaire feature mainly seven-point likert scale questions with some questions including the possibility of leaving open-ended answers. The questions are presented in the context of purchasing coffee products. Following the data collection process, the results are analyzed on the statistical analysis platform SPSS. The results of the empirical section of the study, along with the analyzed literature, are then used to answer the research questions.

## 2. Literature review

In this section the previous relevant literature regarding sustainability communication and branding is assessed and discussed. First sustainability communication is categorized into different channels, and important considerations for each of them are highlighted. In the second part, a synthesis is provided in terms of the research context, which is the food and beverage industry. Finally, sustainability and communication are discussed from the perspective of the coffee industry, which is the sector used in the empirical part of this study.

### 2.1 Sustainability communication and branding

Marketing communication and advertising are important consumer-facing functions which are utilized to communicate sustainability. According to a 2016 literature survey of green marketing literature published between 1990 and 2014, green marketing as a field of research has received increased attention throughout the studied period. The green marketing functions identified within the analyzed literature include issues related to promotion, products, retailing and distribution, positioning, and branding (Kumar 2016). Seele and Lock further categorize sustainability communication tools into instrumental and deliberative tools, and into published and unpublished communications. Instrumental or corporate published communication consists of one-way communication aimed at external stakeholders, such as CSR reports, brochures, and websites, as well as most marketing communication tools which have been applied to CSR-related issues (Seele and Lock 2015). Deliberative published communications on the other hand seek to foster dialogue and interactions with different stakeholders, and these include social media, wikis, and weblogs. CSR communication tools are aimed at an internal audience and consist of, for example, codes of conduct and CSR strategy papers, and deliberative unpublished tools are mainly utilized for direct stakeholder dialogue such as stakeholder round tables. (Seele and Lock 2015)

The following sections assess marketing communication and advertising, sustainability certification and labels, social media communication, CSR-related communications, and

sustainability reporting. Finally, consumer skepticism and greenwashing are briefly discussed.

### 2.1.1 Marketing communication and advertising

In the green marketing literature, green promotion and green advertising are used to refer to advertisement and the use of other communication tools with a message relating to sustainability issues, especially those which are environmental in nature. The main objectives of green promotion include developing the credibility of environmental claims made, spreading environmental knowledge, and creating and increased awareness about green products. Green advertising literature has focused on the advertising message being communicated and its credibility (Kumar 2016). In a bibliometric analysis of green advertising literature published between 1990 and 2020 green advertising is further described as the practice of using environmentally friendly claims, or green claims, in advertising in order to persuade consumers into purchasing a product. The bibliometric analysis reveals that the research themes within the research area of green advertising consist of content of advertising claims and appeals, eco seals and regulations, consumer behavior, greenwashing and consumer skepticism, corporate advertising, strategy, and pricing. The analysis concludes that green advertising is becoming increasingly prevalent and urges practitioners to equip themselves with green advertising tools (Agarwal and Kumar 2021).

A 2019 study of four cause-related marketing campaigns implemented by food industry companies provides insight into consumers' preferences towards cause-related marketing and CSR. Cause-related marketing campaigns are described to meet the duties of both consumers and companies, wherein companies donate a portion of their revenue towards selected sustainability-related causes. Cause-related marketing is conducted with the goals of integrating solidarity objectives and business objectives. The study concludes that as a result of cause-related marketing, consumers show a general preference towards companies engaging in CSR, and that consumer trust in cause-related marketing, as well as environmental concern, influence their willingness to support CSR and may lead to consumers switching preferred brands in cases where existing brand loyalty is not strong. (Lerro et al. 2019)

### 2.1.2 Sustainability certification and labels

The primary goal of sustainability labelling schemes in the food and beverage industry is to inform consumers and increase transparency along the value chain in order to promote sustainable consumption. Sustainability labels in food and beverage products can generally be grouped into environmental and ethical labels. Some well-known internationally used sustainability labels include the Fair Trade and Animal welfare labels which are considered ethical labels, and labels which communicate environmental sustainability such as the Rainforest Alliance and Carbon Footprint labels (Grunert et al. 2014). Organic food labels also fall into the category of environmental sustainability labels, as do carbon footprint labels (Aprile and Punzo 2022).

Sustainability labels, along with other food labelling schemes, help consumers to make purchasing decisions by signaling credence attributes, which are product attributes that cannot be assessed by consumers during or after the purchase or use of a product. Most sustainability labels include a symbolic or graphic representation to ensure that those sustainability attributes which may be desirable for different consumer groups are highlighted (Aprile and Punzo 2022). Sustainability labels are promoted by an array of different stakeholders, including governments, companies, and environmental organizations, which may have an influence on how different consumer groups react to different labels in addition to the information conveyed and the context within which the label is displayed (Potter et al. 2021).

Grunert et al. find that both self-reported use of sustainability labels, as well as use inferred from the results of the authors' analysis of sustainability labels remains generally low, with use increasing with the consumers' level of concern regarding sustainability issues in food production. Although consumers generally state a moderately high level of concern for sustainability issues, this does not directly translate into a corresponding level of use of sustainability labels (Grunert et al. 2014). This is attributed to general sustainability concerns not translating onto the product-specific level and a lack of understanding of sustainability issues and labels, as well as consumers' personal values and demographic and country effects (Grunert et al. 2014). Futtrup et al. find that consumers' reactions to sustainability labels also vary based on the product context and its perception, the label's visual design,

and the legislative basis of the label. Consumers' socio-demographic and psychographic differences have also been found to determine consumer responses to sustainability labels. Consistent application of sustainability labels helps to increase consumers' familiarity with them, which aids in learning and integration into habits, increasing the effectiveness and consumer friendliness of the label. (Futtrup et al. 2021)

Sustainability labels may also help to enhance consumers' knowledge of their food purchases' environmental impacts, as well as providing opportunities for selecting more sustainable products at the point-of-choice. Although many factors affect consumers' likelihood of selecting products with sustainability labels, such as product type and price, awareness of the sustainability labels also features an important part. Thus, Potter et al. suggest that educational campaigns regarding the benefits of purchasing sustainable products, using a combination of environmental and social responsibility labels, and using labels which are backed by certification schemes, which may be seen as more trustworthy and effective by consumers, could help in increasing consumers preferences for sustainability-labelled products (Potter et al. 2021). In addition to raising awareness among consumers and helping them to choose more sustainable product options, the addition of sustainability labels can also encourage companies to reduce adverse sustainability impacts of their products in order to avoid scrutiny from consumers which may result in damage to the brand.

### 2.1.3 Social media

Recently social media has received attention in the literature regarding sustainability communication, especially in the context of communicating CSR through social media channels. Companies increasingly rely on social media as a channel for communications about their CSR efforts. Benefits recognized in the literature highlight the role of social media as a facilitator of dialogue between companies and stakeholders, increasing consumer engagement. Especially when this communication is perceived as sincere, consumers experience reinforced emotional bonding and commitment to brands. Furthermore, the interactive aspect of CSR communication through social media channels allows companies to better understand consumer perspectives, as well as having the potential to reduce consumer skepticism and respond to criticism originating from different stakeholders. (Dunn and Harness 2018)

A 2020 study regarding CSR communication on social media emphasizes the role of fit between the stakeholder groups which a company is trying to reach with certain CSR messages and the social media platform being utilized. It is stated that CSR communication should correspond with the company's stakeholders' values and ensure that they are made visible to the targeted groups, emphasizing the role of carefully considering the message being communicated, as well as the platform on which this communication takes place (Yang et al. 2020). However, the potential for reputational damage exists in cases where consumers may perceive CSR-related content on companies' social media channels as promotional in nature, increasing skepticism. Furthermore, user-generated content cannot be controlled by the companies, and negative electronic word-of-mouth may have detrimental reputational impacts (Dunn and Harness 2018).

Yang et al. find that CSR-communication which takes place through the social media platforms YouTube and Pinterest to be most effective in increasing levels of brand equity, attributing this to their highly accessible nature, the visibility of content, and facilitating rich forms of communication. The study concludes that as social media facilitates connections between companies and different stakeholder groups and building ongoing relationships with them, leading organizations have been developing CSR campaigns which are based on social media that attempt linking relevant content, stakeholder interests, and social media platforms together to reach best results (Yang et al. 2020). Besides YouTube and Pinterest, a 2018 study assesses over 280 000 tweets made on the social media platform Twitter from leading global food companies with implications relating to social media CSR message content, engagement, and frequency. The results of the study indicate that on Twitter, users are generally more likely to pass along tweets regarding CSR-related topics than those which are not, and that CSR-related discussions are associated with increased level of diffusion of information and endorsement. Furthermore, the research found that including elements of storytelling, such as aspirational talk and emotions, CSR-related content was more likely to reach a higher level of endorsement and diffusion (Araujo and Kollat 2018).

#### 2.1.4 CSR-related communications

Out of the four categories of CSR tools identified by Seele and Lock (Seele and Lock 2015), instrumental and deliberative published communications are further investigated. In a study

by Kim CSR communication is considered to be any type of communications which are designed by a company regarding CSR efforts and activities and are communicated through publicly accessible channels such as annual reports, advertising, social media, internet, and promotional events. These channels are described to target external stakeholders, particularly consumers, and are considered instrumental and deliberative published tools of communication. (Kim 2017)

Du et al. state that not only can CSR activities generate more favorable attitudes among stakeholders and improve the support behaviors they display; they can also strengthen relationships between the company and stakeholders, including consumers, thus strengthening the company's corporate and brand image in the long term. The external outcomes of CSR communication identified by Du et al. include consumers displaying increased purchasing behavior, loyalty, and advocacy conduct. In terms of message channels, Du et al. identify corporate and independent message channels. Corporate communication channels include CSR reporting, public relations, the corporate website, advertising, and point-of-purchase. The independent message channels identified are media coverage and word-of-mouth. In addition to increasing awareness, CSR communication also aims to minimize stakeholder skepticism, as consumers have a tendency to be suspicious of potential ulterior motives held by companies. Key considerations to keep in mind in terms of CSR communication are message content, channel, and stakeholder- and company-specific factors. (Du et al. 2010)

#### 2.1.5 Sustainability reporting

Sustainability reports are a tool utilized in disseminating information to stakeholders regarding a company's sustainability and CSR efforts and progress. Sustainability reporting differs from financial reporting by utilizing the Triple Bottom Line approach wherein social and environmental performance are also assessed and reported. The practice of sustainability reporting helps to keep companies accountable for their sustainability impacts (Baviera-Puig et al. 2015). The literature concerning CSR reporting has mainly been assessed from the corporate perspective rather than stakeholder-centric or customer-centric perspectives. Existing literature has focused on topics such as differences in CSR reporting on the industry, nation, and culture levels, as well as the extent to which reporting requirements and

guidelines provided by the Global Reporting Initiative are followed (Kim 2017). The guidelines provided by the Global Reporting Initiative enable the reporting party to effectively organize information, ensure its completeness and relevance, audit reports, and enable comparisons among other benefits (Baviera-Puig et al. 2015).

Sustainability reporting as a communication tool has received criticism relating to the quality of sustainability reports, and regarding the extent to which sustainability reports truly function as an accountability tool. In order to maintain a high level of perceived moral legitimacy, sustainability reporting should not be viewed by the reporting organization as a promotional or public relations tool. This helps to ensure that no damage occurs to the company's reputation and image, as adopting a self-promotional tone could lead to the company's communications being perceived as greenwashing. (Baviera-Puig et al. 2015)

A 2017 study by Lee et al. assesses different communication channels' impact on consumers' level of awareness regarding a company's CSR activities. CSR-related communications through mass media, the company's online and offline publications, and interpersonal communications are all found to increase consumers' awareness. However, the study indicated that sustainability reports as a communication channel did not significantly raise consumers' awareness of CSR activities (Lee et al. 2017). Furthermore, consumers and the general public are less likely to proactively seek out CSR information about companies and use CSR reports than opinion-leader audiences, which include groups such as investors, NGOs, and business press (Du et al. 2010).

#### 2.1.6 Consumer skepticism and greenwashing

Consumers' skepticism towards companies and brands utilizing environmental claims in advertising, also known as green advertising, has received significant attention in the existing literature (Kumar 2016; Agarwal and Kumar 2021). This ties in with the phenomenon of greenwashing, which is described by Montero-Navarro et al. in a 2021 bibliometric analysis as a phenomenon in which sustainability communication is conducted in order to receive the benefits of an environmentally conscious image without being accompanied by sustainable practices (Montero-Navarro et al. 2021). Consumers perceiving



sustainability communication or green advertising as greenwashing contributes to consumer skepticism and erodes consumer trust.

Consumer skepticism towards CSR and sustainability-related communications increases in cases where consumers perceive CSR activities being conducted by companies as stemming from extrinsic motives, and when it is being perceived as promotional in nature, which can negatively affect consumer trust (Du et al. 2010; Dunn and Harness 2018). High levels of consumer skepticism can thus lead to reputational damage to the company in question (Dunn and Harness 2018). Ways in which consumer skepticism and potential reputational damage may be avoided include utilizing a factual tone when communicating about sustainability-related issues and ensuring that the tone of communication is not perceived as self-promotional (Kim 2017). Furthermore, utilizing social media to foster stakeholder dialogue and respond to consumers can help to decrease skepticism (Dunn and Harness 2018). Sustainability labels are also mentioned as a way in which consumer trust can be increased (Bastounis et al. 2021). Specifically, in terms of sustainability labels, credibility can be increased through utilizing both social and environmental labels, and featuring labels backed by official certification schemes (Potter et al. 2021).

## 2.2 Sustainability communication and branding in the food and beverage industry

The food and beverage industry is responsible for meeting one of the basic needs of society, and thus stakeholders' need for confidence in companies operating in the sector is especially high (Baviera-Puig et al. 2015). This section highlights the role of sustainability communication and branding in the food and beverage industry. First, a synthesis of the literature regarding sustainability communication is presented, where sustainability labeling, reporting, social media, and green advertising are discussed. The second section consists of a literature review on sustainability communication and branding in the empirical context of this study, which is the coffee sector.

### 2.2.1 Synthesis

Engaging in corporate social responsibility and sustainability practices can help to strengthen the relationships between companies and their stakeholders, which strengthens the brand

image, and communication thereof can lead to consumers' increased loyalty and purchasing behavior (Du et al. 2010). Websites, CSR communication and reports, social media, sustainability labeling, and advertising have all been identified by scholars as some of the central channels for sustainability communication (Seele and Lock 2015; Kim 2017; Kumar 2016; Du et al. 2010). Some scholars recommend an integrated approach to sustainability communication especially in the context of green advertising, as no evidence has been found in the literature that one tool is more effective than the others (Kumar 2016).

A widely researched topic in terms of sustainability communication specifically in the food and beverage industry is sustainability labeling (Aprile and Punzo 2022; Grunert et al. 2014; Futtrup et al. 2021; Potter et al. 2021). Sustainability labels aim to promote sustainable consumption through increasing value chain transparency, informing consumers and thus providing them with an enhanced knowledge on environmental impacts, and helping them to make purchasing decisions based on sustainability (Grunert et al. 2014; Aprile and Punzo 2022; Futtrup et al. 2021). The use of both environmental and social sustainability labels have been found to increase credibility and consumer trust (Potter et al. 2021). Some considerations identified regarding the use of sustainability labels for sustainability communication include consumers' low use of sustainability labels and limited ability to understand what they mean (Grunert et al. 2014), the variability of consumers' reactions to different kinds of labels depending on their attributes (Futtrup et al. 2021), and the importance of using certification schemes in order to be seen as more trustworthy by consumers (Potter et al. 2021; Bastounis et al. 2021).

Greenwashing is the phenomenon of using sustainability communication to receive the benefits of an environmentally conscious image without engaging in sustainable practices (Montero-Navarro et al. 2021). The food and beverage industry, which is one of the industries which meets basic societal needs, is mentioned as an industry wherein stakeholders' need for confidence is heightened (Baviera-Puig et al. 2015). In terms of greenwashing research in the field of food processing, sustainability labelling and packaging, as well as their effects on the product itself and impressions they make on end consumers have received academic attention (Montero-Navarro et al. 2021). If consumers perceive sustainability communication as greenwashing, consumer skepticism grows, and trust erodes (Montero-Navarro et al. 2021). Using genuine and fact-based communication in

sustainability communication is important, as a promotional tone can lead to consumers doubting a company's sincerity, which can lead to criticism and reputational damage (Dunn and Harness 2018; Kim 2017). In order to avoid being perceived as overly self-promotional, proactively engaging in sustainability and CSR practices which go beyond industry norms and reporting their associated details and concrete results is a recommended practice (Dunn and Harness 2018).

Sustainability reporting is one of the channels used for sustainability communication, and it can play a large role in consumers' perception of a company's legitimacy as the practice of sustainability reporting can help to keep companies accountable for sustainability impacts (Baviera-Puig et al. 2015). It is also found, however, that sustainability reporting does not significantly raise consumers' awareness of CSR activities (Lee et al. 2017), and the practice has also received criticism regarding the quality of the reports and the extent to which companies are truly held accountable by it (Baviera-Puig et al. 2015).

Social media is a unique channel to use for sustainability communication as it enables dialogue with different stakeholders, including consumers, providing the opportunity to build relationships (Yang et al. 2020; Seele and Lock 2015). It is found that consumers are more likely to pass on sustainability and CSR-related posts, and that online discussions regarding these topics are associated with increased endorsement (Araujo and Kollat 2018). It is important to ensure that sustainability communication on social media platforms is carefully communicated, corresponds with stakeholders' values, and is made visible to the targeted groups (Yang et al. 2020), while including engaging elements such as storytelling and emotions (Araujo and Kollat 2018).

Green advertising, or green promotion, refers to the use of advertising and other communication tools to communicate messages that relate to sustainability issues in order to develop the credibility of sustainability claims which are made, spread environmental knowledge, and increase awareness regarding green products (Kumar 2016). Green advertising often features claims regarding environmental friendliness, or green claims, to persuade consumers into purchasing a product (Kumar 2016). Green advertising is growing in prevalence, and its societal role continues to increase consumers' consciousness of sustainability-related issues (Agarwal and Kumar 2021). A study regarding cause-related

marketing in the food industry, which is marketing communication relating to a specific environmental or social cause supported by the brand, finds that consumers show a general preference for companies engaging in CSR and sustainability practices, with consumer trust and environmental concern being shown to have an influence on the extent of this effect (Lerro et al. 2019).

### 2.2.2 Empirical context: the coffee industry

A literature review conducted by Samoggia and Riedel analyzes multiple studies regarding the characteristics and motives of consumers' behavior related to coffee consumption and purchasing. The authors highlight that especially in western countries research has shown that sustainability is emphasized, and that the consumption of organic and fair-trade coffee has been of particular concern in consumer research regarding coffee consumption (Samoggia and Riedel 2018). In addition to fair-trade labels, other prominent sustainability labels used by coffee companies include the Rainforest Alliance certification, UTZ certification, and the Carbon Footprint label (Chen 2020; Maciejewski et al. 2019). It is found that issues related to pricing act as a barrier when it comes to purchasing fair trade coffee, and that consumers with a higher social status and quality of education display a higher willingness-to-pay for fair trade coffee products. However, the authors also identify that results of the research conducted on the consumer behavior displayed in the context of ethical consumption, and fair-trade coffee specifically, are inconsistent (Chen 2020). Cultural context is an important factor to take into consideration, as issues related to sustainability typically receive more attention in Europe and the USA, and consumers may thus show more interest towards and have more knowledge about sustainability labels and other forms of sustainability communication (Samoggia and Riedel 2018). A sense of moral obligation is also identified in the study by Chen, along with the level to which consumers self-identify with sustainability, as positively affecting consumers' purchase intentions toward coffee which is sustainability-labeled (Chen 2020).

Bager and Lambin find that smaller coffee companies with less resources tend to rely on external standards in order to address sustainability, whereas larger, risk-aware companies prefer a more direct mode of sustainability practices which can be achieved through the adoption of internal practices. It is also important to note that according to their research,

one third of coffee companies are found to not engage with sustainability to any extent, one third of companies show limited adoption of sustainability practices, and one third of companies demonstrate their commitments to sustainability through various different approaches to sustainability matters. Emphasis is placed on the fact that only when sustainability governance is mainstreamed in the sector and large, established companies adopt sustainability governance measures, can the industry as a whole become increasingly sustainable. (Bager and Lambin 2020).

In terms of sustainability governance in the coffee industry, consumers are increasingly in the role of monitoring companies with regard to their sustainability. As companies increase the amounts of sustainability-related information they release, consumers are implicitly expected to monitor and assess this data. Providing consumers with sustainability related data which has not been certified by a third party can lead to confusion on the consumers' part regarding different sustainability standards, potentially leading to uninformed purchasing decisions (MacGregor et al. 2017). Supporting the notion of consumers having a role in sustainability governance, Lingnau et al. find that consumers are also directly willing to punish companies with a notable reaction in their willingness to pay when companies display behavior which is deemed unethical (Lingnau et al. 2019).

Companies also communicate their sustainability initiatives through other means, such as public documents. One study found that coffee companies committed to sustainable values often mention their commitment to conducting business in an ethical manner in terms of environmental impacts, impacts on local communities and growers, their own employees, as well as consumers, as well as advocating for improved living conditions for coffee farmers and environmental protection. (Maciejewski et al 2019)

CSR-related communications are a common channel for companies in the coffee industry to address sustainability issues through. According to Bianco, it has been found that the most frequently addressed sustainability issues relate to climate change, with companies also mentioning sustainability initiatives relating to the social and economic dimensions of sustainability. However, the issues which are reported on are often specific issues affecting the coffee producers and farmers within the company's value chain, rather than addressing industry-wide issues. Coffee companies may also view certification as a sufficient measure

to address any climate-related concerns. They may end up overly prioritizing meeting standards for third-party certification and industry guidelines, which may lead to not extensively addressing other sustainability issues. (Bianco 2020)

### 3. Theoretical lens and hypotheses

In light of the literature review conducted in the previous sections, hypotheses are formulated in order to answer the research question: How is brand association affected by sustainability communication? The hypotheses relate to whether or not sustainability communication has an impact on the five ways identified by Aaker in which brand associations create value.

#### 3.1 Brand association

This section deals with brand associations and the five different ways in which they create value. A brand is described by Aaker as a distinguishing name, symbol, or combination of both which intends to make the sellers of products identifiable in addition to differentiating the offering from competitors' offerings. Thus, brands signal the source of products to consumers, protecting consumers and companies from competitors' products which might in other cases appear identical (Aaker 1991). Brands provide value through brand equity, which is defined by Aaker as "a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers" (Aaker 1991, p. 15). Brand equity consists of brand associations, name awareness, brand loyalty, perceived quality, and other proprietary brand assets (Aaker 1991).

Brand equity provides value for the company through creating and upholding brand loyalty, price advantages, potential for brand extensions, enhancing effectiveness and efficiency of marketing programs, helping to establish trade leverage, and as a source of competitive advantage. On the consumer side, brand equity provides value by helping the interpretation and processing of information, increasing use satisfaction, and increasing confidence in the purchase decision. (Aaker 1991)

Brand associations deal with the mental images stimulated by brands, and function as a positioning and differentiation tool. Brand associations, in addition to perceived quality, can increase consumers' level of satisfaction regarding the use experience of an offering and form the basis for purchase decisions and brand loyalty. The establishing of unique brand associations has been done through utilizing product names, attributes, packages,

advertising, and distribution strategies. Brand associations may affect consumers' purchasing behavior directly or indirectly. Important considerations for practitioners in terms of brand associations include the identity of the brand associations, as well as their strength and whether they are shared by many or differ between individuals. The different types of associations identified by Aaker in his seminal work include product attributes, customer benefits, intangibles, use or application, relative price, lifestyle or personality, a celebrity or person, competitors, product class, and country or geographic region. (Aaker 1991)

Research relating to brand equity has received significant attention in marketing and branding literature. Keller has conducted further research and built upon Aaker's framework on brand equity. According to Keller, brand image consists of a set of associations linked to brand held in consumers' memories. The uniqueness, strength, and favorability of brand associations are the dimensions which distinguish brand knowledge in addition to brand awareness, which consists of brand recognition and recall. Brand associations can be categorized into three groups, which are attributes, benefits, and attitudes. One of the outcomes of favorable customer-based brand equity according to Keller is consumers reacting more favorably to marketing mix elements of a specific brand over an unnamed or unknown brand. (Keller 1993)

Although the ways in which brand associations create value specifically have not been researched in the context of sustainability and the communication thereof, the greater concept of customer-based brand equity has been studied in relation to sustainability. For example, the concept of "green brand equity" was developed on the basis of Aaker's 1991 and Keller's 1993 works in order to incorporate the concept of green marketing into the brand equity framework. The concept of "green brand equity" is defined by Chen as "a set of brand assets and liabilities about green commitments and environmental concerns linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service" (Chen 2010, p. 310). Green brand equity has also received attention in the literature in recent years, for example in a systematic literature review conducted on the topic in 2021. The review concludes that value, image, satisfaction, trust, and loyalty are the factors which are most frequently analyzed in the context of green brand equity (Górska-Warsewicz et al. 2021). Some of the less analyzed factors include awareness, quality,



promotional activities, the fact of purchase, and specific attributes. “Green brand associations”, or “brand associations” which were studied in the context of green brand equity, were found to have been studied in three of the 33 articles included in the review, indicating that only a small number of studies have been previously conducted on the topic of brand associations in the context of green brand equity (Górska-Warsewicz et al. 2021).

### 3.1.1 Processing and retrieving information

According to Aaker brand associations can help to process and retrieve information. Brand associations can serve as a tool to summarize information such as facts and specifications into a compact chunk of information, easing the processing and accessing of brand-related information on the consumer side. Furthermore, the processing of facts can also be influenced by brand associations, for example through the use of visual images which facilitate the forming of desired interpretations in consumers’ minds. Brand associations may also affect information recall, for example through utilizing symbols which trigger brand-related thoughts and experiences in consumers’ minds, especially during the decision-making process. (Aaker 1991)

According to Keller, the term brand image refers to a set of associations consumers hold in their memory which are linked to a given brand, and that the uniqueness, strength, and favorability of these associations together with brand recall and recognition distinguish brand knowledge and have an effect on consumer response. In situations where consumers may lack the knowledge or motivation to evaluate an offering, certain signals or extrinsic cues related to the brand which consumers do have knowledge of, such as color or scent of the product, may be used by to evaluate the quality of the product. (Keller 1993)

Brand associations aid consumers in information processing and retrieval through providing reminders and retrieval cues related to brands. Although information related to brands may be stored in consumers’ potentially retrievable memory, this information may not be accessible without retrieval cues. The associations which come to consumers’ minds are context dependent, and the higher the number of cues or associations linked to a piece of information is, the more likely it is to be retrieved (Keller 1993). Thus, strong brand

associations which come to mind easily for consumers should aid in retrieving information about brands.

Sustainability communication could help consumers to process and retrieve information by presenting information in an easily recognizable and processable form such as through the use of sustainability labels. Furthermore, the presence of sustainability themes in a brand's communication can help to reinforce existing sustainability-related associations surrounding the brand in question in consumers' minds and keep other brand-related information top-of-mind.

Hypothesis 1: Sustainability communication helps consumers to process and retrieve information regarding the brand.

### 3.1.2 Differentiation and positioning

Brand associations can function as a basis for differentiation. Especially in product classes wherein consumers may not be able to distinguish products themselves, such as in the case of wines and perfumes, associations related to brand names can be critical in aiding consumers in separating brands from one another. Thus, differentiating associations can in some cases be considered key competitive advantages. Competing brands will face difficulties attacking brands which are well positioned in their respective product classes upon a key attribute. For example, if competing brands were to assert superiority upon a key dimension like this, a credibility issue would arise. This means that not only can brand associations work as a key differentiating factor, they can also be used as a positioning tool and to form a barrier against competitors. (Aaker 1991)

Keller synthesizes that sustainable competitive advantage is at the core of successful brand positioning. Unique selling propositions differentiate brands and provide consumers a reason to select a specific brand. Unique selling propositions can be based on attributes which are directly product-related, or on benefits relating to function, experience, or image. Brands in the same product category often share similar associations. In different product categories, some attributes can be considered prototypical or essential to all category members, with

specific brands which are most representative of these associations being considered exemplar. (Keller 1993)

According to Chen, green marketing could be used as a basis on which brands position themselves, as consumers' growing sustainability concerns can present avenues of differentiation for brands (Chen 2010). Being perceived as highly sustainable can be a differentiating advantage for a brand. Especially in sectors which are highly sensitive to sustainability issues such as the coffee sector, when compared to other competing brands in the same category, sustainability leadership can provide a key competitive advantage for the brand. Thus, it can be assumed that sustainability communication can help to differentiate and position brands.

Hypothesis 2: Sustainability communication helps to differentiate and position the brand.

### 3.1.3 Reason-to-buy

Brand associations often involve specific customer benefits or product attributes which provide consumers with a reason to buy and use products from the specific brand in question. Thus, brand associations can be considered the basis for consumers' purchase decisions and loyalty to the brand. Brand associations can also influence purchase decisions through increasing the credibility of the brand and consumers' confidence in it. For example, being known as a brand used by professionals may increase consumers' confidence in the brand. (Aaker 1991)

Not only do unique selling propositions help to differentiate brands, they can also provide consumers a compelling reason-to-buy (Keller 1993). This could be expected to be the case especially with unique brand associations, which are those not shared by all or most brands which are members of a certain category. Thus, unique brand associations not shared by all category members can be expected to provide consumers a reason to select a certain brand over another, in other words providing them with a reason-to-buy.

Sustainability communication conveys information related to one specific product attribute, sustainability. As consumers become increasingly aware of sustainability-related issues, the presence of sustainability information can help them to make purchasing decisions which align with their consumption values and habits. Especially in the case of consumers who seek out sustainable products and identify as sustainable consumers, sustainability communication may provide them with a reason-to-buy a specific brand. Furthermore, according to Chen et al., green brand affect increases green purchase intentions, and green brand affect has a positive relationship with green brand attitude, as well as green brand associations (Chen et al. 2020). From this it could be inferred that a positive relationship exists between reason-to-buy and sustainability communication, which can be assumed to aid in the formation of green brand associations and green brand attitude.

Hypothesis 3: Sustainability communication helps to provide consumers with a reason-to-buy.

#### 3.1.4 Positive feelings and attitudes

Positive feelings and attitudes towards a brand can be created through using brand associations. Brand associations can be likable and stimulate positive feelings in consumers. Subsequently, these associations and their companion feelings become linked to the brand in consumers' minds. Utilizing likeable symbols can also help to reduce the likelihood of consumers arguing against the logic of an advertisement. Some associations are tied to the use experience of a branded product, transforming the experience for the consumer. For example, advertising can be used to create brand associations which can add to a new dimension, such as a sense of fun or adventure, to the use experience of a branded product. (Aaker 1991)

According to Keller feelings and emotions evoked by brands in consumers are often reflected in attributes relating to brand personality. Brand personality attributes are associations which can be produced through usage and user image attributes. The personality of a brand is often described with personality descriptors such as "gentle", "colorful", and "youthful". Furthermore, brand personality attributes may be a reflection of feelings and emotions the brand evokes (Keller 1993). Chen concludes that green brand image and green trust are

antecedents of green brand equity (Chen 2010). In order to form a green brand image and appear trustworthy to consumers, values and activities related to sustainability have to be communicated by the brand to consumers. Thus, this study assumes that sustainability communication can create positive feelings and attitudes towards a brand, such as viewing the brand as trustworthy and environmentally friendly. Furthermore, sustainability communication may help consumers to feel more at ease regarding their consumption habits, and positive attitudes may arise from consumers' feelings of congruence between their own values and those communicated by the brand.

Hypothesis 4: Sustainability communication creates positive feelings and attitudes.

### 3.1.5 Brand extensions

Brand associations can provide a basis for brand extensions, as they can create a sense of fit between an existing brand name and a new product. For example, a brand association with outdoor activities may lend itself to brand extensions in fruit bars, vitamin tablets, and soft drinks. Furthermore, brand associations can also provide a reason to buy the extension product. Brand associations can also function as a basis for brand extensions as brand associations can provide consumers a reason-to-buy a particular brand as mentioned previously. (Aaker 1991)

Capitalizing on the brand image of an existing product is the basis for efficiently informing consumers and retailers brand extensions. As a brand node for the existing product already exists in memory, awareness for brand extensions can be higher due to consumers establishing a connection between the two. Furthermore, inferred associations of attributes, benefits, and perceived quality can be created towards the extension product, helping consumers to form expectations about it based on their extant knowledge regarding the core brand. Furthermore, the salience of brand associations relating to the existing product and the extension, in addition to perceived relevance and how favorable these inferred associations determine how the extension is evaluated (Keller 1993). In terms of brand extensions, sustainability communication and its related associations may influence consumers' evaluations of the brand's competence in conducting business in a sustainable manner across different product types, providing a basis for further brand extensions.

Hypothesis 5: Sustainability communication provides a basis for creating brand extensions.

## 4. Research methods and data

The following sections present the research approach utilized in this study. In order to measure whether sustainability communication affects the five ways in which brand associations create value among consumers, a quantitative research method was selected. Firstly, the selected research method is described. Next, research context and framework are expanded upon. Then, research design and procedure are described, including the method, procedure, and measurement. Lastly, the data analysis process is described.

### 4.1 Description of the selected research method

Quantitative research is used in order to produce a numerical representation of issues. In an analysis conducted regarding the mix of quantitative and qualitative research methods used in articles in major marketing journals, it is found that between 1993 and 2002 over 46 percent of articles employed some form of quantitative research, with the corresponding figure for qualitative research methods being almost 25 percent. It is argued that the dominance of quantitative research in the field is linked practical arguments, as well as those of social and practical nature. The aforementioned analysis also finds that in terms articles utilizing mixed methods research, where quantitative and qualitative approaches are combined, over 74 percent of articles were primarily quantitative, as qualitative data was reported to have been used mainly in the design stage of the quantitative research. (Hanson and Grimmer, 2007)

A popular tool for quantitative research used in the field of marketing are questionnaires. Questionnaires are described as being easy to assemble and administer, and it is stated that they can provide revelatory and novel insights regarding individuals, such as consumers for example, as well as organizations. In a review of survey-based articles published in the *Journal of the Academy in Marketing Science* between 2006 and 2015 it is found that in 52 percent of studies the unit of analysis is an individual, with over 54 percent of studies involving self-reports. When the primary research aim is testing proposed theoretical effects, which are not specific to the context of a particular target population, a convenience sample rather than one which is determined within an explicit sampling frame can be used. The most important considerations in survey development when the intention is to test theoretical

hypotheses of interest is selecting and appropriate research context and measurement objects and using data sources which provide accurate information regarding the units being studied (Hulland et al., 2017). The questionnaire designed for this study is quantitative in nature and used a convenience sample. The questionnaire can be found in appendix II.

## 4.2 Research context and framework

As the research deals with the food and beverage industry, the coffee sector specifically was used as empirical context due to the reasons discussed in section 1.1. These include the prevalence of sustainability issues relating to the sector and their widespread awareness among the general public, as well as the large percentage of consumers who regularly purchase and consume coffee products.

The framework of this research is based on Aaker's 1991 framework for brand equity. It is introduced in section 1.4. The five ways in which brand associations create value identified by Aaker are by helping consumers to process and retrieve information, providing a basis for differentiation and positioning, providing consumers with a reason-to-buy, creating positive attitudes and feelings, and providing a basis for brand extensions. This research specifically focuses on how consumers' assessments of these five ways of creating value may change in relation to whether consumers are exposed to sustainability-related communication originating from the brand in question or not. Figure 1 presented in section 1.4 provides a visualization of the framework used in this paper which is adapted from Aaker's 1991 framework can be found. The "Consumer" area is highlighted within the visualization to represent that this research focuses specifically on consumers' perceptions and attitudes.

## 4.3 Research design and procedure

This section provides a description of the research design and procedure of the data collection and analysis methods for the empirical part of this study. First, a description of the selected research method, which is an experiment, is provided. Next, the sampling method is explained and overview of the contents of the questionnaire is provided. Section



4.3.3 goes into more detail regarding the scale development for the hypothesis-related questions. Finally, the statistical methods used for analyzing the collected data are described.

#### 4.3.1 Experiment

An experimental research design is causal in nature and the researcher exerts more control over the conditions in which data are collected than in observational or survey research. This control occurs in the form of manipulating one or more independent variables in a deliberate manner whilst the other variables are controlled. These conditions or combinations thereof are then randomly assigned to sample elements, which in this case are respondents of the questionnaire. (Stevens et al. 2008)

In order to discover whether the hypothesized relationships may exist between sustainability communication and the five ways in which brand associations create value for consumers, an experiment was designed and conducted. A questionnaire was developed using the online tool Qualtrics. The respondents of the questionnaire were randomly assigned to one of two experimental conditions. These experimental conditions are example images of communication originating from a brand which the respondents were shown during completion of the questionnaire. One set contains images specifically featuring sustainability communication while the other image set features communication which is not specifically sustainability related from the same brand.

After respondents were asked to provide some general information regarding demographic factors and other relevant details, respondents were asked to spend a few minutes familiarizing themselves with the randomly assigned image set. Thereafter the respondents were asked to provide responses to questions regarding the five different ways in which brand associations create value. The experimental design was developed to uncover whether differences can be found in the responses of those respondents who were exposed to examples of sustainability communication when compared to those who were not.

#### 4.3.2 Procedure and method

This section describes the procedure and method of the questionnaire. The questionnaire can be found in its entirety in appendix II. After developing the questionnaire in the online tool Qualtrics it was distributed via an anonymous online link. The link was shared on online social media platforms and via the researcher's personal network. The responses were collected between 15.9.2022 and 16.10.2022 with a total number of 99 responses.

After providing a brief explanation regarding the purpose of the research and some short instructions along with the researcher's contact details, respondents to the questionnaire were asked a series of demographic questions. These included age, gender, highest completed level of education, employment status, and country of residence. Subsequently respondents were asked to provide general information about the types of coffee products they consume and purchase and the frequency of these actions. Respondents were also asked to identify by name the brand of coffee products which they prefer to purchase or consume. Respondents were also asked to state their level of familiarity with the example coffee brand used in the questionnaire, Starbucks.

Starbucks was selected as the example brand due to it being a well-known global brand in addition to the variety of examples for different types of communication originating for the brand. This was done to ensure that the sustainability-related and non-sustainability-related image sets of communication examples would closely resemble each other apart from the presence or absence of sustainability communication. Respondents were also asked to report whether they had previously encountered sustainability-related communication about Starbucks through different channels after providing a brief explanation of what the term "sustainability communication" represents in the context of the research.

After providing responses to the items listed above, respondents were asked to spend one to two minutes familiarizing themselves with the randomly assigned image set. Thereafter a series of questions were asked regarding the five ways in which brand associations create value. The following section introduces and demonstrates which questions were asked and why they were selected.

### 4.3.3 Measurement

The concept of customer-based brand equity which was originally introduced by Aaker and elaborated upon by Keller in the 1990s has received attention in marketing literature since. Although neither Aaker nor Keller operationalized the framework in terms of scale development, other researchers have since sought to do this (Christodoulides et al. 2015). Scale development done by other researchers is further discussed below, where scales are developed for measuring the ways in which brand associations create value on the basis of scales developed in the broader context of the framework of customer-based brand equity.

When conducting the literature review, little evidence was found to indicate that previous research has been conducted on the outcomes of consumers' brand associations specified in Aaker's 1991 framework, and no established existing scales for these specific items regarding the ways in which brand associations create value were identified. Thus, in order to measure processing and retrieving information, differentiation and positioning, reason-to-buy, positive attitudes and feelings, and brand extensions, scale items were mostly selected from previous research published in the realm of branding and consumer research, specifically brand equity as it is the core concept of Aaker's original framework. Additionally, some measurement items were developed by the author in order to gather more rich and nuanced data relating to consumers' attitudes and experiences in relation to the research topic. Each item was measured on a seven-point Likert scale anchored at 1 representing the response option "Strongly disagree" and 7 representing the response option "Strongly agree".

The two questions regarding the processing and retrieving of information used in the questionnaire were selected from a 2001 article by Yoo and Donthu wherein a scale is developed and validated for multidimensional consumer-based brand equity. In the article, the items "Some characteristics of X come to my mind quickly" and "I can quickly recall the symbol or logo of X" are identified as scale items relating to brand awareness and associations (Yoo and Donthu 2001). In the context of this research the aforementioned questions are interpreted as relating to the processing and retrieving of information, as both questions deal with the level of ease consumers experience with regard to retrieving core information related to the brand.

The next questionnaire questions deal with differentiation and positioning. The first item, also named in the research by Yoo and Donthu, is “I can recognize X among other competing brands”, which is also distinguished as a scale item relating to brand awareness and associations (Yoo and Donthu 2001). This question is used in the questionnaire because it references the competitive position in relation to competitors of the brand in question. Thus, respondents’ agreement with this statement can be interpreted as respondents experiencing the brand as different from competitors. Two more questionnaire questions relating to differentiation and positioning are identified in Wang and Finn’s 2012 article regarding the measurement of consumer-based brand equity across brand portfolios. The items “This brand really stands out from other brands in the same product category” and “This brand is different from competing brands” are stated by Wang and Finn as measuring the uniqueness of the brand, which is interpreted by the researcher as the level of differentiation consumers perceive the brand to have in comparison to other brands in the category (Wang and Finn 2012).

The items “Even if another brand has the same features as X, I would prefer to buy X” and “If there is another brand as good as X, I prefer to buy X” are categorized as items which measure overall brand equity by Yoo and Donthu (Yoo and Donthu 2001). However, in the context of this research these questions are intended as a measure of whether or not respondents experience the brand itself as a reason to buy the product, in other words as something that provides consumers with a reason-to-buy. A third item, “I am highly likely to buy a product because it features X brand” was developed by the author for measuring reason-to-buy in order to ensure that respondents correctly interpret the questionnaire questions and for respondents to be able to accurately represent how much the brand itself factors into the hypothetical purchasing situation.

In terms of creating positive attitudes and feelings, three items were selected from Sweeney and Soutar’s 2001 multiple item scale. Respondents were asked to indicate the extent to which they agree with the statements that the brand is something they “would enjoy”, “would feel relaxed about using”, and would make respondents “feel good” (Sweeney and Soutar, 2001). The fourth item chosen to measure positive feelings and attitudes is selected from a 2013 paper by Dwivedi and Merrilees wherein the researchers operationalized a concept

from an article by Lane and Jacobson from 1997, which is “My attitude is very positive” (Dwivedi and Merrilees 2013; Lane and Jacobson 1997).

Dwivedi and Merrilees also list “has the skills to launch the brand extension” as an item which was identified from Aaker and Keller’s 1991 article regarding consumer evaluations of brand extensions (Dwivedi and Merrilees 2013; Aaker and Keller 1990). This was slightly modified in order to ensure respondents’ full understanding of the question and was presented in the questionnaire as “Starbucks has the skills to launch new brand extensions (new products which have the same brand name)”. The author developed an additional item, “am likely to purchase a newly released product because it carries the brand name Starbucks”, in order to assess whether respondents would not only trust in the brand’s competence to launch successful extensions, but also whether consumers would be inclined to purchase said extension to gauge the reception among respondents to possible brand extensions and their potential future success.

The last items in the questionnaire deal with perceived sustainability. Firstly, respondents are asked to indicate whether they consider themselves a “responsible consumer”. Next, respondents are asked to indicate whether they agree with the statement that Starbucks “is a sustainable brand”. The statement is adapted from “X is an environmentally responsible brand”, which is an item developed by Baalbaki and Guzman based on their qualitative research (Baalbaki and Guzman, 2016). Two more items regarding the perceived sustainability are “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable” and “Starbucks is ahead of its competitors in terms of sustainability” were developed by the author in order to further investigate the role of sustainability communication and perceived sustainability of the brand in the competitive context. Next, an instructional manipulation check is included in the questionnaire which asks respondents to indicate whether they saw sustainability communication about Starbucks in the image set they were asked to familiarize themselves with. Finally, respondents are provided with the option to contribute any feedback or additional information regarding the questionnaire questions and topics.

## 4.4 Data analysis methods

The data collected through the questionnaire was analyzed with the IBM SPSS Statistics software platform version 28.0.0.0. The following section outlines the statistical tests used in the analysis, as well as their underlying concepts and acceptable range of values.

### 4.4.1 Measures for reliability and validity

Principal component analysis is a method used for identifying clusters or groups of variables. The method is used in order to assess whether different variables may be driven by an underlying, or latent, variable, which cannot be directly measured. Principal component analysis helps in understanding the structure of a set of variables, constructing questionnaires, and reducing the size of a data set to be more manageable, as principal component analysis can be used to combine variables which are collinear. Clusters of large correlation coefficients existing between subsets of variables indicate that they may measure different aspects of one underlying dimension. (Field 2009)

Principal component analysis is used in order to uncover the linear components which exist within the data, and how particular variables might contribute to components. The method is used to decompose original data into a set of variables which are linear. (Field 2009). Gewers et al. attribute the popularity of principal component analysis to reducing the dimensionality of original data whilst preserving the highest possible amount of its variation. Furthermore, principal component analysis facilitates identifying new important variables which have distinctive explanatory capabilities (Gewers et al. 2022). However, principal component analysis assumes that the sample used is the population, and thus the results cannot be reliably extrapolated beyond the sample (Field 2009).

Although factors and principal components differ in terms of calculation, Field uses the terms factor and principal component interchangeably, as they are both linear models of a similar nature (Field 2009). Other researchers have also parallelized the two. For example, in Osborne and Costello assess sample sizes for principal component analysis and exploratory factor analysis in their 2004 paper. It is stated that sample sizes of 50 are

considered very poor, and generally the larger the sample size, the better the results (Osborne and Costello 2004).

Factor loadings, or component loadings, are a representation of the substantive importance of a variable in relation to a factor or component. Generally, researchers agree that factor loadings above 0,3 are considered important (Field 2009). However, this can be dependent on sample size. Stevens specifies that in the context of sample sizes of 50, loadings of 0,722 can be considered significant, with a corresponding value of greater than 0,512 for sample sizes of 100, 0,364 for sample sizes of 200, and so forth (Stevens 2002 as cited in Field 2009). As sample size grows, that value at which loadings are considered significant goes down.

A communality represents the proportion of common variance which is present in a variable. A variable which has a communality of 0 would not share any of its variance with any other variable. Conversely, a variable with no random, or specific, variance would have a communality of 1. Common variance is of interest in factor analysis as it represents underlying dimensions within the data. Communalities represent the proportion of variance which is explained by the factors which have been extracted. (Field 2009)

An eigenvalue is the representation of the amount of variance which is explained by a factor or principal component. A value of 1 representing a substantial amount of variation. Joliffe argues for the retention of all factors which have eigenvalues that exceed 0,7, as the value of 1 has been interpreted as being too strict (Field 2009).

Cronbach's alpha is the most common measure of reliability used for scales. Reliability analysis seeks to uncover how consistently a measure reflects the construct being measured. (Field 2009) Generally, values of 0,7 are considered to be acceptable, with values closer to 1 representing higher internal consistency. It is recommended that in case of a questionnaire with subscales, Cronbach's alpha should be applied to these subscales separately (Field 2009).

The Kaiser-Meyer-Olkin test of sampling adequacy, often shortened to KMO, is used to assess the suitability of data for factor analysis, and it can be calculated for multiple variables

as well as individual ones. The resulting values of the test occur between 0 and 1, with 0 representing diffusion in the correlation pattern. According to Field, the KMO represents “the ratio of the squared correlation between variables to the squared partial correlation between variables” (Field 2009, p. 788). Values resulting from the KMO test which are higher than 0,9 are considered superb, and those of 0,5 are considered barely acceptable. (Field 2009)

#### 4.4.2 T-test

T-tests can be used to test whether the means of two groups are different. The independent samples t-test, also called independent-means t-test, is used in cases where two experimental conditions exist, and respondents are assigned exclusively to one condition or the other. This is common in experimental studies where an independent variable is being manipulated in two ways with only one outcome being measured. T-tests are often used for hypothesis testing. (Field 2009)

Running an independent samples t-test in SPSS provides two tables as an output. The first table describes the group statistics, including the number of respondents assigned to each condition, as well as the means, standard deviations, and standard error means for both experimental groups. The second table displays the value for Levene’s test for equality of variances, as well as the results of the t-test. Levene’s test for equality of variances tests whether the variances in the two groups being tested is equal. In cases where the results of Levene’s test are less than or equal to 0,05, it is significant, and it can be assumed that variances are significantly different. The second table containing the t-values is interpreted on the basis of whether the results for Levene’s test is significant or not. The exact t-value is calculated by SPSS as the mean difference divided by the standard error of the sampling distribution of differences. If the p-value related to this t-value is less than 0,05, it can be concluded that a significant difference exists between the means of the two samples. (Field 2009)



#### 4.4.3 Correlations

The bivariate Pearson correlation method was used to analyze the direction and strength of linear relationships between the variables used in this study. Pearson's correlation coefficient,  $r$ , is a standardized value which has to lie between -1 and 1 which represents covariance, or the relationship between variables. Pearson's correlation coefficients with a value of 0,3 or -0,3 are considered as representing a medium effect, and 0,5 or -0,5 a large effect (Field 2009). The table of correlations, along with means and standard deviations of the variables, can be found in appendix IV. Notable correlations discovered in the analysis are presented in the section 5.4.

#### 4.5 Reliability and validity analysis

To assess the validity of the multi-item scales used in the analysis, principal component analyses were conducted with Varimax rotation with Kaiser Normalization with pairwise exclusion. The sections below provide charts with key figures regarding the validity and reliability from the principal component analyses done for each scale including component loadings, communalities, eigenvalues, cumulative percentage of variance explained, Keiser-Meyer-Olkin values and Cronbach's alpha values, as well as brief corresponding explanations.

##### 4.5.1 Initial principal component analysis

Initially, principal component analyses were conducted for each of the five scales described in section 4.3.3. Tables with figures regarding their reliability and validity can be found in appendix III. However, in order to assess the level of cross loading present between the scales, a principal component analysis with Varimax rotation with Kaiser Normalization with pairwise exclusion was conducted with all the individual variables of the scales. This was done because cross loading weakens the validity of the study. The cutoff point used in order to ensure legibility of the table is 0,3. As there are five scales, it was specified that five components be extracted in the result of the analysis. The rotated component matrix table can be found below.

**Table 1***Principal component analysis of all scale variables*

<b>Rotated Component Matrix<sup>a</sup></b>					
	Component				
	1	2	3	4	5
RTB2- If there is another brand as good as Starbucks, I prefer to buy Starbucks.	.858				
RTB1- Even if another brand has the same features as Starbucks, I would prefer to buy Starbucks.	.841				
RTB3- I am highly likely to buy a product because it features the Starbucks brand.	.802				
EXT2- I am likely to purchase a newly released product because it carries the brand name Starbucks.	.595	.432			
POS12- Starbucks is a brand that I would feel relaxed about using.		.911			
POS13- Starbucks would make me feel good.		.801			
POS11- Starbucks is a brand I enjoy.	.371	.785			
POS14- My attitude towards Starbucks is very positive.	.551	.680			
PROCRET2- I can quickly recall the symbol or logo of Starbucks.			.918		
DIFFPOS1- I can recognize Starbucks among other competing brands.			.865		
DIFFPOS2- Starbucks really stands out from other brands in the same product category.	.389		.595	.321	
PROCRET1- Some characteristics of Starbucks come to my mind quickly.			.588	.497	

DIFFPOS3- Starbucks is different from competing brands.	.456			.780
EXT1- Starbucks has the skills to launch new brand extensions (new products which have the same brand name).				.941

*Note.* Processing and retrieving information is abbreviated as PROCRET. Differentiation and positioning is abbreviated as DIFFPOS. Reason-to-by is abbreviated as RTB. Positive feelings and attitudes are abbreviated as POSI. Brand extensions is abbreviated as EXT.

Table 1 shows that items included in the Reason-to-buy scale load only on component 1, which indicates that they all measure the same concept. Furthermore, the loadings are high, as they are equivalent to or above 0,802. Thus, the scale and items used to measure Reason-to-buy are kept as was.

The items in the Positive feelings and attitudes scale also all load on the same component, component 2, and loadings are equivalent to or above 0,680. Although the item POSI1 also loads on component 1, this loading is 0,371, whilst the loading for component 2 is 0,785. This indicates that although some cross loading is present, questionnaire respondents have interpreted the question more as measuring Positive feelings and attitudes, as intended by the researcher. The item POSI4 also loads on component 1. This loading is 0,551, whilst the loading for component 2 is 0,680. This also suggests that despite cross loading, questionnaire respondents have interpreted the question more as measuring Positive feelings and attitudes, rather than reason-to-buy. Thus, the scale for Positive feelings and attitudes is also kept as was.

In terms of the third component, table 1 shows that items PROCRET2 and DIFFPOS1 seem to measure the same concept with loadings of 0,918 and 0,865 respectively. component 3 is the only one which the items load on. The component is interpreted by the researcher as dealing with Processing and retrieving information, as the terms “recall” and “recognize” have to do with cognitive processes of the brain. Thus, the item DIFFPOS1, which is assessed with the question “I can recognize Starbucks among other competing brands”, is reassigned as a Processing and retrieving information item rather than Differentiation and positioning item. Item PROCRET 1 loads on component 3 and 4 with values of 0,588 and

0,497 respectively. Although the item loads on two different components, the loading on the intended component of Processing and retrieving information is higher and thus the item is included into the scale in question.

In terms of Differentiation and positioning, component 4 is identified as measuring the phenomenon. This is because the only item which loads on component 4 with a loading of over 0,5 is DIFFPOS3, which has a loading of 0,780. DIFFPOS3 also loads somewhat on component 1 with a loading of 0,456.

Only one item loads on component 5, which is EXT1 with a value of 0,941. It does not load on other components. This demonstrates that EXT1 strongly measures a concept separate from those which other items in the research measure. Thus, component 5 is identified as that which represents Brand extensions.

EXT2 loads on components 1 and 2 with values of 0,595 and 0,432 respectively. This indicates that questionnaire respondents interpreted the question more as a measure of Reason-to-buy and Positive feelings and attitudes rather than Brand extension. Thus, this question is removed from the analysis, as it does not measure the concept it was intended to measure.

As can be seen in table 1, the item DIFFPOS2 loads on three different components: component 1 with a value of 0,389, component 3 with a value of 0,595, and component 4 with a value of 0,321. As the item loads on three different components it can be determined that the question was not interpreted by respondents as specifically measuring any of the items, and the highest loading falls on component 3 which measures a different concept than what the item was intended to measure by the researcher, the item is left out of the analysis in order to decrease cross loading and increase reliability.

#### 4.5.3 Principal component analysis and reliability of the amended scales

To assess the validity of the amended multi-item scales used in the analysis, principal component analyses were conducted with Varimax rotation with Kaiser Normalization and pairwise exclusion. Cronbach's alpha was used for reliability analysis. These analyses were

not conducted for the single-item scales. The sections below provide charts with key figures regarding the validity and reliability from the principal component analyses done for each scale including component loadings, communalities, eigenvalues, cumulative percentage of variance explained, Keiser-Meyer-Olkin values and Cronbach's alpha values, as well as brief corresponding explanations.

**Table 2**

*Principal component analysis of the new Processing and retrieving information scale*

	Item	Component 1	Communalities
PROCRET1	Some characteristics of Starbucks come to mind quickly.	0,913	0,558
PROCRET2	I can quickly recall the symbol or logo of Starbucks.	0,872	0,761
<b>DIFFPOS1</b>	<b>I can recognize Starbucks among other competing brands.</b>	0,747	0,834
	Eigenvalue	2,154	
	Cum % of variance explained	71,79	
	Cronbach's alpha	0,776	
	KMO	0,634	

Table 2 presents that the component loadings in the component analysis for the new items identified as relating to processing and retrieving information have values between 0,747 and 0,913 which are within the acceptable range. The communalities are in the acceptable range and range from 0,558 to 0,834. Cronbach's alpha for these items is 0,776.

**Table 3***Descriptives of the single-item Differentiation and positioning scale*

	Item	Mean	Standard deviation
DIFFPOS3	Starbucks is different from competing brands.	4,12	1,105

As Differentiation and positioning is now a single-item scale as explained in section 4.5.1., principal component analysis cannot be conducted. Table 3 presents that the mean of this variable is 4,12, and it has a standard deviation of 1,105.

**Table 4***Principal component analysis of the Reason-to-buy scale*

	Item	Component 1	Communalities
RTB1	Even if another brand has the same features as Starbucks, I would prefer to buy Starbucks.	0,924	0,855
RTB2	If there is another brand as good as Starbucks, I prefer to buy Starbucks.	0,93	0,865
RTB3	I am highly likely to buy a product because it features the Starbucks brand.	0,857	0,734
	Eigenvalue	2,454	
	Cum % of variance explained	81,802	

Cronbach's alpha 0,886

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KMO 0,715

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The component loadings in the principal component analysis for the items identified as relating to reason-to-buy, presented in table 4, have values between 0,857 and 0,930, which are acceptable values. The communalities are between 0,734 and 0,865, which are also in an acceptable range. Cronbach's alpha for these items is 0,886, which is considered an acceptable value.

**Table 5**

*Principal component analysis of the Positive feelings and attitudes scale*

	Item	Component 1	Communalities
POSI1	Starbucks is a brand I enjoy.	0,901	0,812
POSI2	Starbucks is a brand that I would feel relaxed about using.	0,903	0,815
POSI3	Starbucks would make me feel good.	0,837	0,700
POSI4	My attitude towards Starbucks is very positive.	0,838	0,702
	Eigenvalue	3,029	
	Cum % of variance explained	75,731	
	Cronbach's alpha	0,892	

KMO

0,827

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Table 5 shows that the component loadings in the principal component analysis for the items identified as relating to positive feelings and attitudes have values between 0,837 and 0,903, which are acceptable values. The communalities are between 0,700 and 0,815, which are also in an acceptable range. Cronbach's alpha for these items is 0,892, which is considered an acceptable value.

**Table 6**

*Descriptives of the single-item Brand extensions scale*

	Item	Mean	Standard deviation
EXT1	Starbucks has the skills to launch new brand extensions (new products which have the same brand name).	4,72	0,979

As Brand extensions is now a single-item scale as explained in section 4.5.1., principal component analysis cannot be conducted. Table 6 presents that the mean of this variable is 4,72, and it has a standard deviation of 0,979.



## 5. Empirical analysis and findings

The topic of chapter 5 is the empirical analysis and its findings. Descriptive statistics of the sample are presented in the first section. In the next section the results of the manipulation check are discussed. In the third section the hypotheses are tested and results are reported. In the last section of this chapter some other findings made through correlation analysis are discussed.

### 5.1 Descriptive statistics

In order to analyze the data, it was first cleaned. After receiving 99 responses to the questionnaire the response completeness was assessed. Questionnaires with a response completeness of 5% or less were removed from the analysis as these respondents had only opened the questionnaire and not provided answers to any of the questionnaire questions. In total 8 responses were excluded from the analysis and thus 91 responses were analyzed. The possibility of leaving open-ended answers was not utilized by respondents to provide relevant additional information regarding the research topics, so no open-ended responses provided by respondents were analyzed.

Figure 2 demonstrates that of these 91 responses 54,9% of respondents identified their gender as female, 40,7% identified their gender as male, and 2,2% identified as non-binary, 1,1% as other, and 1,1% preferred not to say. As shown in figure 3, the age group with most respondents was those aged 26-35 with 31,9%. Only 5,5% of respondents reported belonging to the age group of 36-45. Figure 3 presents the percentages of respondents belonging to each age group.

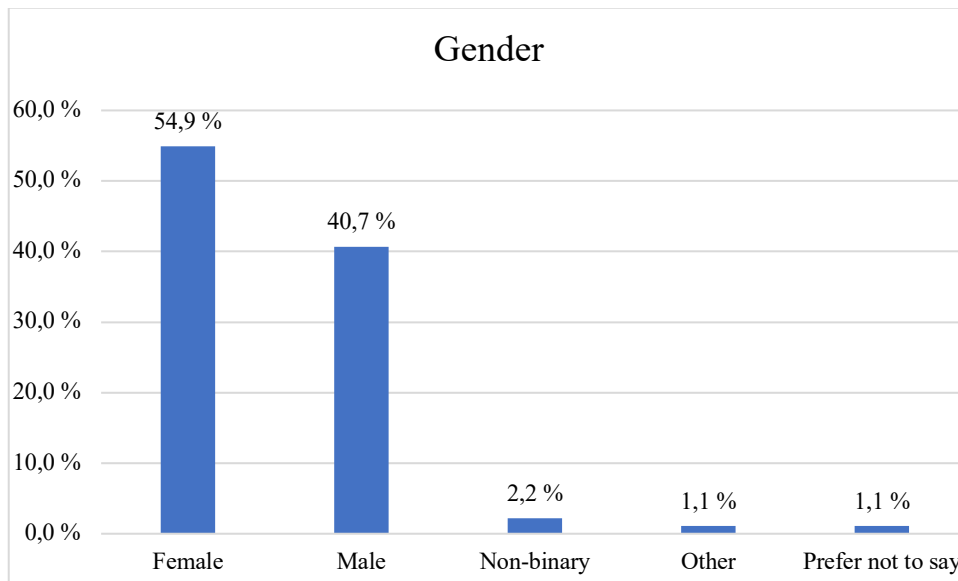


Figure 2. Gender,  $n = 91$

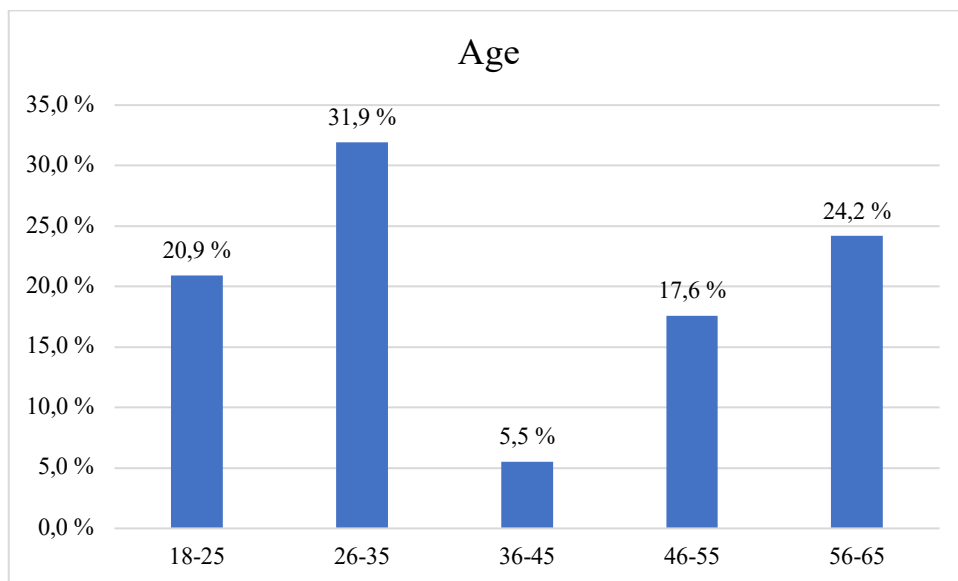


Figure 3. Age,  $n = 91$

The respondents' highest completed level of education is represented in figure 4. As can be seen, 19,8% reported completing their high school diploma as their highest level of education. 35,2% reported having completed a bachelor's degree, and 40,7% had completed a master's degree. Figure 5 presents the current employment status of respondents. 70,3% of respondents reported that they are working full-time. 13,2% of respondents describe their employment status as working part-time and 13,2% reported their current employment status as being students.

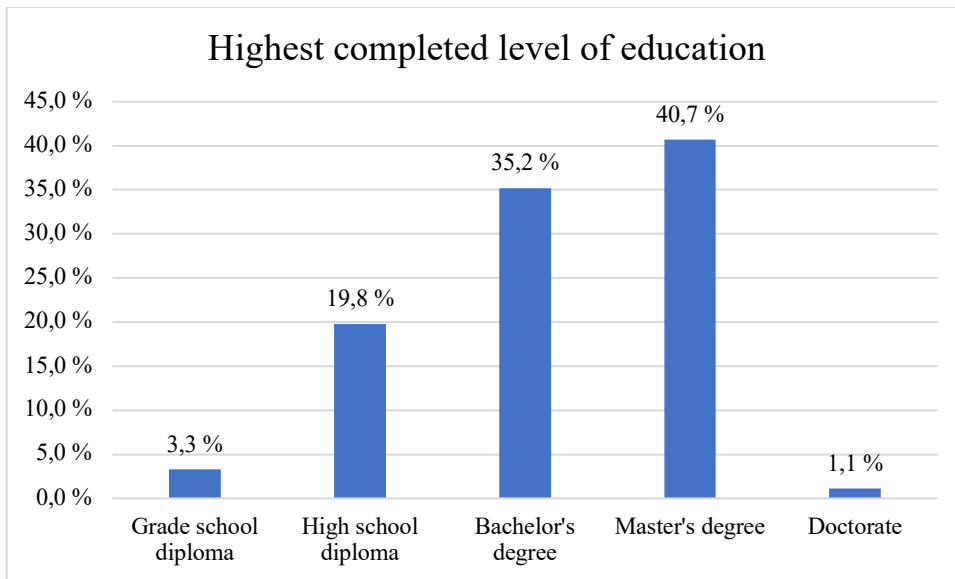


Figure 4. Highest completed level of education,  $n = 91$

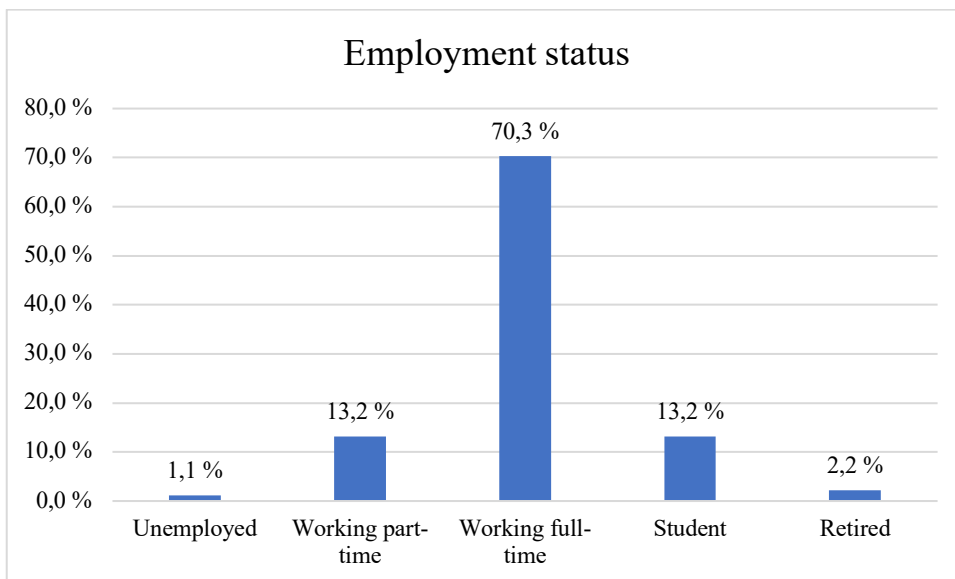


Figure 5. Employment status,  $n = 91$

The country of residence of 64,8% of respondents is Finland. 7,7% of respondents reside in the Netherlands, and 6,6% reside in Romania. The current countries of residence of respondents are presented in figure 6. Respondents were also asked to identify one brand of coffee products which they consume or purchase the most. One notable brand was Paulig, which was mentioned as a first-choice coffee brand by 19,7% of respondents. Other brands

which were mentioned by five or more respondents as first-choice coffee brands were Löffberg's with 11,0%, Lavazza with 6,6%, and Segafredo with 5,5% of respondents.

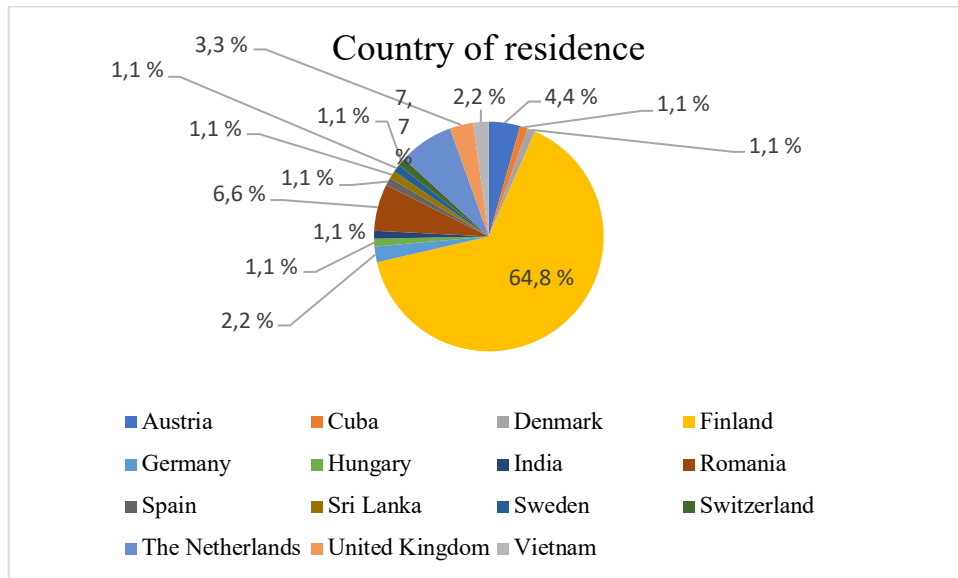


Figure 6. Country of residence, n = 91

Regarding the types of coffee consumed and purchased by respondents, 46,2% reported purchasing or consuming ground coffee, 39,6% reported purchasing or consuming coffee beans, and 40,7% reported purchasing or consuming made-to-order coffee drinks. 23,1% of respondents consume or purchase instant coffee, and 16,5% and 13,2% of respondents respectively reported consuming or purchasing ready-made coffee products and coffee pods or pads. 6,6% of respondents reported not purchasing or consuming coffee products at all. 1,1% of respondents reported using coffee capsules. As can be seen in figure 7, 45,1% of respondents reported purchasing or consuming only one type of coffee product, with 20,9% reporting three types, and 18,7% purchasing or consuming two different types of coffee products.

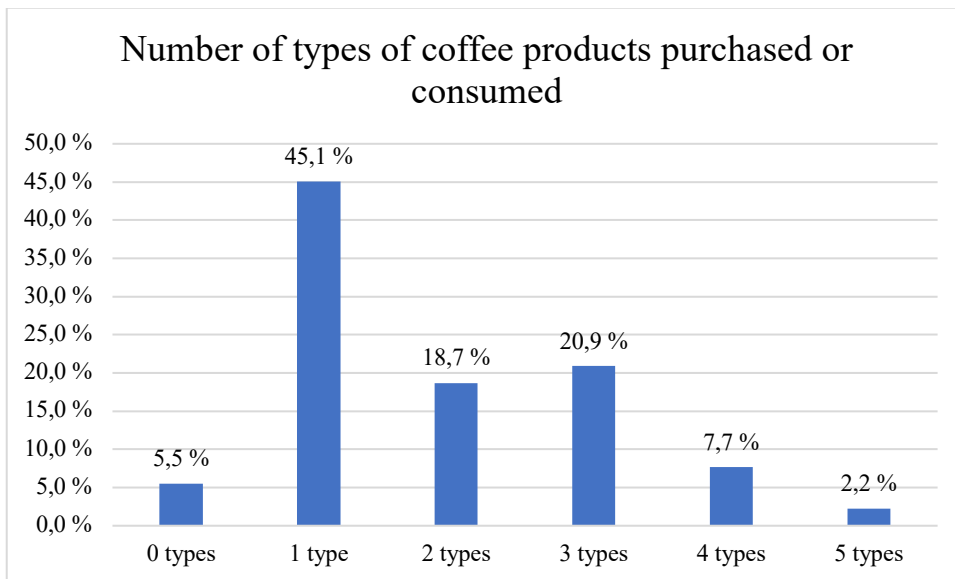


Figure 7. Number of types of coffee products purchased or consumed,  $n = 91$

45,1% of respondents reported consuming coffee products more than once per day, and 29,7% reporting consuming coffee products on a daily basis. 6,6% of respondents never consume coffee products. A visual representation of respondents' coffee consumption is provided in figure 8. In terms of purchasing coffee products, figure 9 shows that 40,7% of respondents purchase them multiple times per month. Only 1,1% of respondents reported purchasing coffee products more than once per day, and 3,9% reported never purchasing them.

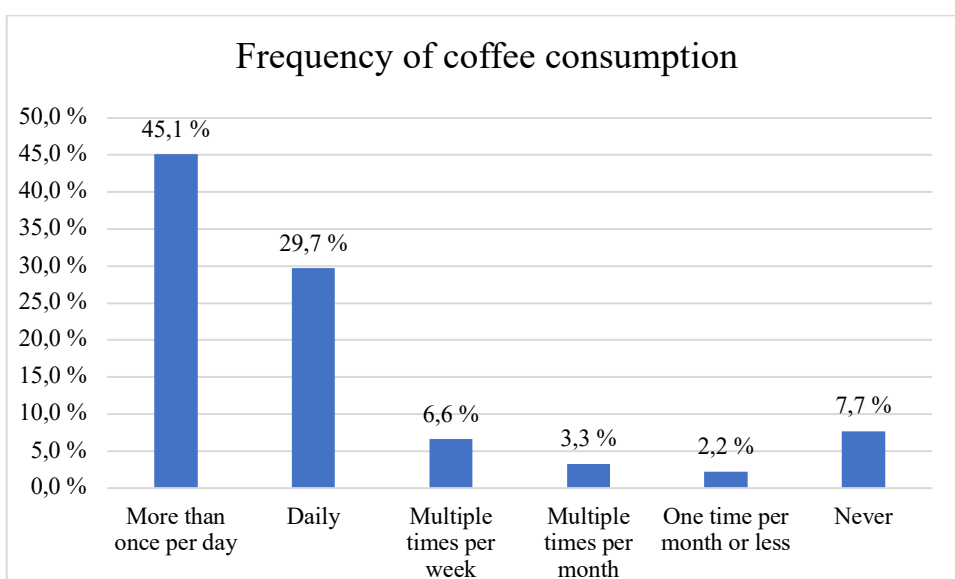


Figure 8. Frequency of coffee consumption, n = 86

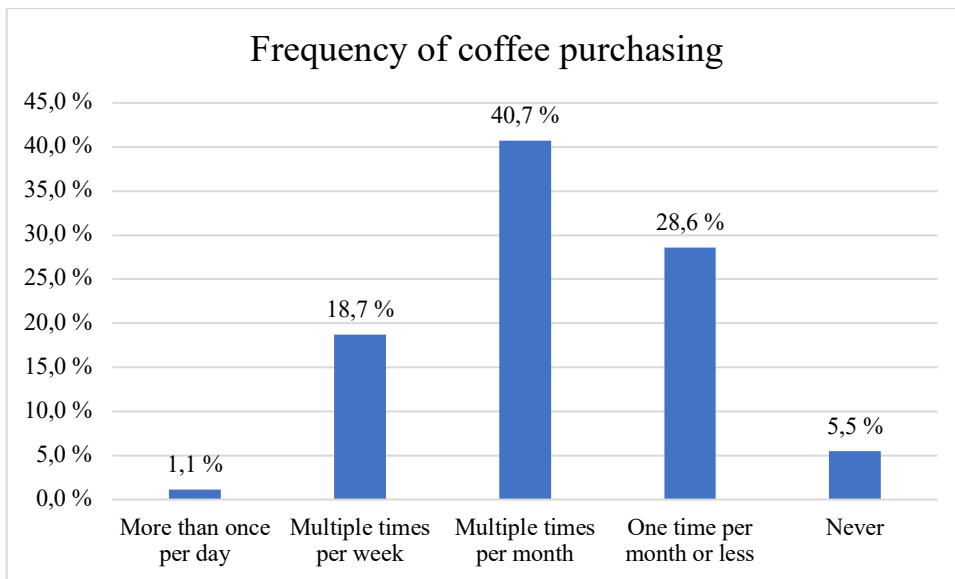


Figure 9. Frequency of coffee purchasing, n = 86

## 5.2 Manipulation check

Conducting an instructional manipulation check is one of the methods used by researchers for identifying careless responders who may not have paid sufficient attention to the questionnaire questions, instructions, or response scales. Instructional manipulation checks entail respondents being asked to select a certain response option which indicates whether or not the respondents have correctly understood and interpreted the questions or experimental conditions used in the questionnaire (Hulland et al. 2017). Selecting the wrong response option in an instructional manipulation check, also sometimes called a trap question, is often interpreted by researchers as a sign that the respondent may have provided sub-optimal answers for the other questionnaire questions as well. A 2018 paper regarding trap questions indicates that those respondents who selected the wrong response option in the instructional manipulation check also consistently provided different answers to substance questions than those who selected the correct option in the instructional manipulation check (Liu and Wronski 2018).

A manipulation check was conducted in order to assess whether questionnaire respondents accurately assessed whether the communication examples used in the questionnaire were

sustainability-related or not. The question used for the manipulation check in the questionnaire was: “Please think back to the images shown previously in this questionnaire and select the option which best describes your situation. - I saw sustainability communication about Starbucks.” Respondents were asked to signify on a seven-point likert scale the extent to which they agreed with this statement. 40 out of 77 questionnaire respondents were shown the communication example with sustainability-related communication and 37 respondents were shown the non-sustainability-related communication example. An independent samples t-test was used to analyze the differences in responses to the aforementioned question between the groups which were and were not shown sustainability-related communication examples. There was not a significant difference in the perceived level of sustainability of the communication examples for group 1 who were shown sustainability-related communications (M=4,88, SD=1,697) and group 2 who were not shown sustainability-related communications (M=4,38, SD=1,299) conditions;  $t(75)=1,433$ ,  $p = 0,156$ . The group statistics for the manipulation check are presented in table 7 below.

**Table 7**

*Manipulation check group statistics*

	Group	N	Mean	Std. deviation	Std. error mean
I saw sustainability communication about Starbucks.	Sustainability related	40	4,88	1,697	0,268
	Non-sustainability related	37	4,38	1,299	0,213

The fact that there was no significant difference found in the analysis suggests that respondents were not able to accurately recognize what is considered sustainability-related communication in the context of this study. The mean of the responses provided for the manipulation check question was 4,64. This indicates that respondents may have been more likely to interpret non-sustainability related communication as somewhat sustainability related. The three answers to the manipulation check question which were most frequently

selected by respondents are “somewhat agree” with 22 responses, “agree” with 18 responses, and “neither agree nor disagree” with 17 responses.

One factor in the results of the t-test may be due to the context of the study being highly related to sustainability, and it already being top-of-mind for respondents. This may have also been contributed to by the fact that a condensed version of the definition of what is considered sustainability-related communication provided in section 1.5 was provided at the beginning of the questionnaire. Respondents were informed that “Sustainability communication in the context of this research refers to all communications originating from the brand and directed towards consumers which deal with the brand’s commitment to environmental, social, or economic sustainability”. This may have influenced respondents to interpret the non-sustainability-related communication example as more sustainability-related in nature.

Another factor which may have impacted respondents’ assessment of the communication examples they were shown is previous associations with the brand. Perhaps associations related to sustainability take time and multiple exposures to form, and thus the communication examples shown in the questionnaire may have been less significant to respondents than their previously existing conception of the brand’s level of commitment to sustainability.

### 5.3 Correlation analysis findings

The results of the manipulation check discussed in section 5.3 indicated that questionnaire respondents had not accurately assessed whether the communication examples shown in the questionnaire were sustainability-related or not. However, respondents also provided some information on their perception of the brand’s level of sustainability, as well as their self-assessments regarding whether they identify as sustainable consumers. This data can provide a deeper understanding of the relationship between respondents’ perception of the sustainability of the brand and the central research topics.

In order to gain deeper insight into the collected data, Pearson correlation coefficients were computed to assess the linear relationships between the scales discussed in section 4.5.3 and



sustainability-related questions asked at the end of the questionnaire. The four sustainability-related questions asked were: “I consider myself a sustainable consumer”, “I consider Starbucks a sustainable brand”, “Starbucks is ahead of its competitors in terms of sustainability”, and “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable.” They were all assessed on a 7-point likert scale. This section discusses all correlations found between the scales and sustainability-related questions which are significant at the 0,01 level in a two-tailed Pearson correlation analysis. Table 8 below presents the Pearson correlation coefficients of the variables identified above. Appendix V contains a correlation table of these variables in which 2-tailed significances and numbers of cases are included.

**Table 8**

*Correlation table of the scales and sustainability-related questions*

Variable	1	2	3	4	5	6	7	8	9	10
1. PROCRET	-									
2. DIFFPOS	.281*									
3. RTB	0.183	.542**								
4. POSI	.248*	.283*	.593**							
5. EXT	.284*	0.187	0.130	0.069						
6. I consider myself a sustainable consumer.	-0.110	0.004	0.076	-0.064	0.061					
7. I consider Starbucks a sustainable brand.	0.132	.303**	.478**	.409**	0.085	0.126				
8. Starbucks is ahead of its competitors in terms of sustainability.	0.204	.431**	.511**	.367**	0.191	0.108	.721**			
9. I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable.	0.221	.229*	.488**	.372**	0.168	.231*	.458**	.581**		
10. Communication example shown (1=sustainability-related communication)	0.047	0.009	0.068	0.080	-0.072	0.018	0.017	-0.111	-0.099	-

\*\* p < 0,01 level (2-tailed); \* p < 0,05 (2-tailed)

*Note.* Processing and retrieving information is abbreviated as PROCRET. Differentiation and positioning is abbreviated as DIFFPOS. Reason-to-by is abbreviated as RTB. Positive feelings and attitudes are abbreviated as POSI. Brand extensions is abbreviated as EXT.

The scale Processing and retrieving information had no significant correlations at the 0,01 level as presented in table 8. This indicates that the correlation between the sustainability questions asked and the processing and retrieving of brand-related information was below the significant level for respondents. The variable “I consider myself a sustainable consumer” also had no significant correlations at the 0,01 level. Thus, it is possible that respondents’ self-assessment of their own commitment to sustainability did not impact how they viewed the brand’s level of sustainability, nor their responses to the other scales assessed. The indicator variable for whether respondents were shown a sustainability-related or non-sustainability-related communication example did not have any significant correlations at the 0,01 level either. This result is expected, as the manipulation check described in section 5.3 indicated that respondents did not accurately assess whether or not sustainability-related communication was shown.

Next, the Differentiation and positioning scale was assessed. There was a positive correlation between the two variables Differentiation and positioning and Reason-to-buy,  $r(76) = 0,542$ ,  $p = < 0,001$  as can be seen in table 8. A positive correlation was also found between the two variables Reason-to-buy and Positive feelings and attitudes,  $r(76) = 0,593$ ,  $p = < 0,001$ . As all three concepts are derived from Aaker’s 1991 framework for brand equity, it can be expected that the concepts relate to each other. The results may indicate that the brand’s ability to differentiate and position itself in the coffee sector and its ability to create positive feelings and attitudes may provide respondents with a reason-to-buy.

There was a positive correlation between the two variables Differentiation and positioning and “I consider Starbucks a sustainable brand”,  $r(75) = 0,303$ ,  $p = 0,007$ . This indicates that a link exists between respondents’ perception of the brand’s level of differentiation and its positioning in the market with its level of sustainability. This seems to indicate that questionnaire respondents do differentiate the brand from its competitors on the basis of its perceived sustainability. This is supported by the fact that there was also a positive correlation between the two variables Differentiation and positioning and “Starbucks is ahead of its competitors in terms of sustainability”,  $r(75) = 0,431$ ,  $p = < 0,001$ . This indicates that the brand’s perceived sustainability leadership in the coffee sector may be a basis for its differentiation from other brands.

As presented in table 8, Reason-to-buy and “I consider Starbucks a sustainable brand” also have a positive linear correlation,  $r(75) = 0,478$ ,  $p = < 0,001$ . This may indicate that respondents’ consideration of Starbucks as a sustainable brand may contribute to respondents’ purchase decisions as a reason-to-buy. Furthermore, Reason-to-buy also has a positive linear correlation with “Starbucks is ahead of its competitors in terms of sustainability”,  $r(75) = 0,511$ ,  $p = < 0,001$ . This may indicate that the brand being seen as more sustainable than its competitors contributes to respondents’ purchase decisions. A positive correlation was also found between the variables Reason-to-buy and “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable”,  $r(75) = 0,488$ ,  $p = < 0,001$ . This supports the aforementioned suggestion of the brand’s perceived sustainability leadership contributing to purchase decisions.

A positive correlation was found between Positive feelings and attitudes and “I consider Starbucks a sustainable brand”,  $r(75) = 0,409$ ,  $p = < 0,001$ . This could indicate that the brand’s perceived high level of sustainability contributes to respondents’ positive feelings and attitudes towards the brand. Positive feelings and attitudes and “Starbucks is ahead of its competitors in terms of sustainability” also have a positive linear correlation,  $r(75) = 0,367$ ,  $p = 0,001$ . Furthermore, a positive correlation was also found between the two variables Positive feelings and attitudes and “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable”,  $r(75) = 0,372$ ,  $p = 0,001$ . These results indicate that perceived sustainability leadership may contribute to respondents’ positive feelings and attitudes towards the brand. It may also be the case that existing positive feelings and attitudes towards the brand contribute to respondents’ evaluation of the brand as more sustainable when compared with other brands in the coffee sector.

As demonstrated in table 8, the three sustainability-related questions apart from “I consider myself a sustainable consumer” correlated strongly with one another. A positive correlation was found between “I consider Starbucks a sustainable brand” and “Starbucks is ahead of its competitors in terms of sustainability”,  $r(75) = 0,721$ ,  $p = < 0,001$ . A positive correlation between the two can be expected, as both variables deal with the brand’s perceived level of sustainability. The two variables “I consider Starbucks a sustainable brand” and “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable” were also found to have a positive correlation,  $r(75) = 0,458$ ,  $p = < 0,001$ . A positive correlation was

also found between the two variables “Starbucks is ahead of its competitors in terms of sustainability” and “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable”,  $r(75) = 0,581$ ,  $p = < 0,001$ . These results suggest that the brand’s perceived high level of sustainability may positively contribute to respondents’ purchasing decision making and differentiation of the brand from its competitors.

## 5.4 Testing hypotheses

The hypotheses described in section 3.1 which were derived from the research questions were tested with the independent samples t-test method. This method is used to compare the means of two independent groups, in this case those who were shown sustainability-related and non-sustainability-related communication examples. The following sections present the results of these t-tests which were conducted on all the scales defined in section 4.5.3.

### 5.4.1 Hypothesis 1

An independent samples t-test was used to analyze the differences in responses to items related to processing and retrieving information between the groups which were and were not shown sustainability-related communication examples. There was not a significant difference in the responses to these items provided by group 1 who were shown sustainability-related communications ( $M=5,592$ ,  $SD=1,146$ ) and group 2 who were not shown sustainability-related communications ( $M=5,483$ ,  $SD=1,192$ ) conditions;  $t(76)=0,412$ ,  $p = 0,681$ . Thus, H1: “Sustainability communication helps consumers to process and retrieve information regarding the brand” is not supported according to this analysis.

### 5.4.2 Hypothesis 2

An independent samples t-test was used to analyze the differences in responses to the item related to Differentiation and positioning between the groups which were and were not shown sustainability-related communication examples. There was not a significant difference in the responses to these items provided by group 1 who were shown sustainability-related communications ( $M=4,13$ ,  $SD=1,017$ ) and group 2 who were not

shown sustainability-related communications ( $M=4,11$ ,  $SD=1,203$ ) conditions;  $t(76)=0,078$ ,  $p = 0,938$ . Thus, H2: “Sustainability communication helps to differentiate and position the brand” is not supported according to the result of the t-test.

#### 5.4.3 Hypothesis 3

An independent samples t-test was used to analyze the differences in responses to items related to Reason-to-buy between the groups which were and were not shown sustainability-related communication examples. There was not a significant difference in the responses to these items provided by group 1 who were shown sustainability-related communications ( $M=2,8667$ ,  $SD=1,012$ ) and group 2 who were not shown sustainability-related communications ( $M=2,711$ ,  $SD=1,311$ ) conditions;  $t(76)=0,591$ ,  $p = 0,557$ . Thus, the result of the t-test is that H3: “Sustainability communication helps to provide consumers with a reason-to-buy” is not supported.

#### 5.4.4 Hypothesis 4

An independent samples t-test was used to analyze the differences in responses to items related to Positive Feelings and attitudes between the groups which were and were not shown sustainability-related communication examples. There was not a significant difference in the responses to these items provided by group 1 who were shown sustainability-related communications ( $M=4,094$ ,  $SD=0,970$ ) and group 2 who were not shown sustainability-related communications ( $M=3,915$ ,  $SD=1,283$ ) conditions;  $t(76)=0,699$ ,  $p = 0,487$ . Thus, H4: “Sustainability communication creates positive feelings and attitudes” is not supported according to the result of this analysis.

#### 5.4.5 Hypothesis 5

An independent samples t-test was used to analyze the differences in responses to the item related to Brand extensions between the groups which were and were not shown sustainability-related communication examples. There was not a significant difference in the responses to these items provided by group 1 who were shown sustainability-related communications ( $M=4,65$ ,  $SD=0,949$ ) and group 2 who were not shown sustainability-related communications ( $M=4,79$ ,  $SD=1,018$ ) conditions;  $t(76)=-0,626$ ,  $p = 0,533$ . Thus, H5:

“Sustainability communication provides a basis for creating brand extensions” is not supported by the result of the t-test.

## 5.5 Summary of the results

A t-test was used to conduct a manipulation check, wherein respondents were asked to indicate whether or not the communication examples they were shown were sustainability-related or not. The result of the t-test was not significant, indicating that respondents were not able to accurately assess whether the communication examples shown were sustainability-related or not.

The relationships between perceived sustainability and sustainability communication and the scales were assessed through correlation analysis. Although conclusions regarding causality cannot be made from correlation analysis, and thus cannot be used to answer the research questions which are causal in nature, more information can be uncovered regarding the relationships between the concepts studied.

The findings made through a Pearson correlation analysis of the scales and sustainability-related questions asked at the end of the questionnaire are described in section 5.3. These results are presented in table 8. The indicator variable for whether the communication examples shown were sustainability-related or not had no significant correlations at the 0,01 level with the scales or sustainability-related questions. This finding is in line with the result of the manipulation check, as it indicates that not only were respondents not able to recognize the sustainability-related communication shown within the questionnaire accurately, but also that regardless of whether it was accurately identified, the communication examples did not affect respondents' responses to the scale questions or sustainability-related questions on a statistically significant level. It was also found that respondents' perception of their own level of sustainability, or the extent to which they identify as sustainable consumers, did not have correlations significant at the 0,01 level with the scales or other sustainability questions.

Strong correlations were identified between the scales and sustainability-related questions regarding the brand. “I consider Starbucks a sustainable brand” had strong positive correlations with the scales representing Differentiation and positioning, Reason-to-buy, and

Positive feelings and attitudes. “Starbucks is ahead of its competitors in terms of sustainability” also correlated strongly with the three aforementioned scales, as well as with the sustainability-related question “I consider Starbucks a sustainable brand.” “I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable” had correlations significant at the 0,01 level with the scales Reason-to-buy and Positive feelings and attitudes, as well as with the other two sustainability-related questions described above. The two scales Processing and retrieving information and Brand extensions had no significant correlations at the 0,01 level with the sustainability-related questions in this study.

The findings of the analyses conducted in this study indicate that a brand’s level of perceived sustainability strongly positively correlates with three of the ways in which brand associations create value: Differentiation and positioning, Reason-to-buy, and Positive feelings and attitudes. The scales Processing and retrieving information and Brand extensions were found to not have significant correlations at the 0,01 level with sustainability-related questions.

Hypotheses testing was conducted with t-tests, wherein the means of the two groups which were assigned to different experimental conditions were compared in terms of the scales. None of the hypotheses were supported according to the t-tests, indicating that the experimental conditions respondents were assigned to did not result in a statistically significant difference in the scoring of the scale questions. In light of the result of the manipulation check, this was not surprising and can, to an extent, be attributed to the same reasons respondents were not able to accurately recognize whether or not the communication examples shown were sustainability-related or not outlined in section 5.3.

## 6. Discussion and conclusions

In this chapter the conclusions of the study are presented and discussed. First, theoretical contributions are discussed in terms of the research questions and previous literature discussed in the literature review. Next, the managerial implications brought forth by the results of this study are presented in section 6.2. Finally, the limitations of this study are discussed along with recommendations for further research.

### 6.1 Theoretical contributions

In this section it is evaluated whether the results of this study presented in chapter 5 are supported by the previous research and theories discussed in chapter 2. Initially theoretical contributions are expounded in terms of the sub-research questions, followed with the main research question. Lastly, the theoretical contributions of the empirical process are described in relation to the theoretical lens presented in section 3.

***Sub-research question 1: Does sustainability communication help consumers to process and retrieve information regarding the brand?***

The first sub-research question was approached through the following hypothesis:

**H1:** Sustainability communication helps consumers to process and retrieve information regarding the brand.

The results of the t-test conducted in order to find out whether statistically significant differences were present in responses to scale items relating to Processing and retrieving of information between the groups of respondents exposed to sustainability-related and non-sustainability related communication were not statistically significant. Thus, H1 was rejected.

***Sub-research question 2: Does sustainability communication help to differentiate and position the brand?***



The hypothesis formulated for the second sub-research question is as follows:

**H2:** Sustainability communication helps to differentiate and position the brand.

The t-test conducted to compare the means of responses to the Differentiation and positioning scale between the two groups with different experimental conditions had a result which was not statistically significant, and the hypothesis was thus rejected.

***Sub-research question 3: Does sustainability communication provide consumers with a reason-to-buy?***

The third sub-research question deals with reason-to-buy, and its corresponding hypothesis is formulated as follows:

**H3:** Sustainability communication helps to provide consumers with a reason-to-buy.

The t-test conducted in order to test the third hypothesis had a result which was not statistically significant, and thus the hypothesis was rejected.

***Sub-research question 4: Does sustainability communication create positive feelings and attitudes?***

The fourth sub-research question, which seeks to assess positive feelings and attitudes, is:

**H4:** Sustainability communication creates positive feelings and attitudes.

The results of the t-test conducted in order to find out whether statistically significant differences were present in responses to scale items relating to Positive feelings and attitudes between the groups of respondents exposed to sustainability-related and non-sustainability related communication were not statistically significant.

***Sub-research question 5: Does sustainability communication provide a basis for creating brand extensions?***

In order to analyze whether sustainability communication provides basis for creating brand extensions, the following hypothesis was developed:

**H5:** Sustainability communication provides a basis for creating brand extensions.

The t-test conducted to compare the means of responses to the Brand extension scale between the two groups with different experimental conditions had a result which was not statistically significant, and the hypothesis was thus rejected.

***Main research question: How is brand association affected by sustainability communication?***

The hypothesis testing provided no statistically significant results due to the respondents not responding to the manipulation conducted within the experiment, leading to the rejection of all five hypotheses. Thus, the sub-research questions did not receive conclusive answers. Although consumers tend to report moderately high levels of concern regarding issues related to sustainability in the food and beverage industry, a lack of understanding of sustainability issues and labels is identified by Grunert et al. as a hindrance to displaying sustainable purchasing behavior. This means that the use of sustainability labels by consumers remains generally low (Grunert et al. 2014). The proposition presented by Grunert et al. that consumers do not utilize the available sustainability communication in their purchasing behavior due to not having sufficient comprehension of it is supported by the finding of the manipulation check in this study that respondents of the questionnaire did not accurately recognize sustainability-related communication.

This study also contributed to the theory relating to the measurement of the five different ways in which brand associations create value specified by Aaker in his 1991 framework for brand equity. No existing scales for measuring Processing and retrieving information, Differentiation and positioning, Reason-to-buy, Positive feelings and attitudes, and Brand extensions were identified during the literature review. Thus, in section 4.3.3, previous

existing literature regarding the measurement of constructs identified to be related to brand equity and the five concepts identified from Aaker are assessed and suitable scale items are collected. The principal component analysis in section 4.5.1 was used to refine the scales, and the reliability and validity of all applicable scales are presented in section 4.5.3. The scales used for measuring Processing and retrieval of information, Reason-to-buy, and Positive feelings and attitudes were all found to have high validity and reliability. Further research, however, could be done in order to add items to the Differentiation and positioning and Brand extensions scales, as in this study they were measured by single items, diminishing their validity. This is further discussed in section 6.3.

An additional theoretical contribution made in this study relates to the theory surrounding Aaker's 1991 framework of brand equity and its applicability to research regarding sustainability communication and its effects. Aaker's original framework has received considerable attention in academia and has been applied in many different avenues of marketing research. However, this study did not produce the hypothesized results, indicating that in order to study the effects of sustainability communication on ways in which components of brand equity, specifically brand associations, create value, developing or adapting an alternative framework as a basis could yield more nuanced and informative results.

## 6.2 Managerial implications

This section discusses the managerial implications of the findings discussed in previous sections. While sustainability-related topics continue to be of interest to academia and consumers, the findings of this study also have implications for managers operating in the food and beverage industry. Ensuring that sustainability initiatives are at or above industry standard is paramount in industries which are largely affected by sustainability issues, including the food and beverage industry. This applies especially in certain sectors, such as the coffee sector, where sustainability is widely discussed, and consumer awareness regarding sustainable production and consumption is rising. Managers must be able to respond to this shift in consumer needs through providing sustainable products and being able to effectively communicate and benefit from commitments made to sustainable production and business operations.

One of the main findings in terms of managerial implications is that, as evidenced by the results of the manipulation check, consumers may find it difficult to discern what kind of communication is sustainability-related, and what is not. In order to ensure that sustainability and CSR initiatives are communicated effectively, special attention should be paid to providing clear explanations for actions made. For example, sustainability labels should be accompanied by short explanations to increase consumers' awareness of what they indicate. Furthermore, the tone of sustainability-related communication should be sincere to avoid allegations of greenwashing (Montero-Navarro et al. 2021; Dunn and Harness 2018). Sustainability communication can be done through different channels, with sustainability labeling and social media being some of the most researched avenues (Aprile and Punzo 2022; Grunert et al. 2014; Futtrup et al. 2021; Potter et al. 2021; Yang et al. 2020; Seele and Lock 2015; Araujo and Kollat 2018; Yang et al. 2020). The use of social media as a communication channel is recommended especially for initiating and participating in dialogue regarding sustainability with different stakeholders, including consumers (Yang et al. 2020; Seele and Lock 2015).

Another important finding with managerial implications is that three of the five ways in which brand associations create value, namely creating a basis for differentiation and positioning, giving consumers a reason-to-buy, and cultivating positive feelings and attitudes, all correlate positively with the extent to which a brand is perceived as sustainable. Sustainability communication can be used in order to build brand associations related to sustainability, increasing this perception among consumers.

The results of this study demonstrate that focusing on sustainability and the communication thereof has no negative correlations in terms of the five ways in which brand associations create value. Thus, it can be concluded that sustainability communication is beneficial in terms of the outcomes of brand associations, as sustainability communication can be assumed to increase the perceived sustainability of a brand. Being perceived as being highly sustainable can help to differentiate the brand, give consumers a reason-to-buy, and increase consumers' positive feelings and attitudes regarding the brand in question.

### 6.3 Limitations and further research

One of the limitations of the empirical part of the study is its limited generalizability. The sample size of this study is fairly small, and geographic variance of respondents is fairly low, as 64,8% of respondents reported residing in Finland. Furthermore, the age group 36-45 only accounted for 5,5% of respondents, decreasing the generalizability of results to all age groups included in the study. A larger and more diverse sample could provide more detailed insight into the differences between demographics when it comes to brand associations and sustainability communication.

The empirical section of this study had a specific focus on the coffee sector. Similar studies regarding sustainability communication and brands have been conducted in terms of other sectors which are sensitive to sustainability issues as well, such as chocolate (Lerro et al. 2019). Conducting similar studies in different sectors of the food and beverage industry can provide insights into consumers' sensitivity and reactions to sustainability communication in different product categories and inform both academics and practitioners of the best practices for each sector.

Another factor which could be modified in order to achieve more detailed results is the example brand used in the study. The example brand used for the empirical section of the study, Starbucks, is a globally well-known brand, which may have impacted the responses to the scale questions. For example, the questions regarding processing and retrieving information may result in more varied answers in a study where the brand is previously unknown or not well-known to respondents, and respondents do not have strong recognition and preconceived notions about the brand beforehand.

In terms of further research, scale development regarding the five ways in which brand associations create value identified by Aaker should be continued. The multi-item scales used for Processing and retrieving information, Reason-to-buy, and Positive feelings and attitudes were found to have high reliability and validity in the context of this study but could benefit from additional testing and development in further studies. Especially the scales representing Differentiation and positioning and Brand extensions require further investigation, as in this study they were single item scales. In terms of increasing the validity

of the research and being able to accurately measure the reliability of the scales, more items should be identified for and included in the scales.

Although the hypothesized causal relationships were rejected in the context of this study, the strong positive correlations found between three of the scales and the three brand-related sustainability questions can provide additional insight into the relationships between the concepts studied. The scales Reason-to-buy and Positive feelings and attitudes both had positive correlations significant at the 0,01 level with all three of the brand-related sustainability questions, and Differentiation and positioning with two of the brand-related sustainability questions. This indicates that a brand's perceived level of sustainability does have a positive relationship with these three ways in which brand associations create value. Further research could elaborate on these relationships, as well as the causal relationship between a brand's perceived sustainability and sustainability communication. Future research could investigate the connections uncovered in the correlation analysis through, for example, experimental methods or more extensive survey research.

The correlation analysis revealed that the scale for Differentiation and positioning had strong positive correlations with two of the three brand-related sustainability questions. This indicates that consumers' perceived sustainability of a brand has a positive relationship with differentiation and positioning, implying that sustainability communication could be used as a tool in differentiation and positioning. Statistically significant positive correlations also exist between the scale Positive feelings and attitudes and the three brand-related sustainability questions, which suggests that a brand's perceived level of sustainability is connected to positive feelings and attitudes experienced by consumers. These findings could be used as a basis for further research.

Samoggia and Riedel find that many inconsistencies are present in consumers' purchasing behavior towards sustainability labeled coffee. The authors attribute this to the fact that despite consumers feeling an ethical obligation to purchase sustainably produced products, all characteristics of the product, including taste and price, have to meet consumers' expectations (Samoggia and Riedel 2018). Du et al. state that the strengthening of the relationship between a brand and consumers and brand image caused by sustainability communication can translate to increased purchasing behavior (Du et al. 2010). This study did not offer respondents the chance to rank the importance of different characteristics of a

branded product, but it could be a fruitful avenue for further research as the high positive correlations between the scale Reason-to-buy and the sustainability-related questions regarding the brand imply that sustainability itself may provide consumers a reason to buy the brand rather than representing a tradeoff with other characteristics of the product.

Dunn and Harness find that CSR communication, especially when done through social media channels, has the potential to facilitate dialogue between consumers and the brand. If the communication is perceived as sincere, it can lead to consumers' sense of commitment and emotional bonding to the brand being reinforced (Dunn and Harness 2018). According to Du et al., CSR activities can strengthen the relationship between a brand and consumers, generating more favorable attitudes and strengthening the brand image in the long term (Du et al. 2010). Both Du et al.'s and Dunn and Harness' findings are somewhat supported by this study, as commitment and emotional bonding, as well as favorable attitudes, are concepts similar to Positive feelings and attitudes, which was found to have strong positive correlations with the brand-related sustainability questions. Further research regarding sustainability communication and the ways in which it impacts consumers' attitudes and feelings could be used to better understand this relationship.

The fourth sustainability-related question, "I consider myself a sustainable consumer," which was not brand-related, had no significant correlations with the scales. Chen reports that the consumer behavior displayed in the context of ethical consumption, especially in terms of fair-trade coffee, is inconsistent. It is stated, however, that the extent to which consumers self-identify as sustainable consumers positively affects their purchase intentions towards sustainability-labeled coffee (Chen 2020). Although purchase intention was not directly measured in this study, it was found that the extent to which respondents identified as sustainable consumers had no significant correlations with the scales, which could be considered as relating to or being antecedents of purchase intention. In this context, the findings of this study conflicted with those of Chen, and further research is required to explore the relationship between purchase intention, ethical consumption, and sustainability communication, in order to better understand consumer behavior.

Additionally, conducting further studies on the effect of sustainability communication on the formation of consumers' perceived sustainability of a brand would be beneficial, as the

results of this study are inconclusive regarding the role of brands' sustainability communication in the formation of this perception. Perhaps a shorter and more simplified communication example would help respondents to clearly determine whether or not the communication examples shown are sustainability related. Furthermore, the role of sustainability communication in the other areas of brand equity mentioned by Aaker, namely brand loyalty, brand awareness, perceived quality, and other proprietary brand assets could be studied in order to further investigate the role of sustainability communication and perceived sustainability to a brand.



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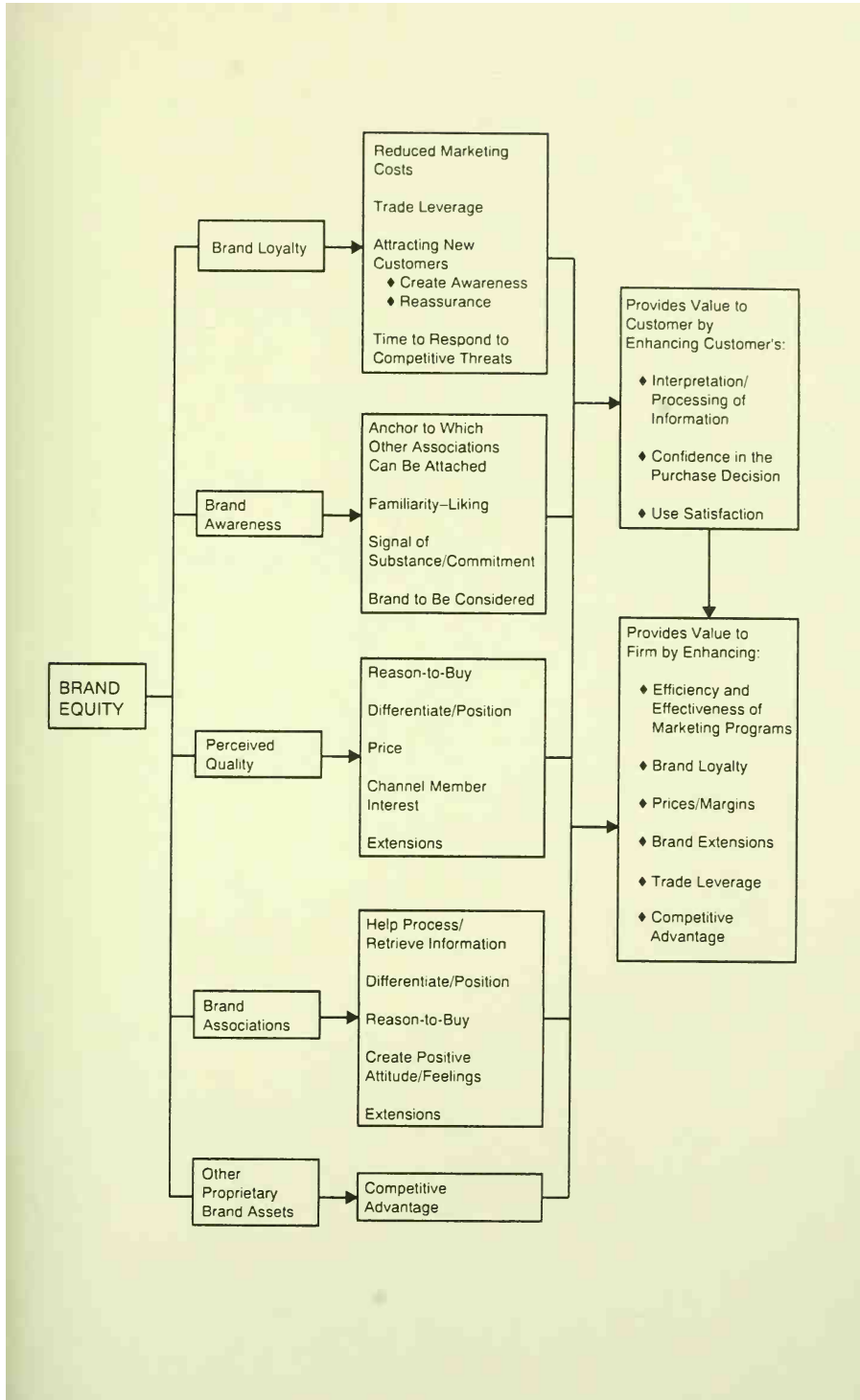
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## Appendices

### Appendix I: Framework of the five-asset model of brand equity by Aaker (Aaker 1991).



## Appendix II: Questionnaire



Thank you for your interest in completing my survey!

This survey is being conducted in order to gather empirical data for my Master's Thesis in International Marketing Management at LUT university. The goal of this research is to understand your reactions to company-issued communication in the food and beverage sector. The data collection is anonymous and will be solely used for academic purposes, and by proceeding to the survey you consent to the collection and use of this data for the research purposes outlined above.

---

The survey consists of multiple choice and Likert scale questions with some opportunities for providing open-ended answers. Please select the answers which most accurately describe your situation. The survey takes approximately 5-10 minutes to complete. In case you have any questions regarding the survey or research, please do not hesitate to contact me at [sanja.axelsson@student.lut.fi](mailto:sanja.axelsson@student.lut.fi)

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Survey Powered By [Qualtrics](#)

**Age**

---

- 18-25
- 26-35
- 36-45
- 46-55
- 56-65
- >65

**Gender**

---

- Female
- Male
- Non-binary
- Other
- Prefer not to say

**Education (select your highest completed level or equivalent)**

---

- Grade school diploma
- High school diploma
- Bachelor's degree
- Master's degree
- Doctorate

**Employment status (select the one which best describes your situation)**

---

- Unemployed
- Working part-time
- Working full-time
- Student
- Retired

**Country of residence**

---



Which types of coffee products do you consume and/or purchase?

---

- Ground coffee
- Coffee beans
- Coffee pods or pads
- Instant coffee
- Ready-made coffee drinks (pre-packaged drinks sold in shops)
- Made-to-order coffee drinks (drinks which are ordered and prepared at cafes, restaurants, etc.)
- Other (please specify)
- I do not consume or purchase coffee products

How frequently do you consume coffee products?

---

- More than once per day
- Daily
- Multiple times per week
- Multiple times per month
- One time per month or less
- Never

How frequently do you purchase coffee products?

---

- More than once per day
- Daily
- Multiple times per week
- Multiple times per month
- One time per month or less
- Never

Please name one brand of coffee products that you consume and/or purchase the most.

---



Please select the option which best applies to your situation.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am familiar with the brand Starbucks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sustainability communication in the context of this research refers to all communications originating from the brand and directed towards consumers which deal with the brand's commitment to environmental, social, or economic sustainability.

I have encountered sustainability-related communication about Starbucks through the following channels:

- Advertising
- Sustainability labels on product packaging
- Social media
- Annual reports (including sustainability reports)
- Communication related to corporate social responsibility (eg. on the Starbucks website)
- Other channel(s) (please specify)
- I do not recall encountering any sustainability-related communication about Starbucks



**Experimental condition: Non-sustainability-related communication**



Please briefly familiarize yourself with the following examples of Starbucks' communication (1-2 minutes).

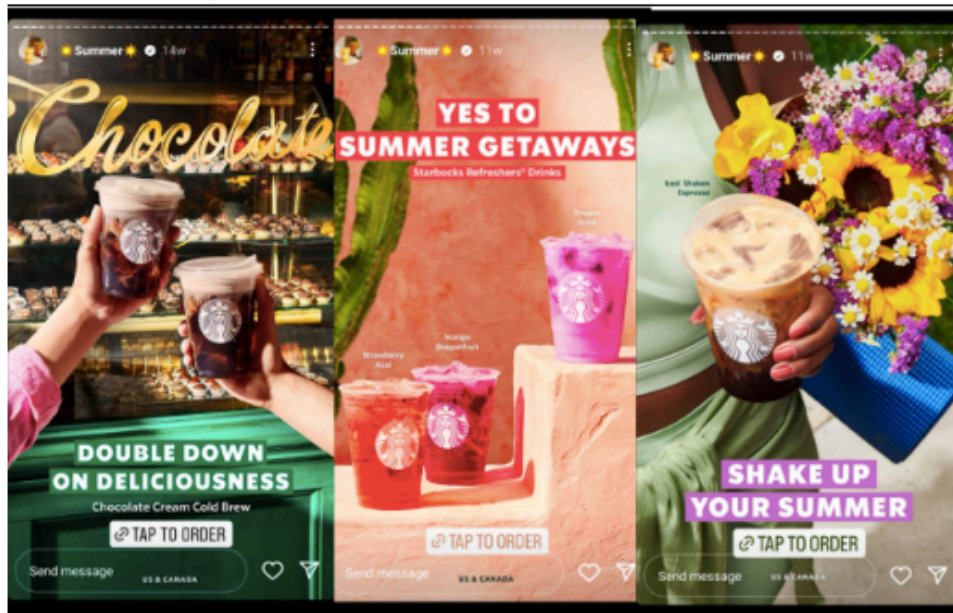
**Communication example 1: Packaging**



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<https://www.amazon.nl/Starbucks-Medium-Roast-Whole-Coffee/dp/B0005Z6WJ5>

**Communication example 2: Social media**



<https://www.instagram.com/starbucks/>

Communication example 3: Infographic

REALIZING OUR GROWTH AMBITIONS IN CHINA

STORE GROWTH

**2,800**  
total number of stores in China

**130**  
cities in China



FY17 Q3 RESULTS

RECENT DIGITAL EXPERIENCE INNOVATIONS

Try it with Starbucks! World's first on WeChat, the first of its kind in China

Partnered with Tencent to introduce WeChat Pay in stores

Starbucks will launch its first mobile app in February 2017

**1.8M**  
Try it with Starbucks! In-store launch in February 2017

PARTNER EXPERIENCE

- In 2013, we introduced a new **healthcare benefit** that extends critical illness insurance to the parents of eligible partners
- In 2014, we implemented a **monthly housing allowance** subsidy for eligible full-time baristas and shift supervisors
- In 2014, we announced the **Talent Recharge Program** where eligible partners have the opportunity to apply for a work exchange program within China or internationally

<https://stories.starbucks.com/press/2017/infographic-starbucks-growth-in-china/>

GROWTH AND COMMITMENT TO TEA

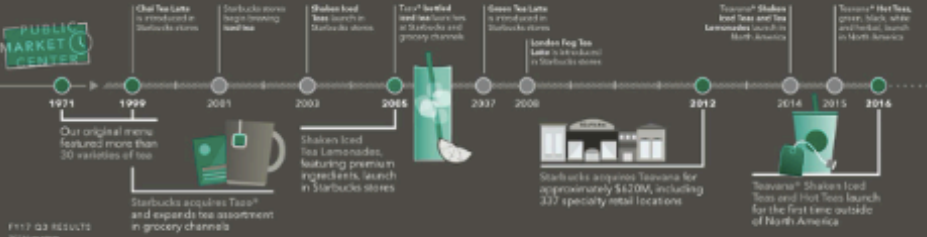
**\$1.6B**  
revenue from Teavana® Beverages sold in Starbucks stores globally\*

In July 2017, we introduced Teavana® Shaken Iced Tea beverages, expanding our year-round menu launch

Teavana means "heaven of tea" and highlights the mission to introduce people to the aromas, textures and qualities of a variety of teas

In partnership with Anheuser-Busch, Teavana® Craft and Tea launched in February 2017, offering Starbucks stores and its grocery partners a limited number of craft and specialty teas

HISTORICAL TEA MILESTONES



FY17 Q3 RESULTS

<https://stories.starbucks.com/press/2017/infographic-starbucks-growth-commitment-to-tea/>

## Latest Annual Reports



FY21 Annual Report  
FY21 Annual Letter to Shareholders  
2022 Proxy Statement  
FY21 Global Environmental and Social Impact Report  
Updated Frequently Asked Questions Regarding Annual Materials and Voting

<  > <  >

**2020**  
FY20 Annual Report  
FY20 Annual Letter to Shareholders  
2021 Proxy Statement  
2021 Proxy Statement Supplement  
2021 Proxy Statement Supplement (March 11, 2021)

**2019**  
FY19 Annual Report  
FY19 Annual Letter to Shareholders  
2020 Proxy Statement  
Audio Reports <sup>17</sup>

<https://investor.starbucks.com/financial-data/annual-reports/default.aspx>





## Experimental condition: Sustainability-related communication



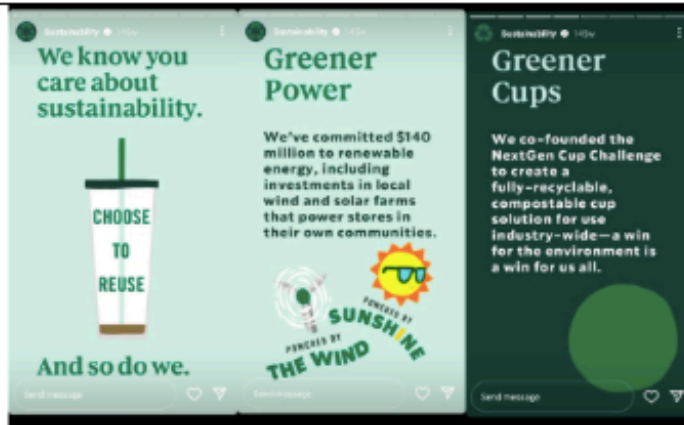
Please briefly familiarize yourself with the images below (1-2 minutes).

### Communication example 1: Packaging



<https://cerifo.com/products/starbucks-house-blend-whole-bean-coffee-1-13-kg>

### Communication example 2: Social media



<https://www.instagram.com/starbucks/>



<https://stories.starbucks.com/stories/2020/infographic-starbucks-sustainability-commitment/>

## Communication example 4: Reports

### Global Environmental and Social Impact Reports and Disclosures

Our annual report on our Global, Environmental and Social Impact

- [2021 Starbucks Global Environmental and Social Impact Report](#)
- [2020 Global Environmental and Social Impact Report](#)
- [2020 Global Environmental and Social Impact Report: Supplemental Impact Summary Scorecard, Planet Positive Performance and Sustainability Accounting Standards Board Reporting](#)
- [2020 Global Environmental and Social Impact Report: Independent Assurance Report from Moss Adams](#)
- [2019 Global Social Impact Report](#)
- [2019 Global Social Impact Report: Supplemental Impact Summary Scorecard](#)
- [2019 Global Social Impact Report: Independent Assurance Report from Moss Adams](#)
- [2019 Global Social Impact Report in other languages: Chinese | French | Italian | Japanese | Spanish](#)
- [2018 Global Social Impact Report](#)
- [2017 Global Social Impact Report](#)

### Sustainability

We are planet positive, committed to giving back more to the planet than we take

- [Bottled Water Quality Report](#)
- [2021 CDP Climate Change, Water Security and Forests Response](#)
- [FY18 Environmental Baseline Report](#)
- [Coffee](#)
- [Roundtable on Sustainable Palm Oil \(2015–Present\)](#)
- [Greener Stores](#)
- [2019 Sustainability Bond Use of Proceeds Report](#)
- [2017 Global Yen Sustainability Bond Use of Proceeds Report](#)
- [2016 Sustainability Bond UOP Report](#)

<https://www.starbucks.com/responsibility/reporting/hub/>





Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Some characteristics of Starbucks come to my mind quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can quickly recall the symbol or logo of Starbucks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I can recognize Starbucks among other competing brands.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starbucks really stands out from other brands in the same product category.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starbucks is different from competing brands.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Even if another brand has the same features as Starbucks, I would prefer to buy Starbucks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there is another brand as good as Starbucks, I prefer to buy Starbucks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am highly likely to buy a product because it features the Starbucks brand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Starbucks is a brand I enjoy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starbucks is a brand that I would feel relaxed about using.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starbucks would make me feel good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My attitude towards Starbucks is very positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Starbucks has the skills to launch new brand extensions (new products which have the same brand name).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am likely to purchase a newly released product because it carries the brand name Starbucks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I consider myself a sustainable consumer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider Starbucks a sustainable brand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starbucks is ahead of its competitors in terms of sustainability.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please think back to the images shown previously in this survey and select the option which best describes your situation.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I saw sustainability communication about Starbucks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you wish to do so, please feel free to provide additional information regarding the survey topics or questions or feedback regarding the survey itself.



Thank you for taking the time to complete my survey! Your help is much appreciated. Please do not hesitate to contact me at [sanja.axelsson@student.lut.fi](mailto:sanja.axelsson@student.lut.fi) in case you have any questions or feedback regarding the survey or research.

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Appendix III: Initial principal component analysis of the scales

**Table 9**

*Principal component analysis of the original Processing and retrieving information scale*

	Item	Component 1	Communalities
PROCRET1	Some characteristics of Starbucks come to mind quickly.	0,845	0,715
PROCRET2	I can quickly recall the symbol or logo of Starbucks.	0,845	0,715
	Eigenvalue	1,429	
	Cum % of variance explained	71,456	
	Cronbach's alpha	0,583	
	KMO	0,5	

Table 9 presents that the component loadings in the principal component analysis for the items identified as relating to processing and retrieving information have values of 0,845, which is within the acceptable range. The communality is 0,715, which is in the acceptable range. Cronbach's alpha for these items is low, but this could be attributed to the fact that the item PROCRET2 is not normally distributed, but rather skews right. A potential cause for this could be the fact that Starbucks is such a globally well-known brand that a majority of questionnaire respondents have become deeply familiar with its logo regardless of other brand-related associations, attributes, and communications.

**Table 10***Principal component analysis of the original Differentiation and positioning scale*

	Item	Component 1	Communalities
DIFFPOS1	I can recognize Starbucks among other competing brands.	0,778	0,605
DIFFPOS2	Starbucks really stands out from other brands in the same category.	0,871	0,759
DIFFPOS3	Starbucks is different from competing brands.	0,716	0,513
	Eigenvalue	1,877	
	Cum % of variance explained	62,565	
	Cronbach's alpha	0,701	
	KMO	0,602	

The component loadings in the principal component analysis for the items identified as relating to differentiation and positioning have values between 0,716 and 0,871, as presented in table 10, which are in the acceptable range. The communalities are between 0,513 and 0,759, which are also in the acceptable range. Cronbach's alpha for these items is 0,701, which is a value in the low acceptable range.



**Table 11***Principal component analysis of the original Reason-to-buy scale*

	Item	Component 1	Communalities
RTB1	Even if another brand has the same features as Starbucks, I would prefer to buy Starbucks.	0,924	0,855
RTB2	If there is another brand as good as Starbucks, I prefer to buy Starbucks.	0,93	0,865
RTB3	I am highly likely to buy a product because it features the Starbucks brand.	0,857	0,734
	Eigenvalue	2,454	
	Cum % of variance explained	81,802	
	Cronbach's alpha	0,886	
	KMO	0,715	

Table 11 indicates that the component loadings in the principal component analysis for the items identified as relating to reason-to-buy have values between 0,857 and 0,930, which are acceptable values. The communalities are between 0,734 and 0,865, which are also in an acceptable range. Cronbach's alpha for these items is 0,886, which is considered an acceptable value.

**Table 12***Principal component analysis of the original Positive feelings and attitudes scale*

	Item	Component 1	Communalities
POSI1	Starbucks is a brand I enjoy.	0,901	0,812
POSI2	Starbucks is a brand that I would feel relaxed about using.	0,903	0,815
POSI3	Starbucks would make me feel good.	0,837	0,700
POSI4	My attitude towards Starbucks is very positive.	0,838	0,702
	Eigenvalue	3,029	
	Cum % of variance explained	75,731	
	Cronbach's alpha	0,892	
	KMO	0,827	

Table 12 presents that the component loadings in the principal component analysis for the items identified as relating to positive feelings and attitudes have values between 0,837 and 0,903, which are acceptable values. The communalities are between 0,700 and 0,815, which are also in an acceptable range. Cronbach's alpha for these items is 0,892, which is considered an acceptable value.

**Table 13***Principal component analysis of the original Brand extensions scale*

	Item	Component 1	Communalities
EXT1	Starbucks has the skills to launch new brand extensions (new products which have the same brand name).	0,766	0,586
EXT2	I am likely to purchase a newly released product because it carries the brand name Starbucks.	0,766	0,586
	Eigenvalue	1,173	
	Cum % of variance explained	58,637	
	Cronbach's alpha	0,276	
	KMO	0,5	

As shown in table 13, the component loadings in the principal component analysis for the items identified as relating to brand extensions have a value of 0,766, which is in the acceptable range. The communality is 0,586, which is also considered acceptable. Cronbach's alpha for these items is 0,276, which is considered an unacceptable value. The low Cronbach's alpha could be attributed to respondents of the questionnaire not interpreting EXT2 as pertaining to brand extension in particular, but rather as a question relating more to reason-to-buy and positive feelings and attitudes. The reasoning for this statement is presented in section 4.5.1.

*Means, standard deviations, and correlations*

Variable	Mean	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29						
1. Age	2.92	1.52	91	-																																		
2. Gender	1.53	0.70	91	-0.128																																		
3. Education	3.16	0.87	91	0.185	0.056																																	
4. Employment status	3.02	0.63	91	-0.091	-0.051	-0.067																																
5. Number of types of products	1.87	1.18	91	-0.173	0.098	0.119	0.049																															
6. Frequency of coffee consumption	2.06	1.49	86	-0.283**	-0.063	-0.160	0.022	-0.296**																														
7. Frequency of coffee purchasing	4.19	0.90	86	0.121	-0.044	-0.026	0.111	-0.405**	.544*																													
8. Familiarity with the Starbucks brand	5.95	1.30	82	-0.283**	0.109	-0.036	0.103	0.118	0.047	-0.106																												
9. Number of types of sustainability communications seen	1.09	0.59	91	0.032	0.101	0.166	-0.005	.369**	-0.069	0.014	0.016																											
10. PROCRET 1	4.73	1.67	78	-0.284*	0.123	0.039	0.006	0.180	0.107	-0.108	0.069	.225*																										
11. PROCRET 2	5.95	1.25	78	-0.368**	0.090	-0.154	0.080	.318**	0.052	-0.299**	.312**	0.123	.429**																									
12. DIFFPOSI	5.94	1.23	78	-0.311**	0.084	0.010	0.097	.265*	0.046	-0.181	.254*	0.172	.534**	.751**																								
13. DIFFPOS2	4.65	1.31	78	-0.258*	-0.062	-0.016	0.145	.265*	0.173	0.010	.361**	.293**	.408**	.443**	.551**																							
14. DIFFPOS3	4.12	1.10	78	-0.122	-0.080	0.124	-0.039	0.053	0.091	0.099	0.001	0.075	.298**	0.108	.282*	.469**																						
15. RTB 1	2.95	1.33	78	0.174	-.271*	0.051	-0.057	-0.056	0.042	0.019	0.105	.234*	0.117	0.116	0.212	.446**	.544**																					
16. RTB 2	2.76	1.20	78	0.194	-0.209	-0.010	-0.090	-0.071	0.126	0.042	0.061	0.086	0.032	0.078	0.148	.352**	.463**	.833**																				
17. RTB 3	2.67	1.34	78	0.104	-0.095	0.100	-0.137	0.120	0.162	-0.037	0.078	.302**	0.204	0.161	0.184	.446**	.664**	.680**	.680**																			
18. POSII	4.00	1.28	78	-0.073	0.043	0.000	0.092	0.165	0.015	-0.116	.364**	.329**	0.103	.269**	.412**	.230*	.497**	.466**	.532**																			
19. POSI2	4.26	1.31	78	0.024	0.058	-0.004	-0.052	0.163	-0.108	-0.220	.348**	0.198	0.073	0.167	.315**	.256*	0.203	.372**	.379**	.750**																		
20. POSI3	4.10	1.24	78	-0.049	0.039	0.100	-0.160	0.151	-0.068	-0.207	.392**	0.219	0.157	.346*	.428**	.325**	.284*	.451**	.456**	.396**	.685**	.691**																
21. POSI4	3.67	1.35	78	-.254*	-0.201	0.046	0.082	-0.012	-0.005	-0.058	0.189	0.162	-0.040	0.097	0.174	.279*	.269**	.568**	.566**	.569**	.689**	.691**	.544**															
22. EXT1	4.72	0.98	78	-0.311**	0.071	.318**	-0.029	0.176	0.116	-0.076	0.041	0.202	.310**	0.158	0.222	.278*	0.187	0.159	0.007	0.175	0.145	0.077	0.067	-0.042														
23. EXT2	2.91	1.46	78	0.205	-0.053	0.071	-0.158	0.047	0.039	-0.048	0.051	.260*	0.048	0.076	0.120	0.221	.369**	.540**	.500**	.524**	.507**	.466**	.384**	.575**	.173													
24. I consider myself a sustainable consumer.	4.73	1.31	77	0.197	-0.049	0.104	0.058	-0.068	-0.026	0.058	-0.188	-0.033	-0.044	-0.091	-0.159	-0.155	0.004	0.067	0.115	0.029	-0.070	-0.095	-0.065	-0.006	0.061	0.101												
25. I consider Starbucks a sustainable brand.	3.83	1.15	77	.230*	-0.126	0.007	0.009	0.068	-0.047	-0.085	-0.014	0.154	0.152	0.102	0.065	0.125	.303**	.447**	.434**	.413**	.311**	.401**	.095	.502**	.085	.411**	0.126											
26. Starbucks is ahead of its competitors in terms of sustainability.	3.64	1.05	77	0.199	-0.030	0.136	0.097	0.087	-0.077	-0.022	-0.065	0.147	0.171	0.122	0.222	.268**	.431**	.511**	.469**	.406**	.370**	.363**	.089	.441**	.091	.368**	0.108	.721**										
27. I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable.	3.12	1.24	77	-0.009	0.031	-0.034	0.124	0.012	0.143	-0.034	0.015	0.153	0.145	.252*	0.170	.277*	.229*	.466**	.462**	.397**	.372**	.376**	0.111	.422**	.068	.479**	.231*	.458**	.581**									
28. Manipulation check	4.64	1.53	77	-0.113	0.027	0.142	0.093	.250*	0.149	0.054	0.052	.274*	.464**	.283*	.452**	.400**	.350**	.261*	0.201	.228*	0.167	0.132	0.171	0.056	.323**	0.165	0.009	0.136	0.195	.232*								
29. Communication example shown (1=sustainability-related communication)	0.45	0.50	91	0.031	-0.177	0.032	.214*	0.045	-0.022	0.192	0.188	0.203	0.043	0.001	0.075	0.135	0.009	0.137	0.059	-0.013	0.020	-0.006	0.143	0.121	-0.072	0.028	0.018	0.017	-0.111	-0.099	0.163							

\*\* p < 0.01 level (2-tailed); \* p < 0.05 (2-tailed)

Appendix V: Correlation table of the scales and sustainability-related questions with numbers of cases and significances

Variable	1	2	3	4	5	6	7	8	9	10
1. PROCRET	r	-								
	N	78								
2. DIFFPOS	r	.281*	-							
	N	78								
3. RTB	r	.542**	-							
	N	78								
4. POSI	r	.283*	.593**	-						
	N	78	78							
5. EXT	r	.284*	.187	.130	-					
	N	78	78	78						
6. I consider myself a sustainable consumer.	r	-.012	.102	.256	.547	-				
	N	78	78	78	78					
7. I consider Starbucks a sustainable brand.	r	-.012	.102	.256	.547	.061	-			
	N	78	78	78	78	78				
8. Starbucks is ahead of its competitors in terms of sustainability.	r	-.012	.102	.256	.547	.061	.085	-		
	N	78	78	78	78	78	78			
9. I am likely to buy Starbucks over a competitor because I think Starbucks is more sustainable.	r	-.012	.102	.256	.547	.061	.085	.126	-	
	N	78	78	78	78	78	78	78		
10. Communication example shown (1=sustainability-related communication)	r	-.012	.102	.256	.547	.061	.085	.126	.276	-
	N	78	78	78	78	78	78	78	78	78
	r	.204	.431**	.511**	.367**	.191	.108	.108	.348	.721**
	N	77	77	77	77	77	77	77	77	77
	r	.221	.229*	.488**	.372**	.168	.231*	.168	.348	.458**
	N	77	77	77	77	77	77	77	77	77
	r	.054	.045	.000	.001	.143	.044	.000	.000	.000
	N	77	77	77	77	77	77	77	77	77
	r	.047	.009	.068	.080	-.072	.018	.017	.017	-.099
	N	681	938	557	487	.533	.876	.883	.391	.391
	r	.78	.78	.78	.78	.78	.78	.78	.78	.91
	N	78	78	78	78	78	78	78	78	91

\*\* p < 0,01 level (2-tailed); \* p < 0,05 (2-tailed)