What Is the Future of Organic Food: Organic National Brands or Organic Private Labels?

The impact of perceived availability of organic private label products on the purchase intention of organic national brand products

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Second examiner: prof. dr. J.M.M. Bloemer

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Preface

Hereby I present you my master thesis for the master marketing at the Radboud University Nijmegen. It is a quantitative research that is aimed at providing an answer for the question of to what extent the perceived quality of organic private label products has an impact on the purchase intention of organic national brand products. This research allows me to apply the knowledge and skills that I have gathered during my study. Also, it helps to develop new knowledge and skills, like how to set up academic research from scratch without any guidelines or frames. Besides the fact that this research helped with improving my academic knowledge and skills, it also allows me to dive deeper into the topic of my interest, namely organic food. During the courses in the master marketing and during my internships I already came into contact with this topic, and by writing this master thesis my interest in this topic even further increased.

I would like to thank my supervisor Dr. H. J. Schmidt for his support during the master thesis trajectory. Furthermore, I would like to thank my family and friends for their emotional support during this master thesis process.

Abstract

From an academic point of view, it turned out that the topic of organic private labels and organic national brands has been studied from different angles. However, when it comes to the question 'to what extent the perceived availability of organic private label products affects the purchase intention of organic national brand products' has been neglected within the literature. Since the organic food market is growing rapidly and will double in 2025 (Phillips & Pinckaers, 2018) combined with the fact that current society is aware of the importance of organic food (Von Essen & Englander, 2013), this question become even more important. This study tries to provide an answer for the gap that is found in the literature. Two different moderators, perceived quality and organic involvement, are added to the relationship between the organic private label products and organic national brand products to explain in more detail what influences this relationship. An online survey is conducted among 167 respondents. The results show that the perceived availability of organic private label products does not affect the purchase intention of organic national brand products. Also, the effect of both moderators is absent in this study. However, even though the effect of both moderators is not significant, it turned out that perceived quality has a direct effect on the purchase intention of organic national brand products. This suggests that perceived quality is an important predictor for the purchase intention of organic national brand products.

Keywords: perceived availability, purchase intention, organic private label products, organic national brand products, perceived quality, and organic involvement.

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1. Introduction

The popularity of organic products in the Netherlands has increased significantly in the last couple of years. According to a report of USDA Foreign Agricultural Service, organic products have a market share of approximately 3.3 percent in 2018 (Phillips & Pinckaers, 2018). They expect that this will double in 2025 compared to 2018. Furthermore, Bionext (2019) mentions that the turnover rate of organic products in the Netherlands in 2019 grew to 888,3 Million versus 842,7 million in 2018. Bionext (2020) also addresses that 95,1 percent of the Dutch households bought at least one organic product in 2019, whereby nine out of ten in a supermarket. The reason why this market has increased can be explained by the fact that (young) adults nowadays are aware of the importance of their health and therefore focused on a healthy lifestyle by choosing organic food and follow organic diets (Von Essen & Englander, 2013). Besides, they are environmentally and situationally aware, which leads to the choice of organically farmed food products. This implies less exposure to pesticides and fertilizers and taking into account animal welfare and fair trade (Chait, 2019).

To keep up with this growing demand for organic food more retailers are introducing organic private label products (Chartier, 2019). For instance, retailer Albert Heijn added a new organic tier to their 3-tiered private label strategy, which is called "*AH Biologisch"* (Albert Heijn, n.d.e; Michel & De Jong, 2017). Retailer Jumbo has introduced a similar organic tier under the name of Jumbo Biologisch (Michel & De Jong, 2017). Also, the discount retailers, like Aldi and Lidl, are trying to compete in the organic food market by offering their private label brands (Michel & De Jong, 2017). In line with this, Geyskens, Gielens, & Gijsbrecht (2010) have investigated whether introducing new tiers within the private label brands cannibalize or expands the purchase intention of private standard labels and national brands. The introduction of organic private label products (hereafter: organic private labels) raises questions like to what extent this has an impact on the purchase intention of organic national brand products (hereafter: organic national brands).

Previous research into the introduction of private label tiers found that the economic tier cannibalizes standard private labels, while the premium tier cannibalizes the economy and standard tier (Geyskens et al., 2010). This is not necessarily harmful to national brands and may benefit the market share of national brands. Besides, Gielens (2012) found out that products introduced by leading national brands, standard private labels, and premium private labels are more likely to increase category sales than follower national brands or economy private labels. In addition to that, Bauer, Heinrich & Schäfer (2013) found out that organic labels positively

affect consumers' perception of global, local, and private brands concerning their main purchasing motives, which suggests that organic labels increase the motivation of consumers to buy private labels. Recently, Butz (2020) builds upon these studies by investigating the introduction of organic private labels on other private labels and national brands. The result shows that this introduction does not affect the purchase intention of both premium private labels and premium national brands. However, a cannibalizing effect was found for both standard tier private labels and mainstream national brands. Thus, early research is specifically aimed at the impact of introducing private labels and organic private labels on the purchase intention of private label tiers and national brand tiers. But research in the context of introducing organic private labels on the purchase intention of organic national brands has been neglected. Concerning the rapid growth of organic private labels, combined with the lack of knowledge in the current literature, it would be interesting to gain more in-depth knowledge concerning the effect of the perceived availability of organic private labels on the purchase intention of organic national brands. Based on what is mentioned in this alinea, the following research question is formulated: *to what extent does the perceived availability of organic private label products has an impact on the purchase intention of organic national brand products, and how is this effect being moderated by perceived quality and organic involvement?*

Through investigating this research question several theoretical contributions can be made. The first contribution is aimed at creating insight into the effect of the perceived availability of organic private labels on the purchase intention of organic national brands. In the literature, various studies address that consumers are motivated to buy organic food, but due to the lack of perceived availability, they are hampered to buy these products (Padel & Foster, 2005; Vermeir & Verbeke, 2006; Young, Hwang, McDonald, & Oates; 2009). In addition to this finding, several studies found out that the limited perceived availability of organic food products (hereafter: organic food) has a negative influence on consumers' attitudes and purchase intention towards organic food (Singh & Verma, 2015; Tarkiainen & Sundqvist, 2005; Young et al., 2009). In essence, this means that when the perceived availability of organic food increases the intention of consumers to buy organic increases as well. Since supermarkets started offering organic food products that contain their brand, namely the organic private label tier (Chartier, 2019), consumers nowadays have the opportunity to choose from a broader bio-assortment, namely between organic private labels and organic national brands. So, through conducting this research insight is provided concerning the impact of the perceived availability of organic private labels on the purchase intention of organic national brands. The second contribution is related to adding moderators to the relationship between the perceived

availability of organic private labels on the purchase intention of organic national brands. Within the literature, different factors are mentioned that could affect the purchase intention of organic food. Steenkamp, Van Heerde, & Geyskens (2010) and Chaniotakis, Lymperopoulos, & Soureli (2010) found main drivers that differentiate national brands from private labels, which consist of packaging, advertising, and pricing. However, various studies mention that perceived quality is the most important factor when it comes to the effect on the purchase intention for both private labels and national brands (Chaniotakis et al., 2010; Hoch and Banegi, 1993; Jaafar, Lalp, & Naba, 2012). Furthermore, also involvement can influence the purchase intention. According to Gosh, Barai, & Data, 2018 the type of involvement is different for organic food compared to non-organic food because organic involvement is based on a much deeper cognitive processing of beliefs and attitudes. So, it is interesting to investigate to what extent organic involvement influences the relationship between perceived availability of organic private labels and purchase intention of organic national brands. Therefore, it is decided to investigate perceived quality and organic involvement as possible moderators based on their importance and interest of the researcher. Also, the driver's packaging, advertising, and pricing will be investigated as well because they are mentioned in the literature as the main drivers and to get more insight into which factors possibly also affect the relationship.

Besides the theoretical contributions, this thesis also has a societal contribution. According to Smith & Brower (2012), the new generation, also known as the green generation, is aware of the importance of environmental and ecological conditions. They take note of the company's reputation and expect companies to be responsible and take care of the climate of the planet (Smith & Brower, 2012). This generation prefers environmentally friendly products and is willing to pay extra for this kind of products (Laroche, Bergeron, & Barbaro-Forleo, 2001; Oliver, 2007). From an ecological point of view, this generation is aware of the fact that if they keep consuming resources in the way they do, there will be a shortage in the future (Price, 2018). Therefore, sustainable products, like organic products, are needed to provide for the next generation.

The structure of this thesis is as follows. Section 2 is aimed at the literature review. In this Section, several important key concepts will be explained. Furthermore, a conceptual model is provided, and hypotheses are being formulated. In Section 3, the methodology is discussed, where the data collection method and survey design are explained in more detail. In Section 4, the data is collected and analysed. Section 5 contains the results of this study. Finally, in Section 6 the theoretical and managerial implications, the limitations of this study, and suggestions for future research are discussed.

2. Literature review

In the following Section, the key concepts (variables) of this study will be discussed in more detail. Both the conceptual model and the additional hypothesises are described at the end of this Section.

2.1 National brands

According to Steiner (2004), national brands can be considered as the leading brands of manufactures. A national brand is distributed nationally under a brand name that is owned by a producer or distributor (Chopra & Meindl, 2013). This means that national brands are sold from manufacturer to retailer. Nowadays, food retailers have a lot of national brands in their assortment. The two main tiers within national brands are premium and mass products. Based on the study of Kumar & Steenkamp (2007) the objective quality of a premium national brand is comparable with a premium private label. The only difference is that national brands are slightly higher in price (Geyskens et al., 2010). In the case of mass products, they are the same as standard private labels concerning objective quality (Kumar & Steenkamp, 2007).

National brands differentiate themselves from local or regional brands by the fact that they are sold by some bigger companies and have a national market coverage (Kokemuller, n.d.j.). Over the past decades, national brands have built strong brand equity. Consumers associate national brands with consistent quality (Bontems 2005; Mills, 1999). Steenkamp et al. (2010) state that four main drivers differentiate national brands from other labels, like private labels. These drivers are product innovation, packaging, advertising, and price promotions. To survive within this competitive market, national brands use a differentiation strategy utilizing the four drivers to distinguish them from the low-cost strategy used by private labels (Verhoef, Nijssen, & Sloot, 2002). These drivers give national brands the possibility to continuously innovate their products (Deleersnyder, Dekimpe & Steenkamp, 2007), focus on the high quality of the packaging (Steenkamp et al., 2010), enhance their brand equity by using advertising (Kirmani & Wright, 1989; Makasi & Govender, 2014), and use price promotions (Juhl, Esberg, Grunert, Bech-Larsen, & Brunsø, 2006).

2.2 Private labels

According to Kotler & Armstrong (1996), private labels are brands owned by a distributor and are sold in exclusive stores. The main reason why the popularity of private labels has grown is based on the price advantage (averaging 21%) over national brands (Batra & Sinha, 2000). The

market share of private labels is still growing (Cuneo, Milberg, Benavente, & Palacios-Fenech, 2015). In times of an economic recession the private label share grows, and a contradiction effect is found when the economy recovers (Lamey, Deleersnyder, Steenkamp, & Dekimpe, 2012). The private label portfolio consists of three tiers: economy, standard, and premium (Geyskens et al., 2010). This means that retailers nowadays offer different quality tiers within a product category. Noorman & Tillmanns (2017) mention that with the introduction of different tiers of private labels, retailers can differentiate from national brands and allow them to offer more than only a cheaper version of the national brand (Geyskens et al., 2010). The cheapest option with the lowest quality is the economy tier (e.g., *Albert Heijn basic)*, the middle option is the standard tier (e.g., *Albert Heijn huismerk*), and the premium tier is the highest in quality and price (e.g., *Albert Heijn Excellent*).

There are three main reasons why retailers choose for introducing a private label. First, when retailers introduce private labels, they manufacture the products themselves, which results in an increased profit margin and leads to a lower selling price (Chopra & Meindl, 2013). Several studies reveal that the profit margin of private labels is higher than for national brands (Ailawadi & Harlam, 2004; Bergès-Sennou, Bontems, & Réquillart, 2004). Furthermore, because of the high profit margins and the fact that retailers are introducing their private label brands, they gain more bargain leverage towards national brands (Geyskens, et al., 2010; Meza & Sudhir, 2010). Finally, both the customers and retailers benefit from the introduction of private labels. The high margins and strong negotiation power of retailers positively influence the private label share. This will lead to an increase in the instore loyalty of the customer (Ailawadi, Pauwels, & Steenkamp, 2008). They find out that the share of wallet increases strongly with the private label share, but beyond a private label share of approximately 40 percent, it begins to decrease. This probably means that customers from this point start to save their money instead of spending it on a particular brand (Ailawadi et al., 2008).

2.3 Organic food products

As mentioned in the introduction, the organic market is growing and will double in 2025 compared to 2018 (Phillips & Pinckaers, 2018). This growth of the organic market is based on the fact that (young) adults are aware of their health and are environmentally and situationally aware (Chait, 2019; Von Essen & Englander, 2013). The term of organic food products in the literature is defined in different ways. According to Duram (2018), organic food can be described as food that is farmed organically, which means that farmers do not use synthetic

chemicals (pesticides and fertilizers) and genetically modified organisms (GMOs). However, in the study of Wee, Ariff, Zakuan, & Tajudin (2014), organic food can be described as food that takes into account aspects like environment, human and animal welfare. This means that an unambiguous definition of organic food is not provided within the literature. Therefore, the following definition is formulated for the term organic food in this study: *food that is farmed organically whereby no synthetic chemicals and genetically modified organisms are used (environmental aspect) and does not contain human and animal abuse.* According to different studies, consumers have varied motivations to buy organic food. Bourn & Prescott (2002), Fotopoulos & Krystallis (2002), and Zanoli & Naspetti (2002) mention that consumers buy organic food based on health reasons, environmental concerns, nutritional value, and taste. In addition to that, Makatouni (2002) state that consumers buy organic food based on ethics and animal welfare reasons.

As a response to this shift in demand, food multinationals and retailers started to involve in the organic food market. It started with food multinationals who introduced organic national brands to differentiate themselves in the food market from other labels, like private labels (Bauer et al., 2013). Since the 1990s, also food retailers started offering organic food (Van der Grijp & Den Hond, 1999). This means that retailers from this point became increasingly involved in the organic food market and started to introduce national brands specifically for organic food. Recently, supermarkets started to introduce their organic food products. This implicates that the private label portfolio is expanded with a fourth tier: the organic private label tier (Chartier, 2019). An example is "*AH Biologisch"* (Michel & De Jong, 2017). Since then, more supermarkets introduced their organic private label (e.g., Jumbo, Lidl, and Aldi) (Michel & De Jong, 2017). This new organic tier gives consumers the possibility to choose between two options, namely organic private labels and organic national brands.

2.4 Perceived availability

According to Vermeir & Verbeke (2007) the term 'perceived availability' indicates if a consumer feels he or she can easily obtain or consume a certain product. Consumers may be motivated to buy for example organic food, but when there is a lack of perceived availability of the good, they are hampered to buy this product (Padel & Foster, 2005; Vermeir & Verbeke, 2007; Young et al., 2009). In addition to that, the studies of Young et al. (2009), Tarkiainen & Sundqvist, and Singh & Verma (2015) found out that limited perceived availability of a product has a negative influence on the consumer's attitude and purchase intentions towards organic food. In other words, when the perceived availability of organic products increases the intention

of consumers to buy organic food will increase as well. Furthermore, in general, the consumer prefers easily available and does not like to spend much time searching for organic food (Young et al., 2009).

As earlier mentioned, since 1990 more food retailers started offering organic food (Van der Grijp & Den Hond, 1999). This has led to an increase in the availability of organic food in supermarkets. Instead of only offering organic national products, supermarkets nowadays also provide the consumers the opportunity to buy organic products that contain their brand (e.g., AH Biologisch) (Chartier, 2019). This indicates that the private label portfolio is expanded with a fourth tier, namely the organic private label tier (Chartier, 2019). This increase in the perceived availability of organic private labels will have an impact on the purchase intention of organic national brands. By offering an organic private label, the consumers have the opportunity to choose from a broader bio-assortment, which will lead to a switch in the purchase intention of consumers from organic national brands to organic private labels or it will influence the purchase intention of potential buyers of organic food in such a way that the purchase of both organic private labels and organic national brands will increase as well.

2.5 Investigated variables

To gain more insight and to understand to what extent the perceived availability of organic private labels has an impact on the purchase intention of organic national brands, different variables will be investigated and discussed. To begin with the marketing actions: packaging, advertising, and pricing. The reason why these variables will be investigated is that Steenkamp et al. (2010) found that these are the main drivers that differentiate national brands from private labels. Also, Chaniotakis et al. (2010) mention that these marketing actions are influencing the consumers' purchase intention for both private labels and national brands. Next, the perceived quality will be highlighted as a variable. The reason why the perceived quality is included in this investigation is that it is one of the main factors that has a significant impact on the purchase intention of both private labels and national brands (Chaniotakis et al., 2010; Hoch & Banegi, 1993; Jaafar et al., 2012; Wu, Yeh, & Hsiao, 2011). Furthermore, the variable organic involvement is added to this research. According to Gosh et al., (2018), the involvement of organic food is different compared to the involvement of non-organic food. Organic involvement is based on a much deeper cognitive processing of beliefs and attitudes (Gosh et al., 2018). Therefore, it would be interesting to determine the influence of these variables in the context of organic private labels and organic national brands. Also, the consumer

characteristics: age and income are included in this thesis research. Different studies have demonstrated that age substantially influences the purchase intention of organic food (Fotopoulos & Krystallis, 2002; Omar, Nazri, Osman, & Ahmad, 2017; Soonthonsmai, 2007). Also, the general assumption is that organic food is more expensive, which automatically leads to the association with a high level of income of consumers (Magnusson, Arvola, Hursti, Åberg, & Sjödén, 2001; Von Alvensleben & Altmann, 1987). Finally, the product categories: vice and virtue will be investigated in this research. According to Van Doorn & Verhoef (2011), the purchase intention for organic food differs between vice and virtue.

2.5.1 Packaging

According to Kent & Omar (2003), packaging is a bundle of activities related to the design, production, and filling of a container or wrapper of the product. This will effectively protect, store, transport, and identify the product. Also, packaging is used as a successful marketing tool. Silayoi & Speece (2007) and Rettie & Brewer (2000) state that package design elements can be distinct into verbal (e.g., product information and positioning claims) and visual elements (e.g., graphics, colour, and shape). In the case of fast-moving consumer goods, like food, the visual elements are essential for consumers. It helps consumers with low involvement in their decision-making process by reducing search effort (Silayoi & Speece, 2007). Adding to that, Chrysochou & Festila (2019) found out that the packaging of organic products differs from conventional products. The packaging of organic products consists of more paper and less plastic or paperboard material. Furthermore, organic products use the colours white and green more often and contain more images of nature compared to conventional products. The influence of packaging on purchase intention has been investigated in the current literature. Richardson, Dick & Jain (1994) mention that national brands are known for their well-packaging, while private labels are poorly packaged. When looking at the impact of packaging on the purchase intention of private labels different results were found. Ampuero & Vila (2006) and Valaskova, Kliestikova, & Krizanova (2018) mention that packaging is one of the main factors that consumers use for evaluating and affects the consumers' attitude and purchase intention to private labels. However, a contradiction was found by several authors. According to Musharraf & Ali (2013), and Jaafar et al. (2012), packaging does not affect the purchase intention of consumers that buy private labels. Kádeková, Košičiarová, Vavřečka, & Džupina (2020) reveal that most of their respondents have no opinion regarding the packaging of private labels. In the case of national brands, Cela & Cazacu (2016) find out that when consumers who like to buy food products with attractive packaging have a lower intention to buy private labels

and will choose for national brands. Furthermore, they mention that when consumers perceive the packaging of private labels to be similar and as good as the packaging of national brands, they are likely to buy private labels. In addition to that, Kasotakis & Chountalas (2014) found out when consumers evaluate branded food products concerning packaging, they prefer national brands above private labels. Moreover, the result of the study from Hurley, Outzts, Fischer, & Gomes (2013) illustrates that the purchase decision as well as the time spend observing packaging, indicates that participants prefer national brand packaging compared to its private label competitor.

2.5.2 Advertising

Cairns, Angus & Hastings, Caraher (2013) mention that food advertising can be seen as any form of communication that is designed to increase the recognition, appeal, or consumption of particular food products. There are multiple ways to communicate in advertising including billboards, online, radio, and television. Also, in the organic food market advertising is an important instrument. Since retailers (and other sellers of organic products) are improving the communication related to organic products, customers are more aware of the benefits of organic products and therefore willing to pay a price premium for this kind of products (Van Doorn & Verhoef, 2015). This is called "green advertisement", whereby the message addresses the advantage of sustainable over non-sustainable (Zinkhan & Carlson, 1995). In addition to that, the study of Jäger & Weber (2020) focuses specifically on getting insight into an effective advertisement to promote organic food consumption. They found out that other benefits of organic food are more important for consumers than self-benefits. Furthermore, a concrete message influences message credibility and thereby purchase intention. Ampuero & Villa (2006) and Juhl et al. (2006) mention that advertisement has an important role in the purchase decision of consumers. It gives the consumer information and thus shows the differentiation between products (Beneke, 2008).

According to Jaafar et al. (2012), the communication regarding the product is important to consumers and positively stimulates the purchase intention to buy private labels. However, the results of Cela & Cazacu (2016) state that advertising does not affect the purchase intention towards private labels. An explanation of this contradiction could be that private labels are, most likely, minimally advertised by advertisers. For national brands, advertising is an important factor in the purchase intention of consumers. Levy & Gendel-Guterman (2012) state that manufacturers of national brands should increase their advertising expenditures and put

effort into advertising messages to maintain the existing higher perception of their brands compared to store brands.

2.5.3 Pricing

Several authors in the past have investigated the subject of pricing concerning the purchase intention of organic food. Different results were found regarding this relationship. Yin, Wu, Du, & Chen (2010) and Hansen, Sørensen, & Eriksen (2018) reveal that the majority of the consumers is willing to pay more money for organic food compared to conventional food. Their results show that the average willingness to pay for organic food is 135,3 percent higher than for conventional food. Nevertheless, the willingness to pay is still lower than the market price of organic food and the price may still act as a behavioural barrier for purchasing organic food (Hansen et al., 2018; Yin et al., 2010). Furthermore, Massey, O'cass, & Otahal (2018) demonstrate an interesting relationship between price perception and purchase intention. They state that when consumers consider organic to be expensive, their intention to purchase is higher. This implies that consumers assume that a high price automatically leads to a high quality and increases the desirability of organic food (Andersen, 2011). Paul & Rana (2012) found out that consumers find organic food costly but believe that healthy content and eco-friendly products are accompanied by a higher price.

When looking at the price on the purchase intention of private labels, the following statements are found. Sinha & Batra (1999) mention that price is an important factor in predicting the consumption of private labels. Furthermore, different studies mention that consumers who buy private labels are price sensitive: the lower the perceived price of the product, the higher the tendency of consumers to purchase private labels (Jaafar et al., 2012; Munusamy & Wong, 2008). When looking at national brands the purchase intention is less influenced by price. According to Olbrich, Jansen, & Hundt (2016), for national brands price is still important, but its impact on consumers' buying decisions is weaker than for private labels. Moreover, Chandrashekaran & Grewal (2006) argue that a low price is associated with a low perceived quality. Consumers who prefer quality over price are therefore more likely to purchase national brands.

2.5.4 Perceived quality

Concerning the term perceived quality, Sirdeshmukh, Singh, & Sabol (2002) and Zeithaml (1988) describe this as the result of a consumers' assessment related to the trade-off between

sacrifices made and obtained benefits in the acquisition of a particular product. Different effects were found related to the perceived quality on the purchase intention of organic food. Several authors found out that the perceived quality is important for the purchase intention on organic food (Magnusson, et al., 2001; Olson 1977; Padel & Foster, 2005). However, a conflicting result was found by Wee et al. (2014). They mention that perspectives, like health, safety, eco-friendly, and animal warfare, are considered more important for buying organic than the perceived quality of the product itself.

Furthermore, Kakkos, Trivellas, & Sdrolias (2014) state that perceived quality does not affect the purchase intention of private labels. However, the studies of Jaafar et al. (2012) and Tellis & Gaeth (1990) mention that perceived quality has a substantial influence on the purchase intention of private labels. Moreover, Ailawadi, Neslin, & Gedenk (2001) and Richardson et al. (1996) found that when consumers assess products based on their perceived quality, they are less likely to purchase private labels and prefer national brands. In addition to that, Sethuraman (2001) found that perceived quality is an important reason for consumers to purchase national brands over private labels, which means that perceived quality has a strong influence on the purchase intention of both brands. So far, little research is conducted concerning perceived quality on the purchase intention of organic private labels and organic national brands. Reinders & Bartels (2017) found out that brand equity has a positive effect on the purchase intention of organic private labels and organic national brands, through the dimension of brand awareness, perceived quality, and brand loyalty. This implies that perceived quality is important for the purchase intention of both organic private labels and organic national brands. In line with this finding, Konuk (2018) demonstrate that in the context of organic food, consumers consider perceived quality as an important factor for purchasing organic private label food.

2.5.5 Organic involvement

The definition of involvement can be defined as followed: when attributes of a product are in connection with an individual's consumption motives, this will lead to a certain level of involvement or emotional arousal. This will trigger the individual to perceive the products as relevant to him or her (Schmidt & Frieze, 1997). According to Loebnitz et al. (2015), for food shopping a low involvement holds. This means that it does not include the cognitive processing of beliefs and attitudes. However, in the case of organic food, the consumers' attitude affecting buying behavior is related to deeper value systems, which involve intellectual and cognitive processes concerning health and/or environment (Ghosh et al., 2018). This means that consumers that buy organic food are highly involved with the product and base their choice on

a rational decision. According to Hansen & Thomsen (2017), organic food involvement can be described as the extent to which individuals are personally interested in a range of issues related to organic food behavior. When people are highly involved with organic food issues, they substantial put effort into processing organic information and tend to maintain organic food identity and behavior (Tarkiainen & Sundqvist, 2009).

Steenkamp et al. (2010) found out that in conditions of high involvement consumers are more interested in and care about product quality. Since national brands are associated with high quality, consumers with a high involvement are willing to pay more for national brands. However, a contradicting effect was found by Miquel, Caplliure & Aldas-Manzano (2002). They mentioned that a higher involvement leads to more knowledge of the product and the product category. This greater knowledge could lead to the conclusion that there are fewer differences between the different alternatives, like private labels and national brands, which makes it plausible that store brands would be preferred (Miquel et al., 2002).

2.5.6 Age

The effect of the consumer characteristic age has been investigated by many different authors. According to Richardson et al. (1996) age has a substantial influence on purchase intention. The older the consumer, the more purchase experience they have, while the opposite results were found for younger consumers. This is because young consumers are easily influenced by the brand image and price of the product (Richardson et al., 1996). Fotopoulos & Krystallis (2002), Soonthonsmai (2007), and Omar et al. (2017) state that the older the person, the more organic food they will consume. The cause of this effect is probably that young consumers have weak purchasing power and low concern for health impact, which leads to a low purchase intention of organic food (Yin et al., 2010). However, Lockie, Lyons, Lawrence, & Mummery (2002) argue that organic consumption does not variate across different age groups. On the other hand, Hansen et. (2018) found out that age negatively influences the purchase intention of organic food, which indicates that how older the consumer is, the lower the purchase intention of organic food. This negative effect can be explained by the fact that young people more easily accept new things (Yin et al., 2010).

2.5.7 Income

Also, the effect of income on the purchase intention of organic food has been investigated in the past. Yin, et al. (2010) and Paul & Rana (2012) state that income has a positive effect on

the consumers' willingness to purchase organic food, which means that when income increases the demand for organic food of the consumer will increase as well. Fotopoulos & Krystallis (2002) partly support this finding by stating that income appears to affect mainly the quantity of organic bought. In addition to that, Magnusson et al. (2001) and Von Alvensleben & Altmann (1987) stated that organic products are more expensive, which automatically leads to the association with a high level of income of consumers.

2.5.8 Product categories

According to Van Doorn & Verhoef (2011), the purchase intention for organic food differs between the group of product categories vice and virtue. The vice product categories refer to products that provide immediate benefits in the short-term and often lead to negative long-term effects (Yan, Tian, Heravi, & Morgan, 2017). Good examples of vice product categories are wine, chocolate, and chips. In contrast, the virtue product categories are related to satisfy a long-term need. Examples of virtue product categories are milk and fruit (Yan et al., 2017). The results of Van Doorn & Verhoef (2011) reveal that when looking at organic food, the vice food categories are associated with low quality and a low-quality perception leads to a lower purchase intention. For the virtue categories, they did not find a significant effect.

2.6 Conceptual model

This paragraph is focused on the relationships between the different variables in this thesis research. These relationships are visualized in a conceptual model (see *Figure 1*). Furthermore, the expected effects of these variables will be hypothesized. As earlier mentioned, the main variables are the perceived availability of organic private labels (independent variable) and the purchase intention of organic national brands (dependent variable). Based on the findings mentioned in paragraphs 2.1, 2.2, 2.3, and 2.4, the following hypothesis can be formulated: *H1: The perceived availability of organic private label products negatively impacts the purchase intention of organic national brand products.* This is expected because consumers who buy organic food are willing to pay a higher price, but up to a certain barrier. However, this barrier lies beneath the market price of organic food, thus probably beneath the price of organic national brands. So, when a supermarket offers an alternative with a lower price, namely organic private labels, consumers most likely switch to organic private labels.

To be able to determine the extent to which the independent variable influences the dependent variable, different variables are highlighted and investigated in the previous

paragraphs. According to different studies, perceived quality is the most important factor, when it comes to the influence this variable has on the purchase intention of both private labels and national brands (Chaniotakis et al., 2010; Hoch and Banerji, 1993; Jaafar et al., 2012; Wu, Yeh, & Hsiao, 2011). Furthermore, Gosh et al. (2018) mention that the involvement of organic food is different compared to the involvement of non-organic food because organic involvement is based on a much deeper cognitive processing of beliefs and attitudes (Gosh et al., 2018). This is based on the fact that organic involvement is characterized by high involvement and based on rational decisions. It is expected that this could be different in the context of organic private labels and organic national brands. Thus, the reason why these two variables are included in this research is based on their importance and interest of the researcher. Therefore, this thesis will focus on these variables and they will be used as moderating variables in the conceptual model. The reason why perceived quality and organic involvement are chosen as moderating variables is based on the fact that in this way, they contribute to explaining the variance of the dependent variable (purchase intention organic national brand products). To limit the scope of this research, other variables like packaging, advertising, and pricing are not taken into account in this research. Based on the lack of time and limited resources, it is not possible to take care of all these variables within this study.

Furthermore, the consumer characteristics: age and income are included. These variables are added as control variables to the conceptual model (*see Figure 1*). The reason why these control variables included in this study is that they could influence the results of the purchase intention. However, these variables are not of main interest in this study. Based on the literature, it turned out that age influences the purchase intention (Richardson et al. (1996) and differs between young and old (Fotopoulos & Krystallis, 2002; Omar et al., 2017; Soonthonsmai, 2007). When it comes to income, Yin, et al. (2010), Paul & Rana (2012), Davies, Titterington, & Cochrane (1995) state that income has a positive effect on the consumers' willingness to purchase organic food, which means that when income increases the demand for organic food of this consumer will increase as well. Finally, to ensure an unbiased result, the variables vice and virtue (groups of product categories) are also taken into account as control variables. Van Doorn & Verhoef (2011) mention that purchase intention for organic food differs between virtue and vice food categories. Therefore, it is expected that the purchase intention of organic national brands differs per product category. The specific effects of all the variables and the corresponding hypotheses are explained below.

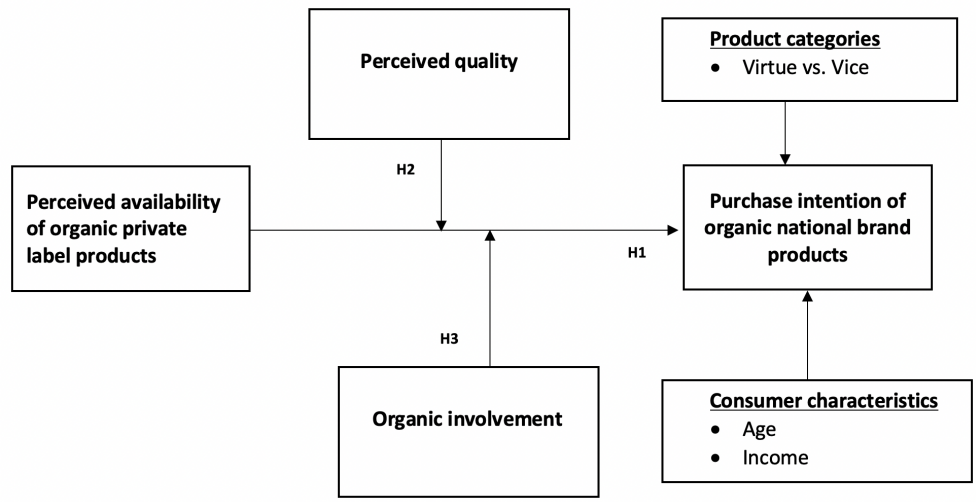

Figure 1: Conceptual model.

Perceived quality

Different studies have found out that the perceived quality has a substantial influence on the purchase intention of organic food, which means that perceived quality can be considered as a main reason why consumers buy organic food (Magnusson et al., 2001; Olson 1977; Padel & Foster, 2005). However, sometimes consumers find health, safety, eco-friendly, and animal welfare more important reasons to buy organic food (Wee et al., 2014). In the case of private labels, the perceived quality has a substantial influence on the purchase intention when the perceived quality of the private label is high (Jaafar, et al., 2012; Tellis & Gaeth, 1990). For national brands, the impact of the perceived quality on the purchase intention is always high (Sethuraman, 2001). When it comes to comparing private labels and national brands, it turned out that when consumers assess these products based on the perceived quality, they are less likely to purchase private labels, which means that when it comes to perceived quality consumers prefer national brands over private labels (Ailawadi, Neslin, & Gedenk, 2001; Sethuraman (2001). As earlier mentioned, perceived quality will be used as a moderator because in this way it helps to explain in more detail what influences the relationship between the perceived availability of organic private labels on the purchase intention of organic national brands. Thus, based on the statements above the following hypothesis can be formulated: *H2: The perceived availability of organic private label products negatively impacts the purchase intention of organic national brand products when the perceived quality of organic national brand products is low.*

Organic involvement

Organic involvement can be considered as a high level of involvement, that is characterized by rational decisions. These rational decisions are focused on personal interest in issues related to organic food behavior (Ghosh et al., 2018; Hansen & Thomsen, 2017). Steenkamp et al. (2010) found out that when consumers are highly involved, they are willing to pay more for a national brand because they care more about quality. However, Miquel et al. (2002) mention that a higher involvement leads to more knowledge of the product, which leads to fewer differences between the different alternatives, like private labels and national brands, which makes it plausible that store brands are preferred. Consumers that are organic involved, choose organic food based on the quality of the level of organic. Since consumers find organic food costly but believe that healthy content and eco-friendly products are accompanied by a higher price (Paul & Rana, 2012), it is expected that consumers that are highly involved in organic food prefer organic national brands above organic private labels. The variable organic involvement will be used as a moderator in the conceptual model as well. By using it as a moderator it helps to explain in more detail what influences the relationship between the perceived availability of organic private labels on the purchase intention of organic national brands. Based on the statements above the following hypothesis can be formulated: *H3: The impact of perceived availability of organic private label products has no impact on the purchase intention of organic national brand products when the organic involvement of the consumer is high.*

Control variables

When it comes to the control variables age, income, and product categories the following effects are expected. First of all, for the control variable age. Based on the different effects found in the literature about age it can be concluded that the purchase intention of organic national brands differs for age (Fotopoulos & Krystallis, 2002; Omar et al., 2017; Soonthonsmai, 2007). Furthermore, when it comes to the control variable income, based on the effect found in the literature it is expected that the purchase intention of organic national brands differs for income (Paul & Rana, 2012; Yin et al., 2010). Finally, earlier is mentioned that the purchase intention for organic food differs between vice and virtue (Van Doorn & Verhoef, 2011), which means that it is expected that the purchase intention of organic national brands differs for vice and virtue.

3. Methodology

In this Section, the methodology will be discussed. The first part is aimed at the research method. Thereafter, an explanation is given concerning how the variables can be operationalized. Next, the questionnaire design will be explained and the sample size will be determined. Finally, the regression formula, that will be applied during the analysis, will be explained and the ethical principles will be discussed.

3.1 Research method

Within this research, the quantitative research method will be used because the quantitative research method matches this research. This method technique is applicable for studies where a large group of people needs to be studied (large sample size). It helps the researcher to collect a large set of data (Myers, 2013). This allows the researchers to generalize the results to a large population. By doing this, the external validity of the research increases (Swanson & Holton, 2005). Data that is needed for quantitative research can be generated by secondary data or questionnaires (Muijs, 2011). The goal of this study is to gain statistical evidence and data to get a deep and detailed understanding of the extent to which the perceived availability of organic private labels impacts the purchase intention of organic national brands and to generalize these results to a large population. This is in line with a descriptive quantitative research approach (Swanson & Holton, 2005).

3.2 Survey Research

Next, to gain information and to be able to measure the extent to which the perceived availability of organic private labels has an impact on the purchase intention of organic national brands, a survey will be conducted. By conducting a survey, information about a population can be gathered cost-effectively and efficiently (West, 2019). The respondents will participate anonymously (West, 2019). Furthermore, data can be collected from a large number of respondents in scattered and remote locations (Rowley, 2014; West, 2019). The larger the number of respondents (sample size) in the survey, the more accurate the information that is derived from the survey (West, 2019). Also, by using the sampling probability technique for selecting potential respondents for the survey, they have a known and equal chance of getting selected. Additionally, this technique makes it possible to estimate the characteristics of a population, without collecting data from all members of the population (West, 2019).

Within this study the questionnaires of the survey will contain closed-ended questions (structured). This means that the participants (respondents) are given a certain list of predetermined questions from which they have to choose and select their answers (West, 2019). For these kinds of questions, a Likert scale is needed, which means that the list of responses should include every possible response and the meaning of the responses should not overlap (West, 2019). The reason why closed-ended questions are preferred is based on a couple of arguments. By forcing the respondent to answer a particular question, a high level of control is provided concerning the survey (Miller, 2002; Patten, 2016). Furthermore, the involvement of the researcher is minimal on the part of the respondent. When providing uniform questions, it is easier to evaluate the opinions of the sample group as a whole (Miller, 2002). Also, closed-ended questions are less time-consuming for respondents to complete the questionnaires. This makes it easier to ask the respondents more questions. Finally, closed-ended questions avoid problems concerning interpreting the answers. Also, information can be provided even though the respondent is not highly motivated to participate (Miller, 2002).

However, using questionnaires has also its limitations. The response rate of the questionnaire may be low, because the potential respondent may be reluctant to share sensitive information about themself (Patten, 2016; West, 2019). Furthermore, a questionnaire does not always allow a deep understanding of the respondent's behavior or attitude (West, 2019). Lastly, using questionnaires could also lead to socially desirable responses. This means that the participants may give answers that they think are socially desirable and accepted, even though they are not accurate or in line with their beliefs (Patten, 2016; West, 2019). Although, this effect will be reduced by the fact that the participation is anonymous.

3.3 Measure variables

To be able to measure the variables that are being investigated, different types of scales are needed. To ensure the validity and reliability of these scales, scales from the literature that are proven to be valid will be used. In the part below the scales will be discussed in more detail per variable. In Appendix A & B an overview of the variables with additional scale is presented.

Purchase intention

The scale that will be used to cover the variable 'purchase intention', is based on the purchase intention scale from Bhukya & Singh (2015). This scale measures the likelihood that a consumer will purchase private labels. This scale is generally formulated, which means that it

is also applicable to measure the purchase intention of organic national brands. The scale consists of four items and is based on an anchoring five-point Likert scale, where 1 indicates strongly disagree and 5 indicates strongly agree. According to Bhukya & Singh (2015), the Cronbach's alpha of the scale is .921, which implicates that the internal consistency is high. This value is far above the threshold of alpha .60, which makes this scale suitable for this study and covers the purchase intention variable (Ursachi, Horodnic, & Zait, 2015).

Perceived availability

To be able to measure the perceived availability the scale of Vermeir & Verbeke (2007) is used. The term perceived availability indicates if a consumer feels he/she can easily obtain or consume a certain product (Vermeir & Verbeke, 2007). To measure the perceived availability of organic food, they developed a scale. In this study, the scale will be used to measure the perceived availability of organic private labels. The scale consists of three items and is based on a seven-point Likert scale, where 1 stands for strongly disagree and 7 stands for strongly agree. According to Revilla, Saris, & Krosnick (2013) and Sachdev & Verma (2004), when using an agree-disagree rating scale, a five-point Likert scale is better than a seven-point Likert scale. This because the data of a five-point Likert scale contain a higher quality of data because it will reduce the frustration level of the respondents and therefore increase the response rate (Sachdev & Verma). Therefore, a five-point Likert scale will be used. Vermeir & Verbeke (2007) mention that the Cronbach's alpha is .80. This means that the scale is of an acceptable level of reliability because the alpha is above the threshold of .60 (Ursachi et al., 2015). This means that the scale of Vermeir & Verbeke (2007) is suitable to measure the variable perceived availability.

Perceived quality

To make sure that the variable perceived quality is fully captured, the scale of Vo & Nguyen (2015) is used. They adapted a scale based on the scales of Dodds, Monroe, & Grewal (1991), and Jaafar et al. (2012). This scale indicates the perceived quality of private labels by consumers. Also, in this case, the scale is generally formulated, which makes it applicable to measure the perceived quality of organic food. The scale consists of five items and is based on a five-point Likert scale, where 1 presents strongly disagree and 5 presents strongly agree. Furthermore, the Cronbach's alpha of this scale is .782, which means that the reliability of this scale is of an acceptable level. It is above the threshold of .60, which means that this scale is applicable and suitable for measuring the perceived quality (Ursachi et al., 2015).

Organic involvement

To enable that this variable is covered in the right way, the scale is based on the scale of Teng & Lu (2016). As earlier mentioned, organic involvement can be described as rational decisions that focus on personal interest in issues related to organic food behavior (Ghosh et al., 2018; Hansen & Thomsen, 2017). The scale that Teng & Lu (2016) use consists of four items and is based on a seven-point Likert scale, where 1 stands for strongly disagree and 7 stands for strongly agree. As mentioned before, the scale will be transformed into a five-point Likert scale. The reliability level of this scale is of an acceptable level. According to the results of Teng & Lu (2016), Cronbach's alpha is .936, which is far above the threshold of .60 (Ursachi et al., 2015). Based on the Cronbach's alpha of this scale, it is expected that this will cover and measure this variable in the right way.

Age

In the case of the variable age, the question that needs to be asked is very obvious. Therefore, the scale will consist of only one specific question related to the age of the respondents (Rai, 2019). Since age is a continuous variable, this variable can take on an uncountable set of values (Field, 2018). In Section 4 this variable will be converted into different age categories, to be able to compare these different age categories with each other. However, since than this variable is of categorical measurement level it cannot directly be entered in the regression and therefore needs to be converted into different dummies (see paragraph 3.5 for more details).

Income

The variable income will be measured based on one specific question (Tan, 2002). This control variable is of categorical measurement level (ordinal), which means that the variable contains ordered categories and the distance between the categories is not known (Field, 2018). Therefore, the question is formulated in such a way that respondents have to choose between different income categories. These income categories are based on the salary scales of Nationale Beroepen Gids (2019). Since this variable is of categorical measurement level it needs to be converted into dummies as well (see paragraph 3.5 for more details).

Product category

In the case of the product categories, two specific questions will be asked to the respondents. The level of measurement of this variable is of a categorical level, which means that the respondents can choose between two different options, namely yes or no (Asif, Xuhui, Nasiri,

& Ayyub (2018). These questions provide insights into which product categories the respondents are assigned to. Also, before this variable can be entered into the regression analysis it needs to be converted into dummies (see paragraph 3.5 for more details).

Other demographic information

Lastly, three questions will be asked related to gender, education, and residence (Ahmad & Juhdi, 2010). By asking these kind of questions more demographic data of the sample is provided and gives more insight into the characteristics of the sample.

3.4 Questionnaire design

Since all of the respondents in this research will be Dutch native speakers, the questionnaire will be conducted in Dutch (Appendix C). This makes it much easier for respondents to fill in this questionnaire. Also, it contributes to a lower time spending and put effort into filling in the questionnaire. When the effort to fill in the questionnaire is low, the respondents will be less likely to quit during the survey. By doing this, the missing values in the survey will be reduced.

As earlier mentioned, the product categories are divided into virtue and vice. According to Van Doorn & Verhoef (2011), the purchase intention for organic food differs for vice (satisfy short-term need) and virtue (satisfy long-term need). The reason why the two different product categories are included in this research is to avoid an unwanted bias influence on the results of this study. In this survey for the vice categories, *chocolate bars* will be used. For the virtue categories, *milk* is chosen. The reason why these two product categories are chosen is that everybody has these product categories in mind and knows about them. This makes them easy to use in an experiment. Also, within the literature, these product categories have proven to be good examples to use (Butz, 2020). The respondents will be randomly assigned to a particular product category (See Appendix C). By doing this a bias effect that can influence the results is prevented. These product categories are put in the context of the supermarket Albert Heijn. The reason why Albert Heijn is most suited in this research is that the consumers are the most familiar with organic food products from this retailer (Michel & De Jong, 2017).

Furthermore, real brands will be used in the questionnaire of this study. Earlier is mentioned that perceived quality is the most important factor when consumers purchase food products (Chaniotakis et al., 2010; Hoch & Banegi, 1993; Jaafar et al., 2012; Wu et al., 2011). They mention that perceived quality will have an impact on the purchase intention to buy national brands or private labels. When using fake brands, respondents find it probably harder and more difficult to assess the perceived quality of the products. To prevent that this could

bias the research results, real brands are used in the questionnaire. This will lead to a more realistic situation and provides a more honest answer from the respondents. As earlier is mentioned, two different product categories are included in this research (see Appendix C). For the virtue product categories, the organic private label brand *AH Biologisch* (whole milk) is selected (Albert Heijn, n.d.c.). For the national brand, the most well-known brand is used, namely Campina (Biologische volle melk) (Albert Heijn, n.d.d.). For the vice product categories, the organic private label brand *AH Biologisch* (Extra pure chocola) is selected (Albert Heijn, n.d.b.). The brand Côte d'Or (Bio chocolade reep extra puur) is used as a national brand (Albert Heijn, n.d.a.). These brands are one of the brands that have large brand awareness and reputation within the bio-assortment available at the Albert Heijn. This means that respondents probably already have these products in mind and know about them, which makes these brands suited to use.

3.5 Sample size

Before conducting a regression analysis, the sample size requirements have to be met. Choosing the right sample size is important because it influences the statistical power of the regression analysis of this study (Hair, Black, Cabin, & Anderson, 2014). When the sample size is insensitive (at a small sample size) or overly sensitive (at a large sample size) it will negatively affect the statistics. In other words, when the sample is too small the results cannot be generalized to the population and when the sample size is too big it could cause significance of all the relationships. According to Hair et al. (2014) for a multiple regression a minimum sample of 50 respondents is required, but preferably a sample of 100 respondents. To ensure the right sample size is determined, the rule of thumb from Hair et al. (2014) will be applied. This rule suggests a minimum observations-to-variable ratio of 5:1, but a ratio of 20:1 is preferred. In other words, 20 respondents (observations) are needed for each independent variable in the conceptual model (Hair et al., 2014). In this study, the conceptual model contains three independent variables (perceived availability, perceived quality, and organic involvement). This means that 60 respondents will be sufficient because multiplying the independent variables with a factor of 20 (observations) gives a total of 60 respondents. As earlier mentioned, the respondents will be randomly assigned to a particular product category (See Appendix C). This means that around 50 percent will be assigned to the version whole milk and the other 50 percent will be assigned to the version chocolate bar. By taking this into account the total number of respondents that is needed will be multiplied by two, which leads to a total number of 120

respondents. Also, it is expected that missing data will occur in this study (Enders, 2003). To take this into account the total number of respondents will be increased to 150 respondents. According to Lindemann (2019), the response rate is approximately 60 percent. To make sure that the desired amount of 150 respondents is met, roughly 200 potential participants need to be approached. These participants will be gathered via social digital platforms (e.g., LinkedIn) and personal social networks.

3.6 Statistical test model

To be able to predict the impact of the independent variable (perceived availability) on the dependent variable (purchase intention), a multiple linear regression analysis needs to be conducted (Field, 2018). However, in this research, two moderators are included in the regression analysis. The moderator (condition) is used to determine whether the relationship between two variables depends on the value of the third variable (Field, 2018). Based on this finding the moderator analysis (a variant of multiple regression analysis) is the most applicable method. By conducting this analysis insight is provided concerning the effect of the perceived quality and the organic involvement on the relationship between the perceived availability and the purchase intention. Since the moderator is metrically scaled (five-point Likert scale), both the independent and the moderators need to be mean-centered. By centering these variables multicollinearity has been avoided and to make sure that interpretation of the variables is increased (Dalal & Zickar, 2011; Field, 2018).

The variables age, income, and product categories are added as control variables to the regression formula. The variable age is already of metric measurement level, which means that this variable could be directly entered into the multiple regression analysis. However, the hypothesis for age in Section 3 is formulated in such a way that different groups of age will be compared. Therefore, it is decided to first transform age categories. Variables of categorical measurement level cannot be directly entered into a regression, which means that this variable needs to be converted into dummies (Laerdstatistics, 2018a). Furthermore, also the variable income cannot be directly entered into the multiple regression analyses, because this variable is of categorical measurement level. Therefore, the control variable income will be converted into dummies as well. The same holds for the product categories, that will be converted into dummies 1(milk) and 2 (chocolate). The formula of the multiple regression with two moderators is formulated as follows:

$$\textbf{\textit{Purchase intention}}_i = \beta_0 + \beta_1 * \textit{Perceived availability}_i + \beta_2 * \textit{Perceived quality}_i + \beta_3 * \textit{Perceived availability} * \textit{Perceived quality}_i + \beta_4 * \textit{Organic involvement} + \beta_5 * \textit{Perceived availability}_i * \textit{Organic involvement} + \beta_6 * \textit{Age}_i + \beta_7 * \textit{Income}_i + \beta_8 * \textit{Product category}_i + \varepsilon_i$$

The Purchase intention$_i$ stands for the independent variable. The β_0 represents the intersection with the Y-axis, which gives the value of the outcome when β_0 is zero. The perceived availability is the independent variable. The perceived quality and the organic involvement are the moderators. The last three variables are the control variables in this model. The ε indicates the random error term, also known as the residual. The reason why this value is added to the formula is that it is statically not possible to explain all the variances and differences that are found in the variables (Field, 2018).

3.7 Research ethics

To make sure that all the ethical requirements are met, the general principles of research ethics are taken into account. One of the foundations of research ethics is the idea of informed consent (Dissertation, 2012; Fouka & Mantzorou, 2011). This means that an explanation will be given to the respondents that they are taking part in a research and what the research requires of them. Also, the respondents should participate voluntarily, without being forced and deceived (Dissertation, 2012; Fouka & Mantzorou, 2011).

Secondly, it is important to always protect the anonymity and confidentiality of the participants. To ensure that the identity of the participants will be kept anonymous, the identifiers in the survey will not be included (Dissertation, 2012; Fouka & Mantzorou, 2011). Furthermore, the researcher will keep the responses of the individuals for themself and will not share this with third parties (Dissertation, 2012; Fouka & Mantzorou, 2011).

Lastly, the participants will be informed about their right to withdraw at any stage from the research process. When the respondents are withdrawing from the research process, they will not be pressured or forced by the researcher to change their mind (Dissertation, 2012; Sekaran, 2016).

4. Analysis

This Section is aimed at analysing the collected data from the survey. First, the data will be cleaned, and the missing values will be removed or repaired. Next, the assumptions of the linear regression (moderating regression) will be tested. After that, the regression will be conducted in SPSS. The results of the regression analysis will be discussed in Section 5.

4.1 Pre-test Survey

Before the survey was used in the real setting, the questionnaire of the survey has been tested. This pre-test is done with a small group of people in the second week of April 2021. The online pre-test was built by using the program Qualtrics and was set out randomly in the field (personal social network). Moore, Carter, Nietert & Stewart (2011) recommend using at least 12 participants for the pre-test. Therefore, the pre-test consists of 12 participants, and they were asked to give feedback concerning the concept of the survey and the questions used in the questionnaire. Their feedback is used to improve the questionnaire. By pre-testing the survey insight is provided in problem areas in the survey and measurement errors are detected (Ruel, Wagner, & Gillespie, 2015). Also, the burdens of the respondents are reduced, it provides insights into whether or not respondents interpreting questions correctly, and it ensures that the order of the questions is not influencing the way a respondent answers the questions (Ruel et al., 2015).

4.2 Descriptive statistics

The program Qualtrics is used to build the online survey. Qualtrics give the participants the possibility to fill in the survey very easily and rapidly (Qualtrics, n.d.). Also, the obtained data from the survey can easily be exported to the data analysis Program IBM SPSS Statistics (Qualtrics, n.d.). After improving the survey based on the feedback from the pre-test, the definitive version was set out randomly in the field. To ensure that enough potential participants would be reached different social media platforms like, WhatsApp, LinkedIn, and Facebook, were used. The respondents were randomly assigned to the product category (milk or chocolate) by using the option 'evenly present elements' to make sure that the estimated group size would be reached. Eventually, more than 200 potential participants were approached to make sure that the desired amount of 150 respondents was met. According to the program Qualtrics 181 respondents were measured. After measuring the total number of respondents, the missing value analysis was conducted. If the missing values in the data set were not handled properly an

inaccurate inference about the data would be derived (StatisticsSolutions, 2021). Also, the lost data could have biased the estimation of the parameters and reduced the representativeness of the sample, which had complicated the analysis of this study (Kang, 2013). By conducting a missing data analysis, the validity of the results was reassured. The missing data analysis was conducted by the use of the four-step procedure of Hair et al. (2014). This procedure helped to systematically identify the missing data in the dataset. When looking at the dataset in SPSS, two individual cases contained more than 10 percent missing data, which means that they were not ignorable and therefore were excluded from the dataset. Furthermore, eleven individual cases were found that contained one or more missing values. However, the missing data of these cases were under the threshold of 10 percent (Hair et al., 2014). To prevent deletions of these individual cases different replacement techniques could be used. Since the number of individual cases whitin this dataset with no missing data lies substantially above the required minimum sample size of 120 respondents that are needed for this multiple regression, it was decided to not repair these individual cases (Hair et al. 2014). Additionally, the nature of the questions, for example, the question that is related to the residence, is too complex for using replacement techniques. This means that a total of 13 respondents were excluded from the dataset, which means that the definitive sample consists of N=167. As mentioned earlier, the respondents were randomly assigned to a product category (milk or chocolate). In the table below an overview is presented of the estimated and actual respondents per product category (see Table 1). Based on the results of the table, it can be concluded that the desired amount of 60 respondents per category is met (see Section 3).

	Estimated respondents	**Actual respondents**
Product category 1 (Milk)	60	86
Product category 2 (Chocolate)	60	81

Table 1: Respondents distribution.

The descriptive data is shown in the table on the next page. According to this table, 48,5 % of the respondents were men and 50,9% female. The value 'other' consists of respondents that answered with diverse. The average age of the respondents is 38,4 with a range from 20 to 86 years old. The majority of the respondents appear to be between 26 to 40 years old. The second largest group is between the age of 18 to 25 years old. The remaining groups consist of respondents between the age of 41 to 59 years old, and the seniors (60 years or older). Finally, the majority of the respondents has a university degree (bachelor, master, or higher) and is living in Noord-Holland and Utrecht.

Variable	Specification	Percentage of the sample
Gender	Male	48.5
	Female	50.9
	Diverse	0,6
Age (Years)	18-25	25,1
	26-40	40.1
	41-59	17.4
	≥ 60	17.4
Education	High School (vmbo, havo, and vwo)	3.6
	Intermediate vocational education (mbo)	3.0
	Higher vocational education (hbo)	22.2
	Academic education (bachelor, master and higher)	71.3
Demographic	Noord-Holland	37.1
	Utrecht	31.7
	Gelderland	17.4
	Others	13.8

Table 2: sample statistics.

4.3 Assumptions

Before testing the assumptions, the mean of each variable was calculated. To determine the mean of the different variables the computing procedure was used. After calculating the mean value of each variable, the assumptions for a moderator analysis is tested. According to Hair et al (2014), a moderator analysis can only be conducted when the additional assumptions are checked and met. Otherwise, the results may not be trustworthy and could result in a Type I error (null hypothesis is rejected when it is actually true) or Type Π error (null hypothesis accepted when it is not true), over-or under-estimation of significance, or effect size(s) (Osborn & Waters, 2002). The variables with their mean and standard deviation before they are mean centered are represented in the table below (see Table 3).

	N	Minimum	Maximum	Mean	Std. Deviation
Purchase intention	167	1.00	5.00	2.74	0.9414
Perceived availability	167	1.00	4.33	2.39	0.760
Perceived quality	167	1.00	4.00	2.30	0.435
Organic involvement	167	1.00	5.00	2.93	0.980
Age	167	20.00	86.00	38.35	16.864
Income	167	1.00	4.00	2.20	1.026
Product categories	167	1.00	2.00	1.49	.501

Table 3: Descriptive statistics before mean-centering.

The first assumption is that all the variables need to be of metric measurement level (Field, 2018; Laerdstatistics, 2018c). As earlier mentioned, the dependent variable (purchase intention), independent variable (perceived availability), and the moderators (perceived availability and organic involvement) were measured by using a Likert scale (from 1 to 5). According to Sekaran (2016), the measurement level of the Likert scale can be seen as an interval level. Therefore, these variables will not be transformed and will directly insert into the regression analysis (Field, 2018). However, the control variables age, income, and product categories are of categorical measurement level, which means that they need to be converted into dummy variables. Otherwise, these control variables cannot be entered into the multiple regression analysis. Also, the data is checked for possible outliers. (An) Outlier(s) are an observation or observations that differ(s) significantly from most others (Hair et al., 2014; Field, 2018). It is necessary to detect outliers because they can affect the results of the analysis. To determine the outliers per variable a boxplot is used (Appendix D). The rule is that when the value is more than 1,5 times the IQR's (interquartile range) below the first quartile range or above the third quartile range of the boxplot, it is labelled as an outlier (Hair et al., 2014). When looking at the boxplots of the variables perceived quality and organic involvement and the interaction effect of perceived quality and organic involvement, contain outliers. After excluding the outliers from the data by using the function trimming data in SPSS, the new mean of these variables (after excluding outliers) and the old mean of these variables (before excluding outliers) are compared to determine whether the outliers are problematic or not. When looking at the results, the difference between the old mean and the new mean are negligibly small and therefore considered not problematic (see Appendix D). Based on this finding the outliers are not excluded.

Now the first assumption is fulfilled, the next assumption will be checked. This assumption is related to the independence of the residuals. In other words, the errors associated with one observation are not correlated with the errors of any other observation. To determine whether this assumption is violated, the Durban-Watson test is checked (see Appendix D). Field (2018) mention that the Durban-Watson statistic will always have a value between 0 and 4. A value below 2.0 means that there is no correlation. Values from 0 to less than 2 are positively correlated and values from 2 to 4 indicates negative autocorrelation. When looking at the Durban-Watson value, the value is .395, which means that there is a positive autocorrelation. This means that the assumption of independence of residual is violated and a value smaller than 1 is a cause for concern. This means that a serial correlation is found between errors (residuals). Even though this assumption is not met, the multiple regression can still be executed.

The third assumption is aimed at measuring the linearity of the phenomenon (Hair et al., 2014; Laerdstatistics, 2018c). In other words, linearity of the relationship between dependent and independent variables (Field, 2018; Hair et al., 2014). This linearity can be tested by using univariate analysis and bivariate analysis. Before running these analyses, the variables need to be mean centered (Iacobucci, Schneider, Popovich, & Bakamitsos, 2016). This is done by 'compute variable', whereby the mean of the variable is subtracted from the scores. After mean centering the variables the univariate analysis is conducted. This analysis gives insight into the skewness and kurtosis of the individual variable, which helps to determine the shape of the distribution (Hair et al., 2014). This analysis can be conducted by requesting a frequency distribution table in SPSS (Appendix D). This is done for the independent variables (perceived availability, perceived quality, and organic involvement). To determine the degree of skewness and kurtosis the rule of thumb -3/+3 is used (McNeese, 2016). This means that when the value of the skewness and kurtosis falls within the range of -3 and +3, it can be assumed that the variable is linear. Based on the frequency distribution table in Appendix D, the conclusion can be drawn that all the variables are linear. In the case of the bivariate analysis, a relationship between two different variables is tested (Hair et al., 2014). Bivariate analysis is conducted by looking at a scatterplot (ZRESID/ZPRED). The scatterplots of the variables are visualized in Appendix D. When looking at the scatterplot, the dots in the scatterplot form no clear pattern and are randomly positioned around the horizontal zero-line. Furthermore, this overall scatterplot does not show curvilinearity. Based on this finding there is linearity between the independent variables (predictors) and the dependent variable. To get more insight into the effect of adding another variable to the model that already contains an independent variable, the partial regression plots for each variable are conducted in SPSS (see Appendix D). All these separate plots do not contain a clear pattern, which means that there is linearity between the dependent variable and the independent variables. To make sure that the dependent variable and independent variables are linear, the second and third-degree powers are being calculated. When looking at the results (see Appendix D), it seems that all the second and third power of all three predictors (perceived availability, perceived quality, and organic involvement) are not significant because all the p-values are $p > .05$. This means that the relationships between all the predictors and the purchase intention are linear.

The fourth assumption is that the error variance (constant variance of the residuals) needs to be the same for all combinations of independent and moderator variables (Hair et al., 2014; Leardstatistics, 2018c). In other words, the variance of the errors of the independent variables should be constant. To check for this assumption the scatterplot can be used

(Appendix D). When the residuals are randomly scattered around the centerline of zero and show no obvious pattern, the variance of the residuals can be considered constant (Field, 2018). This indicates homogeneity of variance or homoscedasticity. Looking at the scatterplots in Appendix D, the residuals in the scatterplot do not form a clear pattern, which means that there is no sign of heteroscedasticity (Field, 2018). This means that there is a constant variance of the residual (error).

The fifth assumption involves testing for multicollinearity. According to Field (2018) and Laerdstatistics (2018c), multicollinearity is a situation in which two or more variables (independent) are very close and strongly correlated. It is necessary to prevent multicollinearity because it complicates the interpretation of the model and could create an overfitting problem (Hair et al., 2014). To measure the multicollinearity, the tolerance value and variance inflation factor (VIF) are used. The value of the tolerance should be at least higher than .10. Otherwise, it will cause problems for interpretation of the results and the model (Hair et al., 2014). When looking at Appendix D, the tolerance values of the predictors are above this threshold, which means that the assumption of multicollinearity is met. When the VIF is greater than 10 it suggests that there is strong multicollinearity (Bowerman & O'Connell, 1990; Myers, 1990). However, the coefficient table shows that all the VIF values are below the threshold of 10, which indicates that the assumption of multicollinearity is met as well (see Appendix D).

The sixth assumption is aimed at determining the normality of the residuals (Hair et al., 2014; Laerdstatistics, 2018c). This is tested by running a 'normal probability plot' (P-P Plot of Regression Standardized Residuals) and the histogram. When looking at the plots (Appendix D), it appears to be that the dots are closely lined up around the diagonal line. This means that the residuals can be assumed normally distributed. Secondly, when looking at the histogram (see Appendix D) a symmetric bell-shaped curve is presented, which means that the distribution of the residual is considered normally distributed.

The final step is conducting a reliability check. To ensure that the items consistently reflect the construct that they are measuring, the reliability analysis is conducted (Field, 2018). The results of this test per variable are shown in Appendix E. According to this table, the Cronbach's alpha of the variables purchase intention and organic involvement is far above the threshold of .80 (Field, 2018; Taber, 2018). This indicates that the internal consistency among items is more than sufficient. This does not hold for the perceived availability. Based on Appendix E, it can be concluded that when item 3 is deleted the Cronbach's alpha will increase from .779 to 790. However, the minimum number of items that is needed to measure a variable is three, which means that it is not possible to remove an item from this scale (Hair et al, 2014).

Furthermore, it turned out that the Cronbach's alpha of the perceived quality is far below the threshold of .80. As denoted in Appendix E, the Cronbach's alpha for this variable could be increased by removing item 1. The rule of thumb for removing an item is that when deleting leads to an increase of the Cronbach's alpha of more than 0.05 this item should be deleted (De Heus, Van der Leeden, & Gazendam, 1995). Since the increase of the Cronbach's alpha is smaller than the threshold of > 0.05, none of the items of the perceived quality are removed. This means that the Cronbach's alpha of perceived quality will stay below the threshold of .50, which indicates that the items that are used to measure the perceived quality are not valid. Because of the lack of time, it is not possible to adjust the scale and re-investigate it in the field. Therefore, it is decided to use this scale and be aware of the fact that this scale could bias the results. Besides, different studies consider a Cronbach's alpha between 0.5 and 0.6 as acceptable, which means that the Cronbach's alpha of the perceived quality in this study can be considered valid (Henson, 2001; Lance, Butts, & Michels, 2006).

4.4 Regression

Before running the multiple regression, it is necessary to determine which technique is used when conducting a multiple regression analysis. A distinction can be made between exploratory analyses and confirmatory analyses (Hair et al., 2014). Within this research, a confirmatory analysis is conducted. This technique checks and assesses whether the measure of the construct is consistent with the understanding of the nature of that construct (Hair et al., 2014). It allows the researcher to determine the exact set of independent variables that needs to be included in the multiple regression (Hair et al., 2014). This technique perfectly matches with this research, because the relationships between the variables are determined before conducting the analysis (Hair et al., 2014). Furthermore, the hypothesis is formulated before the analysis and is tested by running a confirmatory analysis (Hair et al., 2014).

During the analysis, measuring the significance will be based on an alpha level of 0.05. Also, the adjusted R^2 will be used to determine the goodness-of-fit for the regression model. To get insight into the independent variables the unstandardized B coefficient will be analysed, which represents the value of the slope line between the predictor variable and the dependent variable (Hair et al., 2014). Lastly, the standard error will be used, which stands for the standard deviation (Hair et al., 2014).

5. Results

This Section is focused on the interpretation of the results from the survey. The data from the regression analysis in SPSS are summarized in the Tables 4, 5, and 6. The results of the control variables, main effects, and interaction effects are separately represented in these tables. Table 4 stands for the ANOVA, which provides information concerning the significance level of the F-test. The table 'model summary' gives insight into the Adjusted R-Square, which helps to determine the extent to which the variance in the dependent could be explained by the independent variables (see Table 5). Finally, the coefficient table provides information about the effect of the predict variables (control variables, main effects, and the interaction terms) on the dependent variable (see Table 6). For the control variables (age, income, and product categories), the reference group or the baseline group is based on the group that represents the majority within that specific control variable. In the case of the consumers' characteristics (age and income), it turned out that group 2 is the largest group and for the control variable product category milk turned out to be the biggest group.

The procedure that is used to systematically add the variables to the model in separate blocks is called the 'hierarchical regression analysis' (Field, 2018). This is a special form of multiple regression whereby more variables are added to the model in separate steps. In the first model the main effect and the interaction effects are excluded from the model, which means that only the control variables are being tested on the dependent variable (purchase intention). These control variables consist of age, income, and product categories. The second model contains the main effects under control of the variables age, income, and product categories. In the last model, the interaction effects are included in the model. By doing this, it becomes easier to get insight into the isolated effects of the control variables, main effects under control of age and income, and to what extent the interaction effect has an impact on the purchase intention. Additionally, by adding the variables sequentially to the model, it becomes much easier to interpret to what extent these variables affect the adjusted R-square (R^2).

5.1 Control variables (model 1)

As mentioned above, the first model only contains the direct effects of the control variables on the purchase intention of organic national brands. The result of the F-test of this model is represented in the ANOVA table (see Table 4). The F-test of the first model turned out to be not significant: $F (7, 159) = 1{,}574$, $p > .147$ (see Table 4). This means that adding a control variable to this model will not increase the significance of the model. It indicates that these

predictors (control variables) do not show a statistically significant relationship with the dependent variable, which means they do not reliably predict the dependent variable. In other words, this model does not provide a better fit to the data than a model that contains no independent variables (Field, 2018). Despite the insignificance of this model (which means that the results are not interpretable), the results of the direct effect from the control variables will be investigated to get insight into what these results mean.

The Adjusted R-Square turned out to be Adjust R^2=0.024 (see Table 5). This value suggests that by adding these control variables to the model a small proportion of the variance in the dependent variable can be explained by the independent variable in the regression model (Field, 2018). In other words, this model explains around 6 % of the variation of the dependent variable and can be considered weak (Field, 2018).

When looking at the results of the estimated coefficientwise of the control variables a significant effect was found in the coefficient table (see Table 6). To begin with the control variable age, it can be concluded that the p-value of the age group between 18 and 25 is significant (β=-.446, t=-2.013, $p < .05$). The rest of the age groups turned out to be not significant because the p-value of all these groups is above the threshold of .05. Since the group of respondents between 18 and 25 is significant, it can be assumed that the purchase intention of organic national brands differs for age. For the control variable income, none of the income groups are significant because the p-value of all these groups is $p > .05$. Based on these findings, it can be concluded that the purchase intention of organic national brands does not differ for income. Additionally, the value of the control variable turned out to be not significant (β=.078, t=.518, $p > .05$). However, since the F-test of this model is not significant ($p > .147$), it is not possible to interpret the results of these control variables.

5.2 Main effects (model 2)

In the second model, the main effects of perceived availability, perceived quality, and organic involvement are tested. Before diving into the main effects, the F-test of the model needs to be checked. According to Table 4, the F-test is significant: F (10, 156) =2.683, $p < .001$. This suggests that by adding the main effects of perceived availability, perceived quality, and organic involvement to this model, the overall significance of the model increases in the second model. In addition to that, since the model is significant it means that the estimated linear regression model does provide a better fit to the data than a model that contains no independent variables

(Field, 2018). Because of the significance of the F-test, the effects that turned out to be significant in the second model can be interpreted.

Next, the Adjusted R-square needs to be checked for the second model. Earlier is mentioned that this value provides insight into the extent to which the variance of the dependent variable can be explained by the independent variable in the regression model (Field, 2018). According to the Model Summary table, the Adjusted R-Square turned out to be Adjust R^2=0.092 (see Table 5). This value means that the predictor of this model explains around 9,2 % of the variation of the dependent variable and can be considered low (Field, 2018). Since the R-Square change is significant ($p < .05$), it means that adding the predictors in this model significantly improved the prediction of the dependent variable (Hair et al., 2014).

Furthermore, the main effects of the second model are checked (see Table 6). The estimated beta coefficient of the main effect perceived availability turned out to be positive. This implies that the perceived availability has a positive effect on the purchase intention (β=.152, t=1.541, $p > .05$). Additionally, the predictor organic involvement is negative (β=-.031, t=.378, $p > .05$). However, these effects cannot be interpreted because they are not significant. The main effect of the perceived quality turned out to be significant (β=.410, t=2.753, $p < .05$). According to Table 6, the beta coefficient of the perceived quality is positive. This suggests that perceived quality has a positive small direct effect on the purchase intention. From all the main effects, perceived quality has the largest effect (β=.410, t=2.753, $p < .05$). The beta coefficient of the perceived availability is substantial smaller (β=.152, t=1.541, $p > .05$) and the main effect of organic involvement is the smallest (β=-.031, t=.378, $p > .05$). Since only the main effect of perceived quality is significant, this main effect can be interpreted.

Moreover, when looking at the control variables, a significant effect was found. It turned out that the age group between 18-25 is significant (β=-.432, t=-1.998, $p < .05$). This implies that the purchase intention of organic national brands differs for age. However, income and product categories turned out to be not significant because all the p-values of both control variables are above the threshold of .05.

To be sure that these control variables (income and product categories) are indeed not significant, some additional tests are conducted. Since the control variable income contains more than two groups, the one-Way ANOVA-analysis needs to be conducted. Before this analysis was executed, this variable was checked for assumptions. Based on the table in Appendix F, the skewness is between -0.5 and 0.5, which suggests approximately symmetric (Date, 2019). The kurtosis falls within the range of +/-3, which indicates an almost normal

distribution (McNeese, 2016). This means that the one-Way ANOVA can be conducted (Laerdstatistics, 2018d). According to the table in Appendix F, the Levene's test turned out to be not significant (P > .05), which suggests that the variance is equal for the different groups. Furthermore, the significance level in the ANOVA table is insignificant, which suggests that the purchase intention of organic national brands does not differ for income (see Appendix F). Additionally, the product categories are tested by using an independent sample t-test because this variable contains two different groups, namely milk and chocolate (Laerdstatistics, 2018b; Sedgwick, 2010). Based on the table in Appendix G, the conclusion can be drawn that no difference is found between the product categories milk and chocolate because the p-value for the 'Equal variances assumed' is bigger than the threshold of .05. This means that there is no difference between the product categories milk and chocolate. This was already expected because the mean scores of both product categories are almost the same. It turned out that the mean for milk was 2.8110 and for chocolate 2.6728 (see Appendix G).

5.3 Interaction effects (model 3)

According to the results of Table 4, it can be concluded that the F-test of the third model is significant: F (12, 154) =2.512, p <.001. This means that the inclusion of the interaction terms does increase the overall significance of the model and suggests that also this regression model provides a better fit to the data than a model that contains no independent variables (Field, 2018). Because of the significance of the F-test, the effects that turned out to be significant in the third model can be interpreted.

When looking at the Adjusted R-Square of the third model, it turned out that this value is slightly higher than in the first model with Adjusted R^2=.099 (see Table 5). This indicates that the third model explains around 9,9 % of the variation of the dependent variable and is still low (Field, 2018). However, since the Adjusted R-Square change is not significant (p >.05), it can be concluded that this model not significantly improved the prediction of the dependent variable. In other words, by adding the interaction terms to the model, the explanation power of this model to explain the variation of the dependent variable does not significantly improve.

Furthermore, in the third model, the main effect of perceived availability turned out to be marginal significant (β=.788, t=1.960, p= .052). Apparently, through adding both interaction terms to the model this main effect becomes significant. Even though the fact that this main effect is significant, this value is no longer interpretable separately because through including interaction terms into the model, these main effects become in the third model a conditional

value of the interaction terms. In addition to that, since an alpha level of .05 is used this main effect will be considered insignificant. The other two main effects, consisting of perceived quality (β=.755, t=1.653, p > .05) and organic involvement (β=.248, t=.982, p > .05), are both not significant in the third model. Additionally, the interaction effect of the perceived availability and perceived quality on the purchase intention turned out to be not significant (β=-.135, t=-.758, p >.450). This suggests that the combined effect does not have an effect on the purchase intention. The same result is found for the interaction effect of the perceived availability and organic involvement, which means that this combined effect does not have an impact on the purchase intention (β=-.121, t=-1.177, p > 0.05). The conclusion that can be drawn is that the inclusion of this interaction term does not significantly increase the amount of variance that can be explained in the dependent variable (purchase intention), which means that a moderating effect is not presented. This result was already expected because the R-Square change of this model turned out to be insignificant (p > .05). Finally, all the control variables in the third model turned out the be not significant, which means that adding the interaction terms to the model does not lead to the significance of the control variable age, income, and product categories. This also holds for age, which turned out to be marginally significant. As earlier is mentioned, an alpha level of .05 is used, which means that age will be considered insignificant in the third model.

Model		Sum of squares	df	Mean Square	F	Sig.
1[a]	Regression	9.537	7	1.362	1.574	.147
	Residual	137.582	159	.865		
	Total	147.119	166			
2[b]	Regression	21.592	10	2.159	2.683	.005
	Residual	125.527	156	.805		
	Total	147.119	166			
3[c]	Regression	24.080	12	2.007	2.512	.005
	Residual	123.039	154	.799		
	Total	147.119	166			

Table 4: ANOVA.

[a]= Model 1 contains only the controle variables age, income, and product categories.

[b]= Model 2 contains the main effects of perceived availability, perceived quality, and organic involvement.

[c]= Model 3 includes both the interaction effects of perceived quality and organic involvement.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F change
1[a]	.255	.065	.024	.93021	.065	1.574	7	159	.147
2[b]	.383	.147	.092	.89703	.082	4.994	3	156	.002
3[c]	.405	.164	.099	.89384	.017	1.557	2	154	.214

Table 5: Model Summary.

[a]= Model 1 contains only the controle variables age, income, and product categories.

[b]= Model 2 contains the main effects of perceived availability, perceived quality, and organic involvement.

[c]= Model 3 includes both the interaction effects of perceived quality and organic involvement.

Model	Variable	B*	Standard Error	t-value	Sig.
1	(Constant)	2.642	.159	16.601	<.001
	AgeGroup1[a]	-.446	.222	-2.013	.046
	AgeGroup3[a]	.415	.234	1.773	.078
	AgeGroup4[a]	.238	.215	1.107	.270
	IncomeGroup1[b]	.320	.213	1.503	.135
	IncomeGroup3[b]	.027	.234	.114	.910
	IncomeGroup4[b]	-.242	.228	-1.064	.289
	ProductCategory[c]	.078	.148	.528	.598
2	Constant	2.653	.154	17.231	<.001
	AgeGroup1[a]	-.432	.216	-1.998	.047
	AgeGroup3[a]	.353	.231	1.532	.127
	AgeGroup4[a]	.230	.212	1.086	.279
	IncomeGroup1[b]	.296	.206	1.442	.151
	IncomeGroup3[b]	.108	.229	.470	.639
	IncomeGroup4[b]	-.312	.221	-1.411	.160
	ProductCategory[c]	.092	143	.642	.522
	Perceived availability	.152	.099	1.541	.125
	Perceived quality	.410	.149	2.753	.007
	Organic involvement	-.031	.081	-.378	.706
3	Constant	2.624	.156	16.770	<.001
	AgeGroup1[a]	-.430	.217	-1.980	.050
	AgeGroup3[a]	.336	.230	1.457	.147
	AgeGroup4[a]	.218	.212	1.026	.306
	IncomeGroup1[b]	.319	.205	1.556	.122
	IncomeGroup3[b]	.095	.228	.417	.677
	IncomeGroup4[b]	-.271	.222	-1.220	.224
	ProductCategory[c]	.131	.147	.893	.373
	Perceived Availability	.788	.402	1.960	.052
	Perceived quality	.755	.457	1.960	.100
	Organic involvement	.248	.253	.982	.328
	Interaction perceived quality	-.135	.178	-.758	.450
	Interaction organic involvement	-.121	.103	-1.177	.241

Table 6: Predicted beta coefficients.

[a]= Reference category is AgeGroup2.

[b]= Reference category is IncomeGroup2.

[c]=Reference category is Milk.

5.4 Interpretation hypothesis

In Section 3 of this study, different hypotheses are formulated. Based on the result in the previous paragraph (5.3), it is possible to determine whether these hypotheses will be rejected or accepted. Also, the effects of the control variables (age, income, and product categories) will be compared with the expected effects that are mentioned in Section 3.

Hypothesis 1

The first hypothesis is "The perceived availability of organic private label products negatively impacts the purchase intention of organic national brand products". Based on the results of the second model, the main effect of the perceived availability turned out to be not significant. This implies that the perceived availability of organic private labels does not have a direct effect on the purchase intention of organic national brands. Furthermore, as mentioned before in the third model the main effect of perceived availability becomes a conditional value of the interaction term, which suggest that this main effect cannot be interpreted separately in the third model. This means that the formulated hypothesis will be evaluated based on the second model. Thus, based on the results of the second model, H1 should be rejected.

Hypothesis 2

The second hypothesis states that "The perceived availability of organic private label products negatively impacts the purchase intention of organic national brand products when the perceived quality is low for organic national brands". When looking at the third model, it is obvious that the combined interaction effect of perceived availability and perceived quality is not significant. This implies that adding the combined interaction effect of perceived availability and perceived quality does not have an effect on the purchase intention. In other words, the perceived availability of organic private labels has no effect on the purchase intention of organic national brands under the condition of perceived quality. Due to this finding, H2 should be rejected.

Hypothesis 3

The third hypothesis is "The impact of perceived availability of organic private label products has no impact on the purchase intention of organic national brand products when the organic involvement of the consumer is high". Based on the third model, it can be concluded that the combined effect of perceived availability and organic involvement (interaction term) is not significant. This means that the perceived availability of organic private labels does not affect

the purchase intention of organic national brands moderated by organic involvement. Based on these findings, it can be concluded that the H3 is not accepted.

Control variables

In the previous paragraph, different results were found concerning the effects of the control variables. In Section 3, it is mentioned that the control variables consist of age, income, and product categories (milk and chocolate). For the control variable age, it was expected that the purchase intention of organic national brands differs for age. According to the results, the age group between 18-25 differs turned out to be significant, which suggests that the purchase intention of organic national brands differs for age. This is in line with the expectation of the control variable age in Section 3. Furthermore, when it comes to the control variable income, the results show that none of the income groups are significant, which indicates that the purchase intention of organic national brands does not differ for income. This deviates from the expected effect of income on the purchase intention of organic national brands in Section 3, where different effects on the purchase intention were expected for the income groups. Additionally, also for the control variable product categories, the p-value turned out to be not significant. This implies that no differences were found between the product categories vice (chocolate) and virtue (milk) on the purchase intention. This is in contrast with the literature that mentioned that product categories vice and virtue will have a different effect on the purchase intention.

6. Conclusion and discussion

As mentioned earlier, the market of the organic food is growing rapidly, and nowadays many supermarkets are introducing organic private labels (Chartier, 2019). Concerning the rapid growth of organic private labels, the lack of knowledge in the current literature concerning organic private labels on the purchase intention of organic national brands, and the increasing need for organic food by the society, the following research question was drafted: *to what extent does the perceived availability of organic private label products has an impact on the purchase intention of organic national brand products, and how is this effect being moderated by the perceived quality and organic involvement?* Based on the findings the conclusion can be drawn that the perceived availability of organic private labels does not has an impact on the purchase intention of organic national brands. The same results were found for the interaction effect of the perceived availability and perceived quality, which turned out to be not significant. Furthermore, the interaction term of the perceived availability and the organic involvement

turned out to be absent as well. However, evidence is found that the main effect of perceived quality has a direct effect on the purchase intention and is considered of importance by the consumers. In addition to that, the purchase intention for organic national brands differs for age. Although income and product categories turned out to be insignificant, which suggest that the purchase intention of organic national brands does not differ for income and product categories.

6.1 Academic implications

In this paragraph, the results will be translated into academic implications. The results of this study will be reflected, and a discussion will be hold why the results turned out to differentiate from the expectations that are based on the literature.

Perceived Availability

Based on the findings of this study, it turned out that the perceived availability of organic private labels does not affect the purchase intention of organic national brands. Apparently, when consumers feel they can easily obtain or consume organic private labels it does not directly lead to a lower purchase intention of organic national brands. This implies that the expected increase of the purchase intention of organic food, caused by the perceived availability of organic private labels, does not reduce the purchase intention of organic national brands. So, this means that the perceived availability of organic private labels is not a predictor for the purchase intention of organic national brands in this study. There are different possible reasons why this relationship turned out to be insignificant. The first reason could be that consumers, who already buy organic national brands, still prefer national brands above private labels when it comes to organic food. According to Steenkamp et al. (2010), a possible explanation why consumers choose national brands above private labels is because of the quality of the product (packaging or the product itself), advertising, or price promotions. A second reason could be that the purchase behavior of consumers, who buy non-organic food daily and decided to try organic food for the first time, will not directly affect the relationship. Consumers who want to buy organic products for the first time can then choose between organic private labels and organic national brands. A third reason that could cause the insignificance of this relationship could be that consumers, who normally buy private labels, choose to buy organic food of private labels because they are familiar with the product and prefer a low price (Jaafar et al., 2012; Munusamy & Wong, 2008).

Thus, there are various reasons why the relationship turned out to be not significant. However, this does not mean that the perceived availability of organic private labels is not a good predictor to determine the purchase intention of organic national brands. So, it would be interesting to re-investigate this predictor where especially is tested for respondents that exclusively buy organic national brands and how they react to the perceived availability of organic private labels.

Perceived quality

Based on the results, the hypothesized moderation effect did not turn out to be present in the model, which means that the perceived availability of organic private labels does not affect the purchase intention when it is moderated for perceived quality. When looking at the results of the previous relationship (perceived availability on purchase intention), it is expected that quality would also not affect the relationship between perceived availability and purchase intention. Even though the perceived quality is absent because of the non-significance of the relationship between perceived availability and purchase intention, it is decided to discuss this moderator in a hypothetical situation where the relationship between perceived availability and purchase intention is considered significant. By doing this, it is possible to discuss the possible reasons why the moderator effect of perceived quality could be absent.

The absence of the moderator perceived quality is in contradiction with the hypothesis that is formulated for the perceived quality. Based on the literature, it was expected that the impact of perceived availability of organic private labels has a negative impact on the purchase intention of organic national brands when the perceived quality of organic national brands is low. A possible reason could be that the perceived quality of organic food cannot be measured in the same way as the perceived quality of non-organic food because apparently the perceived quality within the context of organic food is different from the perceived quality of food in a non-organic context. It could be that the meaning of perceived quality in an organic context is more aimed at the level of organic (the extent to which a product is organically produced) compared to the perceived quality of non-organic, which is mainly focused on the taste of the product, high valued ingredients and visualization of the ingredients on the product.

Besides, it would have been useful to take other factors into account to serve as a moderator because perceived quality turned out to be not the reason why consumers would switch to or choose for organic private labels instead of organic national brands. Possible moderators could be packaging of the product, advertising around the product, or pricing of the product (see Section 2). Therefore, it would be interesting to test these variables as moderators

in further research on this topic to find out which variable effects the relationship. Despite the fact that the moderator effect is absent, a direct effect is found between the perceived quality on the purchase intention of organic national brands. This effect is not completely surprising because in the literature several authors found that perceived quality is an important predictor for the purchase intention of organic food. This implies that consumers find perceived quality an important factor when they buy organic food (Magnusson, et al., 2001; Olson 1977; Padel & Foster, 2005). Thus, the results of this study show that quality is an important predictor for the purchase intention of organic national brands. Furthermore, this finding also means that the results of studies, like Wee et al. (2014) which suggest that consumers find perspectives like health, safety, eco-friendly, and animal welfare more important than perceived quality when they buy organic food, are questionable because the perceived quality turned out to be an important factor when it comes to buying organic national brands. So, based on the finding concerning perceived quality in this study, the conclusion can be drawn that perceived quality is absent as a moderator, but has a direct effect on the purchase intention of organic national brands, which means that consumers find perceived quality an important factor when they buy organic national brands.

Organic involvement

Also in this situation, the hypothesized moderation effect of organic involvement is absent because of the non-significance of the relationship. However, to be able to dive into this moderator it is decided to discuss this moderator in a hypothetical situation where the relationship between perceived availability and purchase intention is considered significant. The insignificance of the interaction effect of the perceived availability and the organic involvement on the purchase intention is in contradiction with the expectations. In short, the expectation was that consumers that are high organic involved will not be affected by the perceived availability of organic private labels and keep consuming organic national brands. However, this study found out that organic involvement does not have an effect on the relationship between perceived availability and purchase intention at all. A possible explanation could be that a part of the respondents in this study was not that involved in organic food. This could have consequences for the results of this study. Therefore, it is recommended to investigate this moderator again in the future, whereby only respondents are taken into account that are specifically organic involved.

Furthermore, also in this case, it would have been useful to take other factors into account to serve as a moderator because quality turned out to be not the reason why consumers

would switch to or choose for organic private labels instead of organic national brands. Possible moderators could be packaging of the product, advertising around the product, or pricing of the product (see Section 2). Thus, it would be interesting to test these variables as moderators in further research on this topic to find out which variable effect the relationship between the perceived availability of organic private labels on the purchase intention of organic national brands.

Controle variables

When it comes to the control variables age, income, and product categories different results are found. Based on Section 2, it is expected that the purchase intention of organic national brands differs for age (Fotopoulos & Krystallis, 2002; Omar et al., 2017; Soonthonsmai, 2007). According to the findings of this study, age has indeed an effect on the purchase intention of organic national brands. Furthermore, based on the literature it is expected that income affects the purchase intention of organic national brands (Paul & Rana, 2012; Yin et al., 2010). However, in this study, this effect turned out to be not significant, which indicates that income does not play a significant role when consumers buy organic food. Finally, earlier is mentioned that the purchase intention for organic food differs between vice and virtue (Van Doorn & Verhoef, 2011). In this study, the product categories do not have an impact on the purchase intention of organic national brand products.

6.2 Managerial implications

Based on the findings of this research, the managerial implications can be formulated. First of all, it turned out that the perceived availability of organic private labels does not have an impact on the purchase intention of organic national brands. In a practical sense, this means that increasing the bio-assortment by offering organic private labels in the supermarkets does not influence the purchase intention of organic national brands. For managers, this implies that consumers are probably not fully aware of private labels on the shelves in the supermarkets or the reputation/ image of private labels in the supermarkets is too low. Therefore, it is recommended to managers of supermarkets to invest more time and money into the brand awareness of private labels to ensure that consumers become more aware of the availability and image of organic private labels. Additionally, investing time and effort into organic private labels could also lead to an increase in the purchase intention of organic national brands. So, investing time and effort can cause an increase in the purchase intention of both organic brands. Furthermore, the result of this research shows that the perceived quality does not influence the

relationship when it comes to the perceived availability of organic private labels on the purchase intention of organic national brands. This means for example that when a consumer decides to switch from organic national brands to organic private labels, this choice is not based on quality, but is probably caused by another variable like price, brand awareness, or brand image. Also, for the variable organic involvement, no effect was found, which suggests that it does not influence the relationship between the perceived availability of organic private labels on the purchase intention of organic national brands. This indicates that the extent to which consumers are organically involved does not lead to a different effect on the relationship. For managers, this means that no distinction needs to be made between consumers that are highly involved or low involved and therefore could be targeted in the same way. Additionally, all the consumers do not see any difference between organic private labels and organic national brands when it comes to the level of organic. For managers of the supermarkets, this means that they do not have to put effort and money into the storytelling of the degree to which private labels are organic.

Thus, it implies that managers of supermarkets should invest more time and money into the promotions of organic private labels to ensure that the awareness of the availability and image of the brand will increase/improve. However, this does not hold for investing time and money into the organic message of organic private labels. Additionally, when it comes to organic involvement, consumers do not have to be target differently.

6.3 Limitations and future research

This research has several limitations that need to be addressed to help future researchers that are interested in this topic. The results of this study indicate that most of the effects on the purchase intention turned out to be not significant. Possible causes for the insignificance of these effects in this study are discussed in more detail below.

First of all, it could be that the sample size of this study is too small. When the sample size is too small it reduces the chance of detecting a true effect and leads to insignificant results (Button, Loannidis, Mokrysz, Nosek, Flint, Robinson, & Munafò, 2013; Field, 2018). However, according to Hair et al. (2014) for a multiple regression, a minimum sample of 50 respondents is required, but preferably a sample of 100 respondents. Additionally, the rule of Hair et al. (2014) is used, which suggests a minimum observations-to-variable ratio of 20:1. In this study, three predictors are included, which means that 60 respondents will be sufficient per product category (120 in total). With this knowledge, a sample size of N=167 respondents would be

more than enough for this study to detect a true effect to be significant. This implicates that the sample size should not be a direct cause of the insignificant effects in the model.

The second possible explanation for the non-significance could be caused by the predictors that were used in this study. There is a possibility that unknown factors or factors that are discussed in the literature review of this study but not included in the conceptual model, could explain the variance in the dependent variable purchase intention. In the case of the unknown factors, the extraneous or confounding factors are meant, which are variables that are not taken into account in this research, but potentially affect the outcomes of this research (Chen & Krauss, 2005; Hair et al., 2014). However, within this research, the most important factors are chosen based on the academic literature about organic food in combination with private labels and national brands. It could be that other factors explain the variance in the dependent better than the selected factors in this study, which could explain why the results in this study are insignificant.

Since it is possible that other factors or unknown factors could predict the variance of the dependent variable (purchase intention), it is useful to reflect which possible variable could predict the purchase intention of the organic national brands. Based on the literature review in this study, different variables turned out to be affecting the relationship between organic private labels and organic national brands. For example, packaging. Different studies have mentioned that when consumers buy food products that have attractive packaging, they have a lower intention to buy private labels and therefore choose for national brands (Cela & Cazacu, 2016; Kasotakis & Chountalas, 2014). Another example is the variable price. According to the literature, it turned out that consumers assume that a high price is correlated with high quality when it comes to organic food (Andersen, 2011; Paul & Rana, 2012). Since consumers who buy private labels are price sensitive, it holds that when the lower the perceived price of the product is, the higher the tendency of the consumer to purchase private labels (Jaafar et al., 2012; Munusamy & Wong, 2008). It would therefore be interesting to know what the effect of packing or price will be if these variables were used as moderators in the context of the relationship between the perceived availability of organic private labels and the purchase intention of organic national brands.

A fourth possible explanation is related to the research design. In particular related to the measurement part of the research design. The measurements of the variables are based on scales with items from the literature that are proven to be reliable. Before the multiple regression was conducted, the variables were checked by using the reliability analysis. It turned out that the Cronbach's alpha of the perceived quality was a little bit to low (below threshold of .60),

which means that the measurement instrument of this value could be inconsistent. This makes the result regarding the perceived quality questionable in this study. Therefore, it is recommended to re-investigate the perceived quality where another scale is used to make sure that the significance of the main effect of the perceived quality is indeed valid.

The fifth potential limitation is related to the sample characteristics of this study. As mentioned before, the respondents were completely at random selected, which means that there were no restrictions. Since the perceived availability of organic private labels on the purchase intention of organic national brands turned out to be not significant, it would be useful for further research to explicitly approach consumers that already buy organic food. This could be done by approaching consumers in the supermarket and ask them if they buy organic food regularly. In this study, consumers are randomly approached without knowing if they have ever bought organic food products. This could probably affect the data of this study and maybe affect the significant level of the effects in the model. So, it is recommendable to approach potential respondents in supermarkets to make sure that they have ever bought organic food because this will lead to more accurate results of the study.

Overall, this study brought some interesting things to light when it comes to the perceived availability of organic private labels on the purchase intention of organic national brands. Also, it provides insight into the moderating effects of perceived quality and organic involvement. Thus, this study serves as a good starting point for further research into the effect of perceived availability of organic private labels on the purchase intention of organic national brands in the organic food market. However, future research is needed to confirm the results that are found and should dive deeper into which moderators could explain the variance in the dependent variable (purchase intention). A certain direction is given with the variables price and packaging.

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Appendix

Appendix A: Scale used

Variable	Author	Questions
Purchase intention	Bhukya & Singh (2015)	Q1: I like to purchase national brand products. Strongly disagree/ Strongly agree Q2: I will purchase national brand products in the near future. Strongly disagree/ Strongly agree Q3: I will recommend others to purchase national brand products. Strongly disagree/ Strongly agree Q4: I will try to purchase national brand products. Strongly disagree/ Strongly agree
Perceived availability	Vermeir & Verbeke (2007)	Q1: (I belief) I could easily acquire organic private label products in the supermarkets. Strongly disagree/ Strongly agree Q2: I easily can find organic private label products in the supermarket. Strongly disagree/ Strongly agree Q3: I think that organic private label products are easily available in the supermarket. Strongly disagree/ Strongly agree
Perceived quality	Vo & Nguyen (2015)	Q1: I think quality is the prior criteria I consider when I buy organic food products Strong disagree/ Strongly agree Q2: Organic food products provide clearly their ingredients. Strongly disagree/ Strongly agree Q3: I think organic food products taste good. Strongly disagree/ Strongly agree Q4: I think organic food products seem to be good in quality. Strongly disagree/ Strongly agree
Organic Involvement	Teng & Lu (2016)	Q1: Organic food products are very important to me. Strongly disagree/ Strongly agree Q2: Organic food products are continually of interest to me. Strongly disagree/ Strongly agree Q3: Organic issues have a great concern with me. Strongly disagree/ Strongly agree

		Q4: I'm highly involved in searching and reading information about organic food products. Strongly disagree/ Strongly agree
Age	Rai (2019)	Q1: What is your age? ……..
Income	Tan (2002)	Q1: Could you indicate the range that best represents your monthly income? 1. €2.500 or less 2. €2.500 €4.000 3. €4.000- €6.000 4. €6.000 or more
Product category	Asif, Xuhui, Nasiri, & Ayyub (2018)	Q1: The category X is very important to me. Yes/ No Q2: The category X interests me a lot. Yes/ No
Another demographic information	Ahmad & Juhdi (2010)	Q1: What is your gender? Q2: What is your highest level of education? Q3: Where do you live (city)?

Appendix B: Survey questions

Purchase intention

To measure the variable purchase intention, the following scale is used. This scale consists of four items and is based on a five-point Likert scale, where: 1= Strongly disagree, 2=Disagree, 3= Neither Agree nor Disagree, 4= Agree, and 5=Strongly Agree.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I like to purchase national brand products.	1	2	3	4	5
2. I will purchase national brand products in the near future.	1	2	3	4	5
3. I will recommend others to purchase national brand products.	1	2	3	4	5
4. I will try to purchase national brand products.	1	2	3	4	5

Perceived availability

To measure the variable perceived availability the following scale is used. This scale consists of three items and is based on a five-point Likert scale, where: 1= Strongly disagree, 2=Disagree, 3= Neither Agree nor Disagree, 4= Agree, and 5=Strongly Agree.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. (I belief) I could easily acquire organic private label products in the supermarkets.	1	2	3	4	5
2. I easily can find organic private label products in the supermarket.	1	2	3	4	5
3. I think that organic private label products are easily available in the supermarket.	1	2	3	4	5

Perceived quality

To measure the variable perceived quality the following scale is used. This scale consists of four items and is based on a five-point Likert scale, where: 1= Strongly disagree, 2=Disagree, 3= Neither Agree nor Disagree, 4= Agree, and 5=Strongly Agree.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I think quality is the prior criteria I consider when I buy organic food products.	1	2	3	4	5
2. Organic food products provide clearly their ingredients.	1	2	3	4	5
3. I think organic food products taste good.	1	2	3	4	5
4. I think organic food products seem to be good in quality.	1	2	3	4	5

Organic Involvement

To measure the variable perceived quality the following scale is used. This scale consists of four items and is based on a five-point Likert scale, where: 1= Strongly disagree, 2=Disagree, 3= Neither Agree nor Disagree, 4= Agree, and 5=Strongly Agree.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. Organic food products are very important to me.	1	2	3	4	5
2. Organic food products are continually of interest to me.	1	2	3	4	5
3 Organic issues have a great concern with me.	1	2	3	4	5
4. I'm highly involved in searching and reading information about organic food products.	1	2	3	4	5

Age

As earlier is mentioned, age is a continuous variable, which means that a broad number of answers are possible. The question that will be asked is:

What is your age?

Income

For income only one specific question will be asked, whereby the respondents can choose between four different categories. These categories are represented below:

Could you indicate the range that best represents your monthly gross income?

5. €2.500 or less
6. €2.500 – €4.000
7. €4.000- €5.5.000
8. €5.500 or more

Product category

In the case of product category, two questions will be asked. The answers attached to these questions are of categorical measurement and are presented below:

1. The category X is very important to me

1. Yes
2. No

2. The category X interests me a lot.

1. Yes
2. No

Other demographics

Finally, the demographics gender and residence. To get information about these two demographic variables, the following questions will be asked (see below):

What is your gender?

Where do you live (city)?

Appendix C: Survey format

Earlier is mentioned that questionnaires are designed to measure the different variables. These questionnaires are combined into a survey that is represented below. Because of the different product categories (vice versus virtue), two surveys are developed. Version A is specifically focused on the product milk. Version B will be focused on a chocolate bar. The respondents will be randomly assigned to a particular product category.

Questionnaire A (Dutch) Version 1 (Whole milk)

Fijn dat u mee wilt doen aan dit onderzoek. Mijn naam is Maurits Pijnenburg. Voor mijn master aan de Radboud Universiteit doe ik onderzoek naar organische producten (met name biologische voedselproducten). Het doel van het onderzoek is om inzicht te krijgen in de koopintentie van biologische producten van zowel huismerken als A-merken. Het invullen van de enquête duurt ongeveer 2 à 3 minuten. Uw antwoorden in deze enquête worden persoonlijk en vertrouwelijk behandeld. Hartelijk bedankt voor uw deelname!

In de enquête zult u een aantal begrippen tegenkomen. Deze begrippen worden hieronder kort toegelicht.

- **Biologische voedingsproducten;** zijn voedingsproducten waarbij bij de productie zoveel mogelijk rekening wordt gehouden met het milieu en dierenwelzijn.

- **Huismerk;** een merk dat gevoerd wordt door een detaillist (bijvoorbeeld een supermarkt). Huismerkartikelen worden in opdracht van de detaillist geproduceerd en worden vervolgens door de detaillist verkocht in zijn of haar eigen winkel.

- **A-merk;** een merk dat door een bepaalde producent wordt gefabriceerd en (inter)nationaal wordt gedistribueerd onder een bepaalde merknaam. In tegenstelling tot een huismerk wordt een A-merk door de producent gedistribueerd en verkocht aan retailers. A-merken hebben een grote naamsbekendheid en een goede reputatie.

Tijdens het invullen van de enquête is het de bedoeling dat u een bepaalde productcategorie in gedachte houdt. In dit geval gaat het om melkproducten verkrijgbaar bij de Albert Heijn. Binnen deze productcategorie moet u voor huismerken denken aan bijvoorbeeld de biologische volle melk van de Albert Heijn en voor A-merken aan bijvoorbeeld de biologische volle melk van Friesland Campina (verkocht in de Albert Heijn). U dient deze productcategorie (melk) in gedachte te houden bij het beantwoorden van ALLE vragen. Bij het beantwoorden van de vragen kunt u kiezen uit 5 opties. De opties lopen van 'helemaal mee eens' tot aan 'helemaal niet mee eens'.

Biologisch huismerk (Albert Heijn, n.d.c)

Biologisch A-merk (Albert Heijn, n.d.d)

1. Ik koop graag producten van A-merken.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

2. Ik ben van plan producten van A-merken te kopen in de nabije toekomst.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

3. Ik zal anderen aanbevelen om producten van A-merken te kopen.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

4. Ik streef ernaar om A-merk producten te kopen.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

5. Ik geloof dat biologische huismerkproducten eenvoudig te verkrijgen zijn in Albert Heijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

6. Ik kan biologische huismerkproducten gemakkelijk vinden in de Albert Heijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

7. Ik denk dat biologische huismerkproducten voldoende beschikbaar zijn in de Albert Heijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

8. Wanneer ik biologisch voedingsproducten koop, dan is kwaliteit het belangrijkste criterium.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

9. Biologische voedingsproducten laten duidelijk zien welke ingrediënten zij bevatten.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

10. Ik denk dat biologische voedingsproducten goed smaken.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

11. Biologische voedingsproducten lijken van goede kwaliteit te zijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

12. Biologische voedingsproducten zijn erg belangrijk voor mij.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

13. Biologische voedingsproducten zijn blijvend van belang voor mij.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

14. Biologische kwesties met betrekking tot voeding zijn belangrijk voor mij.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

15. Ik vind het belangrijk om informatie over biologische voedingsproducten te zoeken en te lezen.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

16. Deze productcategorie (melk) is erg belangrijk voor mij.

0 Yes 0 No

17. Deze productcategorie (melk) interesseert mij enorm.

0 Yes 0 No

18. Wat is uw geslacht?

0 Man 0Vrouw 0 Anders

19. Wat is uw leeftijd? ☐

20. Wat is uw woonplaats? ☐

21. Wat is uw hoogst genoten opleiding?

0 Middelbare school (vmbo, havo en vwo)

0 Middelbaar beroepsonderwijs (mbo)

0 Hoger beroepsonderwijs (hbo)

0 Universitaire opleiding (bachelor, master en hoger)

22. Kunt u aangeven welke inkomenscategorie het meest overeenkomt met uw maandelijkse inkomen (bruto)?

1. Minder dan €2.500
2. €2.500 tot €4.000
3. €4.000 tot €5.500
4. Meer dan €5.500

Bedankt voor uw tijd!
Uw antwoorden worden verwerkt.
Mocht u nog vragen hebben over dit onderzoek, kunt u een mail sturen naar **maurits.pijnenburg@student.ru.nl**

Questionnaire A (Dutch) Version 2 (Chocolate bar)

Fijn dat u mee wilt doen aan dit onderzoek. Mijn naam is Maurits Pijnenburg. Voor mijn master aan de Radboud Universiteit doe ik onderzoek naar organische producten (met name biologische voedselproducten). Het doel van het onderzoek is om inzicht te krijgen in de koopintentie van biologische producten van zowel huismerken als A-merken. Het invullen van de enquête duurt ongeveer 2 à 3 minuten. Uw antwoorden in deze enquête worden persoonlijk en vertrouwelijk behandeld. Hartelijk bedankt voor uw deelname!

In de enquête zult u een aantal begrippen tegenkomen. Deze begrippen worden hieronder kort toegelicht.

- **Biologische voedingsproducten;** zijn voedingsproducten waarbij bij de productie zoveel mogelijk rekening wordt gehouden met het milieu en dierenwelzijn.

- **Huismerk;** een merk dat gevoerd wordt door een detaillist (bijvoorbeeld een supermarkt). Huismerkartikelen worden in opdracht van de detaillist geproduceerd en worden vervolgens door de detaillist verkocht in zijn of haar eigen winkel.

- **A-merk;** een merk dat door een bepaalde producent wordt gefabriceerd en (inter)nationaal wordt gedistribueerd onder een bepaalde merknaam. In tegenstelling tot een huismerk wordt een A-merk door de producent gedistribueerd en verkocht aan retailers. A-merken hebben een grote naamsbekendheid en een goede reputatie.

Tijdens het invullen van de enquête is het de bedoeling dat u een bepaalde productcategorie in gedachte houdt. In dit geval gaat het om chocoladeproducten verkrijgbaar bij de Albert Heijn. Binnen deze productcategorie moet u voor huismerken denken aan bijvoorbeeld biologische pure chocolade Albert Heijn en voor A-merken aan bijvoorbeeld de biologische pure chocolade van CÔTE D'OR (verkocht in de Albert Heijn). U dient deze productcategorie (chocoladereep) in gedachte te houden bij het beantwoorden van ALLE vragen. Bij het beantwoorden van de vragen kunt u kiezen uit 5 opties. De opties lopen van 'helemaal niet mee eens' tot aan 'helemaal mee eens'.

Biologisch huismerk (Albert Heijn, n.d.b)

Biologisch A-merk (Albert Heijn, n.d.a)

1. Ik koop graag producten van A- merken.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

2. Ik ben van plan producten van A-merken te kopen in de nabije toekomst.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

3. Ik zal anderen aanbevelen om producten van A-merken te kopen

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

4. Ik streef ernaar om A-merken producten te kopen.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

5. Ik geloof dat biologische huismerkproducten eenvoudig te verkrijgen zijn in de Albert Heijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

6. Ik kan biologische huismerkproducten gemakkelijk vinden in de Albert Heijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

7. Ik denk dat biologische huismerkproducten voldoende beschikbaar zijn in de Albert Heijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

8. Wanneer ik biologische voedingsproducten koop, dan is kwaliteit het belangrijkste criterium.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

9. Biologische voedingsproducten laten duidelijk zijn welke ingrediënten zij bevatten.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

10. Ik denk dat biologische voedingsproducten goed smaken.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

11. Biologische voedingsproducten lijken van goede kwaliteit te zijn.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

12. Biologische voedingsproducten zijn erg belangrijk voor mij.

Helemaal niet mee eens	1	2	3	4	5	Helemaal mee eens

13. Biologische voedingsproducten zijn blijvend van belang voor mij.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

14. Biologische kwesties met betrekking tot voeding zijn belangrijk voor mij.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

15. Ik vind het belangrijk om informatie over biologische voedingsproducten te zoeken en te lezen.

Helemaal niet mee eens 1 2 3 4 5 Helemaal mee eens

16. Deze productcategorie (chocoladereep) is erg belangrijk voor mij.

0 Yes 0 No

17. Deze productcategorie (chocoladereep) interesseert mij enorm.

0 Yes 0 No

18. Wat is uw geslacht?

0 Man 0Vrouw 0 Anders

19. Wat is uw leeftijd? ☐

20. Wat is uw woonplaats? ☐

21. Wat is uw hoogst genoten opleiding?

0 Middelbare school (vmbo, havo en vwo)

0 Middelbaar beroepsonderwijs (mbo)

0 Hoger beroepsonderwijs (hbo)

0 Universitaire opleiding (bachelor, master en hoger)

22. Kunt u aangeven welke inkomenscategorie het meest overeenkomt met uw maandelijkse inkomen (bruto)?

1. Minder dan €2.500
2. €2.500 tot €4.000
3. €4.000 tot €5.500
4. Meer dan €5.500

Bedankt voor uw tijd!
Uw antwoorden worden verwerkt.
Mocht u nog vragen hebben over dit onderzoek, kunt u een mail sturen naar **maurits.pijnenburg@student.ru.nl**

Questionnaire B (English) Version 1 Whole milk

Thank you for participating in this study. My name is Maurits Pijnenburg. For my master's at the Radboud University, I research organic food products. The purpose of this research is to gain insight into the purchase intention of organic products of organic private labels and organic national brands. Completing this survey will take approximately 2 à 3 minutes. All answers in this survey are personal and confidential. Thank you in advance for your participation!

In this survey, you will find a number of concepts. These terms are briefly explained below:

- **Organic food products**; are food products wherein the production takes into account the environment and animal welfare as much as possible.

- **Private label;** is a brand that is carried by a retailer (e.g. a supermarket). The private label items are produced on behalf of the retailer and are sold by the retailer in his or her own store.

- **National brand;** is a brand that is manufactured by a specific manufacturer and distributed (in)nationally under a specific brand name. In contrast with a private label, a national brand is distributed by the manufacturer and sold to retailers. A national brand has great brand awareness and a good reputation.

While completing this survey it is very important to keep a specific product category in mind. In this case, it concerns the product category whole milk available in the Albert Heijn. Within this product category, you have to think of private labels, like for example biological whole milk from the Albert Heijn, and for a national brand, you have to think of for example biological whole milk Friesland Campina (sold in the Albert Heijn). So, you need to keep this product category (milk) in mind, while answering ALL these questions. For each question, you can choose from five options, where 1 stand for strongly disagrees and 5 stands for strongly agrees.

Biological private label (Albert Heijn, n.d.c)

Biological national brand (Albert Heijn, n.d.d)

1. I like to purchase national brands.

Strongly disagree	1	2	3	4	5	Strongly agree

2. I will purchase national brand products in the near future.

Strongly disagree	1	2	3	4	5	Strongly agree

3. I will recommend others to purchase national brand products.

Strongly disagree	1	2	3	4	5	Strongly agree

4. I will try to purchase national brand products.

Strongly disagree	1	2	3	4	5	Strongly agree

5. (I belief) I can easily acquire organic private label products in the supermarket.

Strongly disagree	1	2	3	4	5	Strongly agree

6. I easily can find organic private label products in the supermarkets.

Strongly disagree	1	2	3	4	5	Strongly agree

7. I think that organic private label products are easily available in the supermarkets.

Strongly disagree	1	2	3	4	5	Strongly agree

8. I think that quality is the prior criteria I consider when I buy organic food products.

Strongly disagree	1	2	3	4	5	Strongly agree

9. Organic food products provide clearly their ingredients.

Strongly disagree	1	2	3	4	5	Strongly agree

10. I think that organic food products taste good

Strongly disagree	1	2	3	4	5	Strongly agree

11. I think that organic food products seem to be good in quality.

Strongly disagree	1	2	3	4	5	Strongly agree

12. Organic food products are very important to me.

Strongly disagree	1	2	3	4	5	Strongly agree

13. Organic food products are continually of interest to me.

Strongly disagree 1 2 3 4 5 Strongly agree

14. Organic issues have a great concern with me.

Strongly disagree 1 2 3 4 5 Strongly agree

15. I'm highly involved in searching and reading information about organic food products.

Strongly disagree 1 2 3 4 5 Strongly agree

16. This category (milk) is very important for me.

0 Yes 0 No

17. This category (milk) interest me a lot.

0 Yes 0 No

18. What is your gender?

0 Men 0Woman 0Diverse

19. What is your age

20. In which region do you live?

21. What is your highest level of education?

0 High school (vmbo, havo)

0 Intermediate vocational education (mbo)

0 Higher vocational education (hbo)

0 Academic education (bachelor, master or higher)

22. Could you indicate the range that best represents your monthly income?
    1. Less than €2.500
    2. €2.500 to less than €4.000
    3. €4.000 to less than €5.500
    4. More than €5.500

Thanks for your time!
The answers are being processed.
If you have any questions about this research, please send an email to
Maurits.pijnenburg@stuent.ru.nl.

Questionnaire B (English) Version 2 Chocolate bar

Thank you for participating in this study. My name is Maurits Pijnenburg. For my master's at the Radboud University, I research organic food products. The purpose of this research is to gain insight into the purchase intention of organic products of organic private labels and organic national brands. Completing this survey will take approximately 2 à 3 minutes. All answers in this survey are personal and confidential. Thank you in advance for your participation!

In this survey, you will find a number of concepts. These terms are briefly explained below:

- **Organic food products**; are food products wherein the production takes into account the environment and animal welfare as much as possible.

- **Private label;** is a brand that is carried by a retailer (e.g. a supermarket). The private label items are produced on behalf of the retailer and are sold by the retailer in his or her own store.

- **National brand;** is a brand that is manufactured by a specific manufacturer and distributed (in)nationally under a specific brand name. In contrast with a private label, a national brand is distributed by the manufacturer and sold to retailers. A national brand has great brand awareness and a good reputation.

While completing this survey it is very important to keep a specific product category in mind. In this case, it concerns the product category chocolade (pure) in the Albert Heijn. Within this product category, you have to think of private labels, like for example biological pure chocolate bar from the Albert Heijn, and for a national brand, you have to think of for example biological CÔTE D'OR (sold in the Albert Heijn). So, you need to keep this product category (chocolate bar pure) in mind, while answering ALL these questions. For each question, you can choose from five options, where 1 stand for strongly disagrees and 5 stands for strongly agrees.

Biological private label (Albert Heijn, n.d.b)

Biological national brand (Albert Heijn, n.d.a)

1. I like to purchase national brands.

Strongly disagree	1	2	3	4	5	Strongly agree

2. I will purchase national brand products in the near future.

Strongly disagree	1	2	3	4	5	Strongly agree

3. I will recommend others to purchase national brand products.

Strongly disagree	1	2	3	4	5	Strongly agree

4. I will try to purchase national brand products.

Strongly disagree	1	2	3	4	5	Strongly agree

5. (I belief) I can easily acquire organic private label products in the supermarket.

Strongly disagree	1	2	3	4	5	Strongly agree

6. I easily can find organic private label products in the supermarkets.

Strongly disagree	1	2	3	4	5	Strongly agree

7. I think that organic private label products are easily available in the supermarkets.

Strongly disagree	1	2	3	4	5	Strongly agree

8. I think that quality is the prior criteria I consider when I buy organic food products.

Strongly disagree	1	2	3	4	5	Strongly agree

9. Organic food products provide clearly their ingredients.

Strongly disagree	1	2	3	4	5	Strongly agree

10. I think that organic food products taste good

Strongly disagree	1	2	3	4	5	Strongly agree

11. I think that organic food products seem to be good in quality.

Strongly disagree	1	2	3	4	5	Strongly agree

12. Organic food products are very important to me.

Strongly disagree	1	2	3	4	5	Strongly agree

13. Organic food products are continually of interest to me.

Strongly disagree 1 2 3 4 5 Strongly agree

14. Organic issues have a great concern with me.

Strongly disagree 1 2 3 4 5 Strongly agree

15. I'm highly involved in searching and reading information about organic food products.

Strongly disagree 1 2 3 4 5 Strongly agree

16. This category (chocolate) is very important for me.

0 Yes 0 No

17. This category (chocolate) interest me a lot.

0 Yes 0 No

18. What is your gender?

0 Men 0Woman 0 Diverse

19. What is your age? ☐

20. In which region do you live? ☐

21. What is your highest level of eductation?

0 High school (vmbo, have and vwo)

0 Intermediate vocational education (mbo)

0 Higher vocational education (hbo)

0 Academic education (bachelor, master or higher)

22. Could you indicate the range that best represents your monthly income (gross)?

1. Less than €2.500
2. €2.500 to less than €4.000
3. €4.000 to less than €5.500
4. More than €5.5000

Thanks for your time!

The answers are being processed.

If you have any questions about this research, please send an email to

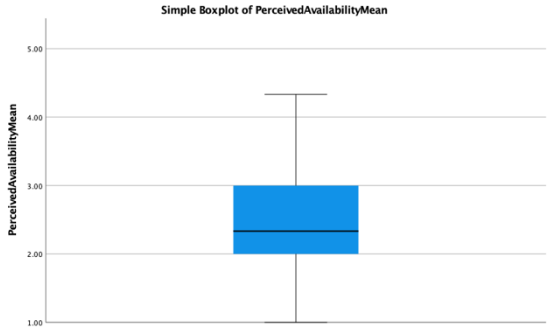
Maurits.pijnenburg@stuent.ru.nl.

Appendix D: Assumptions

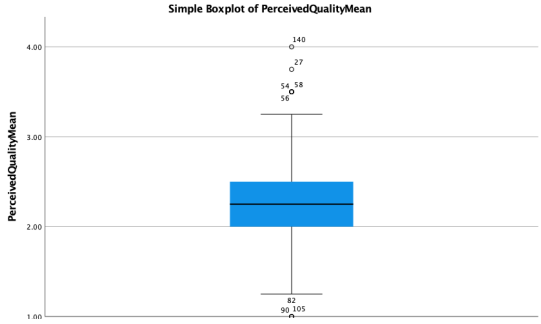
Assumption 1 Outliers

Purchase intention

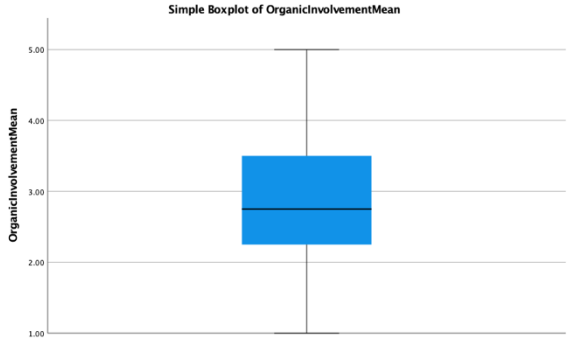
Perceived Availability



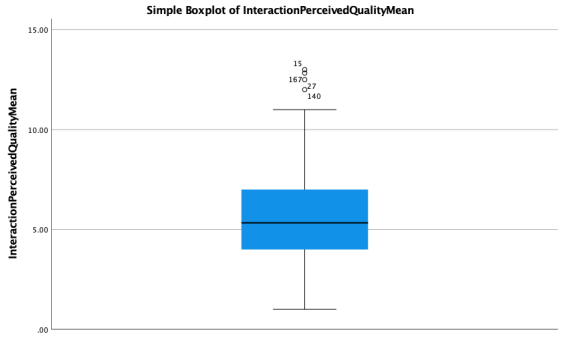
Perceived Quality



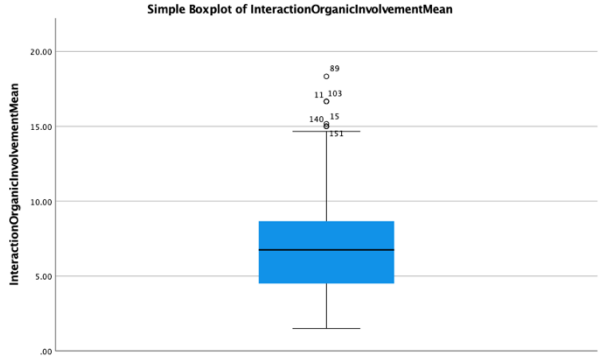
Organic Involvement



Interaction effect perceived quality



Interaction effect organic involvement



Mean before and after excluding outliers

Descriptive outliers		
	Mean (before)	5% trimmed mean (after)
Perceived quality	2.2979	2.2910
Organic Involvement	2.9266	2.9063
Interaction effect perceived quality	5.6118	5.4941
Interaction effect organic involvement	6.9461	6.7560

Assumption 2

Residual statistics

Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.291[a]	.085	.068	.90897	.395

[a]=Predictor: (constant), OrganicInvolvement MeanCenter. PerceivedAvailability MeanCenter, PerceivedQuality MeanCenter
[b]=Dependent variable: PurchaseIntention Meancenter

Assumption 3 and 4

Univariate Analysis- Frequency table (before mean centering)

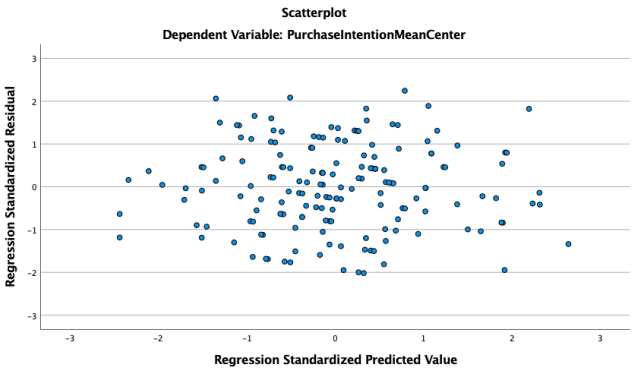
		Purchase Intention	Perceived Availability	Perceived Quality	Organic Involvement	Interaction effect Perceived Quality	Interaction effect Organic Involvement
N	Valid	167	167	167	167	167	167
	Missing	0	0	0	0	0	0
Mean		2.7440	2.3852	2.2979	2.9266	5.6618	6.9461
Std. Error of mean		.07285	.05885	.04139	.07586	.19361	.24441
Std. Deviation		.94141	.76045	.53488	.98035	2.50199	3.15852
Skewness		.022	.373	.222	.375	.750	.875
Std. Error Skewness		.188	.188	.188	.188	.188	.188
Kurtosis		-.632	-.171	.580	-.600	.409	1.147
St. Error Kurtosis		.374	.374	.374	.374	.374	.374

Univariate Analysis- Frequency table (after mean centering)

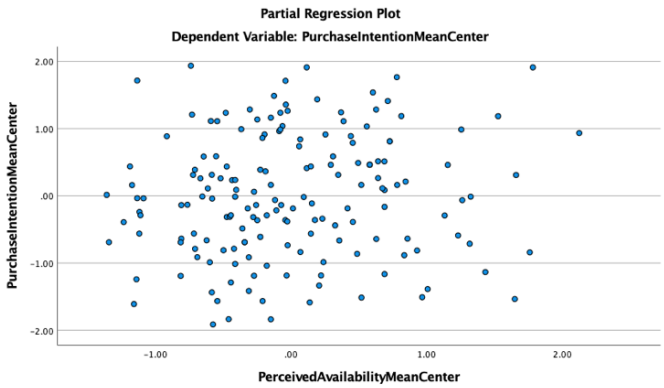
		Purchase Intention	Perceived Availability	Perceived Quality	Organic Involvement	Interaction effect Perceived Quality	Interaction effect Organic Involvement
N	Valid	167	167	167	167	167	167
	Missing	0	0	0	0	0	0
Mean		0	0	0	0	0	0
Std. Error of mean		.076045	.05885	.04139	.07586	.19361	.24441
Std. Deviation		.94141	.76045	.53488	.98035	2.50199	3.15852
Skewness		.022	.373	.222	.375	.750	.875
Std. Error Skewness		.188	.188	.188	.188	.188	.188
Kurtosis		-.632	-.171	.580	-.600	.409	1.147
St. Error Kurtosis		.374	.374	.374	.374	.374	.374

Bivariate Analysis

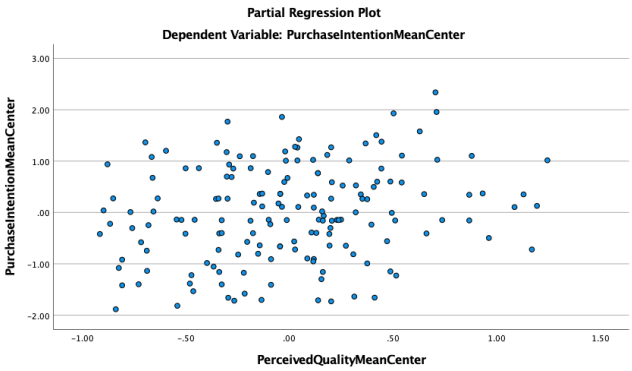
Scatterplot Overall



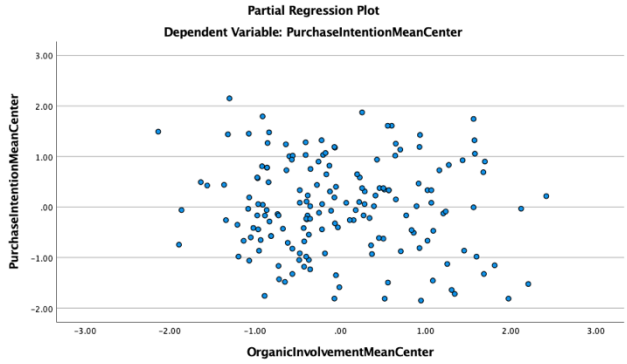
Scatterplot Perceived Availability



Scatterplot Perceived Quality



Scatterplot Organic Involvement



Polynomial analysis

Perceived availability

Coefficient table linear

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
Perceivedavailability MeanCenter	.243	.095	.252	2.569	.011
(Constant)	2.744	.072		38.297	<.001

Coefficient table Quadratic

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
Perceivedavailability Center	.279	.098	3.607	2.848	.005
Perceivedavailability Center**2	-.130	.096	.853	-1.351	.178
(Constant)	2.819	.090		31.163	<.001

Coefficient table Cubic

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
Perceivedavailability MeanCenter	.370	.184	.299	2.014	.046
Perceivedavailability MeanCenter**2	-.103	.107	-.085	-.961	.338
Perceivedavailability MeanCenter***3	-.061	.105	-.094	-.585	.559
(Constant)	2.813	.091		30.854	<.001

Perceived Quality

Coefficient table linear

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
PerceivedQuality MeanCenter	.422	.133	.251	3.332	.001
(Constant)	2.744	.071		.38.796	<.001

Coefficient table Quadratic

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
PerceivedQuality MeanCenter	.458	.134	.260	3.417	<.001
PerceivedQuality MeanCenter**2	-.138	.158	-.066	-.870	.386
(Constant)	2.783	.084		33.190	<.001

Coefficient table Cubic

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
PerceivedQuality MilkMeanCenter	.370	.225	.210	1.646	.102
PerceivedQuality MeanCenter**2	-.165	.168	-.080	-.982	.328
PerceivedQuality MeanCenter***3	.091	.186	.065	.488	.626
(Constant)	2.788	.085		32.941	<.001

Organic Involvement

Coefficient table linear

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
OrganicInvolvement MilkMeanCenter	-.019	.075	-.020	-.258	.797
(Constant)	2.774	.073		.37.561	<.001

Coefficient table Quadratic

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
OrganicInvolvement MilkMeanCenter	-.002	.079	-.002	-.021	.983
OrganicInvolvement MilkMeanCenter**2	-.048	.069	-.058	-.706	.481
(Constant)	.2.790	.098		28.396	.<.001

Coefficient table Cubic

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.
OrganicInvolvement MilkMeanCenter	-.003	.148	-.003	-.021	.983
OrganicInvolvement MilkMeanCenter**2	-.049	.075	-.058	-.648	.518
OrganicInvolvement MilkMeanCenter***3	.001	.060	.002	.011	.991
(Constant)	2.790	.099		28.210	<.001

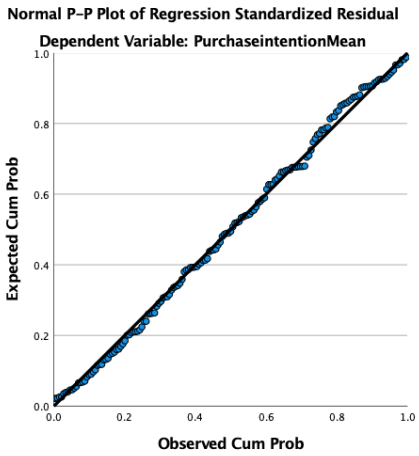
Assumption 5

Determine multicollinearity by the value Tolerance and VIF

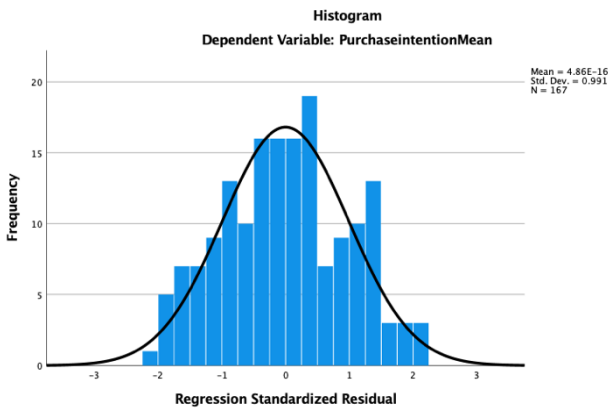
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t-value	Sig.	Collinearity Statistics	
							Tolerance	VIF
1	(constant)	2.744	.070		39.012	<.001		
	PerceivedAvailability Meancenter	.141	.099	.114	1.422	.157	.872	1.146
	PerceivedQuality Meancenter	.424	.148	.241	2.862	.251	.794	1.260
	OrganicInvolvement Meancenter	-.084	-.088	-.088	-1.01	-.020	.885	1.130

Assumption 6

Normal P-P plot



Histogram



Appendix E: Reliability Analysis

Purchase intention

Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
.874	.878	4

Item- Total Statistics

	Scale Mean if Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Ik koop graag producten van A-merken.	8.54	8.310	.800	.690	.851
Ik ben van plan producten van A-merken te kopen in te nabije toekomst.	8.67	8.728	.742	.647	.856
Ik zal anderen aanbevelen om producten van A-merken te kopen.	8.05	8.034	.721	.525	.865
Ik streef ernaar om A-merken producten te kopen.	7.67	8.174	.674	.493	.880

Perceived Availability

Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
.779	.780	3

Item- Total Statistics

	Scale Mean if Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Ik geloof dat biologische huismerkproducten eenvoudig te verkrijgen zijn in de Albert Heijn.	4.90	2.509	.648	.455	.666
Ik kan biologische huismerkproducten gemakkelijk vinden in de Albert Heijn.	4.83	2.506	.670	.473	.643
Ik denk dat biologische huismerkproducten voldoende beschikbaar zijn in de Albert Heijn.	4.58	2.691	.536	.288	.790

Perceived Quality

Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
.528	.549	4

Item- Total Statistics

	Scale Mean if Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Wanneer ik biologische voedingsproducten koop,	6.86	2.830	.245	.077	.535

dan is kwaliteit het belangrijkste criterium.					
Biologische voedingsproducten laten duidelijk zien welke ingrediënten zij bevatten.	6.65	2.953	.317	.104	.454
Ik denk dat biologische voedingsproducten goed smaken.	6.88	2.769	.377	.259	.399
Biologische voedingsproducten lijken van goede kwaliteit te zijn.	7.19	3.369	.367	.244	.438

Organic involvement

Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
.896	.896	4

Item- Total Statistics

	Scale Mean if Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Wanneer ik biologische voedingsproducten koop, dan is kwaliteit het belangrijkste criterium.	8.75	8.479	.858	.781	.832
Biologische voedingsproducten laten duidelijk zien welke ingrediënten zij bevatten.	8.87	8.272	.837	.774	.844
Ik denk dat biologische voedingsproducten goed smaken.	9.05	9.027	.823	.693	.848
Biologische voedingsproducten lijken van goede kwaliteit te zijn.	8.45	10.020	.588	.366	.929

Appendix F: One-Way ANOVA analysis

N	Valid	167
	Missing	0
Mean		2.20
Std. Deviation		1.095
Skewness		.478
Std. Error of Skewness		.188
Kurtosis		-1.073
Std. Error of Kurtosis		.374
Minimum		1
Maximum		4

Frequencies table control variable income.

		Levene statistic	df1	df2	Sig.
Purchase Intention	Based on Mean	1.005	3	163	.392
	Based on Median	.976	3	163	.406
	Based on Median and with adjusted f	.976	3	160.232	.406
	Based on trimmed mean	1.025	3	163	.383

Test of Homogeneity of Variances for control variable income.

Purchase Intention	Sum of squares	df1	Mean Square	Sig.
Between Groups	.577	3	.192	.887
Within Groups	146.542	163	.899	
Total	147.119	166		

ANOVA

Appendix G: Independent sample t-test

	Product categories	N	Mean	Std. Deviation	Std. Error mean
Purchase Intention	Milk	86	2.8110	.98364	.10607
	Chocolate	81	2.6728	.89499	.09944

Group statistics.

		F	Sig.	t.	df	Sig. (2-tailed)	Mean difference	Std. Error Difference
Purchase Intention	Equal variances assumed	.706	.402	.948	165	.345	.13821	.14581
	Equal variances not assumed			.951	164.808	.343	.13821	.14539

Independent Samples Test for the control variable product categories.