Copenhagen Business School

The Role of Sustainable Cues on Choice of Green Private Labels

How perceived quality from ethical labels and paper packaging influences purchase intention of green products and choice of green private labels in a Danish online grocery store setting: A comparative analysis of left vs right placement of products, low vs high-end supermarkets, and non-social vs social contexts.

Master's Thesis

MSc in Economics and Business Administration
– Brand and Communications Management
Copenhagen Business School, 2021

Eleni Theodora Dertili | 133306
Vera Pereira Santos Fernandes | 133264

Supervisor:
Jesper Clement
Department of Marketing

Number of pages: 111
Number of characters (including spaces): 236.918
Hand-in date: 16 May 2021

Abstract

Private labels are continuously improving their competitive position and market share, especially in the environment of online grocery stores. At the same time, retailers are introducing organic private labels to compete in the organic market and meet the rising demand for sustainable and ethically produced products.

This thesis adds to the growing body of literature on private labels and focuses on sustainable products sold through online grocery stores. Acknowledging that purchase decisions are mostly being made at the point of purchase, the authors intend to investigate if sustainable cues on products are influencing consumers' choice of green private labels, and to what extent this choice is related to their purchase intentions, and the products' perceived quality. More specifically, building on the cue utilisation and body specificity theories, as well as the concept of the malleable self, and the system of magnitude representation, this study investigates whether and when product elements that signal environmental concerns (i.e., paper packaging and ethical labels) influence the private label's perceived quality, consumers' purchase intentions, and choice of green private labels.

Based on the above-mentioned theories, a conceptual model comprising twelve hypotheses was drawn and assessed through a quantitative study employing a survey-based data collection (n=268), which addressed both Danish and international consumers living in Denmark. To analyse the data and examine the relationships comprising the study's conceptual model, structural equation modelling (PLS-SEM) was used. The findings revealed that the product's perceived quality, emerging from both ethical labels and paper packaging, and the consumer's intentions to purchase a green product are positively connected, while the latter positively influences the choice of green private labels. However, the relationship between perceived quality signalled by paper packaging and consumers' choice of green private labels was found to be statistically insignificant. In addition, the study validated that the perceived quality of a private label, as well as the consumers' decision to purchase a green private label, depends on the image of the supermarket selling it as well as the occasion the consumers are buying for.

At last, theoretical and managerial implications are discussed, while further research is encouraged to overcome the limitations of this study. In particular, deploying different methods and a neuroscientific approach is suggested.

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1. Introduction

1.1 Online Grocery Shopping

The presence and rapid evolution of the Internet has undoubtedly influenced consumers' shopping behaviours and experiences. E-commerce grew into a solid part of peoples' lives, making, on many occasions, traditional offline shopping less preferred and perceived as time-consuming (Ramus & Asger Nielsen, 2005). Moreover, the internet, as the core of online retailing, has developed various opportunities for both distribution and marketing (Ramus & Asger Nielsen, 2005). Consumers are relying on the internet and online shops not only for purchasing services or products but also for searching for information and reviews regarding their future buying decisions. Being a crucial marketing channel in 2021, the internet remains a fruitful area for academic research on consumer behaviour and the intentions lying behind decision-making processes, especially when it comes to online grocery shopping (Ramus & Asger Nielsen, 2005).

According to a study, some consumers prefer doing grocery shopping online than following the traditional way of visiting a supermarket, as this option offers convenience in terms of avoiding crowded areas, looking for a parking spot, or carrying heavy bags home (Arce-Urriza & Cebollada, 2018). In addition, the fact that online grocery shopping prevents consumers from being present in crowded environments has been crucial and essential in recent years, e.g. due to the Covid-19 outbreak.

As the digitalisation of all services is becoming more and more conspicuous, researchers are exploring the implications and the perceptions that consumers have of online grocery shopping. As noted, the major advantages for consumers are the flexibility provided by online stores, which are always accessible, and the less stressful conditions offered (Ramus & Asger Nielsen, 2005).

In the context of online supermarkets, Arce-Urriza & Cebollada (2018) highlight the need for further research on private labelled products (PLs) and the implications their digital presence brings for retailers and manufacturers. In this regard, according to statistics, specific categories of PLs, i.e., household care and baby products, are argued to generate a considerable part of the overall "digital" sales (Wu, Yang, & Wu, 2021).

1.2 Introduction to Private Labels

The term Private Label (PL) stands for brands owned and managed by the product's distributor (Ruiz-Real, Gázquez-Abad, Esteban-Millat, & Martínez-López, 2018). Aside from *private label*, a wide variety of names have been established for referring to these brands, including *private brands, own labels, store brands, retailer's brands,* and *own brands* (Chaniotakis, Lymperopoulos, & Soureli, 2009; Ruiz-Real et al., 2018). Part of this wide category are also products with black-and-white labels (Hoch & Banerji, 1993).

For decades, PLs were recognised as cheap versions and substitutes of branded products (Chaniotakis et al., 2009; Olsen, Menichelli, Meyer, & Næs, 2011). Nonetheless, PLs' quality has witnessed an upgrade in recent years, causing a shift in consumers' perceptions (Olsen et al., 2011). Additionally, the introduction of Premium PL brands has also been mentioned as an important factor for this positive shift (Apelbaum, Gerstner, & Naik, 2003). Incidentally, the first organic products ever introduced in the market were PLs (Olsen et al., 2011).

As a result of PLs' improved image and consumers' enhanced attitude towards them (Ruiz-Real et al., 2018), sales have risen rapidly (Batra & Sinha, 2000). Besides, the exclusive store context in which PLs are being sold (Wu, Yeh, & Hsiao, 2011) offers them the advantage of not being directly substitutable, since consumers cannot purchase the brand in another store (Baltas, 2003).

Regarding PL's branding, retailers who own the brands tend to name them after their store, except in fewer cases where they establish new brand names for their PLs (Konuk, 2018), in an attempt to reflect the product's quality. For example, a premium PL of Lidl is called "Premier", while a standard PL of Føtex is called "Budget".

1.2.1 Private Labels' Market Share

Private labels today are meticulously managed and marketed to boost the retailer's competitive advantage (Geyskens, Keller, Dekimpe, & de Jong, 2018). Yet, PLs performance in European supermarkets varies from country to country. In 2020, when both society and economy were affected by the coronavirus pandemic, PL consumer goods' sales volume ranged between 49.6% and 22.3% in Europe (PLMA, 2020). Moreover, according to Private Labels Manufacturing Association (2020), the market share for retailer brands was higher than 30% in all the countries monitored except for

one. Regarding Denmark, in 2016 PLs had a share of 26.6% of the total turnover of retail chains, while market share levels surpassed 30% (Dansk Handelsblad, 2017; Geyskens et al., 2018). Nevertheless, PLs' growth is argued to be highly unbalanced across product categories (Batra & Sinha, 2000).

Due to the COVID-19 outbreak and the situation's severity, consumers have shifted their focus towards affordability rather than brand name (EY, 2020). Yet, price is not the major force to be driving PLs' market share growth. Consumers nowadays perceive the PL as an extension of the store's brand name, hence an extension of the store itself (Kristof, Gaby, Frank, & Gino, 2005). This rapid increase in PLs' demand in 2020 makes these brands interesting subjects for consumer research. Specifically, changes in consumers' purchase intentions, growth opportunities, and competitive advantages can be investigated.

Besides, consumers feel insecure and aim at spending less money during economic recessions and financially challenging situations, like the years 2020 and 2021 (i.e., due to the pandemic), which leads to increased sales of PLs in these periods. However, when the above-mentioned conditions change for the better, consumers tend to shift back to national and recognisable brands (Jaafar, Lalp, & Naba, 2012). Dube et al.'s (2018) study further verified the increased PL share that took place during the last economic recession, dated in December 2007 until June 2009 (Nielsen, 2011).

1.2.2 Private Labels in the Online Grocery Store Context

Only a small amount of literature exists regarding PLs in the context of online grocery shopping (Arce-Urriza & Cebollada, 2018; Wu et al., 2021). According to a study comparing the sales of PLs in offline and online grocery stores (Arce-Urriza & Cebollada, 2018), PLs were argued to enhance their competitive position in the virtual grocery store's environment; however, this improvement was found to fluctuate for different product categories (Arce-Urriza & Cebollada, 2018). In this study, the market share, brand loyalty, and conquesting power of PLs and branded products (i.e., national or international brands) were used to assess the competition between them (Arce-Urriza & Cebollada, 2018).

In the existing literature review for PLs, as conducted in 2021 (Wu et al., 2021), digital environments, were argued to lack research, especially concerning the influencing factors of PLs' purchase intentions (Wu et al., 2021). Since the market share of PLs was argued to increase when shopping in

online grocery stores (Ramus & Asger Nielsen, 2005), it would be of great interest to examine the drivers of consumers' choice towards PLs when shopping in the digital world, thus identifying opportunities for retailers to market effectively their products online.

In a study identifying the drivers of online store choice and their impact when multi-channel consumers increase their online grocery shopping experience, Melis, Campo, Breugelmans, & Lamey (2015) showed that, after getting familiar with online grocery shopping, consumers value the categorisation and presentation of products and use it as the criterion for choosing a store to buy from. Moreover, consumers tend to be less price-sensitive online compared to offline (Chu, Chintagunta, & Cebollada, 2008), which results in their increased willingness to purchase premium brands or products when doing grocery shopping online. However, this decreased price sensitivity depends on the product categories and especially on whether consumers are buying food and sensory products, compared to non-sensory ones (Chu, Arce-Urriza, Cebollada-Calvo, & Chintagunta, 2010).

1.3 Sustainable Consumption of Products sold in Grocery Stores

Sustainability can be conceptualised as the human's commitment to fulfilling their needs without jeopardising the ability of future generations to meet the same needs, and its three pillars consist of the environment, society, and economy (Lindsey, 2011). Several sustainability-related concerns have been elevated in the worldwide policy agendas, such as the harmful outcomes of food production for the environment, resulting in climate change, soil degradation, loss of biodiversity, water pollution, or greenhouse-gas emissions (Reisch, Eberle, & Lorek, 2013). Hence, promoting changes such as innovative ways for production, trade practices, and consumption, play an essential role in the journey for sustainable development (Tanner & Wölfing Kast, 2003).

As a result, consumption of food and personal care products is perceived as a crucial issue for sustainable consumption and production because it has a great impact on human health, the environment, the economy, and society's cohesion (Reisch et al., 2013). Consequently, sustainability does not solely depend on consumers' choices, yet consumers represent a key parameter when it comes to the achievement of sustainable food systems and healthy diets (Baudry et al., 2017). For example, the Food and Agriculture Organisation of the United Nations (FAO) highlighted that the food choices that people make are essential in the transformation towards a more sustainable way of living (Baudry et al., 2017).

Consuming food that was produced in a sustainable way is a consumer-driven concept which respects the natural and biological capacities of ecosystems (Scalvedi & Saba, 2018). Thus, consumer choices are of great importance as they shape the food demand and therefore supply. According to literature, sustainable food consumption has been linked with specific categories of sustainability-related food as organic (Janssen & Hamm, 2012; Scalvedi & Saba, 2018), fair trade (De Pelsmacker, Janssens, Sterckx, & Mielants, 2005), and local (Feldmann & Hamm, 2015) products or food that meets the animal welfare standards (Hoogland, de Boer, & Boersema, 2007) or the standards for working conditions (Tallontire, Rentsendorj, & Blowfield, 2001). Furthermore, Aschemann-Witzel (2015), noted that consumers who purchase environmentally friendly products often justify their decision by pointing out the risks that modern technologies enhance; yet, in many cases, they are choosing these products because they follow health motives or have altruistic concerns for sustainability since the environmental pollution has negative implications on human health.

1.3.1 Ethical Consumption and Organic Products

Ethical consumption is closely related to sustainability because by adopting such behaviour, consumers can utter their responsibility towards society, and indicate their appreciation of companies acting in a socially responsible manner (De Pelsmacker et al., 2005). Ethical consumption can be interpreted as the purchase of products that preserve a specific ethical issue, and thus have a positive ethical quality (e.g., fair trade, biological, social, environmental) meaning that these products do not affect negatively their users or the planet (Grankvist, Dahlstrand, & Biel, 2004).

For consumers to identify products that are sustainable and have positive ethical quality, a type of certification, validating that the product's value and safety are high, should be attributed to them (Seo, Ahn, Jeong, & Moon, 2016). Two different certifications of the sustainable characteristics of products are argued to be the more effective ones; these are the product's internal sustainability and ethical qualities, such as organic ingredients certified by ethical, eco, or green labels, and on the other hand, the product's external sustainability, including for example the packaging material (Seo et al., 2016). An extended discussion of the above-mentioned characteristics is included in the literature review section.

1.4 Problem statement

Academia has been studying both private labels and the topic of sustainable consumption to a great extent, but only a small amount of research has focused on examining the influence that sustainable cues have on private labels' perceived quality and consumption. Moreover, an extended literature review on the topic of private labels conducted by Wu et al., (2021) pinpointed the need to address private labelled products as part of the digital environment, in which various product categories hold considerable growth opportunities (Nielsen, 2019). As a result, consumers' interest in both sustainable/ethical consumption and e-commerce would be noteworthy if linked with the emerging power of private labels.

Nowadays, consumer's awareness of the environmental crisis is influencing their consumption behaviours (Cherian & Jacob, 2012). By choosing to purchase eco-friendly products, consumers are diminishing their environmental footprint (Cherian & Jacob, 2012). To characterise a product as eco-friendly it should either have an ethical label certifying its ingredients and the way it was produced, or an eco-friendly packaging (Seo et al., 2016). However, the effect that these sustainable cues, if combined, would have on consumers' willingness to buy has, to the authors' best knowledge, not been addressed yet. In addition, the way that the purchase intentions and behaviour of consumers are influenced regarding the purchase of organic private labels is lacking research and thus constitutes a noteworthy gap in the literature.

In the light of the above and considering that quality and convenience are still important factors influencing consumer choices, it would be interesting to examine whether these eco-friendly cues are affecting the perceived quality of private labels in different contexts and situations. To address the above-mentioned gap, the cue utilisation theory (Olson & Jacoby, 1972) will be used to assess the importance of the sustainable cues that products adopt. In addition, consumer behaviours will be monitored by employing three different primes based (1) on the relationship of the store image with perceived quality and choice (Grewal, Krishnan, Baker, & Borin, 1998; Konuk, 2018), (2) the system of magnitude representation (Walsh, 2003), (3) the body specificity theory (Casasanto, 2009), and (4) the malleable self-concept (Markus & Kunda, 1986).

To fill the gaps mentioned, a conceptual model that addresses the following research question and sub-questions should be developed.

RQ: How do paper packaging and ethical labels influence the perceived quality of products, purchase intention of green products, and choice of private labels in the context of online grocery shopping?

RQ1: How does the priming of subjects in terms of placement and supermarket affect their perceived quality of private labels and choice of green private labels?

RQ2: How does the priming of subjects in terms of context affect their purchase intention of green products and choice of green private labels?

1.5 Research Delimitation

This study covers an investigation on the perceived quality of private labels and how online retailers can leverage from introducing premium tiers that offer green, sustainable products. To that extent, it analyses the role of paper packaging and ethical labels on the perceived quality of products, as well as the purchase intention of green products. Ultimately, the authors of this research are interested in assessing how the latter contributes to the choice of green private labels. In this regard, organic private labels and private labels with eco-packaging are in this thesis referred to as "green private labels".

The focus of this research is thus limited to the constructs of perceived quality and purchase intention for explaining behaviour and will consequently not address attitudes, price sensitivity, preferences, motivation, awareness, subjective norms, or any other factors that could help explain consumers' choices. Yet, it explores said constructs under six different settings that are believed to yield significantly different results. These settings are right and left placement of private labels, high- and low-end supermarkets, and social and non-social consumption contexts.

Moreover, this thesis is limited to the online setting and the reason is twofold. First, the internet has turned into a crucial marketing channel, and second, online grocery shopping remains a fruitful area for academic research on consumers' purchasing decisions (Arce-Urriza & Cebollada, 2018; Ramus & Asger Nielsen, 2005). Nonetheless, some of the findings can be inferred for physical retail stores as well.

Regarding the geographic scope, the current thesis is conducted exclusively in Denmark due to the priming of respondents with two well-known supermarkets in the country—Lidl (German but with a strong presence in Denmark) and Irma (exclusively Danish). However, it accepts the participation of both Danish and foreign respondents, albeit residents in Denmark.

As the purpose of this study is to investigate the choice of green private labels, branded products will naturally not be explored, but they are included in the online questionnaire used for data collection as the alternative choice that respondents can make.

Lastly, the study is limited to the theories introduced in the previous section (cf. Problem Statement) and will therefore be discussed in light of those.

1.6 Structure of the Thesis

The structure followed for the present Master's thesis is identical to the one followed when writing a research paper. The first part includes an introduction to the topics of online grocery shopping, private labels, and sustainable consumption, all of which constitute the pillars of the present study. Derived from this is the research question that is presented in the same part. To provide a better understanding of the topic and the research conducted on it so far, the second part of this study includes an extended literature review in which the dependent and independent variables, as well as the theories that will be applied, are introduced and discussed. The third part is occupied by the conceptual model and the formulation of the hypotheses that will be tested. Methodology, research design, data collection, and analysis constitute the fourth part. Thereafter, the hypotheses are tested, and the results are analysed. In the subsequent section, namely discussion, an outcome of the analysis is provided, theoretical and managerial implications are presented, and limitations, as well as future research suggestions, are included. As a final remark, the most relevant points of the present study are emphasised.

2. Literature Review

2.1 Private Labels

The growing body of literature on Private Labels (PLs) highlights their value for academics, which emerges from the recent shift in the perception of these products, and the noteworthy managerial implications that these studies reveal for retailers, manufacturers, and national brands' managers. In a very recent study by Wu, Yang, and Wu (2021), an extensive literature review for PLs and their management was conducted, and a discussion of potential future research was presented.

Throughout the years, important topics for managing PLs have been addressed, such as the differences and similarities that PLs and national brands have (Hoch, 1996; Kristof et al., 2005), the product features that help consumers hold different attitudes towards PLs (Baltas, 2003; Batra & Sinha, 2000; DelVecchio, 2001), and the effect that store loyalty has on PL's market share (Ailawadi, Pauwels, & Steenkamp, 2008; Konuk, 2018). Some other studies focused on comparing the quality and price of PLs with national brands (Apelbaum et al., 2003; Behe, Huddleston, Childs, Chen, & Muraro, 2020; Burton, Lichtenstein, Netemeyer, & Garretson, 1998; Grewal et al., 1998; Sinha & Batra, 1999) and identifying the consumer characteristics that motivate PLs purchases (Batra & Sinha, 2000; Veloutsou, Gioulistanis, & Moutinho, 2004). Furthermore, academics focused on measuring PL's brand equity (Abril & Rodriguez-Cánovas, 2016; Olsen et al., 2011; Rubio, Villaseñor, & Yagüe, 2019), and correlating product category satisfaction with PL choice (Baltas, 1997; Hoch & Banerji, 1993).

Price consciousness as the major force driving consumers' choice towards PLs has been extensively addressed from various points of view in the literature (Baltas, 1997; Mishra, Malhotra, & Saxena, 2020; Olbrich, Hundt, & Grewe, 2015; Sinha & Batra, 1999). Accordingly, price-quality perceptions and associations were found to drive consumer attitudes and decision-making when it comes to purchasing PLs (Chaniotakis, Lymperopoulos, & Soureli, 2010). Since price is a significant element of package information (Bae, 2019), its implications for both retailers and manufacturers of national brands have already been addressed to a great extent (Wu et al., 2021) and associated with the perceived risks arising among different product categories (Sinha & Batra, 1999). As a result, price in the context of PLs is, as far as the authors of this study are concerned, over-studied and will therefore not be part of the present thesis' focus, as it has already been mentioned. In this respect,

quality was argued to likely be traded off with price, if for particular quality levels the relative price is lower (Pepe, Abratt, & Dion, 2012).

2.1.1 Private labels and Customer-Based Brand Equity

Undoubtedly, a crucial management notion when referring to any kind of brand is Customer-Based Brand Equity (CBBE) (Kotler & Keller, 2016). Yet, until 2017, CBBE for PLs was not adequately addressed and was referred to as an issue for the products (Girard, Trapp, Pinar, Gulsoy, & Boyt, 2017). However, PLs' CBBE has lately been conceptualised as the value provided to consumers by the product, built upon the comparison among brand alternatives (Rubio et al., 2019). In this regard, PLs were argued to have a poor packaging design, be sold at lower prices, and lack recognition as well as advertising at a national level, triggering an image problem for the brands (Olsen et al., 2011).

The brand's equity depends on the image that consumers have of the brand in their minds. Therefore, PLs are argued to have lower brand equity compared to a national brand as they are not supported by marketing actions (Olsen et al., 2011). Yet, premium PLs, as a new tier introduced by retailers, are argued to have a completely different image in the minds of consumers and to be very competitive towards national products, resulting in higher brand equity. Among others, the Premium PL's image is influenced by the high quality that is offered, which sometimes exceeds the one offered by the national brands' products (Geyskens et al., 2018).

2.1.2 Private Labels and Store Image

Private labels' perception and sales depend to a great extent on the store's image in the mind of consumers (Semeijn, van Riel, & Ambrosini, 2004). Thus, by leveraging on this and creating a positive attitude towards their stores -and therefore brands-, retailers are argued to be able to actively and equally compete with national brands (Ruiz-Real et al., 2018). Hence, counting on the non-substitutional nature of these products (Baltas, 2003), store loyalty can be enhanced (Ruiz-Real et al., 2018). Improving PLs' presence in stores, which retailers manage and control, has the advantage of driving consumers' purchase intentions towards their products, something noted as critical and more effective than the outcomes of ordinary advertising (Abril & Rodriguez-Cánovas, 2016).

As mentioned, given PLs' exclusivity, consumers usually evaluate them from the image and the position of the store selling them (Kristof et al., 2005). The perception of a PL is argued to be formed according to extrinsic cues attributed to the brand (Wu et al., 2011). The main cue depicted on the

private labelled product is usually the name of the store launching it (Ailawadi & Keller, 2004). Therefore, it is argued that a high perception and awareness of a store embraces the perceived quality of the store's PLs (Wu et al., 2011). In other words, the higher the consumer's perception of the quality of a store or supermarket, the better the reflected image of the PL will be (Dhar & Hoch, 1997).

PLs distinguish the retailers' products from the competitors' resulting in store loyalty and traffic creation (Baltas, 2003). Thus, store image influences PLs purchase intention which, if satisfactory for consumers, leads to store loyalty, and consequent close relationship with both the products and the stores selling them (Rubio et al., 2019; Wu et al., 2011).

2.1.3 Placement and Packaging of Private Labels

The studies focusing on the placement and packaging of PLs are also noteworthy. To begin with, since the product's packaging is closely related to consumer's willingness to purchase the product, the similar characteristics with the competitors' branded products that some PLs have -known as copycats (do Vale & Matos, 2015)-, are argued to act as an advantage for them (Chaniotakis et al., 2009). In a later study, Veloutsou et al., (2004) argued that younger consumers hold a more positive attitude towards PLs and that they are perceived as good quality products sold at a cheaper price than national brands. However, studies reveal that to reduce the insecurity and doubts that exist in consumer minds regarding the PL's quality, retailers should include on the package label unbiased information about the ingredients of the product and the manufacturing process (e.g. third-party certifications) (Hoch & Banerji, 1993).

Regarding the placement of PLs, a necessity to not over-emphasise them but rather equally present on shelves all brands included in each particular category was identified (Pepe et al., 2012). Additionally, according to Burton et al. (1998), whose study negatively correlated impulsiveness and the purchase of PLs, consumers who are usually buying PLs, perceive themselves as "smart-shoppers" who are not acting impulsively, thus seeking out PLs even when they are not placed in visible locations in the supermarkets.

2.1.4 Private Label Tiers

As a competitive strategy, and to expand their product lines, retailers are introducing three-tiered PL products, known as standard, economy, and premium PLs (Ter Braak, Geyskens, & Dekimpe, 2014). Premium PLs are usually introduced in categories where PL share is higher, whereas economy PL's position is vertically differentiated from standard PLs as they are bottom-of-the-market PLs, with acceptable quality, but very low prices (Geyskens et al., 2018).

With the introduction of Premium PLs, the retailer's store can be differentiated and gain a favourable image in consumers' minds if the product is closely linked to the retailer (Wu et al., 2021). This connection can be achieved by packaging elements such as the presence of the store's name on the Premium PL's packaging (Wu et al., 2021). Premium PL's positioning is at the top-end of the market, with superior ingredients and flavour that cannot be found among other PL tiers or branded products, and which differentiates them horizontally from competitors (Geyskens et al., 2018). For these reasons, the emergence of Premium PLs was *"one of the hottest trends in retailing"* at the time of its insurgence in 1997 (Kumar & Steenkamp, 2007, p. 41).

2.1.5 Organic Private Labels

As shopping behaviours changed, and the improved quality in the form of a Premium PL was not enough for consumers anymore, retailers had to follow the markets' trends and introduce a new category for their PLs, which would be attractive for consumers of all ages. Thus, retailers shifted their attention towards the market of organic products, which presented substantial growth after the 1990s (Pivato, Misani, & Tencati, 2008; Reinders & Bartels, 2017). The way that products are being produced and consumed is crucial for the environment, economy, and human health (Ladwein & Sánchez Romero, 2021). Thus, a shift towards more sustainable and less wasteful ways of production and consumption is needed (Ladwein & Sánchez Romero, 2021). With the term organic, it is ensured that a product has been produced using methods that respect the environment, animal welfare, and biodiversity (Zander, Padel, & Zanoli, 2015).

By offering Organic Private Labels (OPLs) retailers differentiated themselves while boosting their product's perceived quality (Konuk, 2018; Reinders & Bartels, 2017). Organic products could for a long time be found mainly in specialists' shops, such as natural food shops (Pivato et al., 2008); however, nowadays supermarkets represent half of all organic food sales in Europe (Sahota, Willer,

& Yussefi, 2004). For some European countries, OPLs are an attempt of retailers to develop a Premium private labelled brand (Jonas & Roosen, 2005). It is therefore obvious that retailers developed their PLs by introducing new product categories addressing consumers' concerns regarding sustainability (Konuk, 2018).

For organic products and OPLs to be manufactured and introduced in the market several principles and protocols should be followed, and all food products must be an outcome of organic farming (Pivato et al., 2008). According to FAO/WHO [1] Codex Alimentarius guidelines, organic farming is:

> "*a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system.*"
>
> (Commission of the European Communities, 2004, p. 3)

Hence, everything produced by organic farming is free of synthetic inputs, for example genetically modified seeds, synthetic fertilisers, or pesticides, and the practices followed in the production process reduce pests and preserves soil fertility (Pivato et al., 2008).

Buying organic products is a modern consumer trend and the organic food market has recently faced considerable growth, mostly because of the arising attitude of consumers being health-conscious and following healthier lifestyles (Konuk, 2018). In this regard, by introducing the OPLs retailers managed to enter the market and compete with bio/organic food products. The launch of OPLs allowed retailers to sell their products at affordable prices -relatively cheaper than branded products, which due to their organic nature are more expensive (Konuk, 2018).

OPLs, like all organic products, can be recognised by the organic labels they carry. These signs are part of the wider category of "ethical" and "sustainable" labels, indicating that the product was made following specific social and environment desirable processes (De Boer, 2003). Nevertheless, crucial for the existence of these labels is the awareness that should be created for consumers, as well as the fact that they should be noticeable on the product's packaging. Moreover, the meaning of each organic

[1] Food and Agriculture Organisation of the United Nations/World Health Organization (https://www.who.int/foodsafety/areas_work/food-standard/en/)

or ethical label must be understood and trusted before it is placed on the product's packaging and thus used by consumers in their decision-making processes (Thøgersen, 2000).

A limited amount of research has been conducted regarding OPLs (Bauer, Heinrich, & Schäfer, 2013; Konuk, 2018; Perrini, Castaldo, Misani, & Tencati, 2010; Pivato et al., 2008; Reinders & Bartels, 2017), rendering them an interesting topic with a lot of gaps in the literature to be addressed. A previous study investigated the influence that the product categories, store image, and perceived value have for purchasing OPLs, validating that store image positively influences trust in OPLs (Konuk, 2018). In this regard, Konuk (2018) argues that store image is crucial for consumer's trust, due to the retailer's and the store's exposure when selling a PL.

Another study on organic products tested successfully the hypothesis of the organic label being heuristic for consumer's attitude formation, and thus positively affecting consumer purchase intentions towards OPLs (Bauer et al., 2013). The authors found that PLs can make out more by using organic labels on their products compared to global or national brands. Moreover, organic products have also been tested in the context of millennials and their decision-making processes (Molinillo, Vidal-Branco, & Japutra, 2020). However, next generations', and thus, future consumers' decision-making processes as well as shopping habits are different and might further evolve in the future, including more technological features.

Furthermore, most studies are based on organic food products, leaving unaddressed a wide area for research on non-food categories such as personal care products sold in the context of a supermarket (Reinders & Bartels, 2017). For this category of products, studies have mostly focused on social and psychological contexts as drivers for consumers' purchase intentions (Zollo, Carranza, Faraoni, Díaz, & Martín-Consuegra, 2021). Thus, as the factors influencing purchase intentions of consumers towards OPLs have not been adequately identified, the topic constitutes a valuable area for consumer behaviour research with critical managerial implications. Nonetheless, according to the conducted literature review, the intentions of purchasing organic food products have mostly been studied between frequent buyers versus non-buyers (Baudry et al., 2017).

2.2 Products Labelled as "Green"

Green products possess traits that are considered ethical (Crane, 1997). It is thus argued that green products have environmentally friendly aspects and therefore, can be perceived as a subcategory of ethical products (Crane, 1997). The attributes characterising a green product could be several, such as the environmentally friendly processes followed for its production, or consuming and disposing of the product responsibly (Papista & Krystallis, 2013). Consequently, green brands can blend one or more of the above-mentioned traits, while incorporating a similar positioning and use the environmental friendliness of the brand to differentiate it from its competitors (Papista & Krystallis, 2013).

To be defined as green, a set of benefits related to reducing its negative impact on the environment should be attributed to the product (Hartmann, Ibáñez, & Sainz, 2005); at the same time, the brand has to be considered as environmentally friendly from consumers. The literature for green branding and green products has so far focused on the factors motivating consumers' purchase intentions towards green brands (Papista & Krystallis, 2013), or the implications that brand knowledge and attributes have for green brands' purchase intentions (Bartels & Hoogendam, 2011). Moreover, several studies focused on the concept of green brand equity (Bekk, Spörrle, Hedjasie, & Kerschreiter, 2016; Kang & Hur, 2012), defined 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).

According to Chen (2010), green brand image and green satisfaction are closely related to green brand equity, while to build the latter, the role of green brand awareness, green-perceived risk, and green-perceived quality was addressed by Chang & Chen (2013). Furthermore, Kang & Hur (2012), noted that eco-friendly attributes on products stimulate perceived green trust. The influence of green brand equity on consumers' purchase intentions and word-of-mouth communication is also noteworthy (Bekk et al., 2016; Konuk, Rahman, & Salo, 2015). In a more recent study, Reinders & Bartels (2017), argued that the relationship between green brand consumption and brand equity is mediated by consumers' identification with the brand, hence suggesting that higher brand equity will lead to a higher likelihood of consumers to identify with the brand. However, consumers use multidimensional judgment, meaning that they include price, brand knowledge, availability, quality, and/or ethical quality attributes in their decision-making processes (De Pelsmacker et al., 2005; Pancer, McShane, & Noseworthy, 2017). What is thus interesting about ethical consumption research is the focus on

identifying and balancing this inconsistency between consumer attitudes and consumption behaviours (Shaw, McMaster, & Newholm, 2016). As argued by Maison (2002), an explanation for this attitude-behaviour gap could be the social desirability bias that consumers face. Consequently, when it comes to green products (e.g., organic) consumers' purchase intentions and choices are assumed to not always be in line.

For an eco-friendly product to be successfully launched and maintained in the market, green-brand attributes should be efficiently communicated (Hartmann et al., 2005). Hence, the "green brand" positioning requires the use of environmentally-friendly traits, to differentiate from competitors, and communicate the brand's values (Hartmann et al., 2005).

2.2.1 The Role of Ethical labels in Sustainable Consumption

In an attempt to act with responsibility towards the environment, companies can use ethical labels on their products, standing for a wide collection of certifications used to signal the product's ethical quality (Pancer et al., 2017). Since their focus is on indicating the environmental orientation of products, ethical labels aim in distinguishing products that are less risky for the planet from others (Grankvist et al., 2004). As already mentioned, consumers nowadays tend to follow healthy lifestyles (Konuk, 2018) and choose products based on the social and environmental processes followed for their production (De Boer, 2003), making the ethically labelled products more preferable (Grankvist et al., 2004). Consequently, Thøgersen (2002), highlighted in his study the competitive advantage that the environmentally friendly products' manufacturers have.

Ethical labels can be categorised into four different types, carrying distinct and specific meanings for the products they are attached to. Firstly, the *Fairtrade* label indicates an alternative way of trading, where companies in developed countries are paying a fair price to producers or farmers located in developing countries empowering them to invest in their future production methods (De Pelsmacker et al., 2005). Secondly, *social* label accompanies products that are manufactured respecting the rights of employees, excluding from their processes for example child or forced labour (De Pelsmacker et al., 2005). Moreover, the *bio-label* guarantees that the product is free of pesticides, genetically modified ingredients, and herbicides (De Pelsmacker et al., 2005). Finally, the *eco-label* indicates that a product is of environmental excellence, accounting for its whole life-cycle including the material extraction, production, ways of distribution, and disposal, thus meaning that in all these stages environmentally friendly processes were followed (e.g., minimum water or energy were wasted) (De Pelsmacker et al., 2005).

According to the new regulation (Regulation (EC) No. 834/2007) active since July 2010, all prepacked organic products that are produced or sold in the EU should carry the EU logo, ensuring that the term "organic" holds the same meaning for both producers and consumers in the EU (Janssen & Hamm, 2012). In addition, many European countries have established and are using their own organic certification logos, categorised into governmental or owned by private organisations logos (Janssen & Hamm, 2012). Governmental logos can be found only in some European countries such as Denmark (*Ø* logo) or Germany *Bio-Siegel* logo) (Janssen & Hamm, 2012).

Several studies have addressed the motives behind consumers' decision to purchase ethically labelled products, concluding that the main drivers are the positive effects these products have for the environment, society, and personal health (Aertsens, Verbeke, Mondelaers, & Van Huylenbroeck, 2009; Davies, Titterington, & Cochrane, 1995; Fotopoulos & Krystallis, 2002; Grankvist et al., 2004; Harper & Makatouni, 2002; Hughner, McDonagh, Prothero, Shultz II, & Stanton, 2007; Rana & Paul, 2017).

In the context of eco-labels, i.e., labels that are used on environmentally friendly products (e.g., organic), Janssen & Hamm (2012) found that some governmental labels and specifically Denmark's Ø logo presented the greatest willingness to buy compared to all the other logos tested (including the EU organic logo).

Another study based on eco-labels revealed that consumers' purchase intentions were positively affected only when other environmental cues, such as green colours, were added to the product (Pancer et al., 2017). Moreover, consumers were argued to choose products with eco-labels certifying the organic and healthy ingredients of the product, compared to products that are packaged in an eco-friendly way (Seo et al., 2016). Yet, according to this study, the effects of products that have both eco-labels and eco-friendly packaging, on willingness to buy was not tested (Seo et al., 2016), leaving a gap in the literature for organic products, which would be noteworthy if addressed.

Two groups of packaging design elements exist, namely the verbal and visual elements. Ethical labels are considered a verbal element attributed to products, along with nutritional and product information, or country-of-origin (Rettie & Brewer, 2000). Visual elements on the other hand are more indirect, including colours or images (Rettie & Brewer, 2000). According to literature, when it comes to fast-moving consumer goods, visual elements are crucial due to the low involvement processes that consumers follow for decision making (Silayoi & Speece, 2007). Yet in the context of online supermarkets, where consumers were argued to focus more on the product information (Alba et al.,

1997; Degeratu, Rangaswamy, & Wu, 2000), verbal elements seem to be as important as visual cues. In addition, when referring to eco-labels, and thus organic products, both types of elements are pertinent, demonstrating the position of the product as organic (Chrysochou & Festila, 2019). Finally, a study on verbal elements attributed to products, concluded that their impact differs according to the product's brand equity, highlighting that organic labels have greater effects when placed on products with low brand equity (Larceneux, Benoit-Moreau, & Renaudin, 2012), as for example private labels (Olsen et al., 2011).

2.2.2 The Role of Packaging Material in Sustainable Consumption

Instead of using eco-labels, or in addition to them, producers can employ other package elements to communicate and position a product as sustainable and ethical. To be more specific, when it comes to organic products and the values that they are associated with, using green colours, for example, can enhance the communication of environmental friendliness; on the other hand, choosing plastic, as the packaging material of the product, could negatively influence the perceived sustainability of the product (Pancer et al., 2017; Seo & Scammon, 2017).

Even in 1999, Thøgersen highlighted an increase in consumers' level of environmental concerns and their willingness to take action to reduce the harmful consequences of their packaging choices for the planet (Thøgersen, 1999). Nevertheless, in 2018, all countries of the European Union were generating more than 15.73 kilograms of plastic packaging waste per capita, while Ireland was ranked first, producing 54.24 kg/capita (Eurostat, 2020). To contribute to protecting the environment, and minimise the waste and pollution emerging from grocery packaging materials, consumers were argued to shift towards sustainable consumption (Koenig-Lewis, Palmer, Dermody, & Urbye, 2014; Luthra, Mangla, Xu, & Diabat, 2016). Thus, eco-friendly packaging is of great importance for societies to achieve sustainable development and protect the environment, without sacrificing economic growth (Martinho, Pires, Portela, & Fonseca, 2015; Prakash et al., 2019). Consequently, when it comes to organic products, the packaging material should support and be in line with the value that the product carries (i.e., environmental friendliness and sustainability) (Chrysochou & Festila, 2019).

Focusing on the product's package material, hence whether the product's package is made from paper, plastic, metal, or other, is marked as important for the product to be in line with the values attributed to it. Hence, when it comes to an environmentally friendly product, materials such as paper are argued to fit these values better than plastic (Van Dam, 1996). Furthermore, Klimchuk &

Krasovec (2012), argued that several factors are influencing the choice of a product's package material, such as the type, transportation and distribution conditions, storage, target audience, and cost of the product.

Packaging elements including pictures, colours, and materials, are extrinsic elements of the product leading to the eco-friendliness of the packaging not being precisely connected with the product itself (Seo et al., 2016). The results of Seo et al.'s (2016) study revealed that consumers are more willing to buy an eco-friendly ingredient product, rather than a product that had been eco-friendly packaged. The authors based their conclusions on consumers' consideration of organic products (hence, products with eco-friendly ingredients) to be more safe and healthy compared to conventional products that are characterised by external eco-friendliness such as paper packaging (Seo et al., 2016).

2.3 The Role of Perceived Quality

Product quality is referred to as *"a consumer's judgment about the superiority or excellence of a product"* (Zeithaml, 1988, p. 3). The perceived quality of a product is a key element for consumers' decision-making processes, and thus the company's revenues (Hidalgo-Baz, Martos-Partal, & González-Benito, 2017). By strengthening the product's perceived quality, companies can acquire competitive advantages and enhance customer loyalty (Aaker, 1996; Parasuraman, Zeithaml, & Berry, 1988). As a result, perceived quality highly influences consumers' purchase intentions (Chen & Chang, 2013). What is mostly used to identify the processes that consumers follow for quality evaluations is the belief formation about attributes and the product cues (Steenkamp, 1990). As mentioned in Hidalgo-Baz et al.'s (2017) paper, studies so far pinpointed the influence of environmental extrinsic cues on the perception of the attributes that an organic product has.

The quality of a product is judged both before and after the purchase (Bredahl, 2004) according to extrinsic and intrinsic cues (Steenkamp, 1990). To begin with, consumers at the point of purchase judge the product and evaluate its quality using extrinsic cues like the brand name, country of origin, and the displayed labels, or intrinsic indicators for example the texture or smell (Hidalgo-Baz et al., 2017). After consuming the product, individuals evaluate it according to their experience (Hidalgo-Baz et al., 2017). Concerning organic food products, studies reveal that consumers often use extrinsic cues, like the packaging, the brand's logo, or health effects, to evaluate the product's quality (Botonaki, Polymeros, Tsakiridou, & Mattas, 2006).

2.3.1 Cue Utilisation Theory

As mentioned, extrinsic and intrinsic cues are used by consumers to evaluate and understand the quality of a product at the point of purchase. These sets of indicators were presented as part of the Cue Utilisation Theory, according to which, products include a variety of cues providing information about their quality (Konuk, 2018). These cues arouse according to the predictive and confidence value that they have (Richardson, Dick, & Jain, 1994). The predictive value declares the extent to which consumers relate each cue indicator with product quality, while the confidence value refers to consumers' confidence in their capability of precisely assessing this cue (Olson & Jacoby, 1972). Therefore, a high predictive and confidence value of cues is a very important element for the quality assessment process (Richardson et al., 1994).

Furthermore, Olson & Jacoby (1972) categorised the cues as extrinsic or intrinsic in regard to the product. The term extrinsic includes the product-related attributes that are not part of the product itself, like the brand name, price, and packaging elements (Olson & Jacoby, 1972). On the other hand, the term intrinsic is used to refer to product-related attributes which if manipulated, physically modify the product, like for example the adjustment of ingredients which results in changes in the product's smell or taste (Olson & Jacoby, 1972). In the process of assessing a product's quality, the salience of extrinsic and intrinsic cues differs according to the cues' predictive and confidence values.

Since the background of the present study is the digital environment, it is relevant to note that consumers' choices in this context were found to be less influenced by sensory search attributes, while product information seemed to be leading their preferences (Degeratu et al., 2000). This is also supported by Alba et al.'s (1997), study, where the capability of collecting more information on the products' attributes (both price and non-price related) online, compared to offline, was mentioned as a major distinction between the two environments. For the purpose of this study, ethical labels attributed to products will be referred to as intrinsic cues because if absent, the taste, smell, or ingredients of the product are argued to alter (Olson & Jacoby, 1972). Hence, ethical labels are on the one hand extrinsic cues found on the products' packaging but on the other hand they are altering the products' taste or ingredients, while they are not clearly stated as being extrinsic or intrinsic cues in the literature.

2.4 Priming practice in marketing

Priming in marketing can take many forms (Minton, Cornwell, & Kahle, 2017) and is usually applied by presenting subjects with stimuli expected to enhance specific attitudes or thoughts (Kim, Tanford, & Book, 2020). Studies on the field tested, for example, the changes of colour in advertising, as a prime for consumers' emotions (Musch & Klauer, 2002), or employed objects associated with speed (such as elevator doors) to highlight that a purchase is urgent (Dahlén, 2005). In another study, subjects that were primed with an Apple logo behaved more creatively compared to the ones primed with IBM's one (Fitzsimons, Chartrand, & Fitzsimons, 2008).

When primes are used *"the processing of an initially encountered stimulus is shown to influence a response to a subsequently encountered stimulus"* (Janiszewski & Wyer, 2014, p. 97). In other words, priming refers to the detection and process of subconscious information, which further results in unintentionally guiding the subjects' choices, without them being aware of these controls (Bagdziunaite, Nassri, Clement, & Ramsøy, 2014; Fitzsimons et al., 2008). However, if aware of a biasing effect's existence, consumers seek to adjust their attitude for its influence (Janiszewski & Wyer, 2014).

Priming techniques were used in the context of marketing for the first time in the mid-1980s; yet, they were part of psychology and social psychology research already from the 1960s (Minton et al., 2017). In this regard, the unpredictable results of the people's social environments were used to analyse changes in their thoughts and behaviours (Molden, 2014). The priming concept is known as the priming paradigm introduced in 1985 (Higgins, Bargh, & Lombardi, 1985). In this context, a *prime* is used to influence knowledge activation and is applied to a target in an attempt to deliver specific outcomes (Minton et al., 2017).

Minton et al. (2017) presented in their paper the different priming techniques used in marketing research, based on the outcome of the priming. Following the attitude formation tri-component model, i.e., ABC model (Breckler, 1984), and noting the results that each prime had, the authors grouped the primes as affective, behavioural, and cognitive (Minton et al., 2017).

In general, affect describes the emotions and feelings that are associated with an attitude (Breckler, 1984). Thus, affective priming refers to the affective responses of a consumer, which can be altered after the subject is presented with affect-loaded stimuli (Minton et al., 2017). On the other hand, according to the ABC attitude model, behaviours stand for actions and/or behavioural intentions

(Breckler, 1984). Accordingly, behavioural priming (also called social priming) includes the subjects' higher participation in behaviours that are activated by the prime (Minton et al., 2017). There are two types included in the behavioural priming technique, goal and procedural priming (Minton et al., 2017). Finally, the cognitive priming technique includes the presence of a prime that implies changes in the subjects' thoughts (Minton et al., 2017). The forms that cognitive priming can take are further categorised into category priming, semantic priming, associative priming (Minton et al., 2017).

As highlighted by Aaker (1997), brands are not a simple tool for marketers, but hold human-like personality traits, while consumers are argued to build emotional attachments with them. The effects of brands and their logos on consumer behaviour have already been studied in the context of high-end supermarkets versus hard discounters and were proved to influence consumer's purchase behaviours (Chartrand, Huber, Shiv, & Tanner, 2008; Laran, Dalton, & Andrade, 2011; Pechey & Monsivais, 2015).

When consumers are exposed to different brands, the values and traits of each brand are found to affect their behaviour (Laran et al., 2011). To validate this argument, the authors refer to a relevant study, indicating that when value (luxury) was primed by using the Wal-Mart (Nordstrom) brand, it led consumers to evaluate the products as valuable (luxury) (Chartrand et al., 2008). Moreover, Laran et al. (2011) examined the effects of low versus high-quality brand names on consumers' shopping behaviours. Their results showed that when consumers are presented with a brand name such as Wal-Mart, which is associated with saving money, they were more likely to purchase low-value products, in contrast with consumers who were primed with brands that are associated with high quality, such as Nordstrom (Laran et al., 2011).

2.5 The Malleable Self-Concept

The exploration of the consumers' self-concept (Belk, 1988) has provided valuable information regarding consumers' self-perception, attitudes, and personality traits (Shaikh, 2019). The various personality traits that can be identified in humans are a result of individual differences, as well as people's tendency to get influenced by both self-related goals and variables emerging from society and culture (Markus & Kunda, 1986). As Belk (1988) noted, the relationship between the sense of oneself and possessions is crucial when it comes to comprehending consumer behaviour and its contribution to individuals' existence. However, ones' extended self, except for the individual level,

exists on a collective level including the effects that family, group, or national identity have on people (Belk, 1988).

The social and varying nature of the self leads to a person having "*as many different social selves as there are distinct groups of persons about whose opinion he cares*" (James, 1910, p. 294). According to Markus and Kunda (1986), the concept of the self is multidimensional and adjustable to different circumstances. Social and personality psychologists argued that the self is malleable, affected by both the individuals' personality traits and situational factors (Mandel, 2003). To comprehend this dynamic self, the "malleable self-concept" was introduced by Markus and Kunda (1986). The term "malleable" includes all the available self-conceptions that an individual can possibly adopt at any given moment, i.e., the good self, the bad self, the fear self, the ideal self, the possible self, the ought self, the not-me self, the hoped-for self (Markus & Kunda, 1986).

The malleable self-concept is applied for individuals to adjust, and meet the demands of different occasions (Markus & Kunda, 1986). Considering the individual as a consumer, Mandel (2003) noted that by choosing specific products, consumers are communicating who they believe they should be (ought self), they want to be (desired self), or strive to be (ideal self). Therefore, consumers are adapting their purchase behaviours according to special social occasions, and different social roles (Mandel, 2003). In particular, individuals, to increase their self-esteem, have a tendency to rely on situational cues for getting approval and build positive relationships (Aaker & Lee, 2001).

Due to the dynamic nature of the self, the various self-conceptions are being activated according to factors salient in different social situations (Aaker, 1999). The author by using the example of a person being a parent and a teacher (i.e., having two different roles), explains that a specific self-conception (and its set of traits) can be triggered when the individual adopts a particular role, but disappear and are replaced by another set of traits when he or she takes another role (Aaker, 1999). Markus and Kunda (1986) claimed in their paper that what enables different personality traits, hence makes them accessible and activates different self-concepts, is the arousal of an experience, a memory, or a social situation that stimulated a different way of behaving. Consequently, the above reasoning follows the perception of oneself as relatively *stable*, since there are sets of traits habitually accessible, but at the same time *malleable*, as the self-conceptions evoked vary in social situations (Aaker, 1999).

The effect of each social situation on the individual's behaviour is arbitrated by situational cues, existing in memory as cognitive representations (Aaker, 1999). Hence, social situation, defined as the situation's physical aspects and social surroundings, including people involved in the situation as well

as their roles and traits, acts as a way for an individual to manipulate their self-conceptions (Aaker, 1999). In other words, the situational cues (i.e., behavioural cues) are ascertained by the different social situations, making a particular set of personality traits available to be adopted by the individual (Cantor, Mischel, & Schwartz, 1982). Thereby, Gardner, Gabriel, & Lee (1999), found that the temporary activation of different self-views alters attitudes, further emphasising the malleability of the self (Aaker, 1999; Belk, 1988).

Past research shows that people re-construct their identities and self-concepts under different circumstances, resulting in understanding advertisements differently (Mick & Buhl, 1992), performing better on a math test if a specific part of their identity is activated (Shih, Pittinsky, & Ambady, 1999), or seek for more financial-risk (e.g., purchase an expensive product), but less social-risk (e.g., avoid purchasing a product that is not socially accepted), if their interdepended selves are accessible (Mandel, 2003). Furthermore, in the context of organic brand consumption, multiple social identities have been argued to enlighten the different environmentally-friendly behaviours that a consumer can adopt (e.g., recycling intention, sustainable agricultural practices) (Bartels & Reinders, 2016; Reinders & Bartels, 2017). Therefore, self-priming effects have already been used in academic research, providing evidence that individuals' behaviours and decisions alter in favour of the self-concept that is activated. Nevertheless, the activation of consumers' independent and interdependent self in the context of private-labelled and organic products and its effects on consumer behaviour has, to the best of the authors' knowledge, not been addressed yet.

2.6 Magnitude Representation Theory

Research demonstrates that people embrace a system of magnitude representation (Bueti & Walsh, 2009; Lourenco & Longo, 2010; Walsh, 2003). In this mental magnitude representation system, stimuli have been found to be organised in an increasing from left to right order (Casasanto, 2009). Moreover, various elements such as time, numbers' magnitude, or space, have been argued to be mentally arranged following the above-mentioned representation (Bueti & Walsh, 2009; Lourenco & Longo, 2010; Walsh, 2003).

Relevant studies have proved that people tend to map the increases of magnitude in said order (Chae & Hoegg, 2013; Kadosh, Brodsky, Levin, & Henik, 2008). Christman & Pinger (1997), revealed the preference that adults have on pictures that represent series' or events' procedures in left-to-right order. Chatterjee, Southwood, & Basilico (1999), in an attempt to relate time (i.e., past, future) with

the system of magnitude representation, showed that an action or sequence of events would be perceived as happening from left to right. The authors found that, when asked to match sentences with pictures, subjects were more likely to respond faster once the present actions started on the left and ended on the right (Chatterjee et al., 1999). The preference for a left-to-right order has also been detected when judging an event sequence such as movie clips or pictures (Santiago, Lupáñez, Pérez, & Funes, 2007).

The magnitude representation theory has also been validated in relation to people's judgments for the products' placement (Valenzuela & Raghubir, 2009, 2015). Through their studies, Valenzuela and Raghubir (2009, 2015) demonstrated that, in the context of a horizontal shelf allocation, consumers expect that the more expensive products and the ones with higher quality are placed on the right. The reason behind this way of thinking could be individuals' tension to draw on a number line, which increases from left to right (Dehaene, Dehaene-Lambertz, & Cohen, 1998; Dehaene, Piazza, Pinel, & Cohen, 2003). For consumer behaviour, these conclusions provide fruitful implications, since the horizontal allocation of a product might communicate information involved in consumers' judgments (Chae & Hoegg, 2013).

In this light, studies in several research streams have found that individuals process mental representations that are congruent with display patterns easier, versus when these representations are incongruent (Chae & Hoegg, 2013; Lee & Aaker, 2004). The specific products that have been argued to be completely in line with the magnitude representation system are the self-improvement products, for which time is crucial to reveal their value, and antiques because for these products time constitutes a desired attribute (Chae & Hoegg, 2013).

Romero & Biswas (2016) tested through seven studies the effects that the lateral position of healthy products on the left of unhealthy ones has for consumers' preference and consumption volume. According to their studies, placing a healthy product on the left (vs. on the right) of an unhealthy one increased the willingness to purchase as well as the quantities that were consumed (Romero & Biswas, 2016). The authors concluded that the magnitude representation system is in line with consumers' way of mentally organising food items which present differences in terms of healthiness (Romero & Biswas, 2016). In general, because of the perception of unhealthy food items having *"higher affective values, higher perceived taste, higher desirability, and greater temptation associations"*, people tend to mentally represent them on the right of healthy products (Romero &

Biswas, 2016). Moreover, a mental representation consistent with the increase of magnitude (in left-to-right order) is argued to enhance consumers' self-control (Romero & Biswas, 2016). Therefore, this lateral display pattern (i.e., healthy on the left, unhealthy on the right) was found to improve the ease of processing, and to enhance self-control, resulting in a preference for healthy products (Romero & Biswas, 2016).

2.7 Body Specificity Theory

The mental representation system is further endorsed by the body-specificity theory (Casasanto, 2009; Casasanto & Chrysikou, 2011), according to which the dominant and nondominant sides of individuals are linked with desirable and undesirable products respectively (Brookshire & Casasanto, 2012). Incidentally, for right-handed people, i.e., 90% of the population (Eelen, Dewitte, & Warlop, 2013), the dominant side is the one on the right.

From a cultural perspective, the right side is related to lawful and good actions or things, while the left with prohibited or bad ones (Casasanto & Chrysikou, 2011). For example, Muslims should only use their right hand to eat or drink, because Satan is using the left. In addition, idioms like "my right-hand man" or "two left feet" derive from the association of "right" with "good" and "left" with "bad" (Casasanto & Chrysikou, 2011).

Principles in language and culture are not the only, nor the most important means that individuals use to evaluate "good" or "bad" ideas (Casasanto & Chrysikou, 2011). It has been noted that handedness is also influencing individuals' decisions when it comes to choosing a product, or an applicant to hire; in these contexts, right-handed and left-handed people are argued to respond inversely (Casasanto, 2009; Casasanto & Chrysikou, 2011). Casasanto (2009) found that right-handed (left-handed) people prefer the product, or person on the right (left). Furthermore, the dominant side (i.e., right for right-handed, and left for left-handed) endures and influences decisions and judgements even when these are being expressed orally, hence not requiring the use of the individual's hand (Casasanto, 2009).

Another laboratory experiment that verified the body-specificity hypothesis was conducted by Casasanto & Henetz (2012). The authors found that young children evaluate their judgments for toys and animals according to their bodies (i.e., their handedness) (Casasanto & Henetz, 2012). In this light, animals presented on the dominant side (right for right-handed and left for left-handed children)

were perceived as smarter and nicer, compared to the ones presented on the opposite side (Casasanto & Henetz, 2012).

The hypothesis of the body-specificity theory has also been tested beyond the laboratory context, in spontaneous behaviours. Casasanto & Jasmin (2010) examined the speech and gestures of two right-handed (i.e., Kerry & Bush) and two left-handed (i.e., Obama & McCain) candidates during the final debates of the US presidential elections, which took place in 2004 and 2008. This study revealed that body-specific correlations of space and valence were identified while the candidates were speaking. The results demonstrated that the hand used by the speakers to gesture had unintended and unexpected value for what was communicated (Casasanto & Jasmin, 2010). For example, the right-handed candidates related positive messages with their dominant hand-gesture (right), and negative messages with the opposite (left) (Casasanto & Jasmin, 2010).

These patterns are in favour of the argument that different kinds of bodies act in different ways even when it comes to highly abstract ideas (Casasanto, 2009; Casasanto & Henetz, 2012; Casasanto & Jasmin, 2010). The studies mentioned above examined the body-specificity theory by testing participants' behaviours in isolating contexts, such as when interacting with a paper (Casasanto, 2009; Casasanto & Chrysikou, 2011; Casasanto & Henetz, 2012), or talking in front of a camera (Casasanto & Jasmin, 2010). As already mentioned, Romero & Biswas (2016) investigated the effects that a lateral display position of healthy food items on the left of unhealthy ones has on consumer choices. According to the authors, since individuals associate desirable products with their dominant side, and 90% of the population is right-handed (Eelen et al., 2013), an unhealthy product that is perceived as having a better taste, should laterally be displayed on the right of a healthy one (Romero & Biswas, 2016). Therefore, the authors—using only right-handed subjects—found that the "better taste" and "heavy in calories" nature of unhealthy products is associated with the participants' dominant side (i.e., right) (Romero & Biswas, 2016).

3. Conceptual Model and Hypotheses Formulation

3.1 Conceptual Model

To address the research question of this study the authors developed a set of hypotheses to get tested, whose results will be further discussed in a later section of the present thesis. The hypotheses emerge from the literature discussed above and aim to identify the connection between the variables included in this study.

The model developed for this paper, as presented below in Figure 1, consists of the selected dependent variable independent variables, and three active variables. The proposed framework is based on the Cue Utilisation Theory (Olson & Jacoby, 1972), depicting the hypothesised effect of Perceived Quality emerging from extrinsic and intrinsic product cues, on Purchase Intentions and Choice. In addition, the hypothesised influence of the Private Labels' Perceived Quality on the Choice of Green Private Labels is illustrated. Moreover, the conceptual model includes the hypotheses regarding the active variables which are based on the Malleable self-concept (Aaker, 1999; Markus & Kunda, 1986), the influence of Store Image (Grewal et al., 1998), Magnitude Representation (Walsh, 2003), and Body Specificity theory (Casasanto, 2009) testing the moderating role that priming subjects has on Perceived Quality of Private Labels, Purchase Intentions of Green Products, and Choice of Green Private Labels.

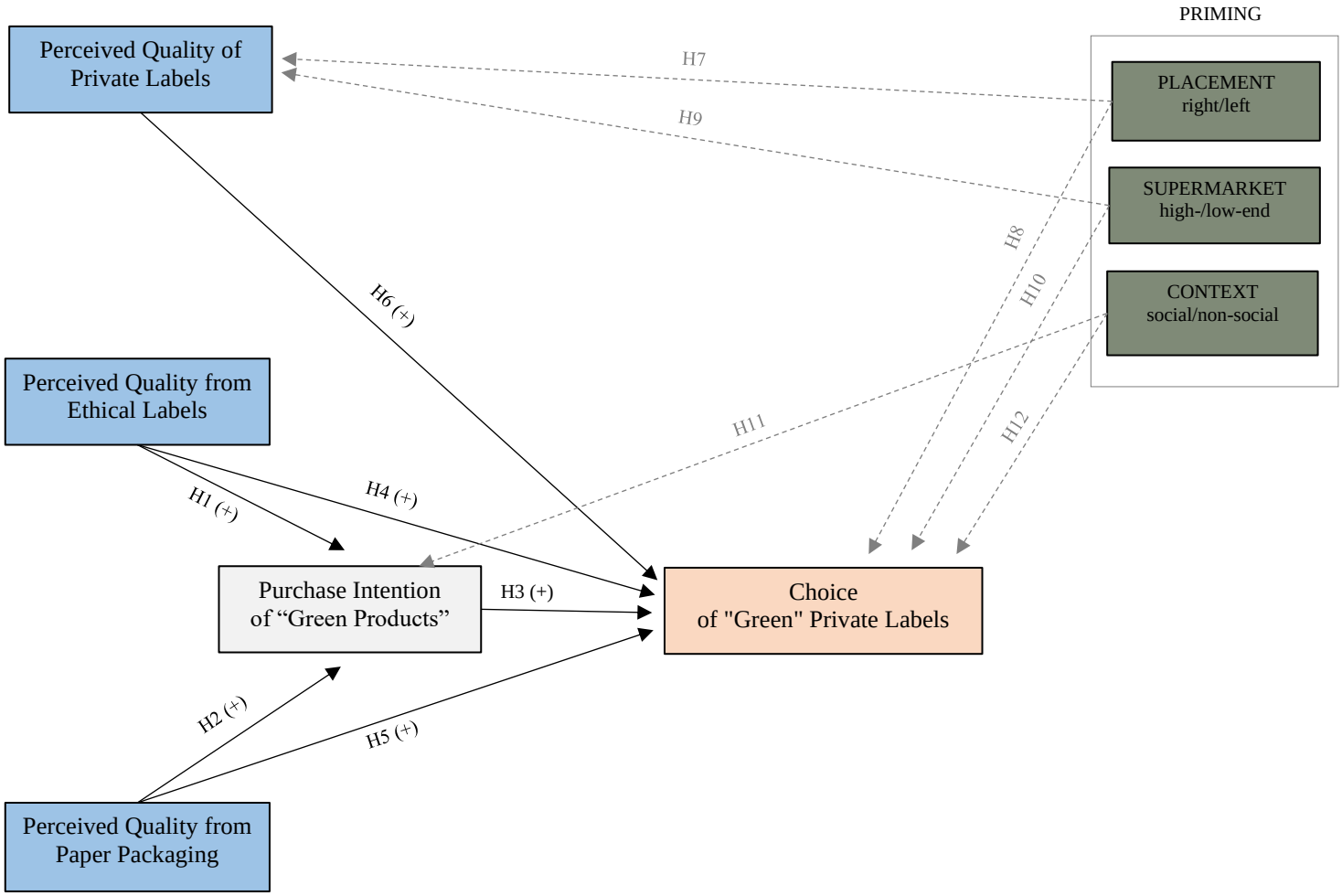

Figure 1 – Conceptual model (source: authors' own work)

3.2 Hypotheses Formulation

A. The influence of Perceived Quality (PQ) emerging from ethical labels (ETH), or paper packaging (PAP) on Green Products' Purchase Intentions (PI_GP).

Purchase intentions are a representation of consumers' inevitable behaviour about the purchase decisions that they will make in the short-term future (Fandos & Flavián, 2006). Thereby, when it comes to consumers' decision-making processes, perceived quality is argued to be of major importance (Hidalgo-Baz et al., 2017) and one of the main motives lying behind purchase intentions (Tariq, Nawaz, Nawaz, & Butt, 2013). Chen & Chang, (2013), Prakash, Singh, & Yadav (2018), and Tsiotsou's (2005) studies, indeed, demonstrated that consumers' purchase intentions are influenced by the product's perceived quality. Hence, companies can benefit and gain a competitive advantage by focusing and strengthening their products' perceived quality (Parasuraman et al., 1988). Moreover,

the consumers' behaviours when it comes to organic consumption are also argued to follow the same pattern and be influenced by the products' perceived quality (De Toni, Eberle, Larentis, & Milan, 2018; Husic-Mehmedovic, Arslanagic-Kalajdzic, Kadic-Maglajlic, & Vajnberger, 2017; H.-J. Lee & Yun, 2015).

According to the cue utilisation theory, extrinsic and intrinsic cues are employed by consumers in the process of evaluating the quality of a product at the point of purchase (Bredahl, 2004). These cues act as channels, tendering information about the product's perceived quality (Botonaki et al., 2006; Konuk, 2018). The packaging material is argued to be an extrinsic cue of the product, while the ethical labels, certifying the quality of ingredients that the product consists of, are regarded as intrinsic cues (Olson & Jacoby, 1972). Incidentally, for the purpose of this study, paper was used as the packaging material, while four different ethical labels were attached to different sets of products. Both of the above-mentioned indicators characterise a green product (Crane, 1997; Papista & Krystallis, 2013). Taking into consideration the effects that both the extrinsic and intrinsic indicators have on consumers' purchase intentions, it is hypothesised that if the perceived quality (PQ) emerging from ethical labels (ETH) and paper packaging (PAP) is high, it will have a positive influence on the purchase intention of green products (PI_GP).

H1: PQ_ETH will be positively related to PI_GP.

H2: PQ_PAP will be positively related to PI_GP.

B. The influence of the intention to purchase green products (PI_GP) on Choice of Green Private Labels (CH_GPL).

The measurement of consumers' purchase intentions constitutes a way for marketers to reach strategic decisions regarding new or existing products, and at the same time is used by researchers to assess consumer's purchase behaviours (Morwitz, Steckel, & Gupta, 2007). In this regard, as argued, consumers' intentions and behaviour are not always in line (Shaw et al., 2016). Nonetheless, Morwitz et al., (2007) stated that the relationship between purchase intentions and behaviour is stronger when consumers have prior experience with the examined behaviour (i.e., choice of product). In this light, the subjects of the present study could conceivably have prior experience with the displayed sets of products, as they were from two well-known brands in Denmark. Thus, we assume that when subjects were asked to choose a product from the displayed set, they were already familiar with them, resulting in a more reliable behaviour, that is in line with what they would choose in the context of an online

grocery store. Despite the recognition that consumers face social desirability bias when answering survey questions (Maison, 2002), it is hypothesised that the intention to purchase green products will have a positive influence on the choice of green private labels, yet we assume that this relationship, although positive, will be weak.

H3: PI_GP will be positively related to CH_GPL.

C. The influence of Perceived Quality (PQ) emerging from ethical labels (ETH), or paper packaging (PAP) on the Choice of Green Private Labels (CH_GPL).

Referring to Beneke, Flynn, Greig, & Mukaiwa (2013) study, the authors confirmed that perceived quality is positively related to household products' purchase intentions and consequently buying decisions (i.e., choice). Therefore, in the light of ***H1***, ***H2***, and ***H3***, according to which it is firstly expected that perceived product quality will positively influence purchase intentions (*H1* and *H2*), and secondly that green products' purchase intentions will be positively related to the choice of green private labels (*H3*), it is further hypothesised that the perceived product quality (emerging from extrinsic and/or intrinsic organic cues, which boost the product's perceived quality when present) will have a positive influence on consumers' choice of the green private labels.

***H4*:** PQ _ETH will be positively related to CH_GPL.

***H5*:** PQ_PAP will be positively related to CH_GPL.

The product's perceived quality is of major importance and was noted as the first reason behind consumers' choice to consume a brand (Vraneševic´ & Stančec, 2003). Furthermore, as argued by Beneke et al., (2013), high perceived quality of household products is boosting consumers' shopping behaviours towards these products. Thus, it hypothesised that there is a positive relationship between the perceived quality of private labels and consumers' choice of green private labelled brands, indicating that if the perceived quality of private labels is low, the likelihood of choosing the green private label is also low. Similarly, if the quality perception of private labels is high, the choice of green private labels will also be high.

H6: PQ_PL will be positively related to CH_GPL.

D. The influence of different primes on Perceived Quality (PQ), Purchase Intentions (PI), and Choice (CH).

DI. Priming subjects by manipulating the product's lateral display.

As Chae & Hoegg (2013) mention, increases in magnitude are mentally mapped from left to right. Besides this spatial representation of magnitude, Casasanto (2009) validated the hypothesis of the body-specificity theory, according to which for right-handed (left-handed) individuals, something positive, or good, is represented on the right (left), whereas something negative, or bad, on the left (right).

Individual's natural mental representation, as well as the fact that the products displayed laterally on the right on supermarket shelfs', are usually the ones that have higher quality (Valenzuela & Raghubir, 2009, 2015), are proved to play an important role in decision-making processes. It is therefore hypothesised that a private label laterally displayed on the right of a branded product will be perceived as of higher quality, compared to when the same private label is placed on the left (i.e., of a branded product).

> ***H7*:** PQ_PL will be higher when private labels are placed on the right of branded products than on the left.

As already mentioned, organic private labels and private labels with eco-packaging are for the purpose of the thesis clustered and referred to as "green private labels". In general, green products have been argued to be beneficial for the environment and animal-welfare (Chiriacò, Grossi, Castaldi, & Valentini, 2017; Perrini et al., 2010), more valuable for people's health (Baudry et al., 2018; Fagan, Bohlen, Patton, & Klein, 2020; Gopalakrishnan, 2019), and even better than conventional products in terms of taste (Delmas, Gergaud, & Lim, 2016). Thus, most individuals should mentally map all products characterised as "green" on their right lateral field (Romero & Biswas, 2016) because of the "good" signals these products are communicating. Moreover, the suggested lateral display is congruent with consumers' natural mental representation and thus argued to alleviate the processing of information (Romero & Biswas, 2016).

According to the body-specificity theory, when asking right-handed subjects to choose a product they are more likely to select the one on the right (Casasanto, 2009; Casasanto & Chrysikou, 2011). It is therefore hypothesised that, when referring to right-handed subjects, the likelihood of choosing a

green private label will be higher when it is placed on the right, and lower when placed on the left of branded products.

> ***H8*:** CH_GPL will be higher when private labels are placed on the right of branded products and lower when placed on the left.

DII. Priming subjects by presenting them a high or low-end supermarket.

Semeijn, van Riel, & Ambrosini (2004), argued that the perceived quality of a private label varies according to the store selling it. Hence, the store image is, in the mind of consumers, a useful indicator of the quality of a product. Moreover, the store's image has been found to positively impact the purchase intentions of consumers towards private labels (Rubio et al., 2019; Wu et al., 2011). In addition, the purchase of organic private labels was argued by Konuk (2018) to be positively related to the store's image. Hence, if a store signals high quality, the purchase of organic private labels will be higher as a result of consumers' trust in this store (Konuk, 2018).

Studies so far have validated the effect of priming consumers with different brands, which are perceived and associated with either low or high quality (Chartrand et al., 2008; Laran et al., 2011). As argued, private labels' perceived quality depends on the retailer selling them. Based on the above-mentioned hypothesis connecting perceived quality with purchase behaviour (*H6*), it is assumed that priming consumers with supermarket brands that have a distinct positioning and store image i.e., low-end or high-end supermarkets, will lead to different outcomes regarding both the perceived quality of private labels and the choice of green private labels. Thereby, the following hypotheses will be tested:

> ***H9*:** PQ_PL will be higher for high-end supermarkets than low-end supermarkets.

> ***H10*:** CH_GPL will be higher for high-end supermarkets and lower for low-end supermarkets.

DIII. Priming subjects by asking them to buy for a social occasion or themselves.

The concept of the malleable self (Aaker, 1999; Markus & Kunda, 1986) indicates that people, and consumers, are adapting their behaviours according to existing social circumstances. Suitably, their shopping behaviours are argued to alter when their decision-making processes are influenced by different situational cues, or social roles (Mandel, 2003). According to Markus & Kunda (1986), the arousal of a different social situation or experience will stimulate a different behaviour, which will further be in line with the specific condition.

Aaker & Lee (2001), discussed two distinct individual's selves coexisting in consumers' memory, the independent and the interdependent one. Mandel (2003) confirmed that priming the interdependent or independent self of an individual can result in influencing behavioural intentions. Priming the independent self was argued to stimulate behaviours relevant to achieving goals while priming the interdependent was associated with preventing losses (Aaker & Lee, 2001). Moreover, a loss could be perceived as one's difficulty to meet the expectations of their family/friends/partner, resulting in a feeling of disappointment. In this regard, consumers were found to eat healthier when influenced by social and hedonic motives, in order to show off (Barauskaite et al., 2018). It is therefore hypothesised that consumers' intentions to purchase green products, and consequently their preference for green private labels (*H3*), will be higher when they are requested to go grocery shopping for a group of friends, than when they are shopping only for themselves.

***H11*:** PI_GP will be higher in social contexts than in non-social contexts.

***H12*:** CH_GPL will be higher in social contexts and lower in non-social contexts.

4. Methodology

First, this section discusses the research philosophy and approach to theory development involved in this study. Subsequently, it introduces the research design and the data collection procedure. Lastly, the choice of method and associated procedure are analysed in depth.

4.1 Research Philosophy

Credible research philosophy is vital for designing a coherent research study. It shapes the understanding of the research questions and supports the choice of method, the research strategy, the techniques for data collection, and the interpretation of the findings (Crotty, 1998; Saunders, Lewis, & Thornhill, 2016). Therefore, this section will focus on introducing the specific research philosophy encompassed in this project.

The term *research philosophy* is described by Saunders et al. (2016) as a system of beliefs and assumptions behind the way knowledge is gathered, analysed, and used. This research project naturally encompasses several assumptions—ontological, epistemological, and axiological—that shape the whole thesis project.

Ontology deals with the nature of reality, whereas epistemology refers to the validity of knowledge and how it is communicated to others (Saunders et al., 2016). Axiology, on the other hand, is concerned with the values and ethics involved in the research process (Saunders et al., 2016). The Four Rings model developed by Jackson, Easterby-Smith, & Thorpe (2015) illustrates ontology as the most inner ring, followed by epistemology, methodology, and techniques and methods. The outer layers are consequently the most visible parts in a research study, but the inner rings (ontology and epistemology) are the core of the model and should not be overlooked. They determine the strength, validity, and coherence of the study.

This study is conducted under a *positivist* philosophy. Ontologically, it believes in a true reality and assumes it to be objective, i.e., independent from the observers (Saunders et al., 2016). Epistemologically, reality can be observed and measured, and generalisations can be drawn. Axiologically, the approach is value-free, meaning that the researchers' values are detached and independent of the studied object, thus sustaining an objective attitude, free from interpretation or bias (Saunders et al., 2016).

Research under the positivist approach aims at discovering a specific reality through verification or falsification of hypotheses, derived from literature review (Saunders et al., 2016). It assumes causality in the sense that it expects to identify causal explanations and fundamental laws that explain patterns in human behaviour (Jackson et al., 2015). Undertaking this approach means that the researchers of this study try to address the main research question—how do paper packaging and ethical labels influence the perceived quality of products, purchase intention of green products, and choice of private labels in the context of online grocery shopping?—by incorporating the typical methods and techniques associated with said philosophy. The study investigates consumer choices and sheds light on the effects of priming subjects, in order to suggest practical implications for retailers of grocery stores in the online setting. The researchers aim at respecting the axiology of value-free research, which is a reasonable stance given that only quantitative methods are applied (Crotty, 1998). However, maintaining a fully value-free view may be difficult in practical terms. Specifically, abstract concepts such as perceived quality and purchase intention are quantified, and the products used in the experiment are pre-selected and manipulated by the researchers.

4.2 Research Design

In this section, the intended plan for answering the research question(s) is discussed. The strategies for collecting and analysing data are introduced, and the ethical concerns inherent to the research design are discussed.

The positivist paradigm uses typically deductive methods and quantitative measurements with large samples, to ensure statistical generalisation (Jackson et al., 2015; Malhotra & Birks, 2007; Saunders et al., 2016). Therefore, the deductive approach is employed in this study. It is expected that patterns and consistencies in behaviour are identified, thus allowing conclusions to be logically drawn from a set of propositions. Quantitative research handles relationships between variables that are measured on a numerical level and requires formulating clear questions to avoid different interpretations from different respondents (Saunders et al., 2016).

This thesis begins with conducting an extensive literature review on the reality of the object being studied, together with a deep understanding of relevant theories such as the Cue Utilisation, the Malleable Self-Concept, the Magnitude Representation, and the Body Specificity theories. This is

then followed by the development of a conceptual framework and the formulation of hypotheses, which are used to test the theory and generalise the results.

As for the nature of the research, it can follow different purposes—exploratory, descriptive, explanatory, or evaluative (Saunders et al., 2016). Alternatively, it can consist of a combination of these.

This study has the single purpose of explaining the relationships between variables, which is supported by the research question formulation. It asks to what extent paper packaging and ethical labels lead to perceived quality of private labels, purchase intention of green products, and choice of green private labels. Therefore, the relationships between perceived quality, purchase intention, and choice are investigated in what is referred to as an explanatory study (Saunders et al., 2016). Similarly, the research sub-questions ask how the priming of subjects in terms of placement, supermarket, and context, affect the independent and dependent variables. Nevertheless, getting to this point involved conducting a literature review, identifying a gap, and collecting sufficient information to propose said relationships. Thus, one could argue that initially, this research served an exploratory purpose (Saunders et al., 2016).

Regarding the data collection technique, this study is referred to as a monomethod quantitative study because it uses one technique only—a questionnaire. Questionnaires are often used under explanatory research and allow for an examination of cause-and-effect relationships (Saunders et al., 2016). Specifically, a self-completed questionnaire, also known as a survey, was distributed to respondents on the internet and could be assessed via mobile or webpage. This specific strategy is employed to both guarantee that a larger sample is reached in a convenient time span and lessen *social desirability bias*, i.e., the propensity of respondents to answer in a desirable way instead of sharing their actual opinions, which is argued to be more incident in qualitative methods (Anderson-Knott, 2008; Malhotra & Birks, 2007). Additionally, Schmidt & Hollensen (2006, pp. 138–139) cite five other advantages of using survey methods: *"standardisation, ease of administration, ability to tap the "unseen", suitability to statistical analysis, and sensitivity to subgroup differences".* Nonetheless, the questionnaires should be carefully designed, with appropriate wording and structure to provide meaningful knowledge, in the light of the research objectives (Malhotra & Birks, 2007). Because self-completed questionnaires rely heavily on their clarity, piloting the survey is an important step for assuring that the questions are unlikely to be misinterpreted (Bell & Waters, 2006; Fink, 2013). In plain, a pilot test enables gathering feedback from a small sample of respondents. Thus, the survey

was shared with five people who provided feedback on ambiguous statements and unknown terminology. When corrected and approved, a final version of the survey was made available online.

One could argue that an eye-tracking experiment would offer valuable insights into consumers' cognitive processes underlying choice. Naturally, such experiment would have unveiled unconscious and unobserved behaviour that self-reported retrospective techniques fail to deliver (Grunert, 2011). Moreover, measuring visual attention is extremely useful when investigating consumers' purchasing decisions because 83 percent of the information used in cognitive processing is visually obtained (Wästlund, Shams, Löfgren, Witell, & Gustafsson, 2010). Therefore, it is suitable for research questions concerned about product, package, and promotional designs (Wästlund et al., 2010). However, due to COVID-19 restrictions, the eye-tracking lab was closed throughout the whole data collection period. As a result, visual attention could not be measured. Instead, perceived quality and purchase intention are assessed as alternative measures to explain choice, which could be carried out in a pandemic-friendly manner via online surveys. Surveys are deemed a good fit for measuring said constructs because they are not sensitive nor personal topics, nor they pertain to beliefs and feelings, and thus fixed-response alternative questions are less likely to endanger validity (Malhotra & Birks, 2007). The research process is illustrated in Figure 2.

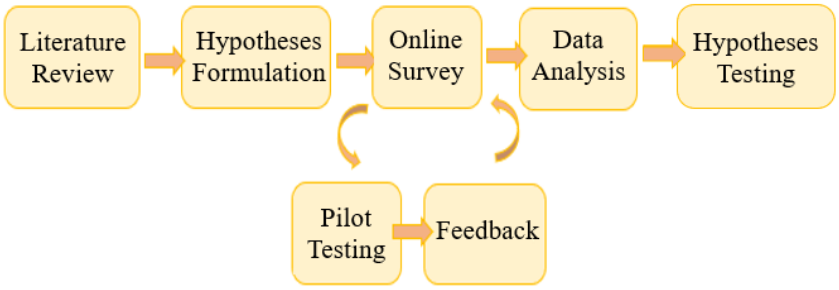

Figure 2 – The Research Process (source: authors' own work)

4.3 Measurements

As discussed, having explanatory, deductive research entails using data to test theories. This requires establishing the conceptual model, where the variables are defined and their relationships are illustrated, before designing the survey (Ghauri & Gronhaug, 2010; Malhotra & Birks, 2007). Consequently, this section will introduce the different types of variables that will be measured through a well-designed survey.

Four different types of variables are measure in this study: independent, mediating, dependent, and active.

4.3.1 Independent Variables

Independent or predictor variables are, in short, variables that cause effects on other variables (Jackson et al., 2015; Lavrakas, 2008; Saunders et al., 2016).

4.3.1.1 Perceived Quality from Ethical Labels

The variable perceived quality from ethical labels assesses if respondents think that products with ethical labels on the packaging have more quality. Thus, respondents were asked to state how much they agree with the statement "Ethical labels on the product's packaging signal better quality". A scale from 0 (strongly disagree) to 10 (strongly agree) was used.

4.3.1.2 Perceived Quality from Paper Packaging

Similar to the previous one, the variable perceived quality from paper packaging evaluates if respondents think that paper packaging is an indicator of product quality. Thus, respondents were asked to state how much they agree with the statement "A product made out of paper/carton packaging has better quality". A scale from 0 (strongly disagree) to 10 (strongly agree) was used.

4.3.1.3 Perceived Quality of Private Labels

The third independent variable in this research is the perceived quality of private labels. This variable is concerned with what respondents think of private labels' quality. It is important to not only measure private labels on their own but also compare them against their main rival—branded products. Therefore, respondents were asked to state how much they agree with two statements: "Private Labels are of low quality" and "Private Labels have lower quality than branded products". A scale from 0 (strongly disagree) to 10 (strongly agree) was used.

4.3.2 Mediator Variable

A mediator variable is an intermediary variable that explains the effect of an independent variable on the dependent variable (Jackson et al., 2015).

4.3.2.1 Purchase Intention of Green Products

In an attempt to explain the relationship between the perceived quality signalled by ethical labels and paper packaging and the choice of green private labels, this research considers the purchase intention of green products a mediator.

This variable is therefore interested in assessing if respondents look for sustainable products, hereby designated as green products. According to the literature, paper packaging and ethical labels are the main elements (cues) of said products (Seo et al., 2016), therefore these will be used as items to explain the variable. On that account, respondents were presented with the following statements/questions: “I take into consideration the product's packaging material when I make decisions for groceries”; “How likely is that you consider buying a product only because its package is made of paper/carton?”; and “Do you look for labels signalling environmental concerns when choosing a product?”. To measure the responses, a scale from 0 (never/extremely unlikely) to 4 (always/extremely likely) was used.

4.3.3 Dependent Variable

The dependent variable is the element that the study tries to predict (Cao, 2008; Jackson et al., 2015; Saunders et al., 2016). In other words, it refers to the variables that are dependent on the other variables (the independent ones), as the names suggest.

4.3.1 Choice of Green Private Labels

The dependent variable in this research is choice of green private labels. To assess this, 24 sets of products were presented to the subjects, who had to, for each set, choose one out of two products—a private label or the corresponding branded product. Therefore, this variable is directly measured based on the respondents’ choice.

4.3.4 Active Variables

Some variables do not lie in the category of independent nor dependent variables; yet, they influence the results of the experiment (Malhotra & Birks, 2007). These are called extraneous variables. An example is the active variables, which are controlled by the researcher in a way where different groups have different settings (Glen, 2017). This study includes three active variables: Placement, Supermarket, and Context.

4.3.4.1 Placement

Placement refers to how the private labels were placed in relation to the branded products and can take two forms—placement on the right or placement on the left.

4.3.4.2 Supermarket

Supermarket concerns the status and positioning of the private labels used. For this research, two supermarkets served as the online setting for buying products—Lidl, which represents a low-end supermarket with a cost-leadership positioning, and Irma, a high-end supermarket whose products are premium (see positioning plot in Appendix A).

4.3.4.3 Context

Context refers to the setting to which subjects were assigned to. Some respondents were asked simply to imagine they are doing groceries online, whereas others were given information about having to do groceries online for a group of friends.

4.4 Survey Design

For the data collection to take on reliability and validity, a set of well-structured and accurate questions is required. In this regard, the survey's validity is the outcome of the truthful data collection, which will further support the research and act as an accurate measurement for the hypotheses to be tested, while reliability depends on the consistent collection of data (Saunders et al., 2016). Malhotra & Birks (2007) argued that when referring to a survey that is using close-ended questions, the limited choices that respondents are asked to choose from are not modifying data consistency.

An online survey (Appendix B) was used as the internet is a wide arena, reaching large numbers of individuals easier, resulting in an effective way to gather data quickly (Schmidt & Hollensen, 2006). The survey was planned to be completed by both international and Danish consumers, so it was decided that it should be written in English. In addition, by using the English language, discrepancies between the perception of the respondent and the researchers' interpretation would be avoided (Foddy, 1994).

The landing page of the survey (Appendix B1) was dedicated to informing the participants about the background of the authors, the structure of the survey, and reminding them to answer intuitively and truthfully as there were no wrong or right answers. The time required to complete the survey was also

noted since it was perceived as an extra incentive for subjects to participate. According to research, surveys that are long need more time to be completed and result in lower response rates (Roszkowski & Bean, 1990; Schmidt & Hollensen, 2006). Therefore, to get as many responses as possible the estimated time that a participant needed to complete the final survey was kept low (i.e., 5 minutes).

The purpose of the study was not mentioned since primes would be employed to observe the potential differences in subjects' answers under different circumstances. In this regard, by agreeing to not mention the purpose of the study, method biases that can impact the findings' validity and reliability were prevented from occurring (Podsakoff, MacKenzie, & Podsakoff, 2012). Furthermore, the anonymity of the responses was highlighted, both in the landing page of the survey as well as in the post captions on social media, to reduce the pressure that some people feel when answering a survey non-anonymously (Fuller, 1974).

Besides the estimated completion time, the response rate depends on the survey's structure and use of language. For this reason, the questions were straightforward, and scientific terms were not used, to avoid making the survey's content ambiguous and complex. In this regard, different question designs were employed to keep respondents interested and improve the response rate. Moreover, the authors tested the awareness of the term "private label" before finalising the survey and concluded that there should be a part defining the terms "private labels" and "branded products" to avoid misunderstandings. However, to prevent subjects from being biased, this part was presented after they finished choosing the products they would buy. Each section of the survey will be presented and further analysed below.

As argued by Schmidt & Hollensen (2006), the initial questions should be easy-going without much deliberation. Thereby, the first part of the questionnaire comprised of 24 questions, each one presenting a set of products (one branded product and one private label) that participants should choose from. The product categories were meticulously chosen based on the different perceived risks that are attributed to the products of a supermarket. For this purpose, the categorisation of risk that Semeijn, van Riel, & Ambrosini (2004) proposed was followed (see Figure 3). Hence, when choosing the products to be included in this study, the functional and psychosocial risks were considered, as they are argued to show a variation when associated with private labels and branded products (Semeijn et al., 2004).

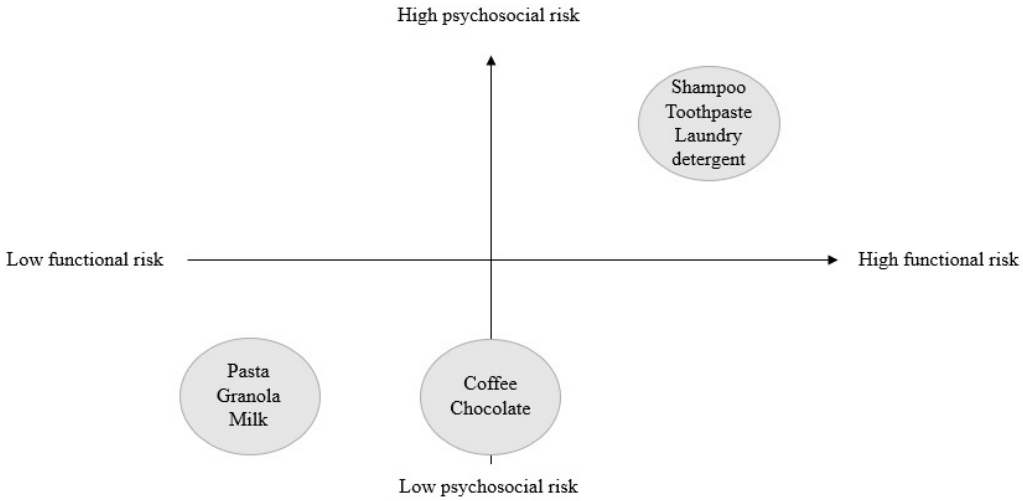

Figure 3 – Positioning of product categories in terms of perceived risk (source: authours' own production based on Semeijn, van Riel, & Ambrosini (2004)).

Three different settings were used to prime the present Master's thesis's participants. To begin with, the software used to accommodate the survey (i.e., Qualtrics) randomly assigned each participant in one of the five groups (see Table 1) that were created in favour of the different primes. The software was programmed to create equal-sized groups, while randomly assigning each subject.

Prime	Group A	Group B	Group C	Group D	Group E
Context	Buying for individual use (non-social context)				Buying for a social occasion (social context)
Supermarket	Lidl (Low-end)		Irma (High-end)		Irma (High-end)
Placement	Private Labels on the Left	Private Labels on the Right	Private Labels on the Left	Private Labels on the Right	Private Labels on the Left

Table 1 – The five survey groups to which respondents were randomly assigned

First, the respondents were primed with either Lidl's or Irma's online grocery store logos (Appendices B2-B4). The two supermarkets with completely different positioning were chosen to be included in the survey because according to Pechey & Monsivais (2015), this diverse positioning is argued to influence consumers' purchase behaviours. Lidl is a well-known discount grocery store chain, having as fundamental principles simple shops, self-service, less floor space, and low prices (Shaikh, Karjaluoto, & Häkkinen, 2018). Irma on the other hand, is a high-end supermarket, constituting a highly differentiated player in the Danish market, and associated with high quality, healthy ingredients, and special dietary products.

Second, the private labels were presented either only on the left or only on the right, for the effects of lateral positioning to be tested. In these settings, subjects were presented with the following introduction:

> *"Imagine you will do grocery shopping through Lidl's/Irma's online grocery store".*

Third, another group of participants was asked to do grocery shopping online for a social occasion, namely going on vacation with a group of friends. These subjects (i.e., primed with a social context) received the following instruction:

> *"You are planning to spend a month in a holiday house by the beach with your friends. The day before you leave one of your friends calls you and asks you to buy the following things that you will probably need. There is a supermarket 25km away from the house you rented, so you decide to place an order through its online grocery store and have the products delivered to the house the next day".*

According to the conducted literature review, the method used for priming was behavioural (Minton et al., 2017).

All respondents were informed that they should make their decisions as if the products of each pair had the same size and price. To avoid biased responses the authors paid attention to the survey's design, ensuring that each product category appeared only one time per page, thus respondents could not move backward and change their answers. Moreover, to avoid mere exposure effects, different branded products of the same brand were used, so that each product was shown one time only. The packaging of the private labels was manipulated, and the nutritional information was removed to prevent grabbing the respondent's attention or influencing decisions. All the product sets were manipulated using Adobe Photoshop to have the same shape, size, and facing (see Appendices B5 and B6). Finally, each product had three packaging versions—one with an ethical label, another with paper packaging, and a third with both. The size of the ethical labels was adjusted according to the size of the product, and a standard proportion scale was used. The ethical labels were chosen in a way to fit the product's nature (e.g., the SWAN logo was used on personal care products, while the FAIRTRADE logo was attached to products made of cocoa or coffee beans). The ethical labels used in this study are depicted in the following table (Table 2).

 The Danish Organic Label declares that less artificial pesticides and a limited number of additives have been used.	 The European Union's Organic Label declares that the EU common rules for organic and ecological food have been followed.
 The Swan label is given to non-food products that live up to certain environmental demands.	 The international Fairtrade Label can be found on products produced under sustainable trade and labor conditions.

Table 2 – The ethical labels used on the products' packaging (source: authors' own work)

The second part (Appendix B7) addressed, as already mentioned, the subject's knowledge of the terms "private label" and "branded product", included a question regarding the respondent's handedness, and consisted of questions addressing their considerations when grocery shopping. The nature of the questions used was close-ended since this type is claimed to be easy and quick to reply (Saunders et al., 2016) while offering researchers the opportunity of coding and processing the data faster and with fewer costs (Schmidt & Hollensen, 2006). The respondents could answer these close-ended questions using a 5-point Likert scale, which is argued to be easy to comprehend and to administer (Malhotra &Birks, 2007).

The third part (Appendix B7) consisted of the assessment of the perceived quality of private labels and products signalling environmental concerns, such as carrying ethical labels or having paper packaging. In this part, respondents were asked to answer to what extent they agree or disagree with ten statements. For these questions, an 11-point ordinal scale depicted as a graphic rating scale was used, where respondents were asked to rate each statement along this scale from strongly disagree (0) to strongly agree (10), with neutral being represented by 5. This scale is argued to give subjects a sense of more freedom to respond, without feeling constrained to predefined intervals (Cook, Heath, Thompson, & Thompson, 2001), like in a real Likert scale.

Finally, the last part of the questionnaire (Appendix B7) consisted of questions referring to the participants' demographic characteristics including age, gender, income, and nationality.

4.5 Sampling Technique

According to Schmidt & Hollensen (2006), the sampling process involves five steps, and it starts by determining the target population based on the purpose of the study.

This study is limited to the Danish market and therefore, only individuals living in Denmark were accepted. To control for this, the question *"Do you live and go grocery shopping in Denmark?"* was included as the very first question of the survey. Consequently, respondents who selected "No" were directed to the end of the survey, and their participation was not allowed. Moreover, the theories of Magnitude Representation and Body Specificity require knowing the handedness of subjects in order to correctly interpret the results. Therefore, the question *"Are you right-handed or left-handed? (If ambidextrous please choose based on the hand you feel more comfortable using in your everyday life)"* was also included in the survey. The results show that out of a total of 302 respondents, 276 are right-handed and 26 left-handed, which corresponds to 91.39 percent and 8.61 percent, respectively (see Figure 4). According to experts, about 90 percent of the population worldwide is right-handed (Romero & Biswas, 2016; Searing, 2019), hence these results can be argued to be representative of the whole population.

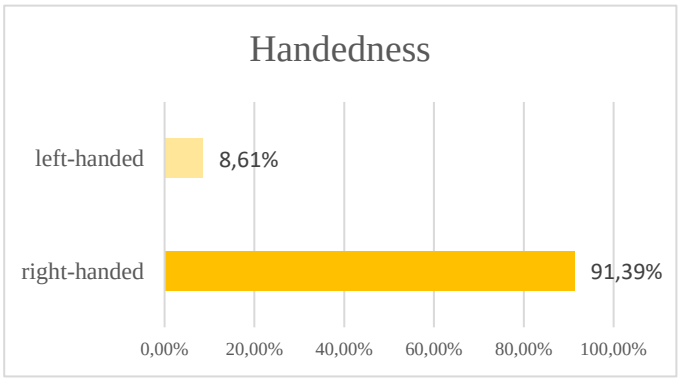

Figure 4 – Distribution of responses for Handedness

The sampling methods can take two forms—probability sampling and non-probability sampling, the latter being the most common case for applied research (Schmidt & Hollensen, 2006). Although the second step requires identifying the sampling frame, this is only relevant for probability-sampling techniques, which is not the case. Naturally, this step is skipped.

The third step entails selecting an adequate sampling method. Non-probability sampling methods assume that the probability of a certain member of the population being sampled is unknown (Jackson et al., 2015). Specifically, this study draws upon the non-probability technique of self-selection sampling, which is one of two types of volunteer sampling. It requires publicising the survey and collecting the data from those that completed the experiment (Saunders et al., 2016; Sterba & Foster, 2008). In this regard, certain Facebook groups were chosen and a link for the survey was shared on the platform. Sharing an open link was possible because, as previously mentioned, Qualtrics was programmed to create equal-sized groups, while randomly assigning each subject to one of the five surveys (A, B, C, D, or E). Moreover, it was set in a way that each individual could only answer the survey one time. Nonetheless, the latter constitutes one of the risks of conducting online surveys, as it is extremely difficult to prevent a respondent from participating in the study more than once if this really is their will (i.e., even though Qualtrics is designed to not allow repeated answers from the same IP, it cannot control for using a mobile device or a new incognito window).

The Facebook groups used for sampling respondents are listed in Appendix C. A drawback of said sampling method is that the likelihood of the sample being representative is low (Saunders et al., 2016). The groups were selected based on the chance of response, and therefore most members are students, who are more open to participating in the study. Moreover, a big share of respondents is likely to have a business background, considering the groups that were used. Consequently, the results from this study may not be generalised for the whole population, but they can still provide relevant insights about green private labels.

The following step requires determining the appropriate sample size (Schmidt & Hollensen, 2006). Unlike probability sampling, the sample size for non-probability sampling is dependent on the research question and objectives (Saunders et al., 2016). Thus, it was initially decided that each group (A, B, C, D, and E) required 25 responses at a minimum, giving a total sample size of 125 respondents. However, according to Saunders et al. (2016), statistical analyses often require a sample size of 30 to ensure validity, so the authors expected to have at least 180 respondents. In reality, the survey was only closed after 310 responses had been recorded.

Finally, the fifth step is to gather the data and assessing its quality (Schmidt & Hollensen, 2006). The section Data Collection and Examination will elaborate on this last step.

4.6. Choice of Method

The present study starts by testing six relationships between five variables, where the dependent variable (DV) is dichotomous, and the remaining are ordinal. Dichotomous variables are *"nominal variables which have only two categories or levels"* (Laerd Statistics, 2021). Specifically, the DV Choice of Green Private Labels (CH_GPL) is naturally dichotomous because precisely only two values (0 for "No" and 1 for "Yes") can occur. Few software programs can handle dichotomous as outcome variables; therefore, the choice of method must be taken appropriately.

According to Kock (2014b), there are two recommended techniques for testing a model with a dichotomous dependent variable: Logistic Regression and WarpPLS. However, the first assumes that the observations do not come from repeated measures nor matched data (Statistics Solutions, 2021a). This assumption is violated, as multiple measurements of CH_GPL are collected from each participant (8 different product categories x 3 element combinations). Consequently, the latter is deemed as the best fit for the present quantitative analysis and will be used for testing H1-H6. Moreover, non-normally distributed data is handled well by WarpPLS because, as a nonparametric technique, it does not require univariate and multivariate unimodality nor normality (Kock, 2014b). Based on Monte Carlo simulations, PLS Regression, Warp3, and Stable 3 were set as the outer model algorithm, inner model algorithm, and resampling method, respectively, and run in WarpPLS 7.0. This will be further elaborated on in the Algorithm Setting section.

Additionally, the differences in the effect of three active variables (Placement, Supermarket, and Context) are assessed via IBM-SPSS 26 Software. In particular, Mann-Whitney U tests are computed for Perceived Quality of Private Labels (PQ_PL) and Purchase Intention of Green Products (PI_GP), and Pearson's Chi-Square tests for Choice of Green Private Labels (CH_GPL). Both tests have the advantage of being non-parametric tests that can handle *"violations of the normality and homogeneous covariance matrix assumptions"* (Finch, 2005, p. 28) and that are most suitable when the data collected is measured at either ordinal or nominal levels (Statistics Solutions, 2021b). These tests will hence be used to test H7-H12.

The Mann-Whitney U test is deemed one of the most influential nonparametric tests and is suitable for ordinal dependent variables (Lewis-Beck, Bryman, & Futing Liao, 2004), which is the case of PQ_PL, measured on a scale from 0 to 10, and PI_GP, measured on a scale from 0 to 4. Said test is often used to establish whether two independent groups are part of the same population and it does so by looking at the difference in the mean ranks (Lewis-Beck et al., 2004).

The (Pearson's) Chi-Square test, on the other hand, is the equivalent to the Mann-Whitney U test for nominal-level data (Lewis-Beck et al., 2004). Therefore, it is suitable for a dichotomous DV such as CH_GPL. The test compares the actual occurrences with those that would be expected if there was no relationship between the two variables (Lewis-Beck et al., 2004).

Additionally, the Chi-Square test will be used to compare the three chosen categories, as well as the two "green" elements, in relation to choice of private labels.

Figure 5 illustrates which software was employed to measure each one of the relationships.

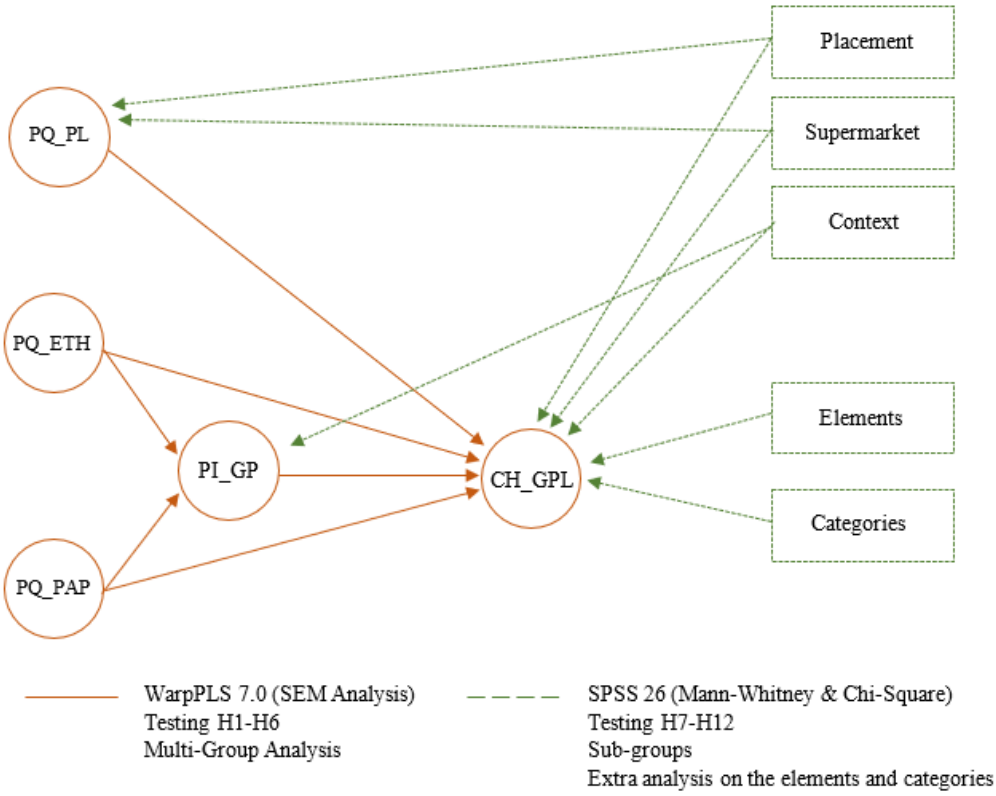

Figure 5 – Visual representation of method choice (source: authors' own creation)

4.7 Partial Least Squares Structural Equation Modelling

Despite the early dominance of first-generation statistical methods such as multiple and logistic regressions, factor and cluster analysis, and multidimensional scaling, second-generation methods, such as structural equation modelling (SEM), have been rapidly adopted by many researchers for the past 30 years (Hair, Hult, Ringle, & Sarstedt, 2017). Among other advantages, second-generation techniques allow investigators to integrate unobservable variables (also referred to as *latent* variables) and account for measurement error in observed variables (Chin, 1998). In this study, variables like perceived quality and purchase intention are deemed unobservable, thus assessed indirectly by indicator variables (also referred to as *items*). These items represent survey questions measured on an ordinal level through 0-10 and 0-4 scales, respectively.

SEM is a multivariate analysis employed to measure relationships between latent variables, meaning that it relies on statistical methods applied on multiple variables simultaneously (Hair et al., 2017; Wardhani, Nugroho, Fernandes, & Solimun, 2020). Specifically, structural equation modelling using the partial least squares method (PLS-SEM) is frequently employed for processing complex path models and has continuously gained traction among researchers in a wide variety of fields (Hair, Sarstedt, Ringle, & Mena, 2012; Kock, 2020; Sarstedt, Ringle, & Hair, 2017)**.**

The approach to SEM analysis is split into two types—covariance-based (CB-SEM) and variance-based (the aforementioned PLS-SEM) (Wardhani et al., 2020). While CB-SEM focuses on reproducing the theoretical covariance matrix and disregards explained variance, PLS-SEM aims at maximising the explained variance of the dependent constructs (Hair et al., 2012). As a result, the first is employed to confirm or reject existing theories, whereas the latter is mainly used for forming theories in exploratory research (Hair et al., 2017). The two methods serve distinct needs and hold different assumptions as well. CB-SEM is recommended for large sample sizes, but it requires multivariate normal distribution. On the other hand, PLS-SEM makes no assumption of the distribution of the data but it has some limitations regarding hypothesis-testing (Kock, 2019). More specifically, it does not estimate models based on true factors but rather on composites, which refer to linear combinations of indicators and may result in biased path coefficients and loadings (Kock, 2019).

The most broadly employed PLS-SEM software is perhaps Smart-PLS. However, Smart-PLS possesses a significant weakness for this research, as it has serious limitations when handling dummy-coded dependent variables (Hair et al., 2017). On the contrary, WarpPLS is adequate and

recommended for dichotomous dependent variables and will thus be the focus of this section and the whole analysis.

4.8 WarpPLS

WarpPLS is a factor-based PLS algorithm, which does not assume normally distributed data, enables both linear and nonlinear analyses between latent variables, and can be used for hypothesis-testing (Kock, 2019, 2020; Wardhani et al., 2020). In short, *"factor-based PLS algorithms combine the precision of covariance-based SEM algorithms under common factor model assumptions with the nonparametric characteristics of classic PLS algorithms"* (Kock, 2020).

Contrary to traditional PLS-based algorithms, WarpPLS estimates true factors and accounts for measurement errors (Kock, 2020). This process is referred to as *warping*, and it takes place after the latent variable scores and the outer loadings are estimated, upon assessment of the path coefficients.

The calculation of the latent variable scores as well as the outer loadings constitute the outer model, or *measurement model*, and quantify the connections between each construct and its related indicator(s). On the other hand, the path coefficients between the latent variables comprise the inner model, or *structural model*, and represent the relationships between the constructs (Kock, 2020; Sarstedt et al., 2017). These two together create what is called the path model—a diagram that draws the relationships between variables and illustrates their respective hypotheses to be confirmed or rejected in an SEM analysis (Sarstedt et al., 2017).

4.8.1 The Path Model

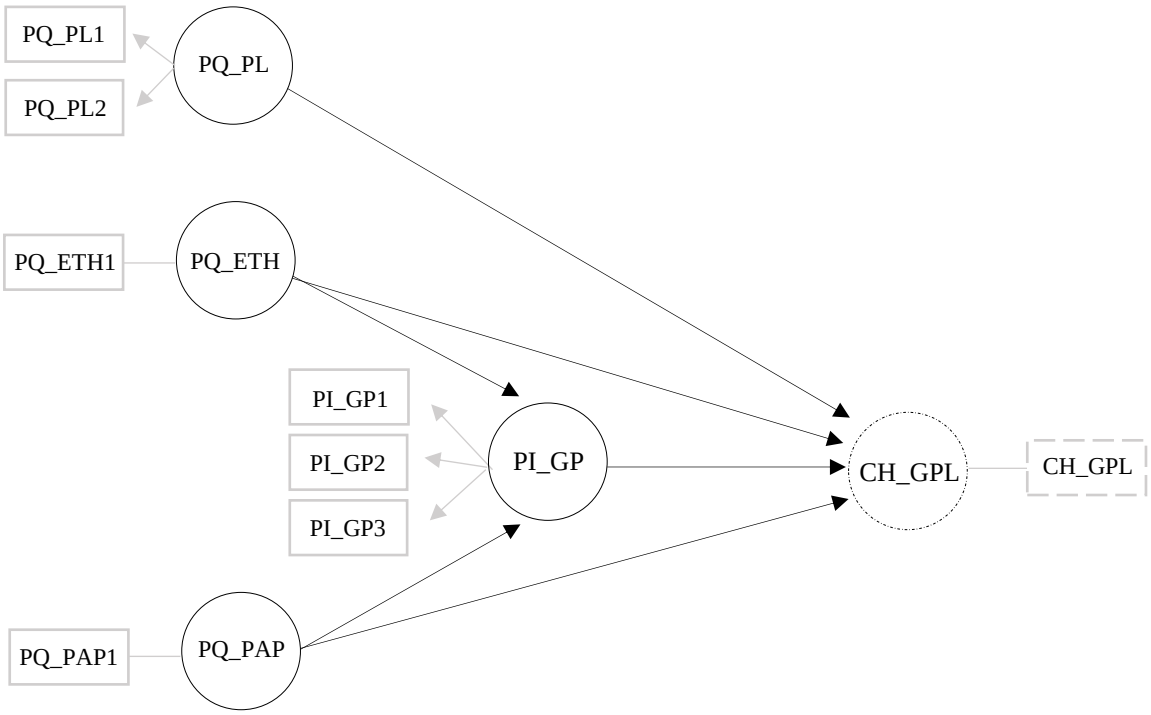

Figure 6 – Path Model (source: authors' own work based on WarpPLS output)

Figure 6 illustrates the path model developed by the authors and used in the analysis. The full circles represent constructs, or latent variables, meaning that they are not directly observed and therefore are inferred from items, or indicators, that correspond to the respondents' answers in the survey. As previously explained (cf. Measurements section), these variables are:

(1) Perceived quality of private labels (PQ_PL), inferred from PQ_PL1 and PQ_PL2, using an 11-point ordinal scale;

(2) Perceived quality from ethical labels, inferred from a single item PQ_ETH1, using an 11-point ordinal scale;

(3) Perceived quality from paper (PQ_PAP), inferred from a single item PQ_PAP1, using an 11-point ordinal scale;

(4) Purchase intention of green products (PI_GP), inferred from PI_GP1, PI_GP2, and PI_GP3, using a 5-point Likert scale.

Regarding the adoption of single-item scales, there is a lack of consensus in the literature. According to Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser (2012) and Sarstedt et al. (2017), single-item constructs should be approached with caution as they may threaten predictive validity. These statements are supported by Hair et al. (2017), who added that limiting the construct measurement to a single item leads to greater disparities to CB-SEM results. On the other hand, Bergkvist & Rossiter (2009), Drolet & Morrison (2001), and Zaichkowsky (1985) defend that prudently constructed single-item measures have been argued to be at least as valid as multi-item measures of the same constructs, and are thus accepted to be used in special cases where both the object and the attribute of the construct can be defined as concrete. As a matter of fact, PQ_ETH and PQ_PAP rely on a concrete attribute (a perception) for concrete objects (a physical label and a product material). Moreover, perceived quality items are usually highly homogeneous (Hair et al., 2017). Consequently, the loss in predictive validity, compared to a multi-item scale (MI), is not deemed acute.

Back to Figure 6, the last variable which has not yet been addressed is represented by a dotted circle and refers to the dependent variable. It has been purposefully depicted this way to illustrate its difference in nature. Choice of green private labels (CH_GPL) is an observable variable rather than a construct; therefore, a single-item (SI) measure is the suitable choice for such case (Hair et al., 2017). Respondents were asked to choose one of two products displayed in the questionnaire and their answers were measured on a nominal level and dummy-coded (0=No and 1=Yes).

All indicators are represented as rectangles and linked to their related constructs through arrows (for MI variables) or lines (for SI variables). The direction of the arrows depends on the type of measurement perspective, which will be discussed in depth below. Incidentally, the type of measurement model is indifferent for SI constructs because the item and the construct are equivalent; therefore, their relationship has no direction (straight line) (Hair et al., 2017).

Additionally, the variables are connected by paths, derived from the conducted literature review. Variables that only serve as independent variables (IV) are called exogeneous (Sarstedt et al., 2017). Conversely, those that serve either as a dependent variable (DV) or as both IV and DV, are referred to as endogenous (Sarstedt et al., 2017). On that account, PQ_PL, PQ_ETH, and PQ_PAP are exogenous variables, whereas PI_GP and CH_GPL are endogenous. It is of relevance to note that endogenous latent variables carry error terms, as a reflection of the sources of variance that are not seized by the antecedent constructs in the structural model. Yet, exogenous latent variables deriving

from reflective measurement models (as it is the case), hold no error terms (Bollen, 1989; Sarstedt et al., 2017).

The choice between formative and reflective measurement approaches should be informed and taken with due care, as it will have an impact on the analysis and consequent results of the outer model (Devinney, Coltman, Midgley, & Venaik, 2008; Diamantopoulos & Winklhofer, 2001; Sarstedt et al., 2017). Therefore, a brief introduction to both theories will be presented below.

The formative measurement approach generally minimises the overlap between indicators deemed complementary (Diamantopoulos & Winklhofer, 2001). In this approach, what represents the construct is a combination of all items, which consequently are its causes. The relationship is hence depicted by arrows going from the items to the constructs.

Opposingly, the reflective measure focuses instead on maximising the overlap between interchangeable indicators (Diamantopoulos & Winklhofer, 2001), and under this measure, the latent variable is a trait that explains the indicators (Fornell & Bookstein, 1982). Therefore, the indicators represent consequences of the construct (Rossiter, 2002), and are depicted by arrows going from the constructs to the items. According to Hulland (1999), in a reflective measurement approach the items must be highly correlated among themselves. Reflective items are thus mutually interchangeable (Diamantopoulos & Winklhofer, 2001; Jarvis, MacKenzie, & Podsakoff, 2003), meaning that if the assessment of the construct changes and the indicators are uniformly coded, all items will change in a similar fashion (Chin, 1998). This will be relevant later when the results for the outer model are interpreted.

In sum, the removal of a reflective indicator does not change the nature of the latent variable, whereas omitting a formative indicator leads to the omission of part of the construct (Diamantopoulos & Winklhofer, 2001). According to the above explanation, a reflective measurement model is deemed optimal and applied in WarpPLS 7.0.

4.8.2 The Analysis Process

4.8.2.1 Data Collection and Examination

The 310 complete responses to the survey were exported to Excel and inspected.

As discussed in the Sampling Technique section, the eight respondents who answered "No" to the question "Do you live and go grocery shopping in Denmark?" were removed from the dataset, followed by the 26 left-handed people. Right- and left-handed were separated due to the influence of handedness in some of the theories used in this study. The goal would be to compare both groups; however, according to Saunders, Lewis, & Thornhill (2016) and Hair et al. (2017), a sample of 26 responses is not large enough for comparison. As a result, the analysis was performed exclusively with a population of right-handed.

Additionally, the primary issues related to the collection of empirical data were examined, including missing data, suspicious response patterns, inconsistency in answers, and outliers (Hair et al., 2017).

Regarding missing data, only fully completed surveys were downloaded and exported to Excel. Besides, all questions were set as mandatory; thus, no issues with missing data were found. Although there were also no concerns with suspicious response patterns, inconsistency was found in some answers. Specifically, there were eight cases where respondents replied extremely differently to questions that were only slightly different, which suggests that they either did not read the questions carefully or chose them "randomly" to exit the survey as fast as possible (Hair et al., 2017).

In particular, it was argued that respondents who **highly agree** (scores 8-10) that PLs are of low quality should not **highly disagree** (scores 0-2) that PLs have lower quality than branded products. Similarly, it was considered that respondents who **never** (score 0) take the product's packaging material into consideration when making decisions for groceries could not state that it is **somewhat/extremely likely** (scores 3-4) that they consider buying a product only because its package is made of paper/carton.

Nevertheless, it is considered possible for the opposite to occur; specifically, to highly disagree that private labels are of low quality but still highly agree that they have lower quality than branded products. Likewise, it is plausible that someone always takes into consideration the product's packaging while being very unlikely to buy a product only because it is made of paper/carton. There might be other factors weighting in the decision, or they could be referring to considering glass or reusable plastic and not paper/carton. Therefore, no inconsistency was claimed for these scenarios.

In short, the following were deleted:

(1) PQ_PL1: “Private Labels are of low quality” → scores 8, 9, 10 **when** PQ_PL2: “Private Labels have lower quality than branded products” → scores 0, 1, 2.
(2) PI_GP1: “I take into consideration the product's packaging material when I make decisions for groceries” → score 0 **when** PI_GP2: “How likely is that you consider buying a product only because its package is made of paper/carton?” → scores 3, 4.

Finally, to investigate the existence of outliers, a box plot analysis was conducted on SPSS 24. The results show that PQ_PAP, PI_GP, and AGE have some outliers (see Appendix D). Despite the regular temptation of removing outliers from analyses, they are believed to represent elements of the population (Hair et al., 2017). Moreover, removing them is often a mistake because they can be helpful in exposing the true nature of a relationship (Kock, 2020; Rosenthal & Rosnow, 2008). Therefore, and given that there are strong reasons to believe that they are not due to measurement error (Kock, 2020), the outliers remained part of the data set.

Following this procedure, the final data set counted with 268 approved responses (group A=56, group B=63, group C=49, group D=54, group E=46).

4.8.2.2 Coding Data

Once the data had been examined, one of the earliest priorities was to adapt it to the due analysis.

First, the scores of the indicators PQ_PL1 and PQ_PL2 were inverted to match the scoring of the construct PQ_PL. This means that for the statements “private labels are of low quality” and “private labels have lower quality than branded products” the score for completely disagree was set as the highest (10). Inversely, the score for completely agree was set as the lowest (0). This way, it becomes possible to measure the perceived quality of private labels.

Second, the design of the survey was done in a way that each respondent was asked to make 24 (8 product categories x 3 element combinations) different product choices (CH_GPL). Yet they were only asked once, in the end, about their perceived quality and purchase intentions (PQ_PL1, PQ_PL2, PQ_ETH, PQ_PAP, PI_GP1, PI_GP2, and PI_GP3). Because of that, all variables (excl. choice) were replicated 24 times to assure that there would be paired observations for every value of CH_GPL. Therefore, the N of the new data set is 6432, which corresponds to the 268 approved respondents multiplied by 24.

Lastly, all responses were coded to facilitate the analysis. Table 3 summarises the procedure.

Placement	PLAC	1=Left; 2=Right
Supermarket	SUP	1=Low-end; 2=High-end
Context	CONT	1=Non-social; 2=Social
Elements	ELEM	1=Ethical label; 2=Paper; 3=Combined
Category	CAT	1=Low Risk; 2=Medium Risk; 3=High Risk
Choice of Green Private Labels	CH_GPL	0=No; 1=Yes
Perceived Quality from Ethical Labels	PQ_ETH	0=Never; 1=Sometimes; 2=About half the time; 3=Most of the time; 4=Always
Perceived Quality from Paper Packaging	PQ_PAP	0=Never; 1=Sometimes; 2=About half the time; 3=Most of the time; 4=Always
Perceived Quality of Private Labels	PQ_PL1	[0-10] 0=Strongly agree; 10=Strongly disagree **
	PQ_PL1	[0-10] 0=Strongly agree; 10=Strongly disagree **
Purchase Intention of Green Products	PI_GP1	0=Never; 1=Sometimes; 2=About half the time; 3=Most of the time; 4=Always
	PI_GP2	0=Extremely unlikely; 1=Somewhat unlikely; 2=Neither likely nor unlikely; 3=Somewhat likely; 4=Extremely likely
	PI_GP3	0=Never; 1=Sometimes; 2=About half the time; 3=Most of the time; 4=Always

*Table 3 – Variable Coding (source: authors' own production) **cf. pp 60-61*

4.8.2.3 Data Distribution

The final raw data was imported to WarpPLS as a .xlsx file and automatically standardised, as it is typical of most software tools running the SEM algorithm (Hair et al., 2017).

The first step involved the assessment of the data distribution, i.e., if it is normal or nonnormal. Distribution is typically considered nonnormal if skewness and excess kurtosis are not within the interval [-1;1] (Hair et al., 2017). If skewness is smaller than -1, the data is skewed to the left; if greater than +1, the data is skewed to the right; and if between -1 and 1, then the data is considered normally distributed. On the other hand, an excess kurtosis smaller than -1 indicates that the distribution is too flat, greater than 1 indicates that it is too peaked, and between -1 and 1 indicates that it is just normal.

In addition to these indicators, WarpPLS provides unimodality and normality tests, such as RS, KMV, JB, and RJB. If at least one construct (or indicator) scores a "No" in one of the tests, it is assumed that the distribution is nonnormal. All parameters summarised in Table 4 can be treated as multivariate tests because they are applied to latent variables, which are per se combinations of indicators and

	PQ_PL	PQ_ETH	PQ_PAP	PI_GP	CH_GPL
Skewness	-0.409	-0.176	-0.110	0.076	0.330
Excess Kurtosis	-0.366	-0.686	-0.352	-0.603	-1.891
Unimodal-RS	Yes	Yes	Yes	Yes	Yes
Unimodal-KMV	Yes	Yes	Yes	Yes	Yes
Normal-JB	No	No	No	No	No
Normal-RJB	No	No	No	No	No

Unimodal-RS = Rohatgi-Székely test of unimodality
Unimodal-KMV = Klaassen-Mokveld-van Es test of unimodality
Normal-JB = Jarque-Bera test of normality
Normal-RJB = Robust Jarque-Bera test of normality

Table 4 – Data Distribution

measurement errors (Kock, 2020). In conclusion, the test results show that all variables are unimodal but not normal, even though the skewness and excess kurtosis are within the [-1;1] range (except for CH_GPL: skewness=0.330; kurtosis=-1.891). Therefore, the use of nonparametric methods is particularly appropriate.

4.8.3 Algorithm Setting

The algorithm settings often have a massive influence on the results of an SEM analysis. Therefore, they can provide significant insights into the analysis but only if carefully considered (Kock, 2020).

In this study, a PLS Regression has been chosen to perform the outer model analysis. Similar to other algorithms, it calculates latent variable scores as exact linear combinations of their items and measurement errors and performs continuous iterations until a solution is reached (Kock, 2020). However, it has the particularity of not letting the inner model influence the outer one. This means that the outer loadings are not influenced by the paths between latent variables (Kock, 2020).

For the inner model analysis algorithm, the relationship between variables was taken into consideration. Provided by WarpPLS, all direct relationships with CH_GPL are deemed linear; therefore, a linear inner model algorithm was chosen for each one of these interactions. On the other hand, the relationships between PQ_ETH and PI_GP as well as PQ_PAP and PI_GP are curved, i.e., nonlinear. Therefore, the Warp3 algorithm was set as the default for these interactions (see Appendix E for the relationship plots. The Warp3 algorithms use least square regressions to calculate the path coefficients between the constructs, based on the loadings scores calculated by PLS Regression in the outer model analysis (Kock, 2010, 2020).

Finally, the Stable3 resampling method was selected. This method has been described as a more accurate version of Stable 1 and Stable 2, which according to Monte Carlo simulations were already an improvement over Bootstrapping and Jackknifing (Kock, 2020). Furthermore, *"the "stable" methods help avoid the "capitalisation on error" problem, often associated with PLS-based SEM"* (Kock, 2020). Lastly, Stable3 is believed to be especially relevant for large datasets, hence relevant for this study (N=6432).

All of the abovementioned algorithm choices are in line with the default settings of WarpPLS 7.0.

5. Results

5.1 Evaluation Criteria

WarpPLS provides multiple measures of model fit for reflective models. To make sense of them, Hair et al.'s (2017) recommended systematic process is followed. This will permit taking conclusions about the relationships between the indicators and the constructs, as well as among the constructs.

The process is centred on metrics that assess the model's predictive capabilities and is divided into two phases (Hair et al., 2017). The first phase consists of evaluating the quality of the outer (measurement) model based on 1) reliability, 2) convergent validity, and 3) discriminant validity (Hair et al., 2017, 2012). The second phase focuses on the inner (structural) model and relies on metrics for 1) predictive accuracy, 2) predictive power, and 3) size and statistical significance of the structural path coefficients (Hair et al., 2017).

5.1.1 Evaluation of the Outer Model

5.1.1.1 Criteria for Outer Model Evaluation

In reflective perspectives, the reliability of the outer model, also referred to as internal consistency reliability, is typically measured by Cronbach's alpha and composite reliability (Diamantopoulos & Winklhofer, 2001).

The Cronbach's alpha is often sensitive to the number of indicators and it tends to underestimate the true reliability (Hair et al., 2017). The composite reliability coefficient (CR), on the other hand, considers indicator loadings and is, therefore, more acceptable (Kock, 2020). Nevertheless, it has been argued that the CR overestimates the internal consistency of a model and thus fails to provide a true estimate (Hair et al., 2017). WarpPLS makes a third metric available for reliability testing, the Rho A, which is generated based on Dijkstra's consistent PLS technique and believed to overcome the limitations of the aforementioned measures (Kock, 2020).

Regarding the acceptance thresholds, the general rule of thumb is that all three should be equal or greater than 0.7; however, exploratory research accepts values between 0.6 and 0.7 as sufficient and good (Gefen, Straub, & Boudreau, 2000; Hair et al., 2017; Kock, 2020). Values above 0.90, however, are often seen negatively. Such high values commonly indicate that the indicators measure more or less the same phenomenon and hence might not measure entirely the intended construct (Hair et al.,

2017). That being said, this study will accept Cronbach's alpha, CR, and Rho A values between 0.7 and 0.9. Values between 0.6 and 0.7 in one of the metrics will have to be evaluated in consideration of the remaining metrics and how they fulfil the criteria.

In relation to the convergent validity of a model, this is assessed in two ways: the outer loadings and the average variance extracted (AVE). Convergent validity is *"the extent to which a construct converges in its indicators by explaining the items' variance"* (Sarstedt et al., 2017), outer loadings refer to *"the relationships between the reflective latent variables and their indicators"* (Hair et al., 2017), and AVE describes *"the degree to which a latent construct explains the variance of its indicators"* (Hair et al., 2017). The latter is calculated as the standardised mean of the squared loadings related to a construct (Sarstedt et al., 2017).

In reflective models, the indicators are mutually interchangeable (Diamantopoulos & Winklhofer, 2001; Jarvis et al., 2003) and should thus be highly correlated or share a high proportion of variance (Hair et al., 2017; Hulland, 1999). Therefore, an established rule of thumb is that the indicator outer loadings should be equal to or above 0.708 to indicate that over 50% of the variance is explained by the construct (Chin, 1998; Gefen et al., 2000; Hair et al., 2017). Additionally, the p-values related to the loadings must be statistically significant, i.e., equal to or below 0.05 (Hair et al., 2017; Kock, 2020). Similarly, the AVE should score 0.50 or higher. This indicates that, as previously referred, the construct explains more than 50% of the indicators' variance (Hair et al., 2017; Kock, 2020).

If an outer loading scores weaker than 0.4, it should be removed. However, if it falls in the range between 0.4 and 0.7, it must be first assessed how the deletion of the indicator impacts the internal consistency of the outer model. In other words, the indicator should only be removed if its deletion increases the score of the other metrics (Cronbach's alpha, CR, and Rho A) above the threshold (Hair et al., 2017; Kock, 2020).

In regard to discriminant validity, it refers to the quality of the statements and questions in the survey (Kock, 2020). Specifically, discriminant validity is fulfilled if a construct is unique and describes a phenomenon not addressed by other constructs in the model. According to Hair et al. (2017), it can be measured in two ways—cross-loadings and the Fornell-Larcker criterion. However, Henseler, Ringle, & Sarstedt (2015) challenge the reliability of these traditional measurements and propose an alternative approach, the HTMT ratios.

The cross-loadings measurement looks at an indicator's outer loading on the related latent variable and compares it to its cross-loadings on the other constructs. Specifically, there are no discriminant validity issues if the indicator's outer loading is greater than all cross-loadings (Chin, 1998; Hair et al., 2017; Henseler et al., 2015). On the other hand, the Fornell-Larcker criterion compares the square root of the AVE with the construct correlations, under the logic that a construct shares more variance with its related items than with any other construct (Hair et al., 2017; Kock, 2020). Thus, *"the square root of each construct's AVE should be greater than its highest correlation with any other construct"* (Hair et al., 2017). Nevertheless, both methods have their limitations. The first is ineffective when two constructs are perfectly correlated whereas the second performs poorly when the indicator loadings vary only slightly (Hair et al., 2017; Henseler et al., 2015).

Lastly, the HTMT (heterotrait-monotrait) approach calculates the average heterotrait-heteromethod correlations relative to the average monotrait-heteromethod correlations, meaning that it estimates the true correlation between two constructs if they were perfectly reliable (Hair et al., 2017). The threshold level of the HTMT ratios is controversial, yet Henseler et al. (2015) propose a maximum value of 0.90 if the latent variables are similar in nature and a more conservative threshold value of 0.85 if the latent variables are conceptually distinct. This method has been regarded as the "remedy" to overcome the limitations of the cross-loadings and the Fornell-Larcker criterion. In fact, it is highly recommended to use it in the context of composite-based SEM via classic PLS algorithms. However, it has been pointed as particularly not useful for factor-based SEM, such as WarpPLS (Kock, 2020). In sum, all measurements have their strengths and weaknesses, so rather than relying on a single method, a combination of these will be used to assess the model's discriminant validity. Note that in the case of single-item constructs, none of the aforementioned metrics, except for the HTMT ratios, are relevant measures because everything is fixed at 1 (Hair et al., 2017).

5.1.1.2 Outer Model Evaluation

The results of the PLS Regression show overall satisfactory levels of internal consistency reliability and convergent validity (see Table 5). Specifically, for PQ_PL the Cronbach's alpha, CR, and Rho A values are greater than 0.7; the loadings are greater than 0.708; the AVE is greater than 0.5; and the p-values are significant (p<0.001). On a more disappointing note, PQ_PL scores above the recommended value of 0.90 for CR, which, as discussed previously, often means that the indicators are semantically redundant. The excessive CR is however not deemed a big issue because it is only slightly above the limit (CR: 0.912). In fact, it is believed that the effects of removing any of the items of the PQ_PL construct are much more hurtful than accepting a CR value of 0.912, as such action would transform the construct into a single-item variable. Moreover, the other measurements are all within their limits.

	Items	Loadings	P-Values	AVE	CR	Rho A	C. Alpha
PQ_PL	PQ_PL1	0.807	< 0.001	0.837	0.912	0.807	0.806
	PQ_PL2	0.915					
PQ_ETH	PQ_ETH	1.000	< 0.001	1.000	1.000	1.000	1.000
PQ_PAP	PQ_PAP	1.000	< 0.001	1.000	1.000	1.000	1.000
PI_GP	PI_GP1	0.563	< 0.001	0.614	0.827	0.701	0.685
	PI_GP2	0.601					
	PI_GP3	0.771					
CH_GPL	CH_GPL	1.000	< 0.001	1.000	1.000	1.000	1.000

Table 5 – Internal Consistency Reliability and Convergent Validity

	PQ_PL	PQ_ETH	PQ_PAP	PI_GP	CH_GPL	P-Value
PQ_PL1	**0.915**	-0.002	0.020	0.006	-0.004	< 0.001
PQ_PL2	**0.915**	0.002	-0.020	0.006	0.004	< 0.001
PQ_ETH	0.000	**1.000**	0.000	0.000	0.000	< 0.001
PQ_PAP	0.000	0.000	**1.000**	0.000	0.000	< 0.001
PI_GP1	-0.075	-0.064	-0.060	**0.813**	-0.017	< 0.001
PI_GP2	0.050	-0.069	0.103	**0.762**	-0.054	< 0.001
PI_GP3	0.030	0.135	-0.039	**0.775**	0.071	< 0.001
CH_GPL	0.000	0.000	0.000	0.000	**1.000**	< 0.001

Table 6 – Discriminant Validity (Cross Loadings)

	CH_GPL	PI_GP	PQ_ETH	PQ_PAP	PQ_PL
CH_GPL	**1.000**				
PI_GP	0.124	**0.784**			
PQ_ETH	0.070	0.296	**1.000**		
PQ_PAP	0.051	0.361	0.516	**1.000**	
PQ_PL	0.111	0.092	-0.222	-0.185	**0.915**

Table 7 – Discriminant Validity (Fornell & Larcker Criterion)

	CH_GPL	PI_GP	PQ_ETH	PQ_PAP	PQ_PL
CH_GPL					
PI_GP	0.150				
PQ_ETH	0.070	0.359			
PQ_PAP	0.051	0.437	0.516		
PQ_PL	0.124	0.124	0.222	0.185	

Table 8 – Discriminant Validity (HTMT ratios)

On the other hand, the Cronbach's alpha for PI_GP is lower than 0.7 (α: 0.685) due to weak loadings for two of the construct's indicators, PI_GP1 and PI_GP2 (loading1: 0.563; loading2: 0.601). Although this might suggest internal consistency reliability and convergent validity issues that require further analysis (*cf. next chapter*), the values for AVE, CR, and Rho A are within the accepted ranges.

Concerning discriminant validity, no issues of any kind were found. Outer loadings are greater than cross-loadings for all constructs (see Table 6); square roots of the AVE are the highest in any column or row for every construct (see Table 7); and all HTMT ratios are below the conservative threshold value of 0.85 constructs (see Table 8).

5.1.1.3 Handling internal consistency reliability and convergent validity issues

As aforementioned, indicators with loading scores below 0.4 should be removed straightaway, whereas for indicators with scores falling between 0.4 and 0.7 a new assessment of the model must be performed without the referred indicators before any conclusion can be drawn. Being so, the lowest loading score (PI_GP1: 0.563) was removed from the analysis and the results were reassessed.

The outcome was not desirable. With the removal of PI_GP1, both the Cronbach's alpha and the Rho A decreased below the threshold value (α: 0.541; ρ: 0.562). Also, the loading scores for PI_GP2 and PI_GP3 decreased, and to a level where loadings are below 0.708 (see Table 9). Therefore, the results are proven unsatisfactory and the decision to eliminate PI_GP1 from the model is rejected. Removing PI_GP2 for further analysis is not deemed an option, since this would turn PI_GP into a single-item construct and cause greater issues to the reliability of the whole model. Note that a Cronbach's alpha of 0.685 (i.e., PI_GP before removal) is not of big concern because it is within the range accepted by exploratory research (> 0.6) and all the remaining metrics fulfil their criteria.

	Items	Loadings	P-Values	AVE	CR	Rho A	C. Alpha
Before	PI_GP1	0.563	< 0.001	0.614	0.827	0.701	0.685
	PI_GP2	0.601					
	PI_GP3	0.771					
After	PI_GP2	0.537	< 0.001	0.685	0.813	0.562	0.541
	PI_GP3	0.689					

Table 9 – Internal Consistency and Convergent Validity before and after removal of PI_GP1

In conclusion, the initial outer model shows satisfactory results (especially considering the small number of items for each construct) and will thus be kept as initially proposed.

5.1.2 Evaluation of the Inner Model

5.1.2.1 Criteria for Inner Model Evaluation

Given that the outer model evaluation presented proof of reliability and validity, an examination of the inner model estimates is appropriate and expected (Hair et al., 2012), which entails exploring the model's predictive capabilities and the relationships between the latent variables (Hair et al., 2017).

The inner model will be evaluated following five steps: 1) collinearity assessment, 2) path coefficients, 3) coefficient of determination, 4) effect size, and 5) predictive relevance (Hair et al., 2017).

For the computation of the path coefficients, the researcher must establish that collinearity issues do not bias the regression results (Sarstedt et al., 2017). Therefore, WarpPLS provides full collinearity variance inflation factors (VIFs), which allow for an assessment of multicollinearity (Kock, 2020). Contrary to Hair et al. (2017), who introduce a measurement for lateral collinearity—the inner VIFs—in the context of SmartPLS, the inventor of WarpPLS, Kock (2020, p.131), suggests that *"lateral collinearity can lead to particularly misleading results"* and therefore does not provide this analysis on its own but rather in tandem with vertical collinearity. Full collinearity tests involve constructs in a model, whereas vertical collinearity focuses on sets of predictor variables (Kock, 2020). It is recommended that full collinearity VIF is equal to or lower than 3.3, but a more relaxed criterion accepts the index to be equal or lower than 5, especially for models with single-item constructs (Kock, 2020). Meeting this criterion would imply no multicollinearity nor common method bias issues (Kock, 2015, 2020).

For the second step, the PLS Regression algorithm estimates the path coefficients based on standardised values (between -1 and 1). The path coefficients represent the relationships between latent variables that have been hypothesised based on the literature review and the closer to 1, the stronger are the relationships (Hair et al., 2017). Additionally, it is recommended to use empirical t-values and p-values to look for statistical significance (Hair et al., 2017). In this study, a significance level of 5% will be assumed, hence the critical t-value is 1.96 for a two-tailed test. On a last note, path coefficients greater than others indicate a higher effect on the endogenous construct (Hair et al., 2017).

In a third phase, the predictive power of the model is calculated and determined by the coefficient of determination, or R^2 (Hair et al., 2017) This is the primary measure for inner model evaluation and represents the squared correlation of actual and predicted values (Hair et al., 2012; Lewis-Beck et al., 2004). In regard to threshold values, it highly depends on the model complexity and the research discipline. On the one hand, an accepted rule of thumb is that an R^2 value of 0.25 is considered weak, 0.50 moderate, and 0.75 substantial (Hair et al., 2017; Sarstedt et al., 2017). On the other hand, Chin (1998) sets the threshold as 0.19, 0.33, and 0.67, respectively.

Besides the R^2, one can measure whether a specific exogenous latent variable has a significant impact on the endogenous latent variables (Hair et al., 2017). In other words, one can measure the effect size (f^2), which is calculated in WarpPLS 7.0 as *"the absolute values of the individual contributions of the corresponding predictor latent variables to the R-squared coefficients of the criterion latent variable*

in each latent variable block" (Kock, 2020). Effect sizes can thus provide information on whether the effects revealed by path coefficients are small (0.02), medium (0.15), or large (0.35) (Kock, 2020; Sarstedt et al., 2017). When a sample is large, the values may fall below 0.02, implying that the effects, although statistically significant, are too weak to be regarded as relevant from a practical perspective (Hair et al., 2017; Kock, 2020).

Finally, the last step entails assessing the model's predictive relevance, or Q^2, which is measured using the blindfolding resampling method (Hair et al., 2017; Kock, 2020). Typically, Q^2 values above zero suggest predictive accuracy for the construct (Henseler, Ringle, & Sinkovics, 2009; Kock, 2020; Sarstedt et al., 2017).

5.1.2.2 Inner Model Evaluation

Looking at Table 10 it can be concluded that there are no multicollinearity issues between variables and thus also no common method bias (VIF<3.3). Additionally, Table 11 shows the collinearity between sets of predictor variables, i.e., PQ_ETH and PQ_PAP as predictors of PI_GP and PQ_PL, PQ_ETH, PQ_PAP, and PI_GP as predictors of CH_GPL, is not a concern either (VIF<3.3).

	PQ_PL	PQ_ETH	PQ_PAP	PI_GP	CH_GPL
VIF	1.117	1.439	1.483	1.228	1.030

Table 10 – Full Collinearity VIF

	PQ_PL	PQ_ETH	PQ_PAP	PI_GP	CH_GPL
PI_GP		1.409	1.409		
CH_GPL	1.103	1.435	1.483	1.219	

Table 11 – Vertical Collinearity VIF (block variance inflation factors)

	Path Coefficients	f^2	P-Values[a]	T-Values[b]
PQ_ETH -> PI_GP	0.197	0.066	< 0.001	14.812
PQ_PAP -> PI_GP	0.255	0.092	< 0.001	19.708
PI_GP -> CH_GPL	0.091	0.011	< 0.001	7.025
PQ_ETH -> CH_GPL	0.066	0.005	< 0.001	4.966
PQ_PAP -> CH_GPL	0.006	0.000	0.341	0.410
PQ_PL -> CH_GPL	0.119	0.013	< 0.001	8.273

a. $p < 0.05$; b. $T > 1.96$ (Hair, Hult, Ringle, & Sarstedt, 2017)

Table 12 – Path Coefficients Analysis

Consequently, it becomes relevant to look at the path coefficients between constructs and assess the strength, direction, effect size, and statistical significance of these relationships (see Table 12). The results show that all relationships are statistically significant with the sole exception of PQ_PAP→CH_GPL (p>0.05; t<1.96). Incidentally, all relationships are positive, meaning that e.g., higher PQ_ETH is related to higher PI_GP. Note that several of the effect sizes (f^2) of the path coefficients are below 0.02, namely for PQ_ETH→CH_GPL (0.005), PQ_PL→CH_GPL (0.013), and PI_GP→CH_GPL (0.011). As formerly discussed, this implies that the effects on CH_GPL may be too weak from a practical perspective. Nevertheless, the path coefficients are significant and therefore the hypotheses are not rejected.

Finally, the model's predictive power and relevance are investigated. The results in Table 13 show that the model can predict PI_GP (R^2: 0.158; p<0.001) and CH_GPL (R^2: 0.029; p<0.001) but at a weak level. Nonetheless, the positive values of Q^2 suggest predictive accuracy for both constructs.

	R^2	P-value	Q^2
PI_GP	0.158	< 0.001	0.160
CH_GPL	0.029	< 0.001	0.033

Table 13 – Predictive Power and Relevance

Having concluded the outer and inner model analysis, the final model is presented below (Figure 7) and displays the outer loadings and the path coefficients.

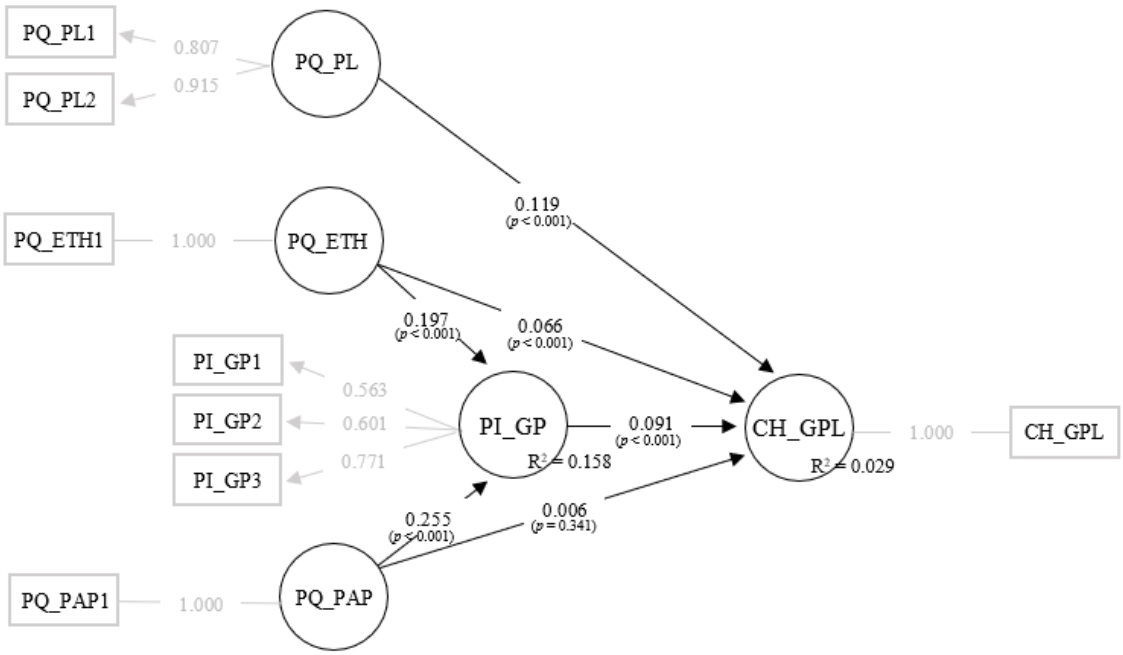

Figure 7 – Final outer and inner models

5.2 Hypotheses Testing (H1-H6)

Although the results from the inner model evaluation would have been sufficient to test the first six hypotheses, additional runs of the SEM analysis were performed in order to assure that the choice of the resampling algorithm was the most suitable. Among the most recommended algorithm settings (Stable3, Bootstrapping, Jackknifing, and Blindfolding), no major changes occurred and therefore Stable3 was selected for being traditionally the most accurate one (Kock, 2020).

Based on these results, the hypotheses H1-H6 were tested (see Table 14).

Hypothesis	Relationship	Path Coefficient	P-Value	Decision
H1: Perceived quality from ethical labels will be positively related to purchase intention of green products.	PQ_ETH → PI_GP	0.197	< 0.001	Supported
H2: Perceived quality from paper packaging will be positively related to purchase intention of green products.	PQ_PAP → PI_GP	0.255	< 0.001	Supported
H3: Purchase intention of green products will be positively related to choice of green private labels.	PI_GP → CH_GPL	0.091	< 0.001	Supported
H4: Perceived quality from ethical labels will be positively related to choice of green private labels.	PQ_ETH → CH_GPL	0.066	< 0.001	Supported
H5: Perceived quality from paper packaging will be positively related to choice of green private labels.	PQ_PAP → CH_GPL	0.006	0.341	Rejected
H6: Perceived quality of private labels will be positively related to choice of green private labels.	PQ_PL → CH_GPL	0.119	< 0.001	Supported

Table 14 – Hypotheses testing (H1 – H6)

H1. Perceived quality from ethical labels will be positively related to purchase intention of green products.

The path coefficient between perceived quality from ethical labels and purchase intention of green products is positive and significant (0.197; p<0.001). Therefore, H1 is supported.

H2. Perceived quality from paper packaging will be positively related to purchase intention of green products.

The path coefficient between perceived quality from paper packaging and purchase intention of green products is positive and significant (0.255; p<0.001). Therefore, H2 is supported.

H3. Purchase intention of green products will be positively related to choice of green private labels.

The path coefficient between purchase intention of green products and choice of green private labels is positive and significant (0.091; p<0.001). Therefore, H3 is supported.

H4. Perceived quality from ethical labels will be positively related to choice of green private labels.

The path coefficient between perceived quality from ethical labels and choice of green private labels is positive and significant (0.066; p<0.001). Therefore, H4 is supported.

H5. Perceived quality from paper packaging will be positively related to choice of green private labels.

The path coefficient between perceived quality from paper packaging and choice of green private labels is positive but insignificant (0.066; $p>0.05$). Therefore, H5 is rejected.

H6. Perceived quality of private labels will be positively related to choice of green private labels.

The path coefficient between perceived quality of private labels and choice of green private labels is positive and significant (0.119; $p<0.001$). Therefore, H6 is supported.

5.3 Average Scores for all Constructs

	WHOLE SAMPLE		
	Lowest	Highest	Average
PQ_ETH	0	10	5.08
PQ_PAP	0	10	4.12
PQ_PL	0	10	6.57
PQ_PL1	0	10	6.80
PQ_PL2	0	10	6.33
PI_GP	0	4	1.86
PI_GP1	0	4	1.73
PI_GP2	0	4	2.14
PI_GP3	0	4	1.72

Table 15 – Average scores of respondents' answers

On the left (Table 15) the average score for each construct is presented, giving a sense of which end of the scales the respondents' answers are in. This analysis is relevant for understanding respondents' opinions on perceived quality and their purchase intentions.

5.4 Hypotheses Testing (H7-H12)

As mentioned in the Survey Design section, one of five surveys was randomly assigned to each respondent. Therefore, this study counts with five distinct groups, each primed differently. Groups A to D were presented with a non-social context (i.e., they were asked to buy for themselves) whereas group E was primed with a social context where they were asked to buy for a group. The latter used Irma products placed on the left of the branded. Groups A and B were primed with private labels from a low-end supermarket (Lidl) and Groups C and D were primed with private labels from a high-end supermarket (Irma). Additionally, groups A and C were designed with the private labels placed on

the left, while groups B and D had the private labels placed on the right of the branded options. Cf. Table 1 in Survey Design for a clear overview.

5.4.1 Multi-Group Analysis

For a preliminary assessment of the influence of placement, supermarket, and context, a multi-group analysis was conducted in WarpPLS 7.0 using the constrained latent growth analysis method. The goal of a multi-group analysis is to compare the path coefficients for the same model but based on different samples (Kock, 2014a, 2020). The constrained latent growth method has been argued to be the most comprehensive choice (Kock, 2014a).

As illustrated in Table 2, each variable has two groups. For the variable supermarket (SUP), a multi-group analysis is carried out to see if there are significant differences between low-end and high-end. Therefore, groups A and B (N=2856, 119 respondents) are contrasted against groups C and D (N=2472, 103 respondents). Similarly, for the variable placement (PLAC), groups A and C (N=2520, 105 respondents) are compared to groups B and D (N=2808, 117 respondents) to assess the differences between left and right, respectively. Finally, for the variable context (CONT), group C (N=1176, 49 respondents) is run against group E (N=1104, 46 respondents), which allows for a comparison between non-social and social behaviour.

The analysis for SUP revealed that there are statistically significant differences between low- and high-end for the relationships PQ_ETH→PI_GP (-0.048; p<0.001), PQ_ETH→CH_GPL (-0.175; p<0.001), PQ_PAP→PI_GP (-0.119; p<0.001), and PQ_PAP→CH_GPL (0.045; p<0.05). All differences in the path coefficients are negative, except for the latter, meaning that in general, the relationships between variables are stronger for high-end supermarkets. No statistically significant differences were found in the path coefficients for the relationships PQ_PL→CH_GPL and PI_GP→CH_GPL.

When analysing PLAC, the same relationships as above show statistically significant differences (p<0.05) between left and right. Specifically, for PQ_ETH→PI_GP and PQ_PAP→CH_GPL the differences are positive (0.197 and 0.153, respectively), meaning that the relationships between these variables are stronger for left placement. On the contrary, the difference is negative for PQ_ETH→CH_GPL (-0.156) and PQ_PAP→PI_GP (-0.126), meaning that in these cases the relationships are stronger for placement on the right. The differences for PQ_PL→CH_GPL and PI_GP→CH_GPL are not statistically significant (p>0.05).

Finally, the difference in path coefficients for the two groups of CONT (non-social vs. social) is statistically significant for all relationships, except for PQ_PL→CH_GPL (p>0.05). Specifically, the differences for PQ_ETH→PI_GP (0.257, p<0.001), PQ_ETH→CH_GPL (0.240, p<0.001), PQ_PAP→PI_GP (0.067, p<0.001), and PQ_PAP→CH_GPL (0.044, p<0.001) are positive and significant, meaning that the relationships are stronger for non-social contexts. On the other hand, the difference in the relationship PI_GP→CH_GPL is for the first time significant (p<0.01) but negative (-0.228). Therefore, the relationship between purchase intention and choice is stronger for social contexts. Lastly, the difference in the relationship PQ_PL→CH_GPL remains statistically insignificant (p>0.05). The results are illustrated in Table 16.

Relationship	Placement (left – right)		Supermarket (low-end – high-end)		Context (non-social – social)	
	Coefficient difference	P-value	Coefficient difference	P-value	Coefficient difference	P-value
PQ_ETH → PI_GP	0.197	0.002	-0.048	< 0.001	0.257	< 0.001
PQ_PAP → PI_GP	-0.126	0.016	-0.119	< 0.001	0.067	< 0.001
PI_GP → CH_GPL	-0.009	0.905	0.047	0.211	-0.228	0.001
PQ_ETH → CH_GPL	-0.156	0.005	-0.175	< 0.001	0.240	< 0.001
PQ_PAP → CH_GPL	0.153	0.002	0.045	0.019	0.044	< 0.001
PQ_PL → CH_GPL	-0.030	0.138	0.005	0.407	0.043	0.085

Table 16 – Summary of the Multi-Group Analysis for SUP, PLAC, and CONT

In sum, the relationship between PQ_PL and CH_GPL is not affected by any of the active variables. Similarly, only CONT influences the relationship between PI_GP and CH_GPL. According to the results, this relationship is stronger for social contexts.

Regarding the remaining relationships, all show statistically significant differences between the various groups. Incidentally, the relationships PQ_ETH→PI_GP and PQ_PAP→PI_GP show similar outcomes under the different scenarios. Both relationships are stronger for high-end supermarkets, placement on the right, and non-social contexts. The relationship between PQ_ETH and PI_GP is also stronger for high-end supermarkets and non-social contexts, but weaker for placement on the right. Lastly, the relationship PQ_PAP→CH_GPL is stronger for low-end supermarkets, placement on the left, and non-social contexts.

5.4.2 Mann-Whitney U and Pearson's Chi-Square

As discussed, the non-parametric tests Mann Whitney U and Pearson's Chi-Square are used to testing H7-H12. The focus was previously on the relationships between constructs; this part of the analysis will thus zone in on the differences between the groups (i.e., low- and high-end supermarkets, left and right placement, and social and non-social contexts) for specific constructs. The assumptions for each method were carefully confirmed beforehand and the tests were performed in SPSS 26.

The analysis was conducted for the same groups as described in the multi-group analysis, i.e., SUP: A+B vs C+D; PLAC: A+C vs B+D; and CONT: C vs E. Tables 17 and 18 show the ranks and test statistics for PQ_PL and PI_GP, respectively. On the other hand, Table 19 shows the Crosstabulation and the Pearson Chi-Square for CH_GPL.

Ranks

		PLAC				SUP		
		N	Mean Rank	Sum of Ranks		N	Mean Rank	Sum of Ranks
PQ_PL	Left	2520	2676.96	6745932.00	Low-end	2856	2521.00	7199988.00
	Right	2808	2653.32	7450524.00	High-end	2472	2830.29	6996468.00
	Total	5328			Total	5328		

Test Statistics

	PQ_PL[a]	PQ_PL[a]
Mann-Whitney U	3506688.000	3120192.000
Wilcoxon W	7450524.000	7199988.000
Z	-0.562	-7.346
Asymp. Sig. (2-tailed)	0.574	0.000

a. Grouping Variable: Placement

a. Grouping Variable: Supermarket

Table 17 – Mann-Whitney U Test: Ranks and Tests Statistics for PQ_PL

Ranks

		CONT		
		N	Mean Rank	Sum of Ranks
PI_GP	Non-social	1176	1203.68	1415532.00
	Social	1104	1073.20	1184808.00
	Total	2280		

Test Statistics

	PI_GP[a]
Mann-Whitney U	574848.000
Wilcoxon W	1184808.000
Z	-4.768
Asymp. Sig. (2-tailed)	0.000

a. Grouping Variable: Context

Table 18 – Mann-Whitney U Test: Ranks and Tests Statistics for PI_GP

Crosstabulation

			PLAC			SUP			CONT		
			Left	Right	Total	Low-end	High-end	Total	Non-social	Social	Total
CH_GPL	No	Count	1458	1616	3074	1695	1379	3074	637	666	1303
		Expected Count	1453.9	1620.1	3074.0	1647.8	1426.2	3074.0	672.1	630.9	1303.0
	Yes	Count	1062	1192	2254	1161	1093	2254	539	438	977
		Expected Count	1066.1	1187.9	2254.0	1208.2	1045.8	2254.0	503.9	473.1	977.0
Total		Count	2520	2808	5328	2856	2472	5328	1176	1104	2280
		Expected Count	2520.0	2808.0	5328.0	2856.0	2472.0	5328.0	1176.0	1104.0	2280.0

Chi-Square Tests

	PLAC			SUP			CONT		
	Value	df	Asymp. Sig. (2-tailed)	Value	df	Asymp. Sig. (2-tailed)	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	0.051[a]	1	0.821	6.896[a]	1	0.009	8.822[a]	1	0.003

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1066.08

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1045.77

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 473.07

Table 19 – Chi-Square Test: Crosstabulation and Pearson Chi-Square for

The interpretation of the output of a Mann-Whitney U Test is fairly simple. The Ranks table shows which group has the highest PQ_PL, i.e., the group with the highest mean rank, and the Test Statistics table indicates if the results are statistically significant (p<0.05).

On the other hand, the interpretation of a Chi-Square analysis requires further attention. The Crosstabulation provides information about (actual) counts and expected counts. The expected count is the predicted frequency of a cell under the assumption that CH_GPL is not influenced by PLAC, SUP, or CONT. Therefore, Pearson's Chi-Square tests the difference between the expected and the actual count. The Chi-Square Tests table indicates if this difference is statistically significant (p<0.05) to conclude that the variables are not independent of each other. Table 20 summarises the outcomes of the hypotheses testing.

Hypothesis	P-Value	Outcome	Decision
H7: PQ_PL will be higher when private labels are placed on the right than on the left.	0.574	Left > Right	Rejected
H8: CH_GPL will be higher when private labels are placed on the right of branded products and lower when placed on the left.	0.821	Right: A > E Left: A < E	Rejected
H9: PQ_PL will be higher for high-end supermarkets than low-end supermarkets.	< 0.001	High-end > Low-end	Supported
H10: CH_GPL will be higher for high-end supermarkets and lower for low-end supermarkets.	< 0.01	High-end: A > E Low-end: A < E	Supported
H11: PI_GP will be higher in social contexts than in non-social contexts.	< 0.001	Non-social > Social	Rejected
H12: CH_GPL will be higher in social contexts and lower in non-social contexts.	< 0.01	Social: A < E Non-social: A > E	Rejected

A = Actual count; E = Expected count

Table 20 – Hypotheses testing (H7 – H12)

H7. PQ_PL will be higher when private labels are placed on the right of branded products than on the left.

The mean rank of perceived quality of private labels is not significantly different between right and left placement (left>right, p>0.05). Therefore, H7 is rejected.

H8. CH_GPL will be higher when private labels are placed on the right of branded products and lower when placed on the left.

The actual and expected counts of choice of green private labels are not significantly different for right and left placement (right: actual>expected count; left: actual<expected count; p>0.05). Therefore, H8 is rejected.

H9. PQ_PL will be higher for high-end supermarkets than low-end supermarkets.

The mean rank of perceived quality of private labels is significantly higher for the high-end supermarket than the low-end supermarket (high-end>low-end, $p<0.001$). Therefore, H9 is accepted.

H10. CH_GPL will be higher for high-end and lower for low-end supermarkets.

The actual count of choice of green private labels is significantly higher than expected for the high-end supermarket (high-end: actual>expected count; $p<0.01$). Similarly, it is significantly lower for the low-end supermarket (low-end: actual<expected count; $p<0.01$). Therefore, H10 is accepted.

H11. PI_GP will be higher in social contexts than in non-social contexts.

The mean rank of purchase intention of green products is significantly higher for the non-social context than the social context (non-social>social, $p<0.001$). It was postulated that it would be higher in social contexts. Therefore, H12 is rejected.

H12. CH_GPL will be higher in social contexts and lower in non-social contexts.

The actual count of choice of green private labels is significantly higher than expected for the non-social context and significantly lower than expected for the social context (non-social: actual>expected count; social: actual<expected count; $p<0.01$). It was expected that it would be higher in social contexts. Therefore, H13 is rejected.

In conclusion, H7 and H8 are rejected because the difference between the two groups is not statistically significant; H11 and H12 are rejected because, although statistically significant, the difference in the groups is the opposite of what was predicted; and H9 and H10 are supported because the groups are statistically significant and differ in the way it was predicted.

Therefore, it has been established that SUP and CONT influence the proposed variables. PLAC, on the other hand, seems to not affect PQ_PL nor CH_GPL. However, after looking at the results, it is suspected that high- and low-end may be influencing the real effect of PLAC only when comparing the groups: A+C vs B+D. In other words, A and C (and B and D) have the same PLAC but differ in SUP. Thus, the non-parametric tests are re-run with SUP held constant. This means that two scenarios are executed: 1. the influence of PLAC when SUP=low-end supermarket (A vs B) and 2. the influence

of PLAC when SUP=high-end supermarket (C vs D). The non-social context is static in both scenarios. Please refer to Table 21 for a better understanding.

Variable	General Analysis (hypothesis testing H7-H12)	Scenario 1	Scenario 2
SUP	SUP: low-end vs high-end (A+B vs C+D)	SUP1: low-end vs high-end, **when PLAC=right** (B vs D)	SUP2: low-end vs high-end, **when PLAC=left** (A vs C)
PLAC	PLAC: left vs right (A+C vs B+D)	PLAC1: left vs right, **when SUP=low-end** (A vs B)	PLAC2: left vs right, **when SUP=high-end** (C vs D)
CONT	CONT: non-social vs social (C vs E)		

Table 21 – Overview of the extended analysis

Tables 22 and 23 below show the results for PQ_PL and CH_GPL, respectively. In line with the previous results, the effect of placement on choice is not statistically significant (p>0.05) in either of the scenarios. However, the new results for perceived quality of private labels reveal interesting outcomes. For low-end supermarkets, the mean rank of perceived quality of private labels is significantly higher when placement is on the right (right>left, p<0.001). Inversely, for high-end supermarkets, the mean rank of perceived quality of private labels is significantly higher when placement is on the left (left>right, p<0.001).

Ranks

		PLAC1 [SUP=low-end] N	PLAC1 [SUP=low-end] Mean Rank	PLAC1 [SUP=low-end] Sum of Ranks	PLAC2 [SUP=high-end] N	PLAC2 [SUP=high-end] Mean Rank	PLAC2 [SUP=high-end] Sum of Ranks
PQ_PL	Left	1344	1370.86	1842432.00	1176	1311.68	1542540.00
	Right	1512	1479.74	2237364.00	1296	1168.28	1514088.00
	Total	2856			2472		

Test Statistics

	PQ_PL[a]	PQ_PL[a]
Mann-Whitney U	938592.000	673632.000
Wilcoxon W	1842432.000	1514088.000
Z	-3.536	-5.011
Asymp. Sig. (2-tailed)	0.000	0.000

a. Grouping Variable: PLAC when SUP=low-end

a. Grouping Variable: PLAC when SUP=hizh-end

Table 22 – Mann-Whitney U Test: PLAC1 and PLAC2

Crosstabulation

			PLAC1 [SUP=low-end] Left	PLAC1 [SUP=low-end] Right	PLAC1 [SUP=low-end] Total	PLAC2 [SUP=high-end] Left	PLAC2 [SUP=high-end] Right	PLAC2 [SUP=high-end] Total
CH_GPL	No	Count	821	874	1695	637	742	1379
		Expected Count	797.6	897.4	1695.0	656.0	723.0	1379.0
	Yes	Count	523	638	1161	539	554	1093
		Expected Count	546.4	614.6	1161.0	520.0	573.0	1093.0
Total		Count	1344	1512	2856	1176	1296	2472
		Expected Count	1344.0	1512.0	2856.0	1176.0	1296.0	2472.0

Chi-Square Tests

	PLAC1 [SUP=low-end] Value	PLAC1 [SUP=low-end] df	PLAC1 [SUP=low-end] Asymp. Sig. (2-tailed)	PLAC2 [SUP=high-end] Value	PLAC2 [SUP=high-end] df	PLAC2 [SUP=high-end] Asymp. Sig. (2-tailed)
Pearson Chi-Square	3.177[a]	1	0.075	2.381[a]	1	0.123

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 546.35

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 519.97

Table 23 – Chi-Square Test: PLAC1 and PLAC2

The same analysis was conducted for SUP1 and SUP2 and the results can be found in Appendix F. SUP1 refers to the comparison of low-end and high-end when placement is on the right (B vs D) and SUP2 refers to the same comparison but when placement is on the left (A vs C). It was found that the results of SUP on PQ_PL and CH_GPL are not statistically significant (p>0.05) when placement is

on the right, but they are significant (p<0.001) when the placement is on the left. Additionally, the findings are in line with the main analysis (A+B vs C+D). Therefore, high-end supermarkets lead to higher PQ_PL and CH_GPL than low-end, when PLs are placed on the left.

To summarise, the following results were found:

1. **Placement on PQ_PL.** Not significant, p>0.05.
    1.1. For low-end supermarkets, placement on the right leads to higher PQ_PL than on the left (significant, p<0.01).
    1.2. For high-end supermarkets, placement on the left leads to higher PQ_PL than on the right (significant, p<0.01).
2. **Placement on CH_GPL.** Not significant, p>0.05.
    2.1. For low-end supermarkets, not significant, p>0.05.
    2.2. For high-end supermarkets, not significant, p>0.05.
3. **Supermarket on PQ_PL.** High-end supermarkets lead to higher PQ_PL than low-end (significant, p<0.001).
    3.1. For placement on the right, not significant, p>0.05.
    3.2. For placement on the left, high-end supermarkets lead to higher PQ_PL than low-end (significant, p<0.01).
4. **Supermarket on CH_GPL.** High-end supermarkets lead to higher CH_GPL than low-end (significant, p<0.01).
    4.1. For placement on the right, not significant, p>0.05.
    4.2. For placement on the left, high-end supermarkets lead to higher CH_GPL than low-end (significant, p<0.01).
5. **Context on PI_GP.** Non-social context leads to higher PI_GP than social (significant, p<0.001).
6. **Context on CH_GPL.** Non-social context leads to higher CH_GPL than social (significant, p<0.01).

5.5 Average Scores under the influence of Placement, Supermarket, and Context

	Lowest value	Highest value	Average RIGHT	Average LEFT	Average HIGH-END	Average LOW-END
PQ_PL	0	10	6.49	6.45	6.71	6.26
PQ_PL1	0	10	6.74	6.76	6.93	6.60
PQ_PL2	0	10	6.23	6.14	6.50	5.92

Table 24 – Average scores for PQ_PL under the influence of Placement and Supermarket

	Lowest value	Highest value	Average SOCIAL	Average NON-SOCIAL
PI_GP	0	4	1.72	1.89
PI_GP1	0	4	1.52	1.76
PI_GP2	0	4	1.98	2.16
PI_GP3	0	4	1.65	1.76

Table 25 – Average score for PI_GP under the influence of Context

Above (Tables 24 and 25), the differences in the average scores between settings are presented, giving a sense of which end of the scales the respondents' answers are in. This analysis is relevant for understanding respondents' opinions on perceived quality (Table 24) and their purchase intentions (Table 25), and how these differ across the settings.

5.6 Sub-group Results

5.6.1 Nationality

The respondents were divided into sub-groups based on their nationality. Specifically, two groups of interest were created: Danes (50 respondents, N=1200) and non-Danes (218 respondents, N=5232). Nationality (NAT) is interesting to analyse; first, because Denmark is among the earliest countries to have promoted organic products (Santander Trade Markets, 2021) and second because this study has been conducted in the Danish context, i.e., only respondents living in Denmark were accepted and the selected private labels are from popular supermarket chains in Denmark—Irma and Lidl.

The path coefficients for each individual group were assessed (Table 26). Even though PQ_PAP→CH_GPL was positive and not statistically significant for the whole sample (0.006, p>0.05), it was found that for the sub-sample consisting of Danish respondents, this relationship is negative and statistically significant (-0.066, p<0.05). In Addition, PQ_ETH→CH_GPL is no longer statistically significant (p>0.05), and PQ_ETH→PI_GP is negative (-0.259, p<0.001), which

Danish			Non-Danish		
Relationship	**Path Coefficients**	**P-Values[a]**	**Relationship**	**Path Coefficients**	**P-Values[a]**
PQ_ETH -> PI_GP	-0.259	< 0.001	PQ_ETH -> PI_GP	0.223	< 0.001
PQ_PAP -> PI_GP	0.168	< 0.001	PQ_PAP -> PI_GP	0.272	< 0.001
PI_GP -> CH_GPL	0.104	< 0.001	PI_GP -> CH_GPL	0.092	< 0.001
PQ_ETH -> CH_GPL	0.003	0.454	PQ_ETH -> CH_GPL	0.075	< 0.001
PQ_PAP -> CH_GPL	-0.066	0.011	PQ_PAP -> CH_GPL	0.022	0.059
PQ_PL -> CH_GPL	0.159	< 0.001	PQ_PL -> CH_GPL	0.108	< 0.001

Table 26 – Path coefficients and p-values for subgroups: Danes and non-Danes

contradicts the initial results for the whole sample. On the other hand, the results for the non-danish subgroup are in line with the general ones.

Relationship	Path Coefficients (non-Danish – Danish)	P-Values[a]
PQ_ETH -> PI_GP	0.482	< 0.001
PQ_PAP -> PI_GP	0.104	< 0.001
PI_GP -> CH_GPL	-0.012	0.116
PQ_ETH -> CH_GPL	0.072	< 0.001
PQ_PAP -> CH_GPL	0.088	< 0.001
PQ_PL -> CH_GPL	-0.051	< 0.001

Table 27 – Multi-group analysis for Nationality

Moreover, differences were found between the two sub-groups (see Table 27). In fact, a multi-group analysis revealed that all relationships in the model except for PI_GP→CH_GPL (p>0.05) show a statistically significant difference when comparing Danes with non-Danes.

A Mann-Whitney U Test (Table 28) was carried out to compare the two subgroups based on their construct scores (PQ_ETH, PQ_PAP, PI_GP, PQ_PL). The comparison showed no significant difference for PQ_PAP nor PQ_PL (p>0.05). However, the results reveal statistically significant differences between Danes and non-Danes for PQ_ETH and PI_GP. Specifically, PQ_ETH seems to be higher for Danes (Danes>non-Danes, p<0.001) but PI_GP is indicated to be higher for non-Danes (non-Danes>Danes, p<0.001).

Ranks

	NAT	N	Mean Rank	Sum of Ranks
PQ_ETH	Non-Danish	5232	3157.38	16519416.00
	Danish	1200	3474.26	4169112.00
	Total	6432		
PQ_PAP	Non-Danish	5232	3200.54	16745208.00
	Danish	1200	3286.10	3943320.00
	Total	6432		
PI_GP	Non-Danish	5232	3289.11	17208600.00
	Danish	1200	2899.94	3479928.00
	Total	6432		
PQ_PL	Non-Danish	5232	3233.18	16915992.00
	Danish	1200	3143.78	3772536.00
	Total	6432		

Test Statistics

	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	2829888.000	3055680.000	2759328.000	3051936.000
Wilcoxon W	16519416.00	16745208.00	3479928.000	3772536.000
Z	-6.588	-1.477	-6.588	-1.509
Asymp. Sig. (2-tailed)	0.000	0.140	0.000	0.131

a. Grouping Variable: NAT

Table 28 – Mann-Whitney U Test on all constructs except CH_GPL (nominal variable)

Crosstabulation

			NAT		
			Non-Danish	Danish	Total
CH_GPL	No	Count	3141	599	3740
		Expected Count	3042.2	697.8	3740.0
	Yes	Count	2091	601	2692
		Expected Count	2189.8	502.2	2692.0
Total		Count	5232	1200	6432
		Expected Count	5232.0	1200.0	6432.0

Chi-Square Tests

	NAT		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	41.060[a]	1	0.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 502.24

Table 29 – Pearson's Chi-Square Test on CH_GPL

Thereafter, a Pearson's Chi-Square analysis was run to compare CH_GPL between Danes and non-Danes based on actual and expected counts. The results in Table 29 suggest that CH_GPL is greater than expected for Danes and consequently lower than expected for non-Danes (Danish: actual>expected count, p<0.001).

Regarding the effect of the active variables (PLAC, SUP, and CONT) on the constructs for Danes, this analysis cannot be carried out in this study due to the low number of respondents (see Appendix G). In other words, the number of Danes in each survey group (A, B, C, D, and E) is below 30 and thus not sufficient to make comparisons (Hair et al., 2017).

5.6.2 Income

Additionally, the respondents were divided into three sub-groups according to their income level. Income has been argued to play a significant role in purchase decisions (Akbay & Jones, 2005), making this an interesting analysis to conduct.

The respondents were asked about their income level (INC) in the survey and given five options: (A) < 10.000 DKK, (B) 10.000 – 24.999 DKK, (C) 25.000 – 34.999 DKK, (D) 35.000–45.000 DKK, and (E) >45.000 DKK. Overall, most respondents answered 10.000– 24.999 (90 respondents), 58 respondents replied <10.000, and 51 responded >45.000. Only 38 and 31 respondents replied 25.000–34.999 and 35.000–44.999, respectively (see Appendix H). According to Hair et al. (2017), the number of respondents for the last two groups may be too low to allow for a valid comparison. Therefore, the five groups were grouped into three new groups: (1) low income (<10.000–24.999, 148 respondents, N=3552), (2) medium income (25.000–44.999, 69 respondents, N=1656), and (3) high income (>45.000, 51 respondents, N=1224).

The same process as for Nationality was applied, meaning that the path coefficients for each individual group were assessed first (Table 30).

Low income		
Relationship	Path Coefficients	P-Values[a]
PQ_ETH -> PI_GP	0.214	< 0.001
PQ_PAP -> PI_GP	0.286	< 0.001
PI_GP -> CH_GPL	0.068	< 0.001
PQ_ETH -> CH_GPL	0.114	< 0.001
PQ_PAP -> CH_GPL	0.034	0.020
PQ_PL -> CH_GPL	0.140	< 0.001

Medium income		
Relationship	Path Coefficients	P-Values[a]
PQ_ETH -> PI_GP	-0.266	< 0.001
PQ_PAP -> PI_GP	0.217	< 0.001
PI_GP -> CH_GPL	0.130	< 0.001
PQ_ETH -> CH_GPL	-0.193	< 0.001
PQ_PAP -> CH_GPL	0.019	0.217
PQ_PL -> CH_GPL	0.011	0.333

High income		
Relationship	Path Coefficients	P-Values[a]
PQ_ETH -> PI_GP	0.276	< 0.001
PQ_PAP -> PI_GP	0.176	< 0.001
PI_GP -> CH_GPL	0.035	0.107
PQ_ETH -> CH_GPL	0.228	< 0.001
PQ_PAP -> CH_GPL	-0.071	0.006
PQ_PL -> CH_GPL	0.148	< 0.001

Table 30 – Path coefficients and p-values for subgroups: low-income vs medium-income vs high-income

For the low-income group, all relationships are positive and statistically significant, including PQ_PAP→CH_GPL (0.034, p<0.05) which was not significant for the whole sample (0.006, p>0.05). This relationship is also significant but negative for the group with high income (-0.071, p<0.01). The

remaining links for high-income are positive and only PI_GP→CH_GPL is not statistically significant (0.035, p>0.05). Finally, regarding the medium-income group, PQ_PAP→CH_GPL and PQ_PL→CH_GPL are not significant (p>0.05). Moreover, the relationship of PQ_ETH with both PI_GP and CH_GPL is negative for this group only (-0.266 and -0.193, respectively).

Thereafter, a multi-group analysis (Table 31) revealed a statistically significant difference between the low-income and medium-income groups for all relationships in the model with the exception of PI_GP→CH_GPL and PQ_PL→CH_GPL (p>0.05). On the contrary, the analysis for the low and high-income groups showed only statistically significant differences for the PQ_ETH→PI_GP (p<0.001) and PQ_PAP→PI_GP (p<0.01). Lastly, when comparing the medium and high-income groups, the results indicated statistically significant differences (p<0.001) for PQ_ETH→PI_GP, PQ_ETH→CH_GPL, and PQ_PAP→CH_GPL. Therefore, differences were found between the three subgroups, although not for all relationships in the model.

Relationship	Path Coefficients (low – medium income)	P-Values[a]
PQ_ETH -> PI_GP	0.480	< 0.001
PQ_PAP -> PI_GP	0.069	< 0.001
PI_GP -> CH_GPL	-0.062	0.720
PQ_ETH -> CH_GPL	0.307	< 0.001
PQ_PAP -> CH_GPL	0.015	< 0.001
PQ_PL -> CH_GPL	0.129	0.055

Relationship	Path Coefficients (low – high income)	P-Values[a]
PQ_ETH -> PI_GP	-0.062	< 0.001
PQ_PAP -> PI_GP	0.110	0.004
PI_GP -> CH_GPL	0.033	0.143
PQ_ETH -> CH_GPL	-0.114	0.126
PQ_PAP -> CH_GPL	0.105	0.127
PQ_PL -> CH_GPL	-0.008	0.542

Relationship	Path Coefficients (medium – high income)	P-Values[a]
PQ_ETH -> PI_GP	-0.542	< 0.001
PQ_PAP -> PI_GP	0.041	0.695
PI_GP -> CH_GPL	0.095	0.229
PQ_ETH -> CH_GPL	-0.421	< 0.001
PQ_PAP -> CH_GPL	0.090	< 0.001
PQ_PL -> CH_GPL	-0.137	0.314

Table 31 – Multi-group analysis for Income (INC)

Additionally, a Mann-Whitney U Test (Table 32) was carried out to compare the three subgroups based on their construct scores (PQ_ETH, PQ_PAP, PI_GP, PQ_PL).

The first comparison (low vs medium income) indicated that all constructs except for PQ_PL (p>0.05) are significantly different between the two groups. Moreover, PQ_ETH and PI_GP are higher for low income (p<0.001 and p <0.05, respectively), but PQ_PAP is higher for medium-income (p<0.05).

Ranks

	INC	N	Mean Rank	Sum of Ranks
PQ_ETH	Low income	3552	2730.50	9698736.00
	Medium income	1656	2334.24	3865500.00
	Total	5208		
PQ_PAP	Low income	3552	2571.82	9135120.00
	Medium income	1656	2674.59	4429116.00
	Total	5208		
PI_GP	Low income	3552	2652.18	9420528.00
	Medium income	1656	2502.24	4143708.00
	Total	5208		
PQ_PL	Low income	3552	2615.12	9288912.00
	Medium income	1656	2581.72	4275324.00
	Total	5208		

Test Statistics

	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	2493504.000	3055680.000	2771712.000	2903328.000
Wilcoxon W	3865500.000	9135120.000	4143708.000	4275324.000
Z	-8.939	-2.365	-3.373	-0.749
Asymp. Sig. (2-tailed)	0.000	0.018	0.001	0.454

a. Grouping Variable: INC

Table 32 – Mann-Whitney U Test: low vs medium vs high income (continues next page)

The second group comparison (low vs high income) found statistically significant differences for all constructs (p<0.01). Specifically, it found that all constructs have higher scores for low income than for high income.

Finally, the third comparison (medium vs high income) showed for all constructs higher scores in the medium income group than in the high income. However, the mean difference for PQ_PL is not statistically significant (p>0.05).

In regard to CH_GPL, a Pearson's Chi-Square analysis was run to evaluate differences between groups and how likely it is that they were caused by chance. The results in Table 33 are statistically significant and suggest that CH_GPL is greater than expected for low income and lower than expected for both medium and high income (low income: actual>expected count, p<0.001).

Crosstabulation

			INC			
			Low income	Medium income	High income	Total
CH_GPL	No	Count	1997	988	755	3740
		Expected Count	2065.4	962.9	711.7	3740.0
	Yes	Count	1555	668	469	2692
		Expected Count	1486.6	693.1	512.3	2692.0
Total		Count	3552	1656	1224	6432
		Expected Count	3552.0	1656.0	1224.0	6432.0

Chi-Square Tests

	INC		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	13.259[a]	2	0.001

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 512.28

Table 33 – Pearson's Chi-Square Test: low-income vs medium-income vs high-income

Ranks

		INC		
		N	Mean Rank	Sum of Ranks
PQ_ETH	Low income	3552	2521.07	8954832.00
	High income	1224	2003.79	2452644.00
	Total	4776		
PQ_PAP	Low income	3552	2435.61	8651280.00
	High income	1224	2251.79	2756196.00
	Total	4776		
PI_GP	Low income	3552	2483.53	8821488.00
	High income	1224	2112.74	2585988.00
	Total	4776		
PQ_PL	Low income	3552	2428.55	8626224.00
	High income	1224	2272.26	2781252.00
	Total	4776		

Test Statistics

	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	1702944.000	2006496.000	1836288.000	2031552.000
Wilcoxon W	2452644.000	2756196.000	2585988.000	2781252.000
Z	-11.418	-4.119	-8.160	-3.432
Asymp. Sig. (2-tailed)	0.000	0.000	0.000	0.001

a. Grouping Variable: INC

Ranks

		INC		
		N	Mean Rank	Sum of Ranks
PQ_ETH	Medium income	1656	1486.76	2462076.00
	High income	1224	1377.91	1686564.00
	Total	2880		
PQ_PAP	Medium income	1656	1504.50	2491452.00
	High income	1224	1353.91	1657188.00
	Total	2880		
PI_GP	Medium income	1656	1514.76	2508444.00
	High income	1224	1340.03	1640196.00
	Total	2880		
PQ_PL	Medium income	1656	1464.85	2425788.00
	High income	1224	1407.56	1722852.00
	Total	2880		

Test Statistics

	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	936864.000	907488.000	890496.000	973152.000
Wilcoxon W	1686564.000	1657188.000	1640196.000	1722852.000
Z	-3.506	-4.924	-5.618	-1.836
Asymp. Sig. (2-tailed)	0.000	0.000	0.000	0.066

a. Grouping Variable: INC

(cont.) *Table 32 – Mann-Whitney U Test: low vs medium vs high income*

Thereafter, a subsample of low-income respondents (148 respondents, N=3552) was used for analysing the effect of the active variables (PLAC, SUP, and CONT) on all constructs, to see if they deviate from the whole sample. The results in Appendix I show higher mean ranks of PQ_PL for placement on the right than on the left, at a statistically significant level (p<0.05). These results are not consistent with the results for the whole sample, which show no statistically significant effect (p>0.05) but are in line with H7. Therefore, for a subsample of low-income subjects, H7 is supported.

5.6.3 Age

Lastly, the respondents were divided into three sub-groups according to their age. Veloutsou et al., (2004) argued that younger consumers hold a more positive attitude towards private labels which they perceive as good quality products sold at a cheaper price than national brands. Therefore, the authors were interested in assessing if these findings are also valid for this study.

As aforementioned, the third and last part of the survey was dedicated to demographics. The results show that the sample for this study is mainly between 18 and 54 years old. Specifically, 113 respondents (N=2712) were between 25 and 34 years old, 75 (N=1800) were aged between 35 and 54, and 65 (N=1560) respondents were between 18 and 24 years old. Only 15 respondents (N=360) were older than 55. Therefore, the first three intervals were used to compare the age groups.

Before assessing how differently these age groups scored in each construct, the path coefficients were computed for each group and are illustrated in Table 34.

[18-24]		
Relationship	Path Coefficients	P-Values[a]
PQ_ETH -> PI_GP	-0.143	< 0.001
PQ_PAP -> PI_GP	0.462	< 0.001
PI_GP -> CH_GPL	0.065	0.005
PQ_ETH -> CH_GPL	0.178	< 0.001
PQ_PAP -> CH_GPL	-0.002	0.468
PQ_PL -> CH_GPL	0.147	< 0.001

[25-34]		
Relationship	Path Coefficients	P-Values[a]
PQ_ETH -> PI_GP	0.238	< 0.001
PQ_PAP -> PI_GP	0.185	< 0.001
PI_GP -> CH_GPL	0.049	0.005
PQ_ETH -> CH_GPL	-0.193	< 0.001
PQ_PAP -> CH_GPL	0.009	0.318
PQ_PL -> CH_GPL	0.122	< 0.001

[35-54]		
Relationship	Path Coefficients	P-Values[a]
PQ_ETH -> PI_GP	0.332	< 0.001
PQ_PAP -> PI_GP	0.131	< 0.001
PI_GP -> CH_GPL	0.214	< 0.001
PQ_ETH -> CH_GPL	-0.037	0.058
PQ_PAP -> CH_GPL	-0.009	0.351
PQ_PL -> CH_GPL	0.038	0.052

Table 34 – Path coefficients and p-values for subgroups: [18-24] vs [25-34] vs [34-54]

The relationship between PQ_PAP and CH_GPL, which was statistically insignificant (p>0.05) for the whole sample, is also non-significant for all age groups. Additionally, for the group [35-54], two other relationships are not significant, namely PQ_ETH→CH_GPL (-0.037, p>0.05) and PQ_PAP→CH_GPL (-0.009, p>0.05).

On the other hand, the relationship between PQ_ETH and PI_GP is negative for a subsample of respondents between 18 and 24 years old (-0.143, p<0.001). Similarly, for respondents aged [25-34], the relationship between PQ_ETH and CH_GPL is also negative (-0.193, p<0.001), contrary to the results for the whole sample. All the remaining relationships that have not been mentioned are positive and statistically significant (p<0.01).

Thereafter, the multi-group analysis (Table 35) revealed statistically significant differences between the groups [18-24] and [25-34] only for PQ_ETH→PI_GP, PQ_PAP→PI_GP, and PQ_ETH→CH_GPL (p<0.01). Similarly, the results for [25-34] vs [35-54] show that the two groups' path coefficients are only significantly different for the relationship between PI_GP and CH_GPL (p<0.001). On the other hand, most of the path coefficients for the groups [18-24] and [35-54] are statistically significant from each other (p<0.05). Only PQ_PAP→CH_GPL and PQ_PL→CH_GPL are not significantly different between the two groups (p>0.05). In sum, differences were found between the three age groups, although mainly between [18-24] and the other two, and not for all relationships in the model.

Relationship	Path Coefficients ([18-24] – [25-34])	P-Values[a]
PQ_ETH -> PI_GP	-0.381	< 0.001
PQ_PAP -> PI_GP	0.277	< 0.001
PI_GP -> CH_GPL	0.016	0.266
PQ_ETH -> CH_GPL	0.371	0.002
PQ_PAP -> CH_GPL	-0.011	0.995
PQ_PL -> CH_GPL	0.025	0.784

Relationship	Path Coefficients ([18-24] – [35-54])	P-Values[a]
PQ_ETH -> PI_GP	-0.475	< 0.001
PQ_PAP -> PI_GP	0.331	< 0.001
PI_GP -> CH_GPL	-0.149	0.011
PQ_ETH -> CH_GPL	0.215	< 0.001
PQ_PAP -> CH_GPL	0.007	0.562
PQ_PL -> CH_GPL	0.109	0.200

Relationship	Path Coefficients ([25-34] – [35-54])	P-Values[a]
PQ_ETH -> PI_GP	-0.094	0.601
PQ_PAP -> PI_GP	0.054	0.149
PI_GP -> CH_GPL	-0.165	< 0.001
PQ_ETH -> CH_GPL	-0.156	0.205
PQ_PAP -> CH_GPL	0.018	0.596
PQ_PL -> CH_GPL	0.084	0.303

Table 35 – Multi-group analysis for Age (AGE)

Having completed the initial assessment on the differences in the relationships of the model, a Mann-Whitney U Test was carried out to compare the three subgroups based on their construct scores. The results are summarised in Table 36.

Ranks				
	AGE	N	Mean Rank	Sum of Ranks
PQ_ETH	18-24	1560	2434.10	3797196.00
	25-34	2712	1965.31	5329932.00
	Total	4272		
PQ_PAP	18-24	1560	2209.42	3446700.00
	25-34	2712	2094.55	5680428.00
	Total	4272		
PI_GP	18-24	1560	2214.59	3454764.00
	25-34	2712	2091.58	5672364.00
	Total	4272		
PQ_PL	18-24	1560	2045.85	3191532.00
	25-34	2712	2188.64	5935596.00
	Total	4272		

Test Statistics				
	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	1651104.000	2001600.000	1993536.000	1973952.000
Wilcoxon W	5329932.000	5680428.000	5672364.000	3191532.000
Z	-12.070	-3.013	-3.159	-3.655
Asymp. Sig. (2-tailed)	0.000	0.000	0.002	0.000

a. Grouping Variable: AGE

Ranks				
	AGE	N	Mean Rank	Sum of Ranks
PQ_ETH	18-24	1560	1861.79	2904396.00
	35-54	1800	1523.38	2742084.00
	Total	3360		
PQ_PAP	18-24	1560	1735.15	2706828.00
	35-54	1800	1633.14	2939652.00
	Total	3360		
PI_GP	18-24	1560	1819.33	2838156.00
	35-54	1800	1560.18	2808324.00
	Total	3360		
PQ_PL	18-24	1560	1627.88	2539500.00
	35-54	1800	1726.10	3106980.00
	Total	3360		

Test Statistics				
	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	1121184.000	1318752.000	1187424.000	1321920.000
Wilcoxon W	2742084.000	2939652.000	2808324.000	2539500.000
Z	-10.167	-3.101	-7.774	-2.936
Asymp. Sig. (2-tailed)	0.000	0.002	0.000	0.003

a. Grouping Variable: AGE

Table 36 – Mann-Whitney U Test: [18-24] vs [25-34] vs [35-54] (continues next page)

The first comparison (18-24 vs 25-34) indicated that all constructs are significantly different between the two groups (p<0.01), with respondents aged between 18 and 24 scoring higher in all constructs except PQ_PL.

The second comparison (18-24 vs 35-54) found similar results to the first, meaning that the two groups' scores are significantly different for all constructs (p<0.01) and higher for the [18-24] group, with the exception of PQ_PL that is higher for the [35-54] group.

Finally, the third comparison (25-34 vs 35-54) only showed statistically significant differences in the scores for PI_GP, which was higher for respondents between 25 and 34 years old (p<0.001).

Ranks				
		AGE N	Mean Rank	Sum of Ranks
PQ_ETH	25-34	2712	2246.84	6093420.00
	35-54	1800	2271.06	4087908.00
	Total	4512		
PQ_PAP	25-34	2712	2266.59	6136988.00
	35-54	1800	2241.30	4034340.00
	Total	4512		
PI_GP	25-34	2712	2346.45	6363564.00
	35-54	1800	2120.98	3817764.00
	Total	4512		
PQ_PL	25-34	2712	2265.00	6142668.00
	35-54	1800	2243.70	4038660.00
	Total	4512		

Test Statistics				
	PQ_EHT[a]	PQ_PAP[a]	PI_GP[a]	PQ_PL[a]
Mann-Whitney U	2414592.000	2413440.000	2196864.000	2417760.000
Wilcoxon W	6093420.000	4034340.000	3817764.000	4038660.000
Z	-0.617	-0.655	-5.728	-0.540
Asymp. Sig. (2-tailed)	0.537	0.513	0.000	0.589

a. Grouping Variable: AGE

(cont.) *Table 36 – Mann-Whitney U Test: [18-24] vs [25-34] vs [35-54]*

Crosstabulation						
			AGE			
			[18-24]	[25-34]	[35-54]	Total
CH_GPL	No	Count	915	1546	1151	3612
		Expected Count	928.0	1613.3	1070.8	3612.0
	Yes	Count	645	1166	649	2460
		Expected Count	632.0	1098.7	729.2	2460.0
Total		Count	1560	2712	1800	6072
		Expected Count	1560.0	2712.0	1800.0	6072.0

Chi-Square Tests			
	INC		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	22.216[a]	2	0.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 632.02

Table 37 – Pearson's Chi-Square Test: [18-24] vs [25-34] vs [35-54]

Regarding CH_GPL (Table 37), a similar process was carried out to investigate the last variable of the model. Hence, Pearson's Chi-Square test was run to evaluate differences between groups and how likely it is that they were caused by chance. There were found statistically significant differences between the groups (p<0.001) and the results suggest that CH_GPL is greater than expected for both [18-24] and [25-34], and lower than expected for 35–54-year-old respondents.

Unfortunately, based on (Hair et al., 2017) there are not enough respondents for each age group across survey groups (i.e., A, B, C, D, and E) to investigate the effect of the active variables (PLAC, SUP, and CONT) on the constructs for subsamples based on age (see Appendix J for an overview of the age distribution for each survey group).

5.7 Additional Analysis

5.7.1 Green Elements

Ethical labels and the paper packaging are hereby referred to as green elements. As mentioned in the Survey Design section, each private label was manipulated in Adobe Photoshop to either show ethical label(s), have a paper packaging, or combine both. Therefore, it is also relevant to assess if there is a relationship between the elements (ELEM) and choice. In other words, this section investigates if any of the three influence CH_GPL to a greater extent than the others. The Pearson's Chi-Square test was used for this analysis.

Looking at the Crosstabulation in Table 38, it is apparent that CH_GPL is more likely to occur when combined elements are present (actual>expected count) and less likely when only paper packaging is used (actual<expected count). However, a closer look at Pearson's Chi-Square reveals that the results are not statistically significant (p>0.05). Thus, it is fair to conclude that the actual and expected counts of choice of green private labels are not significantly different between elements, meaning that it has not been proven that ELEM and CH_GPL are related.

Chi-Square Tests

			ELEM			
			Ethical label	Paper packaging	Combined	Total
CH_GPL	No	Count	1246	1271	1223	3740
		Expected Count	1246.7	1246.7	1246.7	3740.0
	Yes	Count	898	873	921	2692
		Expected Count	897.3	897.3	897.3	2692.0
Total		Count	2412	1608	2412	6432
		Expected Count	2412.0	1608.0	2412.0	6432.0

Chi-Square Tests

	ELEM		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	2.209[a]	2	0.331

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 897.33

Table 38 – Chi-Square Test: ELEM

5.7.2 Product Categories

It was mentioned before that this study has been designed with three different product categories—high, medium, and low-risk. High-risk products include shampoo, toothpaste, and laundry detergent. These are believed to have high psychosocial and functional risks because they are related to hygiene and how one will be perceived by others. On the other hand, medium-risk products refer to products that share medium functional risk and low psychosocial risk, such as coffee and chocolate. Finally, low-risk products have low functional and psychosocial risks. Examples are milk, pasta, and granola.

The reasoning behind selecting all three categories was to be able to look for discrepancies between each category and the respondents' product choice. In other words, this analysis is interested in

understanding if there are certain product categories (CAT), where consumers are more sensitive towards private labels in general or green private labels in particular. Once again, Pearson's Chi-Square test was used for this analysis.

Chi-Square Tests

			CAT			
			Low-risk	Medium-risk	High-risk	Total
CH_GPL	No	Count	1242	900	1598	3740
		Expected Count	1402.5	935.0	1402.5	3740.0
	Yes	Count	1170	708	814	2692
		Expected Count	1009.5	673.0	1009.5	2692.0
Total		Count	2144	2144	2144	6432
		Expected Count	2144.0	2144.0	2144.0	6432.0

Chi-Square Tests

	CAT		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	112.128[a]	2	0.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 673.00

Table 39 – Chi-Square Test: Product Categories (CAT)

Table 39 shows that the actual count for when private labels were chosen (CH_GPL= "Yes") is greater than the expected count for low and medium-risk product categories but lower for high-risk. It also shows that these differences are statistically significant (<0.001). Therefore, the null hypothesis of independence is rejected and the alternative hypothesis that CH_GPL is dependent upon the product category is accepted. CH_GPL is more likely to occur for low and medium-risk product categories than high-risk categories.

6. Discussion

Having analysed the results, this section will introduce a discussion of the main findings of this research. Following the discussion, a presentation of theoretical and managerial implications will be included. Finally, this section will culminate with an overview of the limitations of this study as well as suggestions for potential future research.

6.1 Hypotheses Discussion (H1-H6)

This section discusses the six hypotheses related to the relationships between variables and tries to answer the main research question of this study.

Based on the SEM analysis conducted in WarpPLS, most relationships of the model are positive and significant, as expected.

> **H1. Perceived quality from ethical labels will be positively related to purchase intention of green products.**

According to the cue utilisation theory, intrinsic and extrinsic cues are employed by consumers during the process of evaluating a product's quality (Bredahl, 2004), which in turn is argued to be a major motive behind purchase intention (Hidalgo-Baz et al., 2017). This study considers ethical labels as intrinsic cues (cf. Literature Review: Cue Utilisation Theory), and therefore, it was hypothesised that perceived quality from ethical labels is positively related to purchase intention of green products. The path coefficient between these two relationships showed indeed a positive and statistically significant link. Thus, the results are in line with the expectations and the hypothesis is confirmed.

However, the results of a sub-group analysis based on nationality revealed that the path coefficient between perceived quality from ethical labels and purchase intention of green products is negative for a subsample of Danes. This suggests that Danes are more likely to recognise that ethical labels signal quality than to have the actual intention to look for these products. However, as aforementioned, the sampling technique used in this study is not adequate for making generalisations.

Similarly, the relationship is also negative for a subsample of respondents with a medium income level. This means that the higher the perceived quality, the lower the purchase intention, and vice-versa. This could be due to high-quality products being often associated with higher prices which would prevent medium-income respondents from buying the green products. Incidentally, one of the

trade-offs consumers consider is sustainability against price (Grunert, 2011). However, this reasoning would expect having similar results for the low-income group (Akbay & Jones, 2005), which is not the case. Therefore, the results seem contradictory.

It was also found that this relationship is negative for a subsample of young respondents (18-24) but not for older age groups. There could be other factors playing a role in purchase intention of green products in addition to ethical labels signalling quality, such as price sensitivity. In other words, high-quality products are usually expected to be more expensive and thus not attractive for young consumers.

H2. Perceived quality from paper packaging will be positively related to purchase intention of green products.

This hypothesis was built under the same principles as H1, but with paper packaging acting as an extrinsic cue rather than intrinsic as the ethical labels. The two constructs are positively related and found to be significant (0.255, $p<0.001$), thus the hypothesis underlying the relationship between perceived quality from paper packaging and purchase intention of green products is supported. In fact, the path coefficient for H2 is stronger than for H1, suggesting that there is a stronger relationship between PQ_PAP and PI_GP than PQ_ETH and PI_GP. This is in line with the work of Richardson et al. (1994), who highlighted the importance of extrinsic quality indicators for consumers, such as the packaging material, brand and store names, and colour, over the intrinsic ones.

These results are consistent with the subgroup analysis on nationality, income, and age, meaning that the two constructs are positively related on a significant level for all groups. Nonetheless, the multi-group analysis reveals that the relationship is stronger for [18-24] year-old respondents, low-income level, and non-Danes. For the latter, a potential explanation for this difference may be that Danish consumers are in general more aware of recycling and sustainability, thus becoming more sensitive to "greenwashing" and more critical towards paper packaging than non-Danish consumers. This explanation is in line with the results of the Mann-Whitney U test in Table 28, which indicate that purchase intention of green products has a lower mean rank for Danes. This construct is measured by three items, where two of them refer to paper packaging and only one refers to the ethical labels. Therefore, it is plausible to assume that their lower score is due to their poorer scores on purchase intention of products with paper packaging in particular, due to their abovementioned scepticism.

H3. Purchase intention of green products will be positively related to choice of green private labels.

The gap between consumers' intentions and actual behaviour is well-known in the literature (Shaw, McMaster, & Newholm, 2016). Yet, the results of this study show that the relationship between purchase intention of green products and choice of green private labels is positive and statistically significant (0.091, $p<0.001$). Consequently, the underlying hypothesis is supported. These results are in line with Morwitz et al. (2007), who defend that under certain circumstances this gap may be less substantial. Incidentally, the attitude-behaviour gap is argued to appear more often when the launch of a new product is tested (Chandon, Morwitz, & Reinartz, 2005). Moreover, respondents were presented with well-known private labels and store names, and it is thus assumed that the respondents had prior experience with the examined behaviour. Nonetheless, this relationship is considered weak ($\beta<0.1$), yet it was already expected.

The sub-group analysis validated these results for all groups except for the high-income, where the relationship between the two constructs is not significant ($p>0.05$). These findings suggest that for consumers with a high income, the gap actually exists. On the one hand, a possible explanation is that these consumers do intend to buy green products, but simply not green private labels. In other words, this experiment restricted the green products to private labels and therefore, the gap emerges for those that are not as price-sensitive and consequently do not chose private labels that often. On the other hand, as argued by Maison (2002), consumers' purchase intentions and choices are assumed to not always be in line when it comes to ethical products (e.g., organic, or green private labels), due to a potential social desirability bias that consumers face.

Finally, it was found that the relationship is statistically stronger for older respondents (35-54) in comparison with younger ones. In fact, among all subsamples, they are the ones with the strongest relationship between purchase intention of green products and choice of green private labels, suggesting that the gap is not as expressive as it is in other instances. This could potentially be explained by their acknowledgment of the environmental crisis and the maturity of their age, resulting in their willingness to act responsibly and walk the talk.

H4. Perceived quality from ethical labels will be positively related to choice of green private labels.

This hypothesis derives from H1 and H3. On the one hand, H1 suggests that perceived quality from ethical labels will be positively related to purchase intention of green products. On the other hand, H3 expects that purchase intention of green products will be positively related to choice of green private labels. Therefore, H4 combines the two and suggests a direct relationship, not mediated by PI_GP.

The relationship between perceived quality from ethical labels and choice of green private labels is positive and significant (0.066, $p<0.001$), therefore the underlying hypothesis is supported. Although positive and significant, the relationship is considered weak ($\beta<0.1$). Despite its weakness, the positive results are fully in line with Beneke, Flynn, Greig, & Mukaiwa (2013), who confirmed that perceived quality is positively related to buying decisions.

Nonetheless, the sub-group analysis revealed that for a subsample of Danes as well as of older respondents (35-54) this relationship is in fact statistically insignificant ($p>0.05$).

On the other hand, the relationship between perceived quality from ethical labels and choice of green private labels is negative for the medium-income group (-0.193, $p<0.001$), but not for the high-income group (0.228, $p<0.001$). It could be that medium-income respondents acknowledge ethical labels as "stamps" of quality but when they are applied to private labels, this is not sufficient to stimulate choice. However, it would be expected that high-income respondents would behave in a similar, or even more expressive, way due to private labels being associated with lower prices and lower quality in general (Akbay & Jones, 2005; Pepe, Abratt, & Dion, 2012).

Similarly, the relationship between the two variables is also negative for a subsample of [25-34]-year-old respondents but positive for younger subjects (i.e., 18-24). Concerning the negative relationships in general, it is argued by Thøgersen (2010) that positive attitudes towards organic products are not necessarily reflected in consumers' purchases. Thus, it can be defended that it is not contradictory to recognise quality out of sustainability but not choose the sustainable product, due to the existence of several barriers (Grunert, 2011).

However, an important note on this discussion is that this study does not allow the assessment of the amount of attention subjects placed on the label(s). Therefore, it remains unknown if at the time of choice some labels were neglected by the respondents due to their reduced size.

H5. Perceived quality from paper packaging will be positively related to choice of green private labels.

Similar to what was previously argued for H4, this hypothesis derives from H2 and H3. On the one hand, H2 suggests that perceived quality from paper packaging will be positively related to purchase intention of green products. On the other hand, H3 expects that purchase intention of green products will be positively related to choice of green private labels. Therefore, H5 combines the two and suggests a direct relationship, not mediated by PI_GP.

The relationship between perceived quality from paper packaging and choice of green private labels is positive but insignificant (0.066; $p>0.05$). Therefore, H5 is rejected. These results suggest that the relationship between PQ_PAP and CH_GPL only exists when mediated by PI_GP. When looking at the sub-groups for age, it was found that the relationship is also insignificant across age intervals.

Nonetheless, if considering only the low-income subgroup, H5 is supported. In other words, although weak, the relationship between perceived quality from paper and choice of green private labels is positive and statistically significant for low-income respondents (0.034, $p<0.05$). This could be an attempt of low-income consumers to act responsibly towards the environment, since products that carry ethical labels (for example organic) are more expensive, whereas conventional products that are packed with paper/carton material are not necessarily more expensive.

On the other hand, the subgroup analysis shows that this relationship is in fact negative (-0.066, $p<0.05$) for a subsample of Danes. The same explanation used for the weaker relationship between PQ_PAP and PI_GP for Danes than non-Danes could explain these findings. Once again, Danes' critical stand on companies using "greenwashing" may make them sceptical about private labels adopting green elements. Nonetheless, the results could have been different perhaps if the products were existing green private labels, instead of manipulated versions made by the authors for the sake of the experiment.

Similarly, the subgroup of high-income subjects also showed a negative and statistically significant relationship between perceived quality from paper packaging and choice of green private labels (-0.071, $p<0.01$), which suggests that these respondents may believe that paper packaging signals higher quality but are not interested in buying private labels, even if sustainable and presumably of higher quality. As argued by Grunert (2011), consumers deal with trade-offs when choosing products, where they evaluate several criteria apart from just sustainability.

H6. Perceived quality of private labels will be positively related to choice of green private labels.

The hypothesis underlying the relationship between perceived quality of private labels and choice of green private labels is supported, due to its positive and statistically significant path coefficients (0.119, $p<0.001$), which was expected. The results are thus in line with the literature, which suggests that the product's perceived quality is of major importance and that it is one of the first reasons behind consumers' choice to consume a brand (Vraneševic´ & Stančec, 2003).

Additionally, the same results were found for most of the subgroup analysis. Only for medium-income respondents as well as subjects between 35 and 54 years old this relationship is statistically insignificant ($p>0.05$) and therefore the hypothesis cannot be supported for these two subgroups.

Between Danes and non-Danes, the relationship seems to be stronger for the subgroup of Danes. This could be explained by Irma being a high-end Danish supermarket that Danes are more likely to recognise and know about. Therefore, for instance for higher levels of perceived quality of private labels, Danes might be more likely to choose the green private label than non-Danes because they acknowledge the high-end private label that some foreigners might not (even though they live in Denmark).

6.2 Hypotheses Discussion (H7-H12)

This section discusses the hypotheses related to the three active variables used to prime subjects and tries to answer the sub-questions of this research.

Based on the results from the Mann-Whitney U and Pearson's Chi-Square tests conducted in SPSS, most differences between the groups are statistically significant but not all outcomes were as expected.

H7. PQ_PL will be higher when private labels are placed on the right of branded products than on the left.

Valenzuela and Raghubir (2009, 2015) demonstrated that, in the context of a horizontal shelf allocation, consumers consider the products on the right to be of higher quality. However, this study found no statistically significant differences for perceived quality of private labels between placement on the right and placement on the left, hence H7 cannot be supported.

These findings could have been caused by the influence of different qualities of products (inferred from the two supermarkets) when assessing the impact of left and right placement. Subsequently, new analyses were conducted with supermarket priming held constant, and the results show that for the low-end supermarket, perceived quality of private labels was significantly higher on the right than on the left, whereas for the high-end supermarket, it was significantly higher on the left rather than on the right. In sum, it indicates that when the priming involves low-end supermarkets such as Lidl, the private labels are perceived as of higher quality if they have been placed on the right, like hypothesised. Inversely, it suggests that when high-end supermarkets such as Irma are used to prime subjects, the perceived quality of private labels is higher when they have been placed on the left. In this specific case, the findings are suggesting that subjects mentally organised the products according to the brand equity that they signal. Therefore, the results are incongruent with the literature and inconclusive. Further research is needed before fully rejecting the impact of placement on perceived quality of private labels (cf. Further Research with Eye-Tracking Experiment).

Nevertheless, when taking a subsample of low-income respondents due to their assumably higher predisposition towards private labels (Akbay & Jones, 2005), it was found that the perceived quality of private labels was statistically higher when they were placed on the right of the branded products. In conclusion, H7 is supported but only for a subsample of low-income subjects. More research on the topic would be needed to explain these findings.

H8. CH_GPL will be higher when private labels are placed on the right of branded products and lower when placed on the left.

The magnitude representation and body-specificity theories have been investigated in the context of food and proven to play an important role in the decision-making process. Having only data from right-handed subjects in this study, according to Casasanto (2009) and Casasanto & Chrysikou (2011) it would be expected that choice of green private labels would be higher when placed on the right. Similarly, following the work of Romero & Biswas (2016) most individuals should mentally map all products characterised as "green" on their right lateral field because of the "good" signals that these products are communicating. Incidentally, green products are argued to be beneficial for the environment and animal–welfare (Chiriacò et al., 2017; Perrini et al., 2010), more valuable for people's health (Baudry et al., 2018; Fagan et al., 2020; Gopalakrishnan, 2019), and even better than conventional products in terms of taste (Delmas et al., 2016). Therefore, the statistically insignificant results found for the effect of placement on the choice of green private labels come as a surprise.

General note on Placement:

Regarding the priming effect of placement on the relationships between the variables, a multi-group analysis between left and right placement showed that the relationships underlined by the hypotheses H2 (PQ_PAP→PI_GP) and H4 (PQ_ETH→CH_GPL) are statistically stronger for placement on the right. The results on the relationship between PQ_ETH and CH_GPL suggest that for higher levels of perceived quality from ethical labels, subjects are more likely to choose the green private labels when they are placed on the right than on the left. Therefore, the effect of placement seems to exist, yet with severe constraints. An alternative method to examine the effect of the body specificity and magnitude representation theories is addressed in the section Further Research with Eye-Tracking Experiment.

H9. **PQ_PL will be higher for high-end supermarkets than low-end supermarkets.**

Semeijn, van Riel, & Ambrosini (2004), argued that the perceived quality of a private label varies according to the store selling it. This study supports that perceived quality of private labels is significantly higher for the high-end supermarket than the low-end. Hence, the store image is, in the mind of consumers, a useful indicator of the quality of a product. The results are also in line with Dhar & Hoch (1997) and Wu et al. (2011), who argued that the higher the consumer's perception of the quality of a store or supermarket, the better the reflected image of the PL will be.

H10. CH_GPL will be higher for high-end supermarkets and lower for low-end supermarkets.

Besides reflecting the quality of private labels, the store's image has been found to positively impact the purchase intentions of consumers towards private labels (Rubio et al., 2019; Wu et al., 2011). Moreover, as aforementioned, the purchase of organic private labels was argued by Konuk (2018) to be positively related to the store's image. Hence, if a store signals high quality, the purchase of organic private labels will be higher as a result of consumers' trust in this store (Konuk, 2018).

The results found are in line with the existing literature. The actual choice of green private labels is significantly higher than expected for the high-end supermarket and significantly lower for the low-end supermarket. Therefore, this study supports that choice of green private labels is dependent on the store image and H10 is supported.

General note on Supermarket:

Regarding the priming effect of the supermarkets on the relationships between the variables, a multi-group analysis between the high-end and low-end supermarkets showed that the relationships underlined by the hypotheses H1 (PQ_ETH→PI_GP), H2 (PQ_PAP→PI_GP), and H4 (PQ_ETH→CH_GPL) are statistically stronger for high-end supermarkets. These results suggest that even for cases where the supermarket brand was not present (i.e., on the second and third parts of the survey, cf. Survey Design section) the priming used in the experiment (i.e., the choice of products) affected the respondents' answers.

H11. PI_GP will be higher in social contexts than in non-social contexts.

Mandel (2003) confirmed that priming the interdependent or independent self of an individual can result in influencing behavioural intentions. Priming the independent self was argued to stimulate behaviours relevant to achieving goals while priming the interdependent was associated with preventing losses (Aaker & Lee, 2001). Therefore, it was expected that subjects would be more prone to show a socially accepted behaviour such as considering organic consumption when facing social contexts. However, the results show that the purchase intention of green products is significantly higher for the non-social context and not for the social. Hence, it is rejected that the social context leads to higher levels of purchase intention of green products.

H12. CH_GPL will be higher in social contexts and lower in non-social contexts.

Similar to H11 when looking at the whole sample, the choice of green private labels is significantly higher for the non-social context and thus lower for the social context. Therefore, these results confirm that consumers' shopping behaviours alter when their decision-making processes are influenced by different situational cues or social roles (Mandel, 2003), but they do not confirm the authors' expectations. Moreover, Barauskaite et al. (2018) found that consumers eat healthier when influenced by social and hedonic motives in order to show off, but this study seems to suggest the opposite and rejects H12.

The experiment included in the survey required choosing between a green private label and a (non-green) branded product. Consequently, it is possible that the social circumstances that subjects adapt to are unrelated to sustainable concerns but rather related to social status. Under this scenario, respondents primed with the social context may have felt "pressured" to meet the expectations of their family/friends/partner associated with buying brands and not "copycats" (do Vale & Matos,

2015) or "cheap versions" (Chaniotakis et al., 2009; Olsen et al., 2011) of branded products. The underlying concept is that of brand equity, which in comparison to national brands has been argued to be lower for private labels (Olsen et al., 2011), even for premium ones. Another reason behind subjects' more frequent choice of green private labels in a non-social context could be their willingness to purchase products carrying higher financial risks (e.g., purchase an expensive product) when their interdepended selves are accessible (Mandel, 2003). An eye-tracking experiment could be carried out to further explore this prospect and support/reject it (cf. Further Research with Eye-Tracking Experiment).

General note on Context:

Regarding the priming effect of context on the relationships between the variables, a multi-group analysis between the social and non-social contexts showed that only the relationship underlined by hypothesis H3 (PI_GP→CH_GPL) is statistically stronger for the social context. These results suggest that for higher levels of purchase intention of green private labels, subjects are more likely to choose green private labels in a social context than in a non-social.

6.3 Additional Discussion

Subgroups based on nationality, income, and age have been dealt with as part of the discussions for H1-H6. Specifically, the results showed that the relationships between constructs differ within the subgroups. Thereafter, additional analysis was carried out to determine the differences in the construct scores.

The results of said analysis indicate that the purchase intention of green products is higher for non-Danes, whereas the perceived quality from ethical labels and choice of green private labels are in fact higher for Danes. This suggests that Danes recognise more quality from ethical labels and choose more green products, although claiming lower intention of doing so. On the one hand, the gap between consumers' intentions and actual behaviour is well-known (Shaw et al., 2016), and is possible that non-Danes overreported their purchase intention of green products due to some extent of social desirability bias. On the other hand, another potential explanation is that in this study, subjects are asked to comment on a behaviour that they may not be consciously aware of, i.e., looking for ethical labels or considering paper packaging.

Regarding the income levels, statistically significant differences were found. The constructs scores are in general higher for low-income than medium and high incomes, and also higher for medium-income than high-income. Therefore, it can be concluded that each construct scored highest for low-income respondents and lowest for high-income ones. This includes the constructs PI_GP and CH_GPL, which would not be expected given that green products are often more expensive (Konuk, 2018). From all constructs, only perceived quality from paper packaging was statistically higher for medium-income respondents. Additionally, perceived quality of private labels is not statistically different between medium and high-income respondents.

Onto the last subgroup, age was found to significantly affect most of the scores of the constructs. There were found differences between 18-24 and 25-34 respondents, as well as 18-24 and 35-54, but not between 25-34 and 35-54. Therefore, it could be concluded that subjects aged 25-54 are similar in terms of their stake in sustainable products and private labels in general. Nonetheless, younger respondents (18-24) score significantly higher than older ones (25-54) on all constructs except for perceived quality of private labels. Such findings are not in line with the work of Veloutsou et al., (2004) who argued that younger consumers hold a more positive attitude towards private labels and their quality. The current study seems to imply the opposite. It reveals that younger consumers are seemingly more willing to look for sustainable products and recognise quality from sustainable elements. The latter is further corroborated by the results on choice of green private labels.

According to Table 37, the [18-34] group of respondents chose the green private labels more than the older respondents who belong to the [35-54] group. The findings on the younger consumers' higher predisposition to organic cues and organic products are in line with the apparent increasing consciousness of sustainable practices among the younger generations (Hughner et al., 2007).

Additionally, the green elements of private labels manipulated for this study's purpose (i.e., the ethical labels and the paper packaging) were tested to see if there is a relationship between their presence/absence and choice of green private labels. According to the results, the differences found are statistically insignificant and consequently, the two variables appear to be independent of each other. The fact that respondents may have remembered their choices and would not change them in favour of the new version presented can possibly explain these results. Moreover, even though the ethical labels were carefully chosen for each product and are among the most popular ones, the results show that 25% of those that at least sometimes look for labels signalling environmental concerns when choosing a product, claimed that they did not look for any of the four labels used in the survey

(see Appendix K). In this regard, Grunert (2011) argues that for consumers to implement a behaviour towards sustainability, it is required that they can identify sustainability from a credible source. However, unfamiliar labels fail in communicating that necessary credibility. Moreover, some of the ethical labels may have been too small to be perceived by all respondents.

Lastly, the impact of different categories, with different risks associated (i.e., functional and psychological risks), was calculated. The results show that green private labels are more likely to be chosen for low and medium-risk product categories than high-risk categories. Hence, it means that consumers are more sensitive towards products with high psychosocial risk such as laundry detergent, toothpaste, and shampoo, and less likely to trust private labels in these categories. In addition, when it comes to products whose sensory attributes play an important role in consumers' decision-making (such as laundry detergent and shampoo), consumers shopping online are argued to choose the branded product (Degeratu et al., 2000). In the same way, consumers were also found to trust branded products more when the products are *"private in nature"* (Olbrich, Hundt, & Jansen, 2016). Alternatively, these findings could also suggest that consumers are skeptical when encountering personal care products sold in paper packaging, which happens to be a common greenwashing strategy and the paper packaging is often only a mask around the plastic structure that ultimately contains the liquids.

6.4 Implications

6.4.1 Theoretical Implications

The present study aims to tackle some unaddressed points in the literature for private labels. A recent literature review on the topic conducted by Wu, Yang, & Wu (2021) highlights the need for studies addressing private labels in the digital environment. Thus, the present thesis investigates green private labels' perceived quality, purchase intention of organic products, and purchase behaviour in the context of online grocery stores, concluding that the store image is still influencing the perceived quality and choice of private labels, which is in line with what Olsen, Menichelli, Meyer, & Næs, (2011) found. Therefore, with this study, the authors aim at filling a gap in the private labels research, which has already been pinpointed to exist by Wu et al. (2021).

Conducted in an online context, the present thesis adds to Richardson, Dick, & Jain's (1994) study which argued that extrinsic quality indicators (e.g., packaging material, brand, and store name) are

more important than the texture or smell (i.e., intrinsic indicators) of the product. The findings of this study support previous literature (Degeratu et al., 2000; Hidalgo-Baz et al., 2017) to the extent that cue utilisation theory is critical when examining consumer preferences for organic products. In addition, it adds to the literature by examining (among others) non-food categories of organic products in the context of a supermarket—something that Reinders & Bartels (2017) noted as research-worthy in their paper.

Furthermore, the authors confirmed that existing theories on perceived product quality (Steenkamp, 1990) can be extended and applied to green private labels. In this light, the positive relation of perceived quality with consumers' purchase intentions, as discussed in various studies (Borin, Cerf, & Krishnan, 2011; Pancer et al., 2017), was validated in the context of green private labels.

Nevertheless, the findings of this thesis are in contrast with Shaw, McMaster, & Newholm's (2016) stance on the consumers' attitude-behaviour gap. Through the present study, the authors found that this gap is indeed sometimes non-substantial as Morwitz, Steckel, & Gupta, (2007) demonstrated.

In line with Beneke, Flynn, Greig, & Mukaiwa's (2013) study, this research validates the positive effect of perceived quality—deriving from ethical labels—on consumers' buying decisions. The results of the present dissertation are aligned with—and thus support—the literature claiming that perceived quality plays an essential role in decision-making processes (Vraneševic´ & Stančec, 2003).

Finally, even though the hypotheses regarding buying under a social or non-social context were rejected, the results revealed that there is an undeniable influence of social occasions on consumers' purchase intentions and choice, which is in line with Olsen et al.'s (2011) study and supports the concept of the malleable self as introduced by Markus & Kunda (1986).

6.4.2 Managerial Implications

By examining private labels' perceived quality, purchase intention, and purchase behaviour in the context of online grocery stores and organic products, this study generates practical implications for online retailers, manufacturers, and marketers.

It was found that purchase intention of green products is positively related to perceived quality signalled by sustainable cues, namely ethical labels and paper packaging. However, this is not always translated into choice of green private labels. From the results, it is possible to conclude that besides

the sustainable cues, the perceived quality of private labels also influences the choice of green private labels. Therefore, to assure that green private labels are included in the consumers' green products set, online retailers should focus on communicating how good quality their private label products are in general and not only focus on the organic range. To that end, it was also found that the positioning of the supermarket is of great relevance. Specifically, high-end supermarkets led to significantly higher perceived quality of private labels as well as choice of green private labels. Moreover, the relationship between the purchase intention of green products and the perceived quality deriving from paper packaging and ethical labels is even stronger for high-end supermarkets. Therefore, retailers should manage their store image to enhance the quality perception of their private labels as well as the trust in their products. In particular when selling organic products, trust in the store or retailer implies that there is less chance of consumers associating the brand's efforts with greenwashing. Consequently, being transparent is fundamental for gaining the customers' trust. The authors of the current study believe that effective brand strategies aiming at enhancing store image can improve the perceived quality and credibility of organic products.

It was also discussed in this study that ethical labels may go unnoticed sometimes due to their reduced size. Especially in the online context where consumers do not have physical contact with the product, retailers need to reinforce the sustainable nature of products. Retailers can thus add it to the product description or upload zoomed pictures with details of the product's packaging. Alternatively, retailers can make use of the packaging as an extrinsic cue for quality as well as sustainability (Steenis, van Herpen, van der Lans, Ligthart, & van Trijp, 2017). Nevertheless, ethical labels are, according to this research, considered to signal higher quality than paper packaging, plausibly due to their more informational nature, which indicates that the product meets certain requirements and therefore has earned the label. For this reason, retail manufacturers should put extra emphasis on the intrinsic attributes of the products, such as the ingredients and taste.

In light of what has been mentioned above, it is advised for retail managers to invest in the store image as a whole rather than simply changing the packaging of their products and expecting to bias consumers into a sustainable purchase. Retailers must be aware that developing packaging that consumers acknowledge as sustainable is a challenge.

On another note, the results on the average score for each construct show that the purchase intention of green products is still relatively low. Taking this into account, marketers looking to sell green products should sensibilize the population and create greater awareness of the need for sustainable

choices. This can be done not only via emotional campaigns but also through updated pricing strategies. Even though it was outside the scope of this research, price sensitivity towards organic products is argued in the literature to constitute a barrier for the consumption of these products (Grunert, 2011). Additionally, it is well-known that private labels' quality has witnessed an upgrade in recent years, causing a shift in consumers' perceptions (Olsen et al., 2011). This is largely a result of the introduction of premium private label brands (Apelbaum, Gerstner, & Naik, 2003). This is supported by the current research, which shows that on average respondents somewhat disagree that the quality of private labels is low or lower than that of branded products. Nonetheless, the two products have not yet reached an equal level of perceived quality and the gap is still apparent. Therefore, retail managers could adopt new campaign strategies that educate consumers on the advantages of buying private labels and that raise these products to the same quality level as the leading brands.

Concerning specific implications for marketers, this thesis uncovered relevant insights that could be used to target specific demographic groups. Danish respondents were found to be more sceptical towards the sustainable manipulation of products, an attitude that should be taken into consideration when communicating to this consumer group. Moreover, low-income consumers are the ones that show a higher predisposition towards buying green products and are also the group that holds a higher perceived quality of private labels. Therefore, marketers should nurture this existing relationship while investing in the store image and consumers' trust to win over new customers with higher levels of income. Finally, younger (18-24) consumers constitute the most attractive group to target based on the group's sustainable attitude. However, their perceived quality of private labels is not the highest, and therefore marketers should work towards improving it. Hence, social media could be used to communicate to this younger generation in order to try to appear as "cool" as the leading brands.

Finally, the study also revealed that consumers are more critical towards products with high psychosocial risk such as laundry detergent, toothpaste, and shampoo, and less likely to trust private labels in these categories. It also revealed that applying paper packaging to these products did not incentivise consumers to choose it but rather the opposite. Hence, retailers should not rely on this strategy to foster perceived quality as it could backfire and be judged as greenwashing. Instead, the focus should be on aligning the psychosocial risks inherent to said products and how they are communicated. Put simply, retail managers should speak to consumers' concerns through their communication strategy. Also, another emphasis could be put on the social aspect of consumption

and foster consumers' engagement with private labels and their respective organic versions within social contexts. As an example, campaigns that promote the consumption of private-labelled organic wine on a social occasion, such as a dinner with friends, can be created.

6.4.3 Limitations and Future Research

Without disregarding the relevance and contribution of this study, it naturally encompasses a few limitations that are hereby addressed.

The first limitation concerns the sampling technique, which by being voluntary is prone to bias and most likely not representative of the broader population (Malhotra & Birks, 2007; Villar, 2008). Therefore, future research employing a non-probability sampling method and with access to a more representative sample is recommended to avoid the bias of self-selection and guarantee capacity of generalisation (Sansone, Musso, Colamatteo, & Pagnanelli, 2020).

The second limitation is also related to the data collection procedure. Specifically, carrying out research using surveys entails unavoidable response bias to the questions, even though the authors did not disclose the purpose of the study deliberately. Respondents' answers take on average the same deviation direction, hence creating a systematic error of the measure that needs to be accounted for (Villar, 2008). Acquiescence response bias, defined by Holbrook (2008, p. 3) as *"the tendency for survey respondents to agree with statements regardless of their content"*, is likely to occur because agreeing with one's statement is more socially acceptable than contradicting it (Callegaro, Murakami, Tepman, & Henderson, 2015; Henderson, 2011). Therefore, it is not unlikely that respondents provided skewed responses when asked about private labels and sustainable consumption. Nonetheless, this limitation is considered to be outside of the authors' control.

On another note, assessing consumers' behaviour based on hypothetical situations has its own limitations (Kim, Cho, & Johnson, 2009). This study asked respondents to assume they were shopping from a predetermined online grocery store and one of the surveys (survey E) described a fictitious friends' trip. Although realistic situations were designed, the respondents' actual behaviour might differ from what has been reported. Consequently, further research could address this limitation and conduct a field study instead.

The authors would like to remind the impact of the global pandemic on the current study. At the time of data collection, the university was closed due to COVID-19 related regulations and so was its eye-

tracking laboratory. Being denied access, the scope of the research had to be adapted to a research method that does not require physical proximity, i.e., an online survey. Conducting the same study using an eye tracker requires subjects to devote time to each product set, while their gaze can be monitored. In this way, biased results caused by the participants' tendency to "get done quickly" with the survey (e.g., answer in a straight line while choosing the products) could have been avoided.

6.4.3.1 Further Research with Eye-Tracking Experiment

As previously referred, an eye-tracking experiment would have offered valuable insights into consumers' cognitive processes underlying choice, by unveiling unconscious and unobserved behaviour that self-reported retrospective techniques, such as surveys, fail to deliver (Grunert, 2011). Herewith, the impact of each element of the packaging could be analysed and grant a deeper understanding of the role of sustainable cues. Moreover, theories such as the body specificity and magnitude representation are founded on mental and unconscious associations that may not be unveiled to their full extent by self-reported retrospective techniques. Therefore, this study constitutes an estimate of the potential effects of specific (sustainable) elements present on the products' packaging, and it is suggested to carry out further research using eye-tracking equipment.

Said equipment would certainly contribute to an additional discussion of H7 and H8, by measuring the duration and focus of the subjects' attention and compare the differences between the two placements (i.e., right and left). Also for H11 and H12, that are discussed in regard to which of the two—sustainable concerns or brand equity—is ultimately activated under a social context, an eye-tracking device could track for instance how long subjects stare at the brand's logo or their eye movements' sequence as it occurs on several product attributes, providing a better explanation for their choices. Moreover, it would also allow to investigate the amount of attention allocated on the ethical labels and assess if their size makes them unnoticed sometimes.

Several studies on the subject have found that consumers' attention and in-store brand choice are closely related (Armel, Beaumel, & Rangel, 2008; Ballco, de-Magistris, & Caputo, 2019; Behe, Bae, Huddleston, & Sage, 2015; Chandon, Hutchinson, & Bradlow, 2009; Clement, Kristensen, & Grønhaug, 2013; Gidlöf, Anikin, Lingonblad, & Wallin, 2017). In other words, the greater the fixation time on certain product attributes, the greater the likelihood of the product being chosen. Similarly, Gidlöf et al. (2017) explain that looking repeatedly at the package also leads to the same outcome—i.e., choice. The latter is ultimately measured by the gaze sequence of subjects when solving a task such as online shopping.

In sum, eye movements are strong indicators of attention, information acquisition, and product choice (Pieters & Warlop, 1999) and researchers can, among others, study the total time spent looking at a certain product element and the number of times the product is looked at. Additionally, marketing practitioners suggest that looking away from the specific target is frequent behaviour for processing information and also an important predictor of choice (Behe, Huddleston, Childs, Chen, & Muraro, 2020). In conclusion, the authors believe that further research with eye-tracking would address the gap of most of these studies that are on branded products and not private labels (Behe et al., 2020). In that regard, it would be relevant to also look at the relationship between attention and perceived quality.

7. Conclusion

Being a vital channel for marketing in 2021, the internet constitutes a fruitful area for academic research on the intentions shaping consumers' decision-making processes, especially in the field of online grocery shopping. As highlighted in the literature, there exists a need for further research in the field of private labels' digital presence, which is argued to reveal interesting implications for retailers. At the same time, while concerns about sustainability are elevated worldwide, the environmental crisis seems to be shaping consumption behaviours more than ever. To diminish their environmental footprint, consumers are shifting towards organic or green goods, such as products with certified ingredients that respect biodiversity and are made from materials that can be recycled.

This thesis seeks to link the rising consciousness on sustainable consumption with the choice of green private labels, under the scope of the digital environment offered by online grocery stores. Therefore, this study contributes to the growing body of literature on private labels by examining the influence of perceived quality, as signalled by sustainable cues, on consumers' purchase intentions and choice of green products.

To answer the main research question and sub-questions of this thesis a conceptual model was developed, aiming to connect perceived quality emerging from ethical labels and paper packaging with consumers' intention to purchase a green product and the choice of a green private label—all under three different settings. In addition, the way that perceived quality of private labels affects the consumers' choice of green private labels was examined.

Regarding the main research question: "*How do paper packaging and ethical labels influence the perceived quality of products, purchase intention of green products, and choice of private labels in the context of online grocery shopping?*", the findings revealed that paper packaging and ethical labels do not appear to influence the perceived quality of products to a great extent. However, they are both positively related to purchase intention of green products. Additionally, the results suggest that the gap between purchase intention and choice is not as apparent as mentioned in the literature. In fact, purchase intention was found to be positively related to consumers' choice of green private labels. Finally, it was also proven that the perceived quality of ethical labels is influencing choice of green private labels positively, while no relationship was found between the perceived quality from paper packaging and choice of green private labels.

The three different settings integrated in the model were argued in the literature to be able to influence and modify either the product's perceived quality, consumers' purchase intentions, or the choice of a product. By employing Mann-Whitney U and Pearson's Chi-Square tests the effect of the different primes on the relevant constructs was assessed.

The first two settings intended to answer this study's first sub-question: *"How does the priming of subjects in terms of placement and supermarket affect their perceived quality of private labels and choice of green private labels?"*. The findings revealed that while the placement of private labels in relation to branded products did not significantly influence perceived quality nor choice, the supermarket (and as a result the store image) had a significant impact on both variables. Specifically, perceived quality of private labels and choice of green private labels were seen to score significantly higher for high-end supermarkets, such as Irma, than for low-end supermarkets, as is the case of Lidl.

The third setting aimed to answer the study's second sub-question: *"How does the priming of subjects in terms of context affect their purchase intention of green products and choice of green private labels?".* The results showed that the context of consumption influences the purchase intention of green products as well as the ultimate choice of green private labels. It was found that these variables are positively influenced by non-social contexts.

Further analysis uncovered significant differences between relevant subgroups based on nationality, income, and age. In short, younger as well as lower-income and Danish respondents were found to choose green private labels more than any other subgroup. Lastly, additional analysis revealed that there was no statistical evidence to conclude that different green elements affect choice differently. However, it was proven that for products holding a high psychosocial risk, such as shampoo, laundry detergent, and toothpaste, green private labels were chosen less often than would be expected if the two variables (i.e., product category and choice of green private labels) were not related to each other. Therefore, it was shown that choice of green private labels is dependent on the product category.

The findings comprise pertinent implications for online retailers, manufacturers, and marketers. Specific demographic groups are suggested to be targeted, and actions to stimulate sales of retailers' organic brands (i.e., green private labels) online are indicated. Finally, the study encourages further research by embracing a neuroscientific approach. In this sense, the authors suggest that the influence of green private labels' lateral display position should be assessed by examining visual attention through an eye-tracking experiment.

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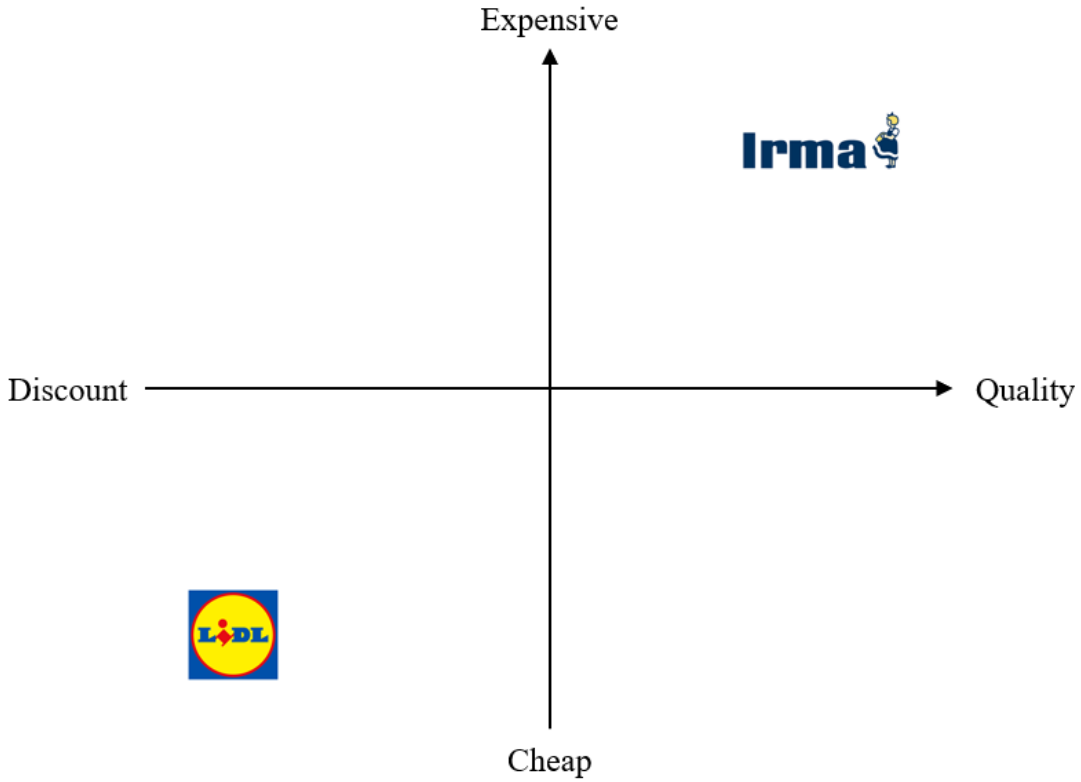
9. Appendix

Appendix A – Supermarkets Positioning



Appendix B – Online Survey

B1. Landing Page

Hej med dig!

Thank you so much in advance for participating in this survey. By doing so, you are helping out two master's students at CBS. :)

The survey takes approximately 5-7 minutes and is divided into two parts – first, you will be asked to choose some products, and then you will be presented with follow-up questions.
Read carefully the instructions and please answer all questions intuitively and truthfully. We would like to remind you that there are no right or wrong answers.

We ensure you that all responses will be anonymized, all data collected will be kept confidential and only serves the purpose of our research.

Thank you for your time and enjoy!
Elena & Vera

B2. Priming Header: Groups A and B (non-social context, low-end supermarket)

Imagine you will do grocery shopping through Lidl's online grocery store.
Please choose one product from each one of the following pairs.

While making your decisions consider the products of each pair to be equal in terms of quantity and price.

B3. Priming Header: Groups C and D (non-social context, high-end supermarket)

Imagine you will do grocery shopping through Irma's online grocery store.
Please choose one product from each one of the following pairs.

While making your decisions consider the products of each pair to be equal in terms of quantity and price.

B4. Priming Header: Group E (social context)

You are planning to spend a month in a holiday house by the beach with your friends.

The day before you leave one of your friends calls you and asks you to buy the following things that you will probably need.
There is a supermarket, 25km away from the house you rented so you decide to place an order through its online grocery store and have the products delivered to the house the next day.
Please choose one product from each one of the following pairs.

While making your decisions consider the products of each pair to be equal in terms of quantity and price.

B5. Experiment: Lidl Products vs Branded Products

Which product would you buy?


Bellarom
ESPRESSO
100% Arabica


GROUND COFFEE
CAFE MOULU
1895
LAVAZZA
ITALY'S FAVORITE COFFEE
GRAN AROMA
MEDIUM ROAST


Cien
SHAMPOO


SHAMPOO
GARNIER
FRUCTIS
DAMAGE
ERASER


FORMIL
BIOLOGICAL


ARIEL


fin CARRÉ
MÆLKE
CHOKOLADE
100 g


Cadbury
Dairy
Milk
MILK
CHOCOLATE


dentalux
COMPLEX 5


Colgate


COMBINO
FUSILLI


DE CECCO
Fusilli
METODO DE CECCO


Milbona
Letmælk
1L


Arla
LETMÆLK


Cien
SHAMPOO


SHAMPOO
GARNIER
FRUCTIS
TRIPLE
NUTRITION


fin
CARRÉ
MØRK
CHOKOLADE
100 g


Cadbury
ROYAL
DARK
DARK CHOCOLATE


COMBINO
PENNE RIGATE


DE CECCO
dal 1886
Penne Rigate n°41
METODO DE CECCO


Bellarom
ESPRESSO
100% Arabica


GROUND COFFEE
CAFÉ MOULU
LAVAZZA
ITALY'S FAVORITE COFFEE
GRAN SELEZIONE
DARK ROAST


FORMIL
COLOR


POWER GEL
ARIEL


Fin CARRÉ
HVID CHOKOLADE
100 g


Cadbury
Dream
DREAM white chocolate


CROWNFIELD
RAISIN & ALMOND
GRANOLA


Kellogg's
GRANOLA
FRUIT


COMBINO
FARFALLE


DE CECCO
Farfalle n°93
METODO DE CECCO


dentalux
COMPLEX 5


Colgate
Original


FORMIL


ACTILIFT
ARIEL


Milbona
Minimælk
1L


Arla
MINIMÆLK


Cien
SHAMPOO


SHAMPOO
GARNIER
FRUCTIS
SLEEK
& SHINE


dentalux
COMPLEX 5


Colgate

B6. Experiment: Irma Products vs Branded Products

Which product would you buy?


Irmas
Espresso
Scuro


LAVAZZA
ITALY'S FAVORITE COFFEE
GRAN AROMA


Irmas
hverdag
SHAMPOO
DRY HAIR


SHAMPOO
GARNIER
FRUCTIS
DAMAGE
ERASER


Irmas
NORMAL
VASK
Koncentreret
Effektiv fra 20°C
1,5 liter


ARIEL
ORIGINAL


Irmas
MÆLK
MÆLKECHOKOLADE
100 g


Cadbury
Dairy Milk
MILK CHOCOLATE


Irmas
TAND PASTA


Colgate


Irmas
hverdag
FUSILLI PASTA
Fremstillet i bronzeforme
Kogetid: 11-13 min.
500 g


DE CECCO
Fusilli


Irmas
hverdag
Letmælk
1,5% fedt


Arla
LETMÆLK


Irmas
hverdag
SHAMPOO
FORTIFYING


SHAMPOO
GARNIER
FRUCTIS
TRIPLE
NUTRITION


Irmas
85% KAKAO
MØRK CHOKOLADE
100 g


Cadbury
ROYAL
DARK
DARK CHOCOLATE


Irmas
hverdag
PENNE
PASTA
Fremstillet i bronzeformer
Kogetid: 13-15 min.
500 g


DE CECCO
dal 1886
Penne Rigate n°41
METODO DE CECCO


Irmas
Espresso
Scuro


GROUND COFFEE
CAFÉ MOULU
LAVAZZA
ITALY'S FAVORITE COFFEE
GRAN SELEZIONE
DARK ROAST


Irma
HVID
VASK
Koncentreret
Effektiv fra 20°C
1.5 liter


ACTILIFT
ARIEL


Irmas
HVID
HVID CHOKOLADE
100 g


Cadbury
Dream
DREAM white chocolate


Irmas
hverdag
Granola


Kellogg's
GRANOLA
FRUIT


Irmas
hverdag
FARFALLE
PASTA
Fremstillet i bronzeforme
Kogetid: 13-15 min.
500 g


DE CECCO
dal 1886
Farfalle n°93
METODO DE CECCO


Irmas
tusindfryd
TAND
PASTA


Original
Colgate


KULØRT
VASK


POWER GEL
ARIEL
Downy


Irmas
hverdag
Granola


Kellogg's
CRUNCHY
OAT GRANOLA
Almond Treat


Irmas
hverdag
Minimælk


Arla
MINIMÆLK


Irmas
hverdag
SHAMPOO
INTENSE SHINE


SHAMPOO
GARNIER
FRUCTIS
SLEEK
& SHINE


Irmas
TAND
PASTA


Colgate

B7. Questionnaire

Are you right-handed or left-handed? *(If ambidextrous please choose based on the hand you feel more comfortable using in your everyday life)*

Right-handed

Left-handed

Do you know what a Private Label (*also called store brand*) is?

Yes

Not sure

Never heard of it

Private labels are products introduced by retailers, and as a consequence can be found only in the retailers' stores. The following products are some examples.

On the other hand, a **branded product** is a product which is made by a well-known manufacturer and has the manufacturer's label on it. The following products are some examples.

How often do you do the following:

	Never	Sometimes	About half the time	Most of the time	Always
I buy Private Labels	○	○	○	○	○
I buy impulsively when grocery shopping	○	○	○	○	○
I take into consideration the product's packaging material when I make decisions for groceries	○	○	○	○	○

How likely is that you consider buying a product only because its package is made of paper/carton?

- Extremely unlikely
- Somewhat unlikely
- Neither likely nor unlikely
- Somewhat likely
- Extremely likely

Do you look for labels signaling environmental concerns when choosing a product?

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Do you look for the following labels when buying a product? *(Choose all the ones that you look*

I do not look for any of these

How much do you agree with the following statements?

Strongly disagree — Strongly agree

0 1 2 3 4 5 6 7 8 9 10

I know the difference between Private Labels and Premium Private Labels

I choose quality over price

Sustainable products have better quality

A product made out of paper/carton packaging has better quality

Eco labels on the product's packaging signal better quality

Paper/carton packaging is more sustainable

Private labels are of low quality

Private Label's quality depends on the supermarket selling it

Private Labels have lower quality than branded products

Premium Private labels have higher quality than branded products

Gender

- Male
- Female
- Non-binary / third gender
- Prefer not to say

Age

- 18 - 24
- 25 - 34
- 35 - 54
- 55 - 64
- 65 or older

Average income per month (***before tax***)

- <10.000 dkk
- 10.000-24.999 dkk
- 25.000-34.999 dkk
- 35.000-45.000 dkk
- >45.000 dkk

For whom do you **usually** buy?

- Only for myself
- Me and my partner/family
- Me and my roommates
- Other

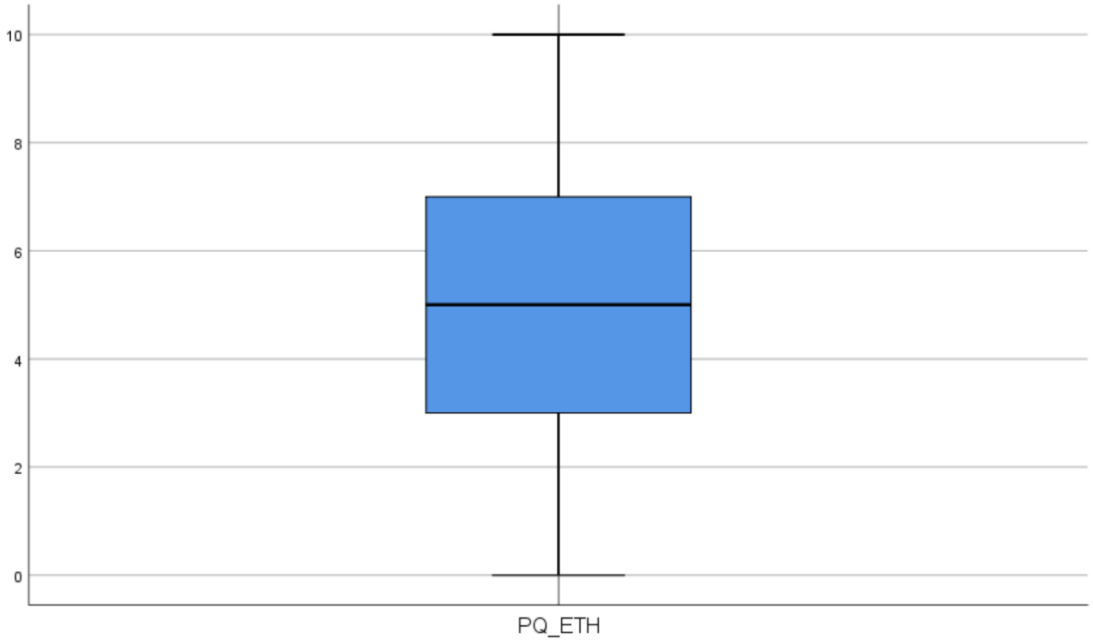
What is your nationality?

Appendix C – List of the Facebook groups where the survey was publicized

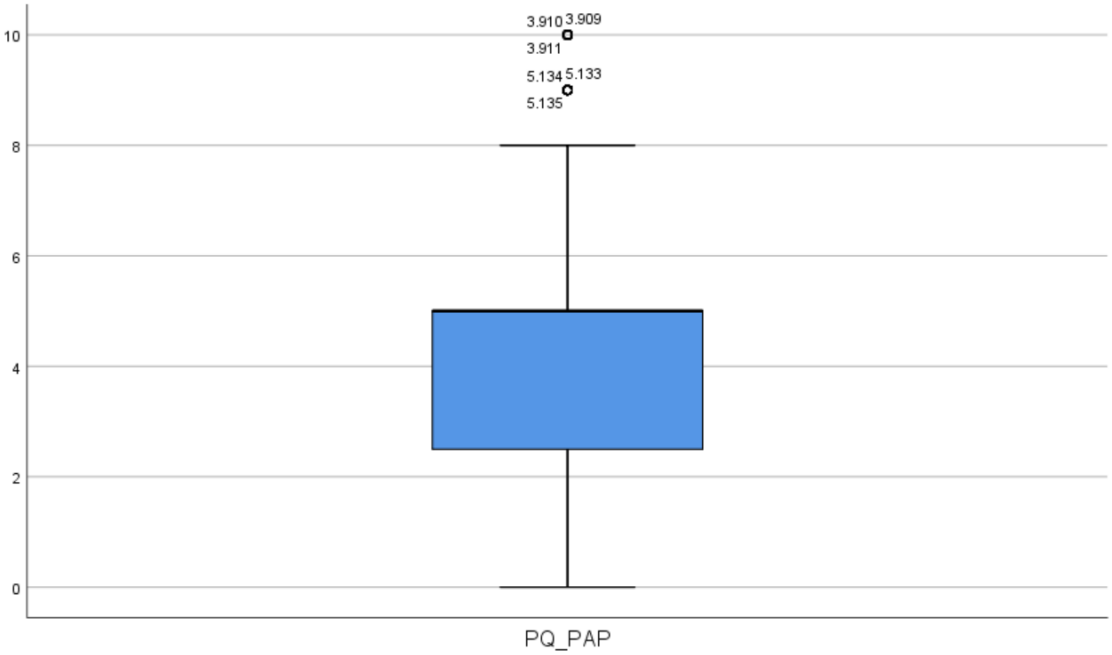
Facebook Groups	Number of Members
Expats in Copenhagen	52 600
International Students in Copenhagen	21 300
Copenhagen Business School Connect	20 900
Køb,salg og bytte i København	11 100
Greek Union – Denmark	2 900
Portugueses em Copenhaga/Dinamarca	2 100
Job, Sell, Buy, Give in Copenhagen	1 900
BCM Graduates 2022	130
BCM Graduates 2021	127

Appendix D – Box Plot for Outliers

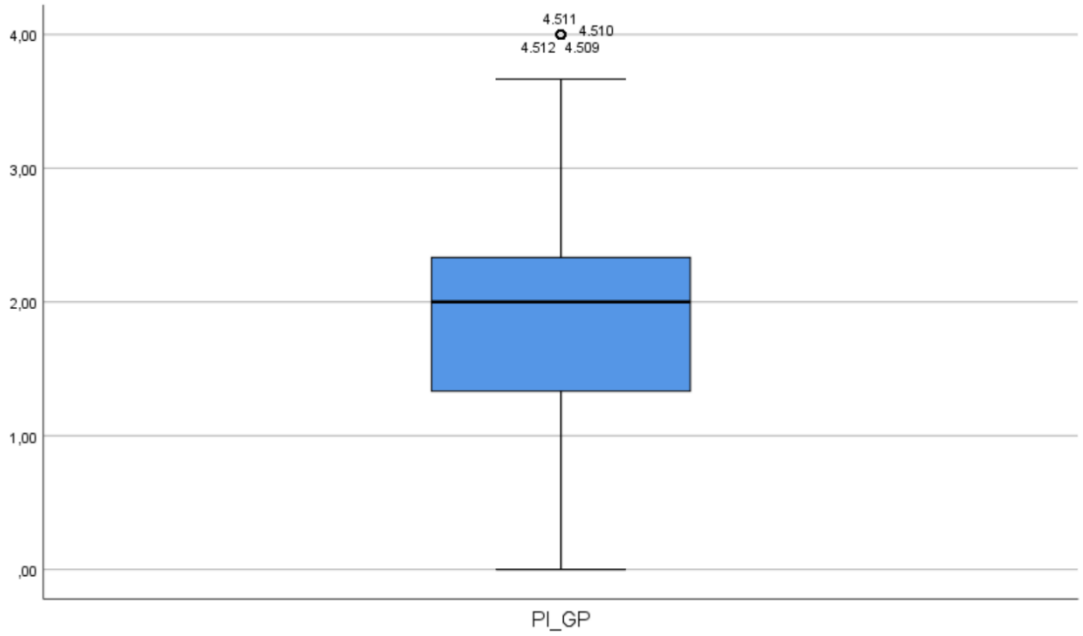
Boxplot of Perceived Quality of Ethical Labels



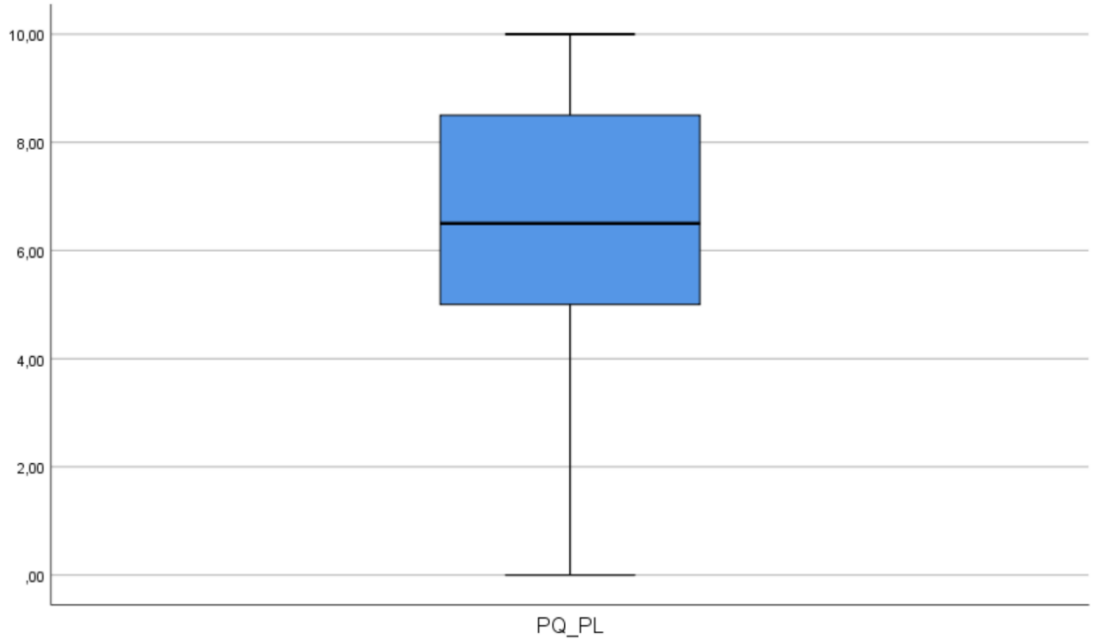
Boxplot of Perceived Quality from Paper Packaging



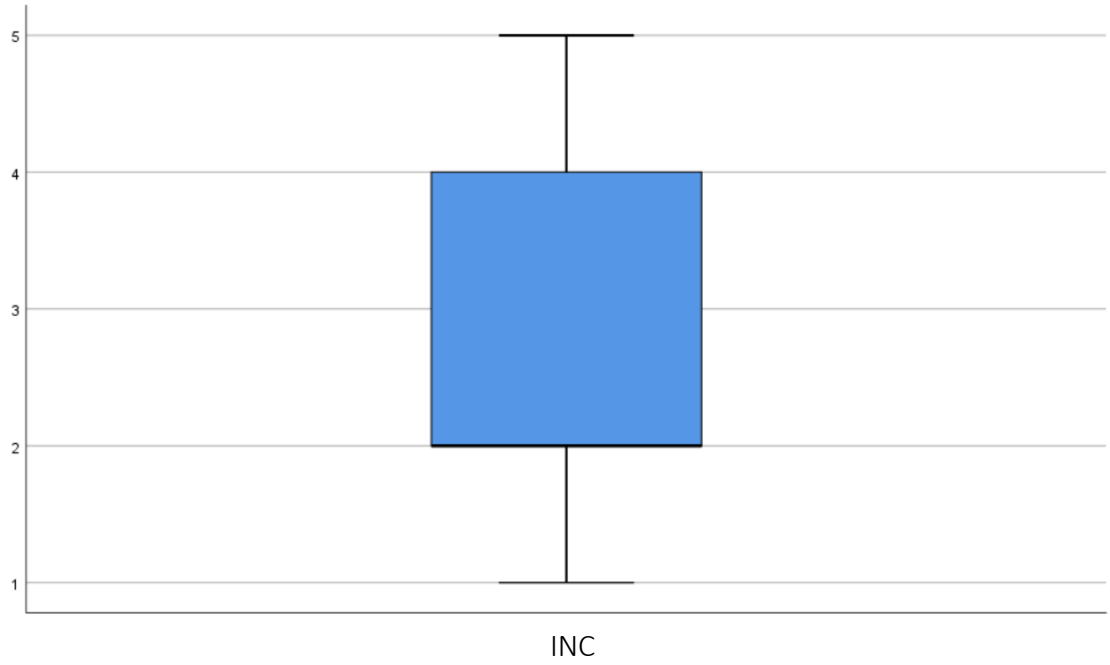
Boxplot of Purchase Intention of Green Products

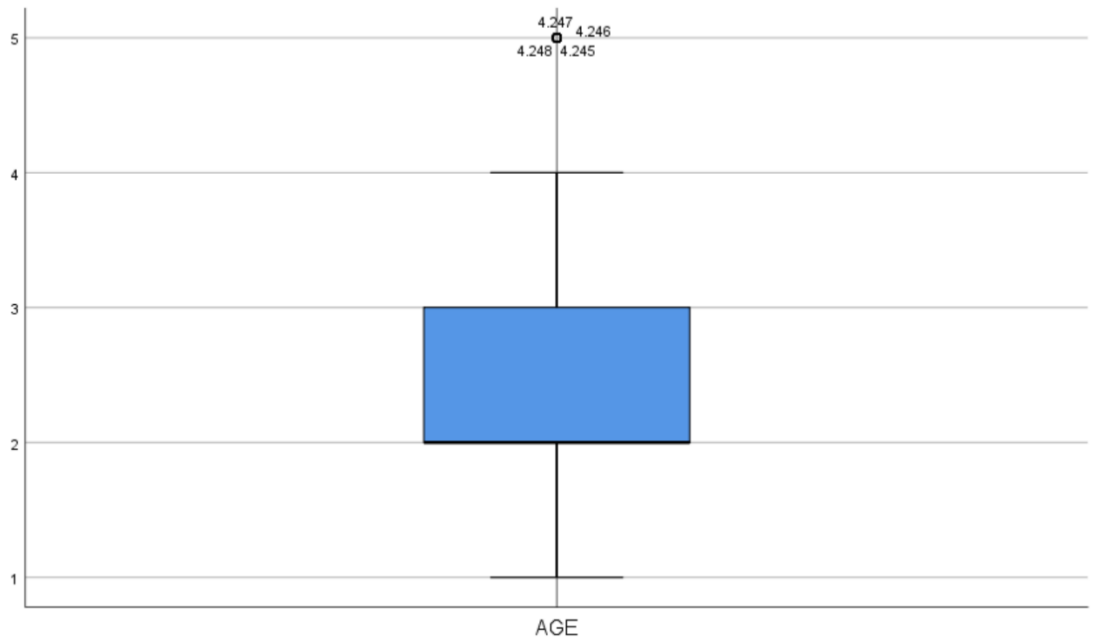


Boxplot of Perceived Quality of Private Labels



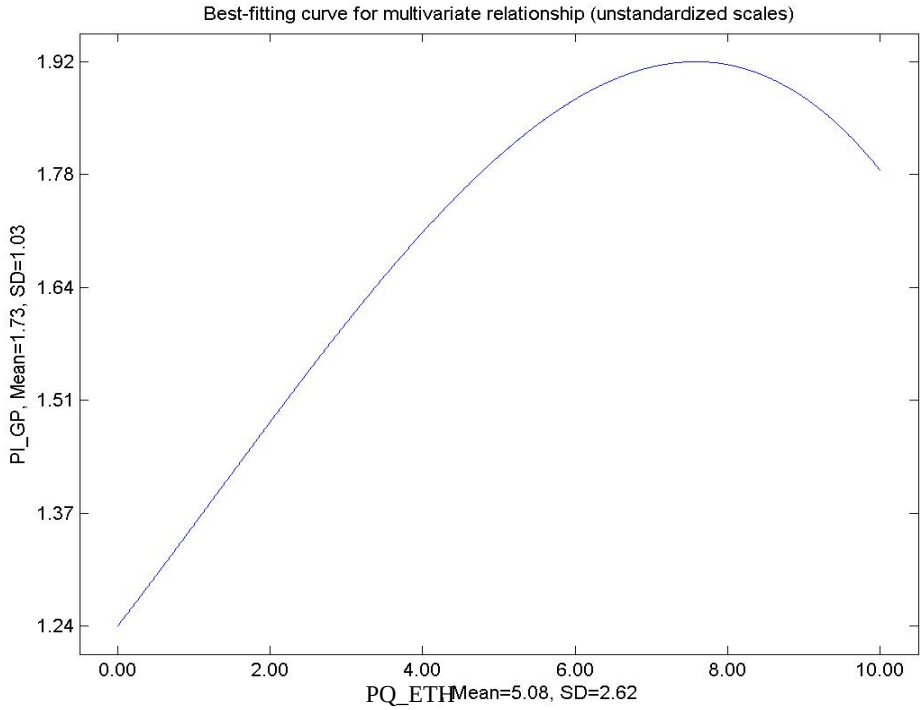
Boxplot of Income



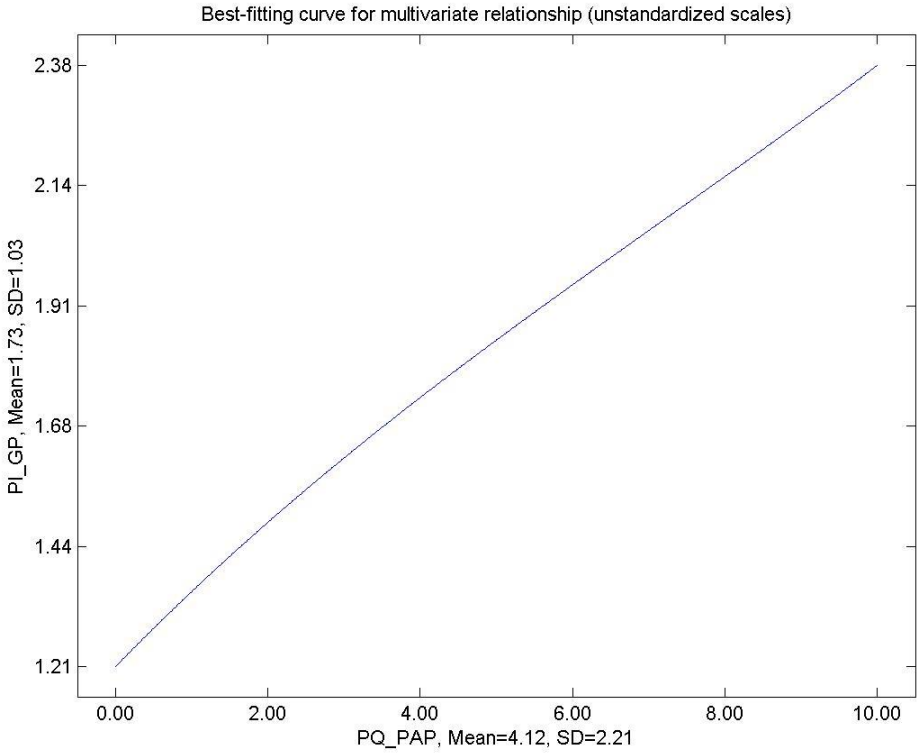


Appendix E – Plots for the Relationships between Variables

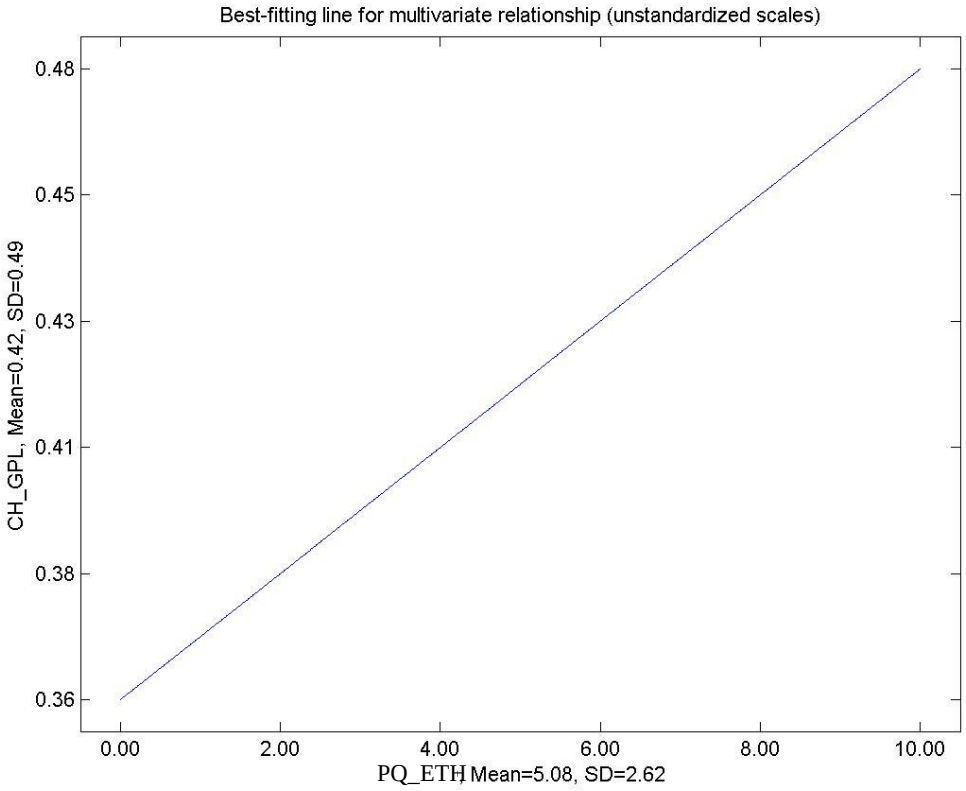
Relationship between PQ_ETH and PI_GP



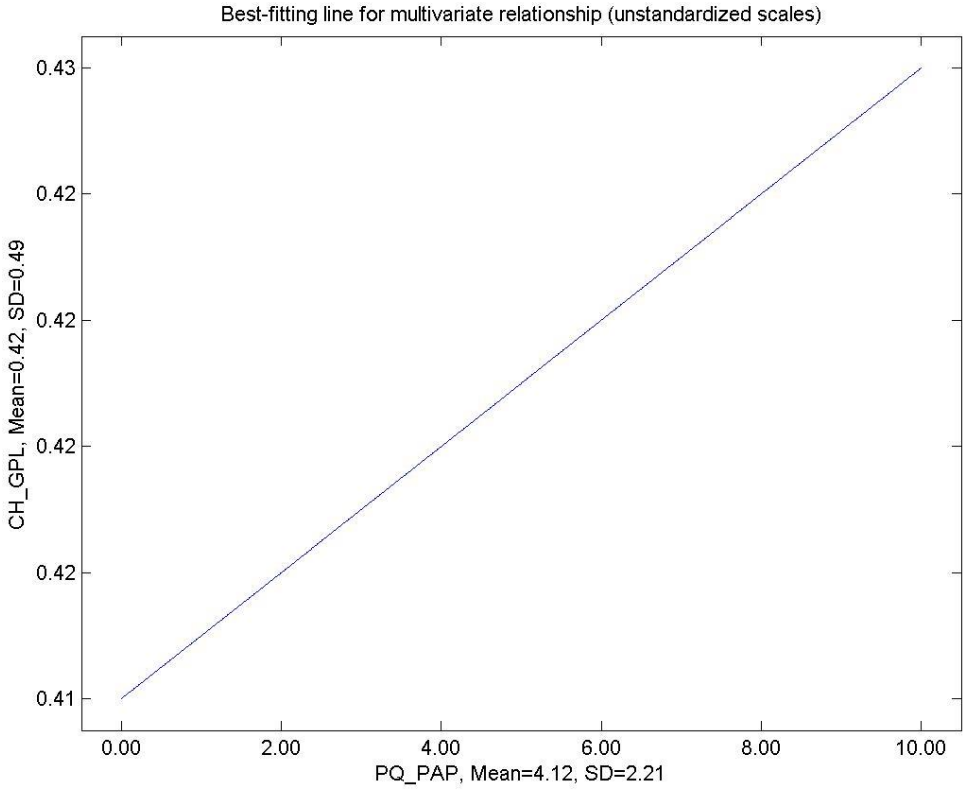
Relationship between PQ_PAP and PI_GP



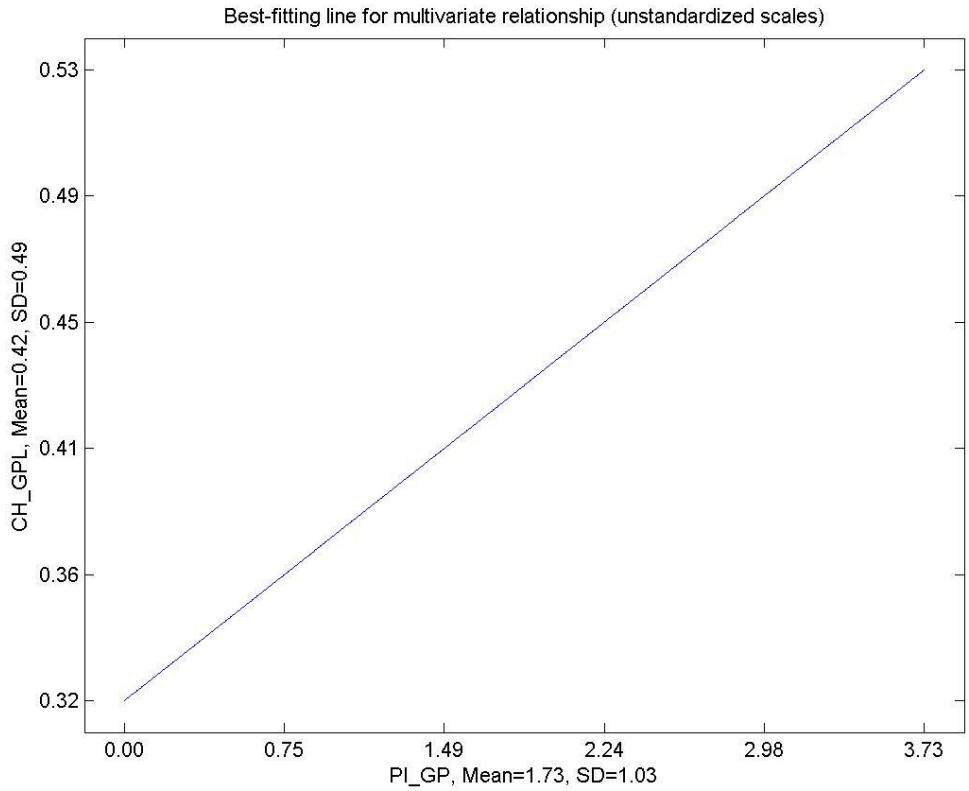
Relationship between PQ_ETH and CH_GPL



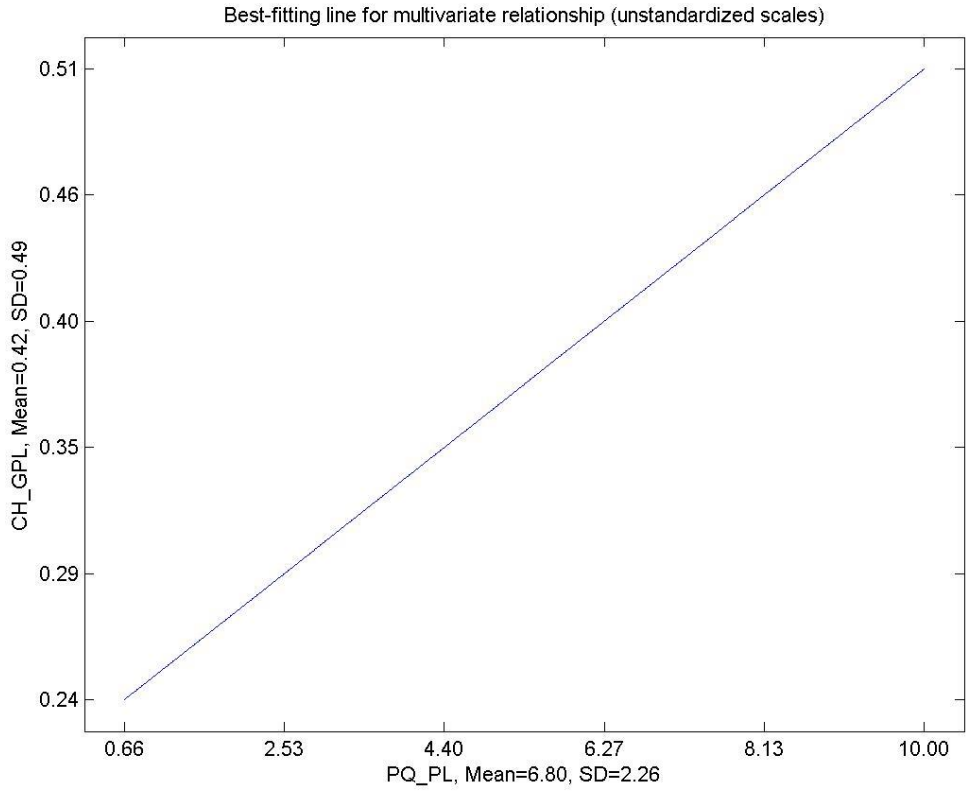
Relationship between PQ_PAP and CH_GPL



Relationship between PI_GP and CH_GPL



Relationship between PQ_PL and CH_GPL



Appendix F – Analysis of SUP when PLAC is held constant (SUP1 & SUP2)

Mann-Whitney U Test

Ranks							
		SUP1 [PLAC=right]			SUP2 [PLAC=left]		
		N	Mean Rank	Sum of Ranks	N	Mean Rank	Sum of Ranks
PQ_PL	Low-end	1512	1383.55	2091924.00	1344	1152.07	1548384.00
	High-end	1296	1428.94	1851912.00	1176	1384.42	1628076.00
	Total	2808			2520		

Test Statistics		
	PQ_PL[a]	PQ_PL[a]
Mann-Whitney U	948096.000	644544.000
Wilcoxon W	2091924.000	1548384.000
Z	-1.485	-8.036
Asymp. Sig. (2-tailed)	0.137	0.000

a. Grouping Variable: SUP when PLAC=right

a. Grouping Variable: SUP when PLAC=left

Pearson's Chi-Square Test

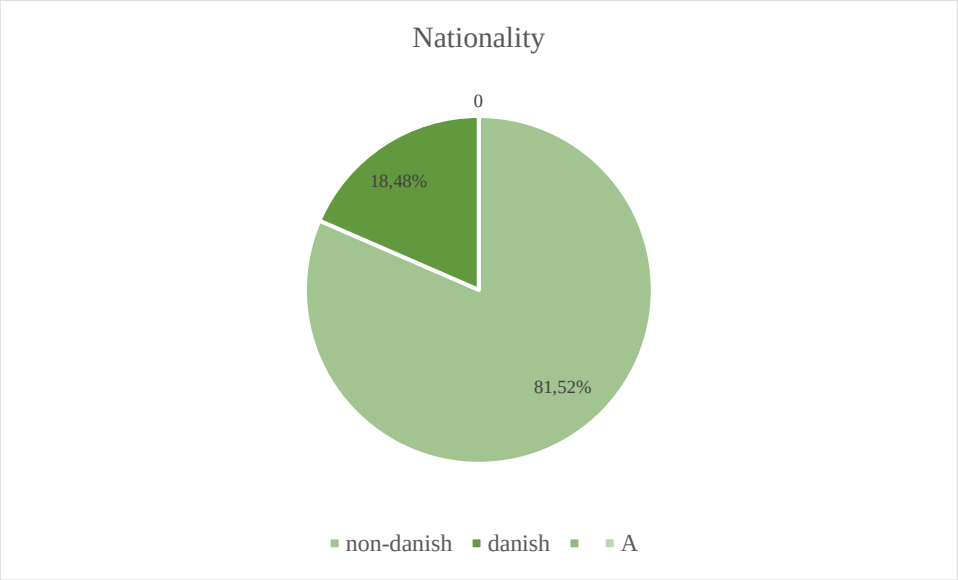
Crosstabulation								
			SUP1 [PLAC=right]			SUP2 [PLAC=left]		
			Low-end	High-end	Total	Low-end	High-end	Total
CH_GPL	No	Count	874	742	1616	821	637	1458
		Expected Count	870.2	745.8	1616.0	777.6	680.4	1458.0
	Yes	Count	638	554	1192	523	539	1062
		Expected Count	641.8	550.2	1192.0	566.4	495.6	1062.0
Total		Count	1512	1296	2808	1344	1176	2520
		Expected Count	1512.0	1296.0	2808.0	1344.0	1176.0	2520.0

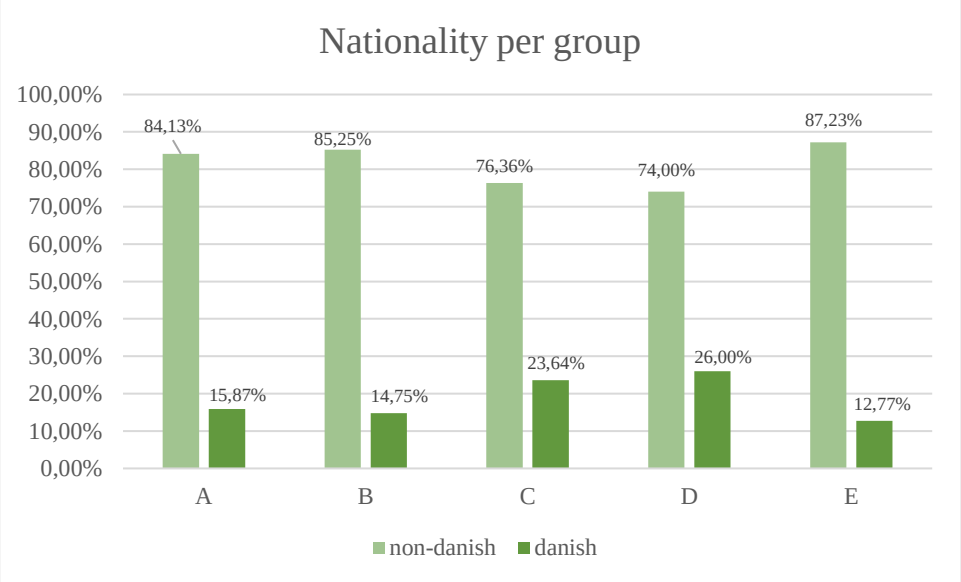
Chi-Square Tests						
	SUP1 [PLAC=right]			SUP2 [PLAC=left]		
	Value	df	Asymp. Sig. (2-tailed)	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	0.087[a]	1	0.768	12.317[a]	1	0.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 550.15

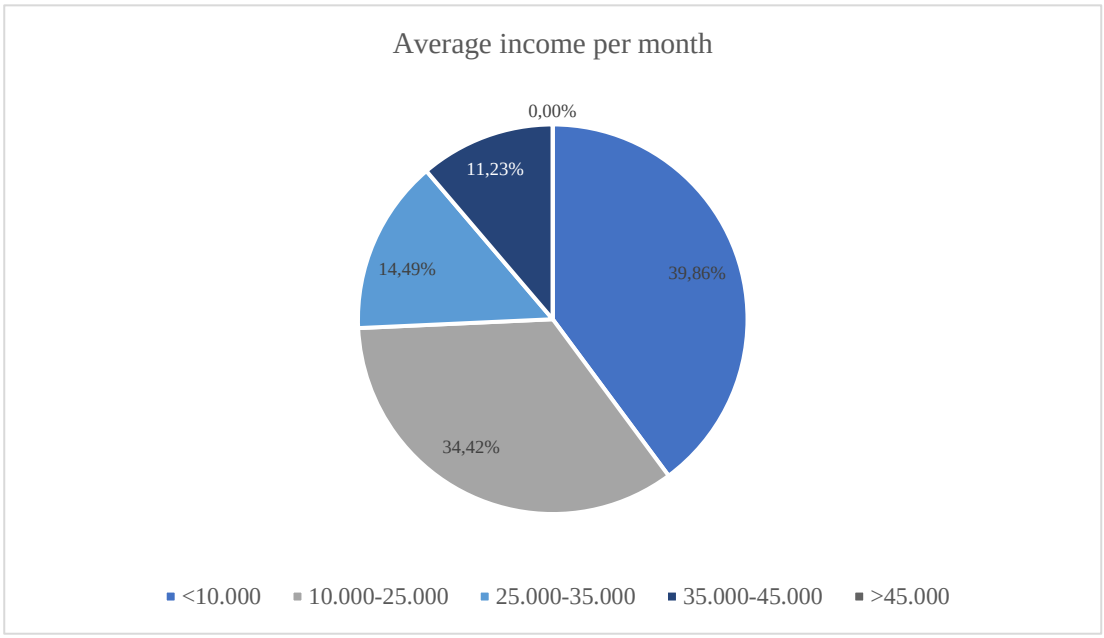
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 495.60

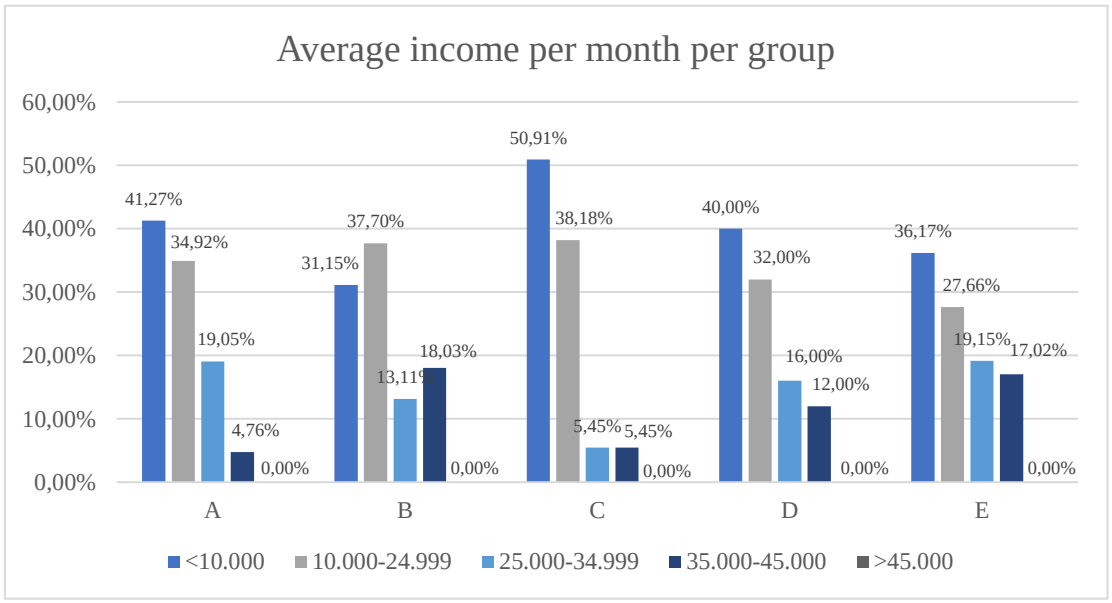
Appendix G – Nationality Distribution





Appendix H – Income Distribution





Appendix I – Results of PLAC, SUP, and CONT [low-income sub-group]

Placement on PQ_PL

Ranks				
		PLAC		
		N	Mean Rank	Sum of Ranks
PQ_PL	Left	1418	1438.47	2036868.00
	Right	1536	1511.56	2321760.00
	Total	2952		

Test Statistics	
	PQ_PL[a]
Mann-Whitney U	1033632.000
Wilcoxon W	2321760.000
Z	-2.336
Asymp. Sig. (2-tailed)	0.019

a. Grouping Variable: Placement

Placement on CH_GPL

Crosstabulation					
			PLAC		
			Left	Right	Total
CH_GPL	No	Count	816	849	1665
		Expected Count	798.7	866.3	1665.0
	Yes	Count	600	687	1287
		Expected Count	617.3	669.7	1287.0
Total		Count	1416	1536	2952
		Expected Count	1416.0	1536.0	2952.0

Chi-Square Tests			
	PLAC		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	1.660[a]	1	0.198

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 617.34

Supermarket on PQ_PL

Ranks				
		SUP		
		N	Mean Rank	Sum of Ranks
PQ_PL	Low-end	1464	1467.06	2147772.00
	High-end	1488	1485.79	2210856.00
	Total	2952		

Test Statistics	
	PQ_PL[a]
Mann-Whitney U	1075392.000
Wilcoxon W	2147772.000
Z	-0.599
Asymp. Sig. (2-tailed)	0.549

a. Grouping Variable: Supermarket

Supermarket on CH_GPL

Crosstabulation					
			SUP		
			Low-end	High-end	Total
CH_GPL	No	Count	882	783	1665
		Expected Count	825.7	839.3	1665.0
	Yes	Count	582	705	1287
		Expected Count	638.3	648.7	1287.0
Total		Count	1464	1488	2952
		Expected Count	1464.0	1488.0	2952.0

Chi-Square Tests			
	PLAC		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	17.448[a]	1	0.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 638.27

Context on PI_GP

Ranks				
		CONT		
		N	Mean Rank	Sum of Ranks
PI_GP	Non-social	696	643.95	448188.00
	Social	600	653.78	392268.00
	Total	1296		

Test Statistics	
	PI_GP[a]
Mann-Whitney U	205632.000
Wilcoxon W	448188.000
Z	-0.475
Asymp. Sig. (2-tailed)	0.635

a. Grouping Variable: Context

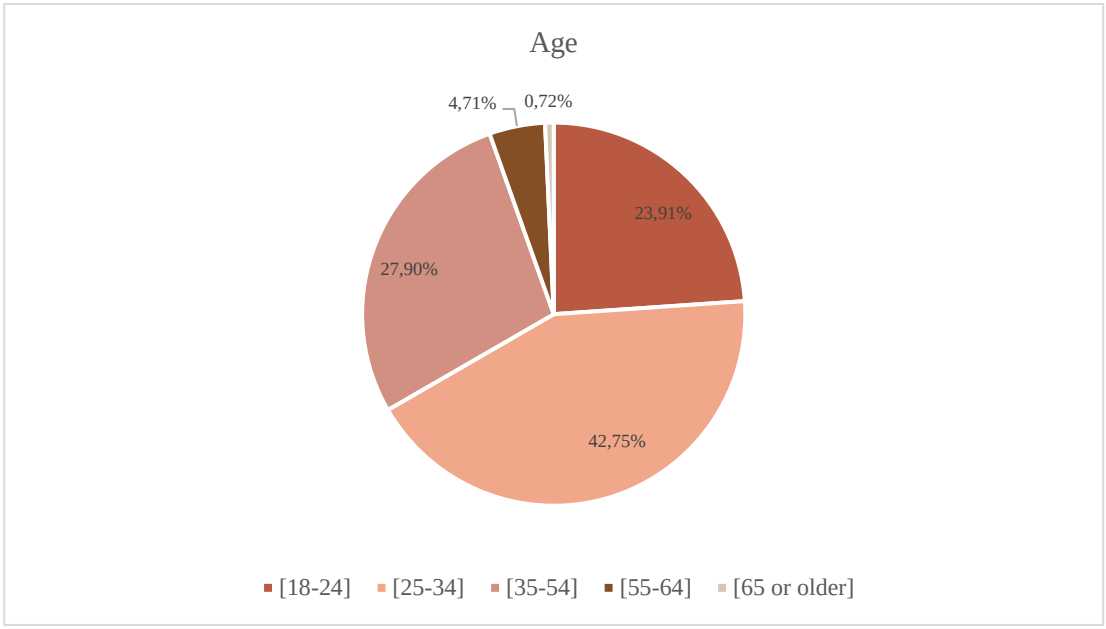
Context on CH_GPL

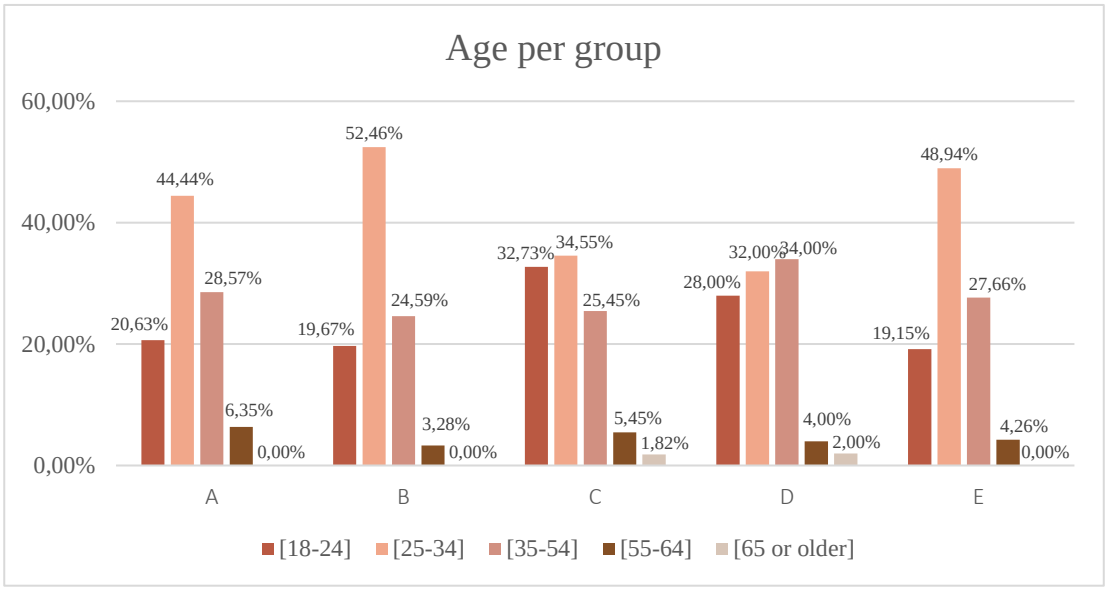
Crosstabulation					
			CONT		
			Non-social	Social	Total
CH_GPL	No	Count	370	332	702
		Expected Count	377.0	325.0	702.0
	Yes	Count	326	268	594
		Expected Count	319.0	275.0	594.0
Total		Count	696	600	1296
		Expected Count	696.0	600.0	1296.0

Chi-Square Tests			
	PLAC		
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	0.613[a]	1	0.434

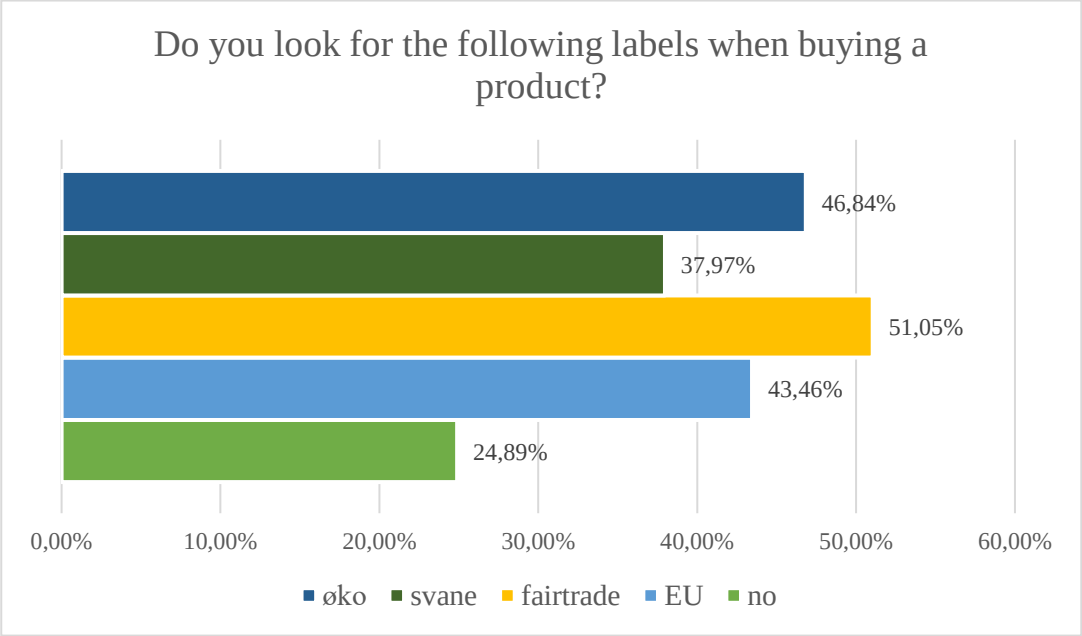
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 275.00

Appendix J – Age Distribution





Appendix K – Overview of the ethical labels sought by the respondents



DISCLAIMER: The sum is greater than 100% because respondents could select more than one option.