



To sell or not to sell: The organic dilemma

The impact of introducing organic private label products on the purchase intention of other private label and national brands products

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Master thesis Marketing

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Second examiner: Dr. N.V.T. Belei

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Preface

I hereby present my master thesis “To sell or not to sell: The organic dilemma”. A quantitative study on the impact of introducing organic private label products in the form of an online experiment in consumer research. This research has been conducted at the Radboud University Nijmegen, as the final part in completing the master Marketing. My interest in this topic originates from my internship at a leading company in the FMCG business and my courses in the master Marketing.

I would like to thank my supervisor Dr. M. Hermans for her support and guidance during this process. Furthermore, I would like to thank my family, and especially my parents for their emotional support during my study and while writing this thesis.

Abstract

The organic market is growing rapidly and national brands and retailers are responding to this by introducing organic products. However, little research is done on the impact of introducing an organic private label tier on different quality tiers. Drawing on the similarity effect, this research explains the impact of introducing organic private label products on the purchase intention of standard and premium private label and mainstream and premium national brand products.

Using a questionnaire with experimental design, respondents are divided into three manipulation groups and were shown similar shelves that differed on the presence of an organic private label product and its position on the shelf.

Results show that introducing an organic private label tier has a cannibalizing impact on the purchase intention of mainstream national brand and standard private label products. Based on these findings, it appears that organic private label products are comparable to mid-quality products instead of high-quality as was found in earlier research. Both health- and quality consciousness appear to have a direct effect on the purchase intention of different product tiers instead of a moderating effect via organic private label products. Interestingly, the impact of the shelf position of organic private label products is negligible.

Keywords: Organic products, private label, similarity effect, health consciousness, quality consciousness

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1. Introduction

Organic products are a growing market in the Netherlands. According to a report of the USDA Foreign Agricultural Service, in 2018 organic products contained a market share of approximately 3.3 percent. This is expected to have doubled in 2025 to a market share of 7 percent (Phillips & Pinckaers, 2018). Therefore it is no surprise that organic products have been named “one of the most noticeable trends in the food industry” (Jetten, Cox, & Deckers, 2018, p. 1). Originally, organic products were mainly sold in specialty stores (Bionext, 2018). When demand grew, national brands responded to this by introducing organic products in regular supermarkets (Chartier, 2019). For instance, Campina, manufacturer of dairy products like milk and yogurt, introduced an organic tier as an addition to their regular assortment (Campina, n.d.). The organic market expanded even more when retailers started to introduce organic products using their private label brands (Chartier, 2019; Rijksoverheid, 2019). Retailer Albert Heijn introduced an organic tier called *AH Biologisch* (Albert Heijn, n.d.j). This new tier contains products in multiple categories, like dairy, vegetables, meat, etc. Retailer Jumbo introduced a similar tier called *BIO logisch van Jumbo* (Jumbo, n.d.). Nowadays, even discounters like Lidl and Aldi are competing on the organic market using their private label brands (Aldi, n.d; Lidl, n.d.).

Because of all these brands entering, the organic market is growing more rapidly than the entire retail market (CBS, 2019; Chartier, 2019). This raises the question whether private label brands are expanding the market or cannibalizing their own sales when they introduce organic products (Geyskens, Gielens, & Gijsbrechts, 2010). When the market is expanding, this is positive for the entire category, including the retailer. But when the difference in growth is explained by customers switching from regular products towards organic products, it is interesting to know where these customers come from. If they used to buy national brand products, retailers are still increasing their profit, because private label products have a higher margin than national brand products (Ailawadi, Pauwels, & Steenkamp, 2008). However, if they were already buying private label, retailers are cannibalizing their own sales. For example, when Jumbo introduces organic marmalade, Jumbo could attract customers who used to buy *Hero* marmalade and expect growth in their profit. However, Jumbo can also attract customers who already bought private label marmalade from Jumbo. The customer is simply switching between products within the same brand.

Earlier research into the introduction of private label tiers was focused on the introduction of an economy or a premium tier and how this affects the choice of retailer's existing private label offering and national brand products (Geyskens et al., 2010). However, it is too simplistic to assume that the findings of this research can be used to forecast the effect of introducing an organic tier. The organic tier might be comparable to a premium tier in price and quality (Bezawada & Pauwels, 2013), but customers have different motivations for buying organic tier products. There are multiple drivers that influence the purchase of organic private label products, many of which have no influence or a different influence on the purchase of a premium private label product. For example health- and quality consciousness or attitude towards- and familiarity with organic food (Bezawada & Pauwels, 2013; van Doorn & Verhoef, 2015; Yadav, 2016). Geyskens et al. (2010) find that including context effects in the analysis on premium private label products leads to different results than when these context effects are not included. This indicates the importance of correctly including context effects, for example, health- and quality consciousness of the consumer. When research into the introduction of premium private label tiers is used to predict the impact of introducing an organic private label tier, these context effects are not (correctly) taken into account. This would lead to a biased result. Therefore, it is relevant to conduct a separate research on the introduction of organic private label products.

To analyze the effects of introducing an organic private label tier, the following problem statement is drafted: *to what extent does the introduction of organic private label products by private label brands, cannibalize or expand the purchase intention of other products of this private label or national brands.*

1.1 Relevance

Many private label brands are introducing organic product lines (Chartier, 2019). However, despite the significant growth of the organic market (Bionext, 2018), little research has been done on the effects of introducing organic private label products.

Earlier research has focused on the price difference between private label and national brands (Ailawadi et al., 2008; Steenkamp, van Heerde, & Geyskens, 2010), on the motivation of retailers to sell organic private label products (Bauer, Heinrich, & Schäfer, 2013; Jonas & Roosen, 2005), and on the introduction of new private label tiers in general (Boatwright & Nunes, 2001; Geyskens et al., 2010; Gielens, 2012). Research in this last category was mainly

focused on premium and economy tiers and shows contradictory results. Therefore, it is still unclear how the introduction of organic private label products affects the purchase intention of other products in the market. This research will try to explain some of these contradictory results by analyzing which of the factors explained in earlier research, come into play for organic private label products.

This research will contribute to the existing literature in the following ways. First, it will analyze to what extent the introduction of organic private label products affects the purchase intention of other private label products in the category. Despite the intense research into organic products in general (Bauer et al., 2013; Hwang & Chung, 2019; Jonas & Roosen, 2005; Linder et al., 2010; Ngobo, 2011; Yadav, 2016), there is a lack of knowledge in this specific area. Earlier research is mainly focused on consumers' motivation to buy organic products (Linder et al., 2010; Yadav, 2016) and on how the introduction extents or cannibalizes the purchase intention of the entire category (Bezawada & Pauwels, 2013). Based on Geyskens et al. (2010), who researched the introduction of two private label tiers, an economy- and a premium tier, there is reason to believe that quality tiers within the private label brand, might react differently to the introduction of a fourth, organic tier. There is no earlier research that takes these different tiers into account when analyzing the introduction of organic private label products. This is something this research will contribute to.

Second, this research will analyze to what extent the introduction of organic private label brands affects the purchase intention of national brands. Bezawada & Pauwels state that "Increasing organic assortment (..) yields higher profits for the total category" (2013, p. 31). In other words, the introduction of organic private label products will positively influence the purchase intentions of national brands, among others. However, Gielens (2012) supports a different view. Gielens (2012) explains the effect of introducing new products on rivals and finds that all new products have a negative impact on rival shares, with the exception of those launched by economy private labels. This is contradicting with the results from the article of Bezawada & Pauwels (2013). This thesis will try to shed some light on these ambiguous results, by analyzing how different tiers of national brands, mainstream, and premium, react to the introduction of an organic private label tier.

Third, this research will take into account how egoistic values moderate these effects. When analyzing consumers' motivations for buying organic products, Yadav (2016) finds egoistic and altruistic values. Egoistic values are based on a concern for your health, and

according to Yadav (2016), they have a high positive impact on consumer's organic purchase intention. Van Doorn & Verhoef (2015) divide egoistic values into health consciousness and quality consciousness. Strangely, contradicting the results of Yadav (2016), van Doorn & Verhoef (2015) find no effect of health- and quality consciousness on organic purchase intention. This means that according to van Doorn & Verhoef (2015) health consciousness and quality consciousness have no impact on the purchase intention of organic products. To explain these contradicting findings, this research will analyze whether egoistic consumer characteristics moderate the main effect. In other words, to what extent is the impact of introducing organic private label products on other products in this category, moderated by consumer's health- and quality consciousness.

Fourth, this research will analyze how an organic product's position on the shelf moderates the impact of introducing an organic private label product on the purchase intention of other private label and national brand products. A product's position on a shelf is composed of a horizontal location and a vertical location. The vertical location determines on which shelf the product is located. The horizontal location determines whether a product is positioned at the edge of a shelf or more in the center. Earlier research shows that the horizontal location of a product has no significant impact on product sales or profitability (Drèze, Hoch & Purk, 1994; Frank & Massy, 1970). However, the impact of a product's vertical location shows some ambiguous results. Drèze et al. (1994) and Russel & Urban (2010) both find a significant effect of a product's vertical location on sales. According to Drèze et al. (1994) a central location, on the middle shelf, is most desirable. The height of the middle shelf is in line with the natural resting position of the eye and thus looked at the most by consumers. Frank & Massy (1970) on the other hand, find no significant effect between sales and shelf level. These ambiguous results provide no clarity on whether positioning an organic private label product on the middle shelf increases sales of organic private label products. Since there is no earlier research on the ideal shelf location of organic products, and earlier research in product positioning on the shelf in general provides no clear expectation, this research will analyze whether shelf position moderates the main effect. In other words, to what extent is the effect of introducing organic private label products on other products in this category, moderated by an organic product's position on the shelf.

1.2 Structure of this research

Chapter 2 starts with a literature overview of the key concepts in this thesis. Furthermore, a conceptual model is provided and hypotheses are drafted. In chapter 3, the research method is explained. Moreover, the questionnaire design is motivated and a statistical test to analyze the questionnaire results is selected. In chapter 4, the data is modified, assumptions are tested and the regression analysis is conducted. Chapter 5 contains the results of this study. Chapter 6 contains the theoretical and managerial implications, limitations of this study, and suggestions for further research.

2. Literature

In the following chapter, key concepts of the research will be defined and explained. The conceptual model is described and hypotheses are drafted.

2.1 Private labels

Private labels are products that are exclusively available at one specific retailer (Wu, Yeong-Yuh Yeh, & Hsiao, 2011). They are mostly known for their low prices compared to national brands (Batra & Sinha, 2000). Therefore it is unsurprising that private label share tends to grow in economical downfalls and shrink when the economy recovers (Steenkamp et al., 2010; Lamey et al., 2019). However, despite the fluctuating pace, private labels have been growing rapidly (Gielens, 2012). This is desirable for retailers for the following three reasons: (1) private label products contain higher margins than national brand products, (2) it provides retailers with bargain leverage over national brand manufacturers, (3) private label products increase customer loyalty (Ailawadi et al., 2008). These three points will be explained in more detail below.

First, national brand products are sold from the manufacturer to the retailer. Both the retailer and the manufacturer add a margin to their selling price to make a profit on the sale. In the case of private labels, the products are manufactured by the retailer. This means only one party adds a margin, which results in a lower selling price or the possibility to higher the margin for the retailer. Second, private labels are a legitimate competitor of national brands (Gielens, 2012). Their assortment has grown into a more multitiered offer (Geyskens et al., 2010), and they have established a permanent place in the market (Gielens, 2012). Retailers do not necessarily need national brands anymore to fill the shelves. They can offer their own private label products instead. This gives them a more beneficial position to negotiate with national brands about transfer prices. Third, increased private label share has a positive effect on customer loyalty. This effect is mediated by share of wallet. The more time and money the customer spends on a particular brand, the more exposed they are to that brand. This increases familiarity and willingness to buy and eventually leads to customer loyalty. This positive effect reaches up to a private label share of approximately 40%. Above this level, it just means that the customer is drawn to savings instead of loyal to a particular brand (Ailawadi et al., 2008).

In addition to offering products across diverse categories, private labels are also expanding their customer base by introducing different quality tiers within a product category (Noormann & Tillmanns, 2017). By introducing different quality tiers, private labels move away from the assumption that their products represent a cheaper, inferior version of a national brand. Instead, they offer the consumer a choice between different quality and price levels within their private label brand (Noormann & Tillmanns, 2017). Private label products can be divided into three quality tiers: a premium tier, a standard tier, and an economy tier (Geyskens et al., 2010). A standard tier, the middle option, represents the original private label product. Comparable with the quality of an average mainstream national brand product, but slightly cheaper. An example of this is *Albert Heijn huismerk* (Albert Heijn, n.d.j). To provide the consumers more choice within the private label brand, and thus reach a bigger customer base, private labels introduced different tiers next to the standard tier (Noormann & Tillmanns, 2017). An economy tier is the cheapest private label option. It offers basic products without any fuss, for a low price. These products are of lower quality than the standard private label tier and are often characterized by plain packaging. An example of this is *AH Basic* (Albert Heijn, n.d.j). A premium tier is positioned in a higher quality and higher price segment than the standard private label tier. It can even match or exceed the quality of a national brand product (Noormann & Tillmanns, 2017). An example of this is *AH Excellent* (Albert Heijn, n.d.j). This tier offers products in the same categories as the standard Albert Heijn tier, but the choice is often a bit more limited. This tier presents a higher quality and is more expensive than the standard private label tier from Albert Heijn.

These different tiers broaden the product range of private labels and provide private labels the opportunity to compete with national brands on quality level (Jonas & Roosen, 2005). Private labels have differentiated themselves with three quality tiers within one private label, which provides the customer the opportunity to choose between different quality and price levels while buying from one retailer. These tiers can all be sold using one brand name, as Albert Heijn does, or private labels can decide to create multiple brands for different quality tiers and categories (Keller, Dekimpe, & Geyskens, 2016). An example of this is Aldi, a private label that uses multiple brands like “Markus koffie” and “Moreno” to sell her private label products (Aldi, n.d.). Before the introduction of different quality tiers, private labels were mostly known as a cheaper, inferior version of national brands. Introducing different quality tiers has resulted in an image transition towards a trustworthy alternative of national brands (Kumar & Steenkamp, 2007).

However, introducing different quality tiers within private labels also has a dark side. It is unavoidable that introducing different quality tiers also leads to cannibalizing sales of existing private label offerings (Geyskens et al., 2010). When customers are already loyal to a private label brand, introducing different tiers can make customers switch between tiers. This might not be an issue when customers switch from a standard- to a premium tier, because premium private label tiers contain high margins for retailers (Kumar & Steenkamp, 2007). However, when customers switch towards an economy tier, this can lead to a decrease in profit for retailers. Economy private label products often contain a lower margin than the other tiers, due to their lower selling price (Kumar & Steenkamp, 2007). Furthermore, different quality tiers within one private label brand might confuse consumers. Customers are accustomed to a specific quality level for a private label brand. Introducing different quality tiers can confuse customers on what level of quality they can expect, and thus make them doubtful towards higher-quality private label products (Geyskens et al., 2010).

2.2 Organic products

The organic market is growing substantially (CBS, 2019; Ngobo, 2011). Academic interest in organic products has also heightened in the last decades (e. g. Bauer et al., 2013; Hwang & Chung, 2019; Jonas & Roosen, 2005). Research in this topic can be divided into two parts: the supply side and the demand side of the organic market (Bezawada & Pauwels, 2013).

Research into the supply side of the organic market focuses on retailers and marketing tactics (e.g. Aschemann-Witzel & Zielke, 2017; Bezawada & Pauwels, 2013; Jonas & Roosen, 2005). Van Doorn & Verhoef (2015) and Van Herpen et al. (2012) centralize the influence of promotional tactics on organic products. Both articles claim that promotional tactics, such as price promotions, have little to no positive influence on the sales of organic products. According to them, organic shoppers are mostly ethically oriented. They are not focused on price when buying organic and thus respond less strongly to price cuts than other consumers do. Ngobo (2011) takes on a different standpoint. He explains that the effect of promotions varies across product categories and for different kind of promotions. For example, customers react positive to feature advertising but unfavorable to product displays. Bezawada & Pauwels (2013) explain that different responses to promotions are the result of the customer base. According to them, customers who seldom buy organic products react stronger to promotions than ‘core’ organic

shoppers do. But even ‘core’ organic shoppers are sensitive to price and assortment promotions and changes (Bezawada & Pauwels, 2013).

Literature on the demand side of the organic market is concentrated on the characteristics of customers (Ngobo, 2011; Phillips & Pinckaers, 2018) and their motivation for buying organic products (Linder et al., 2010; van Doorn & Verhoef, 2015; Yadav, 2016). According to Ngobo (2011), households are more likely to buy organic products when the head of the household has a high-level occupation and a college degree. Furthermore, high-income households and families with working females are more likely to buy organic products as well (Ngobo, 2011). Phillips & Pinckaers (2018) however, describe a different customer base. They claim that organic customers are mostly “affluent consumers, millennials, and customers seeking new trends” (Phillips & Pinckaers, 2018, p. 5). Despite the divergence in customers, both articles agree that organic customers are often well-off.

There is some ambivalence in the literature on customer’s motivation for buying organic products. On one hand, we find Yadav (2016), who describes consumer’s motivation as a combination of altruistic and egoistic values. Altruistic values are concerns for the environment and animal welfare. Egoistic values can be further divided into health consciousness and quality consciousness. Health conscious consumers prefer organic products because they believe that organic products are good for their health. Quality conscious consumers prefer high-quality products and link organic with high-quality. Yadav (2016) finds that both egoistic and altruistic values have a significant positive effect on consumer’s organic purchase intention, but the effect of egoistic values is higher than the effect of altruistic values. On the other hand, we find Doorn & Verhoef (2015). They position consumer’s motivation into three categories: egoistic values, altruistic values, and biospheric values. Egoistic values are similar to the definition of Yadav (2016). Altruistic values, according to van Doorn & Verhoef (2015), focus on the collective welfare, whereas biospheric values are concerns for the environment and animal welfare. Thus the biospheric values of van Doorn & Verhoef (2015) are comparable to the altruistic values of Yadav (2016). Contradicting with the results from Yadav (2016), van Doorn & Verhoef (2015) find no significant effect of health- and quality consciousness on organic purchase intentions. This means that, according to van Doorn & Verhoef (2015), health conscious and quality conscious consumers are not more or less likely to buy organic products. They do find a significant positive effect of biospheric values on the purchase intention of organic products, which is in line with Yadav (2016), who finds a positive effect of altruistic values on the purchase intention of organic products. Based on the contradicting results, egoistic values

(health- and quality consciousness) will be analyzed in this research. Since there is no ambivalence with altruistic and biospheric values, these categories will not be analyzed in this research.

2.3 Positioning organic private label products

Based on the results from Bezawada & Pauwels (2013), organic private label products can be positioned as top tier products in the category. This makes them comparable with premium quality tier products from both private labels and national brands. Bezawada & Pauwels (2013) compare correlations in sales and marketing actions between organic products and premium tier- and standard tier products. They find that organic products have higher similarity with premium tier products than with standard tier products. Based on these findings, they position organic products as top tier in the category. This is consistent with earlier findings that organic products have higher selling prices than conventional products (standard tier) (Phillips & Pinckaers, 2018). This price difference also positions organic products in a more premium tier.

The quality of premium private labels is comparable with the quality of a premium national brand (Kumar & Steenkamp, 2007). However, the price of a premium private label is slightly lower. This positions a premium national brand tier on the same quality level as a premium private label and a slightly higher price level (Geyskens et al., 2010). A mainstream national brand tier can be positioned on a mid-quality/mid-price level. Thus in between the economy private label and the premium private label & national brand. It is positioned slightly above the standard private label tier on both quality and price level. However, close enough to make the tiers competitors (Geyskens et al., 2010). Examples of a mainstream and a premium national brand are ice cream brands Hertog and Ben & Jerry's, respectively. Ben & Jerry's is more expensive than Hertog and has a high-quality image (e.g. approximately €5.57 for 424g Ben & Jerry's Caramel ice cream vs. €3.85 for 500g Hertog Caramel ice cream) (Jumbo, n.d.). This makes Ben & Jerry's a premium national brand. Hertog is comparable with a standard private label tier, however a bit higher in quality and a bit more expensive (e.g. approximately €2.80 for 900ml Hertog vanilla ice cream vs. €2.23 for 1000ml Jumbo vanilla ice cream) (Jumbo, n.d.). Therefore, Hertog could be seen as a mainstream national brand.

The positioning of all tiers is visualized in the following model:



Figure 1: Positioning organic private label tier

2.4 Similarity & attraction effect

The similarity effect predicts that introducing a new product has a greater negative impact on the utility of similar products, than on the utility of dissimilar products (Geyskens et al., 2010). Geyskens et al. (2010) provide several reasons for this effect: (1) similar products divide the loyalty of a potential user, (2) a different tier might confuse the consumer on what kind of quality they can expect, (3) when private labels introduce a premium tier, consumers might mistrust the quality of the tier because it's not in line with the brand's expertise.

Geyskens et al. (2010) use the similarity effect when explaining the impact of introducing a premium private label tier and an economy private label tier. When introducing an economy private label tier, the similarity effect predicts that the choice probability of similar products will decrease. In this case, similar products are other private label tiers because they contain the same brand type. According to Geyskens et al. (2010) products are similar in 'brand type' when they are introduced by the same brand (this can be a private label brand or a national brand). The same result is expected when introducing a premium private label tier. A premium

private label tier will reduce the choice probability of other private label tiers, based on their similar brand type. The similarity effect also explains how introducing a premium private label tier affects premium national brand products. These tiers might differ in brand types, but they are comparable on quality level. This makes them similar. Therefore, introducing a premium tier private label reduces the choice probability of premium tier national brands (Geyskens et al., 2010).

Geyskens et al. (2010) also introduce the attraction effect. The attraction effect predicts that introducing a new product increases the choice probability of similar, superior products. This can create the opposite effect of the similarity effect. Geyskens et al. (2010) provide the following explanation for this effect: (1) customers tend to go for the most superior option within their choice set, when they are uncertain of their choice, (2) customers base their preference on the presumed choice of others (friends and family) and might suspect that friends and family prefer the superior option.

The attraction effect can also be used when explaining the impact of introducing a premium private label tier. The attraction effect proposes that introducing a premium private label tier increases the choice probability of a similar, superior option. In this case, a premium national brand product. The products are similar in quality, but based on the brand type, the quality of the national brand product can be viewed as superior. This superiority is presumed because consumers tend to place greater trust in a brand that “embodies the cumulative effect of past marketing-mix strategies and brand investments” (Geyskens et al., 2010, p. 794). In other words, national brands have been working longer on a consistent image, than private labels often have. This leads to brand trust and decreases customers’ urge to gather information. Customers tend to go for a similar, superior option, in this case, premium national brand products, because they are familiar with the brand and the quality this brand offers. Therefore, the attraction effect proposes that introducing a premium private label tier increases the choice probability of a premium national brand tier.

The similarity- and the attraction effect propose opposite outcomes. Geyskens et al. (2010) test both effects in their research and find no significant result in favor of one of the effects. Instead, they find mixed results, pointing to both effects. Their explanation for the mixed results is that “it is difficult to predict a priori which of the two effects will dominate, and therefore we treat it as an empirical issue” (Geyskens et al., 2010).

2.5 Conceptual model and hypothesis

The goal of this research is to analyze to what extent the introduction of an organic private label tier cannibalizes or expands the purchase intention of standard and premium private label tiers, and mainstream and premium national brand tiers. Based on the positioning of organic private label products, within this thesis, the focus with private label tiers will lay on the premium and standard tier. Research into the economy tier will not be included since the quality and price difference between this tier and an organic private label tier is too big (Geyskens et al., 2010). Therefore it is very unlikely that consumers buying economy private label products, will switch to organic private label products. This makes it unnecessary to include an economy private label tier in this research. An organic national brand tier is also not included in this research. The impact of an organic national brand tier is likely to differ greatly between different national brands. Reinders and Bartels (2016) find that brand equity has a positive influence on organic brand consumption. If a national brand with high brand equity introduces an organic tier, this tier will perform better than if a national brand with lower brand equity introduces an organic tier (Reinders & Bartels, 2016). Thus, if an organic national brand tier is included, it would be wise to control for multiple brands with varying sizes in brand equity. To limit the scope of this research, an organic national brand tier is not included. However, it could be interesting to conduct a separate analysis of organic national brand products, that takes into account multiple brands with differing brand equity.

This thesis is focused on how the introduction of organic private label products effects the purchase intention of standard and premium private label products and mainstream and premium national brand products. Furthermore, this thesis will analyze whether this effect is moderated by customer characteristics as health- and quality consciousness. Health- and quality consciousness are egoistic values that could motivate consumers to buy organic products. Earlier research into these egoistic values (van Doorn & Verhoef, 2015; Yadav, 2016) shows mixed results. Based on the ambivalence in the literature, health- and quality consciousness are added as a moderator. The middle shelf position for organic products is also added as a moderator. Research into the vertical location of products provides ambiguous results (Drèze et al., 1994; Frank & Massy, 1970; Russel & Urban, 2010). The vertical location determines on which shelf the product is positioned. According to Drèze et al. (1994) the middle shelf is the most ideal location for a product, and could lead to an increase in sales compared to other shelves. However, Frank & Massy (1970) find no significant effect of the vertical location on sales.

Based on these ambiguous findings, the middle shelf position for organic products is also added as a moderator. This leads to the following conceptual model:

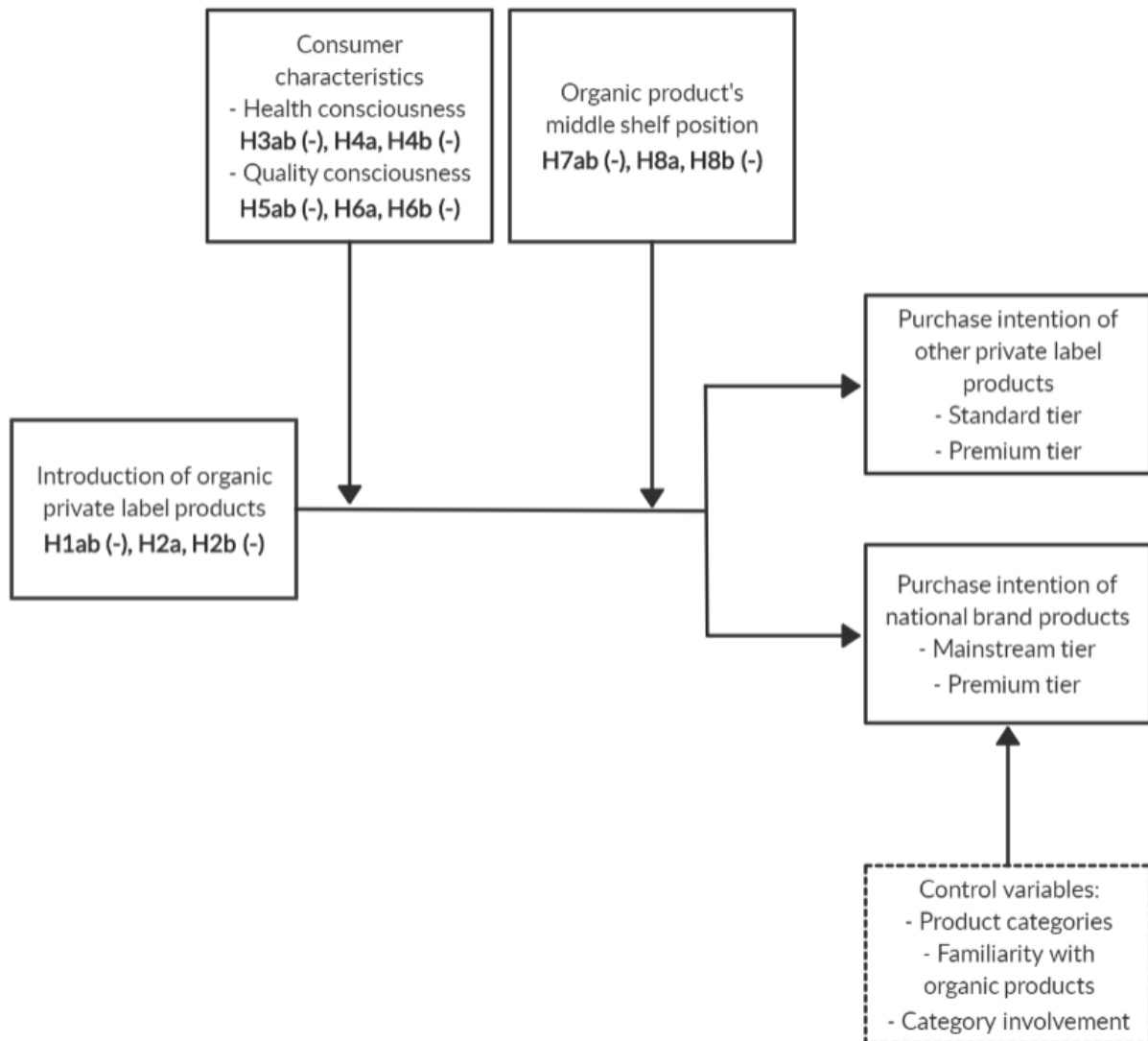


Figure 2: Conceptual model

Geyskens et al. (2010) explain the impact of introducing a premium private label tier on the choice probability of other private label tiers, using the similarity effect. Based on the similarity effect, this research proposes that the introduction of organic private label products will cannibalize the purchase intention of other private label products. The organic private label products are viewed as similar compared to other private label products because they contain the same brand type. Geyskens et al. (2010) find that a difference in quality level between the tiers does not have an influence on the similarity effect. The similar brand types ensure that the

cannibalizing impact of the similarity effect takes place. Based on the findings of Geyskens et al. (2010), this research also assumes that the quality difference between the organic private label tier and the mainstream private label tier is not relevant because their similar brand type ensures the similarity effects takes place either way. Therefore it is expected that the introduction of organic private label products leads to a reduction in the purchase intention of other private label products. However, when using the attraction effect, it can be assumed that the introduction of organic private label products leads to an increase in the purchase intention of premium private label products (Geyskens et al., 2010). The attraction effect proposes that adding a new product increases the choice probability of a similar, superior product. When assuming that a premium private label product is viewed as a superior option compared to an organic private label product, the attraction effect could take place. However, since there is no reason to assume that a premium private label product is viewed as superior compared to an organic private label product (Jonas & Roosen, 2005), this thesis will expect a similarity effect and thus the following hypothesis is formulized:

H1: The introduction of organic private label products will reduce the purchase intention of (a) standard private label products and (b) premium private label products

According to Geyskens et al. (2010), the similarity effect also works for similar products with different brand types. They claim that introducing a premium tier private label will decrease the choice probability of a premium tier national brand because the products are similar. They offer a comparable quality level, which makes them substitutes for each other. They assume that introducing a premium tier private label product will affect the utility of a premium tier national brand more than it will affect the utility of a mainstream tier national brand. The quality of a mainstream tier is not as comparable to a premium tier private label. Therefore the mainstream tier will not be affected by the similarity effect as much as the premium tier is. Following the reasoning of Geyskens et al. (2010), it can be assumed that a premium national brand will be more heavily affected by the introduction of an organic private label tier, than a mainstream national brand, based on the high-quality positioning of organic products (Bezawada & Pauwels, 2013). Therefore it is more likely that buyers of premium tier national brand products will switch towards organic private label products, than buyers of mainstream national brand products. Since mainstream national brand products are not comparable with organic private label products, the similarity effect will not lead to a reduction of the purchase intention of mainstream national brands. However, when looking at the attraction effect of Geyskens et al. (2010), a different effect on the purchase intention of premium national brand products can be

assumed. Based on the attraction effect, it can be proposed that introducing organic private label products, makes premium national brand products a similar, superior option, and thus leads to an increase in the purchase intention. However, since there is no reason to assume that a premium national brand product is viewed as superior compared to an organic private label product (Jonas & Roosen, 2005), this thesis will expect a similarity effect and thus the following hypothesis is formulized

H2: The introduction of organic private label products will have no influence on the purchase intention of (a) mainstream national brand products and reduce the purchase intention of (b) premium national brand products

Health conscious consumers are people who base their choice in products on health benefits (van Doorn & Verhoef, 2015). For example, by buying products with high nutritional value or products that are produced without the use of any chemical fertilizers (Yadav, 2016). Even though products with organic labels are not naturally healthier than regular products, they carry an image that they are (Yadav, 2016). Consumers self-rationalize a positive relationship between organic products and healthiness (Yadav, 2016). However, analyzing consumer's motivations for purchasing organic products shows ambivalent results. Van Doorn & Verhoef (2015) find no relationship between health consciousness and organic products. But according to Yadav (2016), health conscious consumers tend to buy more organic products. Kriwy & Mecking (2012) and Smith & Paladino, (2010) both find similar results that also indicate a significant positive relationship between health consciousness and the purchase of organic products. The findings of Yadav (2016), Kriwy & Mecking (2012), and Smith & Paladino (2010) explain that health conscious consumers are more likely to buy organic products. This could indicate that health conscious consumers are more inclined to switch towards organic private label products, and thus health consciousness has an indirect negative impact on the purchase intention of standard and premium private label products and premium national brand products. In other words, health consciousness could strengthen the cannibalizing impact of introducing organic private label products on the purchase intention of standard and premium private label products and premium national brand products. Since this cannibalizing impact is based on the similarity effect of Geyskens et al. (2010), it seems that health consciousness could strengthen this similarity effect.

Hypothesis two proposes that the similarity effect will not lead to a reduction of the purchase intention of mainstream national brand products, because mainstream national brand

products are not comparable with organic private label products. According to the findings of Yadav (2016), Kriwy & Mecking (2012), and Smith & Paladino (2010), health conscious consumers are more inclined to buy organic private label products based on their healthy image. Since there is no similarity in brand type and quality between organic private label products and mainstream national brand products, it is unlikely that health conscious consumers would purchase mainstream national brand products for their healthy image, even when organic private label products are not available. Therefore, the effect of introducing organic private label products on the purchase intention of mainstream national brand products should not differ for health conscious consumers. The following hypotheses were formulated to summarize the proposed impact of health consciousness:

H3: The cannibalizing impact of organic private label products on the purchase intention of (a) standard private label products, and (b) premium private label products will be higher for health conscious consumers compared to non-health conscious consumers

H4a: The introduction of organic private label products will have no influence on the purchase intention of mainstream national brand products for health conscious consumers or non-health conscious consumers

H4b: The cannibalizing impact of organic private label products on the purchase intention of premium national brand products will be higher for health conscious consumers compared to non-health conscious consumers

Quality consciousness refers to a consumer's preference for high-quality products (van Doorn & Verhoef, 2015). A presumed reason for consumers to buy organic food is their quality consciousness. Consumers might believe that organic labeling stands for higher quality and better tasting food. However, research into the impact of quality consciousness shows ambivalent results. Van Doorn & Verhoef (2011) find a significant negative effect of an organic claim in vice categories. According to their research, quality conscious consumers view organic vice products as lower quality. Taking into account the results of van Doorn & Verhoef (2011), the positioning of organic private label products would change from a premium quality tier towards a more mid-quality tier. Using the similarity effect of Geyskens et al (2010), this means that organic products would no longer be viewed as similar compared to premium products but are more comparable with standard and mainstream tier products. However, they do not find an impact in virtue product categories (van Doorn & Verhoef, 2011). In later research, van Doorn & Verhoef (2015) find no relationship between organic products and quality consciousness.

Yadav (2016) finds a significant positive effect of quality consciousness on the purchase intention of organic products. This would mean that quality conscious consumers are more inclined to switch towards organic private label products. According to the similarity effect of Geyskens et al. (2010), introducing organic private label products has a cannibalizing impact on the purchase intention of standard and premium private label products and premium national brand products. Since quality conscious consumers are more inclined to buy organic private label products than regular consumers, and thus more likely to switch towards organic private label products if these were introduced, quality consciousness could strengthen the cannibalizing impact of introducing organic private label products that takes place due to the similarity effect. Fotopoulos & Krystallis (2002) find similar results that also indicate a positive relationship between health consciousness and the purchase intention of organic products. Based on the findings of Yadav (2016) and Fotopoulos & Krystallis (2002), it can be assumed that quality consciousness strengthens the cannibalizing impact of introducing organic private label products on the purchase intention of standard and premium private label products and premium national brand products.

Hypothesis two proposes that the similarity effect will not lead to a reduction of the purchase intention of mainstream national brand products, because mainstream national brand products are not comparable with organic private label products. Based on the findings of Yadav (2016) and Fotopoulos & Krystallis (2002) the positioning of organic private label products stays the same. This means that quality consciousness will not influence the relationship between organic private label products and the purchase intention of mainstream national brand products. Therefore, the following hypotheses were formulated:

H5: The cannibalizing impact of organic private label products on the purchase intention of (a) standard private label products, and (b) premium private label products will be higher for quality conscious consumers compared to non-quality conscious consumers

H6a: The introduction of organic private label products will have no influence on the purchase intention of mainstream national brand products for quality conscious consumers or non-quality conscious consumers

H6b: The cannibalizing impact of organic private label products on the purchase intention of premium national brand products will be higher for quality conscious consumers compared to non-quality conscious consumers

A product's position on a shelf is composed of a horizontal location and a vertical location. The vertical location determines on which shelf the product is located. The horizontal location determines whether a product is positioned at the edge of a shelf or more in the center. Earlier research shows that the horizontal location of a product has no significant impact on product sales or profitability (Drèze et al., 1994; Frank & Massy, 1970). Frank & Massy (1970) also find no significant relationship between a product's vertical location and sales. Drèze et al. (1994) and Russel & Urban (2010), on the other hand, both find a significant effect of a product's vertical location on sales. According to Drèze et al. (1994) a central location, on the middle shelf, is most desirable and leads to an increase in sales compared to other shelves. Gidlöf, Anikin, Lingonblad, & Wallin (2017) find similar results that indicate that products on the middle shelves are looked at more often than products on the lower and upper shelves, and that visual attention is the most important predictor for purchases. In other words, when a consumer looks more often or longer at a product, it is more likely that the consumer will buy this product. Thus positioning organic private label products on the middle shelf, could lead to an increase in sales. According to the similarity effect, an increase in the purchase intention of organic private label products, reduces the purchase intention of standard and premium private label products and premium national brand products, because they are similar in brand type or quality level. Therefore, positioning organic private label products on a middle shelf position (Drèze et al., 1994; Gidlöf et al., 2017), could increase the purchase intention of organic private label products, and according to the similarity effect, leads to a reduction in the purchase intention of standard and premium private label products and premium national brand products. Since mainstream national brand products are not comparable with organic private label products, the similarity effect will not occur, and these products will not be affected by positioning organic private label products on the middle shelf. To summarize this, the following hypotheses were formulated:

H7: The cannibalizing impact of organic private label products on the purchase intention of (a) standard private label products, and (b) premium private label products will be higher for a middle shelf position compared to no middle shelf position

H8a: The introduction of organic private label products will have no influence on the purchase intention of mainstream national brand products for a middle shelf position or no middle shelf position

H8b: The cannibalizing impact of organic private label products on the purchase intention of premium national brand products will be higher for a middle shelf position compared to no middle shelf position

To ensure unbiased results, control variables are included in the model. Product categories are included as a control variable because van Doorn & Verhoef (2011) found that the impact of health consciousness may differ between product categories. Therefore different food categories will be used, to make sure this does not bias the results. Both vice and virtue categories will be included (van Doorn & Verhoef, 2011).

Familiarity with organic products is also added as a control variable. Consumers that are familiar with the organic market might show different results than consumers who are not familiar with this market. For example, 'core' organic shoppers might be less sensitive to price promotions (Bezawada & Pauwels, 2013). To ensure these differences do not bias the results, familiarity with organic products will be included as a control variable.

Category involvement is also added as a control variable. When a consumer is highly involved in a specific category, the consumer tends to become more motivated to make a well-considered decision (Dens & De Pelsmacker, 2010). However, in low category involvement, the opposite is happening. Consumers are less motivated to process information when choosing a product. The level of category involvement could influence a consumer's decision. To prevent bias in the results, category involvement is also added as a control variable.

3. Method

Within this thesis, quantitative research, in the form of an online experiment, is conducted. A quantitative approach fits the research question since both organic- and private label products have been the topic of earlier research (e.g. Bezawada & Pauwels, 2013; Geyskens et al., 2010; Gielens, 2012; van Doorn & Verhoef, 2015). The goal of this research is to gain hard statistical data on the purchase intention of consumers. This is in line with a descriptive, quantitative approach (West, 1999). The experiment will be of ad hoc nature, and thus custom-designed to receive the information needed for this specific research (West, 1999).

3.1 Experimental design

The questionnaire used in the survey is of experimental design, in which the independent variable can be manipulated to measure the effect on the dependent variables (Kirk, 2012). An important characteristic of an experimental design is randomization (Kirk, 2012). Randomization ensures that the researcher creates groups of respondents that are “probabilistically similar on average” (Kirk, 2012, p. 24). This means that groups are created randomly and therefore it can be assumed that groups are comparable. Another prerequisite of randomization is that respondents are unaware of which group they are placed in. Randomization is important because (1) it helps minimize the existence of unbiased estimate of error effects, (2) it normally distributes idiosyncratic characteristics of respondents, and (3) it protects the independence of error effects (Kirk, 2012).

The independent variable in this research is the presence of organic private label products and the dependent variables are the purchase intention of other private label and national brand products. The independent variable will be manipulated to analyze the effect on the dependent variable. Furthermore, the moderating variable ‘middle shelf position’ is added as manipulation as well. The experimental design is summarized in the table below.

Table 1: Experimental design

Shelf category without organic private label product	100 respondents (manipulation 1)	
	Middle shelf position	No middle shelf position
Shelf category with organic private label product	50 respondents (manipulation 2)	50 respondents (manipulation 3)

Based on a ‘between-subjects’ design, the first group of respondents will view a shelf with private label- and national brand products, both standard/mainstream- and premium tier, within a specific category. An organic private label product is not included. The respondent is asked to scale their purchase intention for each product separately on a rating scale from ‘1 to 7’. With ‘1’ being low and ‘7’ being a high purchase intention. To control for product categories, the respondents will then be asked to do the same for a different product category. The second group of respondents will view the same shelf with private label- and national brand products, which now includes an organic private label product. The organic private label product is positioned on the middle shelf. Respondents are also asked to scale the purchase intention for each product separately. To control for product categories, the respondents are again asked to do the same for a different product category. The third group of respondents will view the same products as the second group. However, the shelf is now adjusted to ensure there is no middle shelf. They are also asked to scale their purchase intention for each product and then do the same for a different product category.

At the end of the questionnaire, all respondents will answer some questions that will measure their health- and quality consciousness, their familiarity with organic products and category involvement. All scales were originally in English (Appendix A). To ensure the translation is accurate, a round trip translation technique is used (Appendix B). This means that the questions are first translated to Dutch. Afterward, they are translated back to English by a native speaker. This ensures the meaning of each sentence is not lost during translation. Since the round trip translation was very similar to the original questions, no alterations were made. All scales have one reversed question, to ensure an acquiescence bias can be filtered out of the responses (Friborg, Martinussen, & Rosenvinge, 2006). For the scales that did not contain a reversed question in the original scale, one question was reversed in the translation.

To measure quality consciousness, a measurement scale from Ailawadi et al. (2008) will be used. The scale is originally measured with a 5-point Likert scale, but to maintain continuity with the rest of the questionnaire, a 7-point Likert scale will be used. The scale consists of three questions. Health consciousness is measured with a scale from Tarkiainen & Sundqvist (2005). The three-question scale will be measured with a 7-point Likert scale to ensure continuity with the rest of the questionnaire. Familiarity with organic products is measured with a ‘consumer awareness of organic food’ scale from Asif, Xuhui, Nasiri, & Ayyub (2018). The scale consists of two questions and is measured on a 7-point Likert scale. Category involvement is measured using a 7-point Likert scale from Steenkamp et al. (2010). The scale also consists of two questions. However, since the questionnaire contains two categories, the scale will be used to measure the involvement of both categories. Furthermore, several demographic questions are added in the questionnaire to measure the respondent’s gender, age, and whether they are working.

3.2 Research ethics

To ensure this research meets all ethical requirements, the five principles for research ethics from the American Psychological Association are followed (Smith, 2003). The first principle is to “discuss intellectual property frankly” (Smith, 2003, p.1). The APA’s Ethics Code states that authorship should be discussed as early on in the research and should reflect contribution. This thesis contains one main author, which is the student. The supervisor and second examiner are both mentioned on the cover with their official title and function. Furthermore, primary data retained in this study will be stored for at least five years. This provides the researcher with the ability to prove authenticity. However, data is not shared with third parties unless absolutely necessary, and it is ensured the data will be treated confidentially. The second principle is that the researcher should be conscious of her multiple roles (Smith, 2003). The role of the author is both researcher and student. These are both professional roles that can be viewed as ethical. The third principle is that the researcher should follow informed-consent rules (Smith, 2003). Respondents are informed beforehand that they are taking part in a research. Participating is voluntary and respondents have the right to decline to participate in the research or quit the questionnaire halfway when they change their mind. When the respondent does not finish the questionnaire, their answers will not be used in the study, and data is deleted. At the end of the questionnaire, respondents are informed that their answers are saved and that they can contact

the researcher if they have any questions regarding the research or the results. The fourth principle is that the researcher should respect the confidentiality and privacy of the respondents (Smith, 2003). Participating in the research is anonymous, and respondents are informed about this before starting the questionnaire. Since the study is of quantitative nature, data will be used in large entities and no single cases will be discussed. This enlarges the respondent's privacy. Data is treated confidentially and shared only with staff members of the Radboud University. The fifth principle is to tap into ethics resources (Smith, 2003). This is done by reading the APA's Ethics Code and following their five principles for research ethics.

3.3 Questionnaire design

The questionnaire (Appendix D) is in Dutch, since (almost) all respondents are native speakers in Dutch, and some might not be fluent in English. Therefore, a Dutch questionnaire will make it easier for respondents to fill in the questions and lower the time and effort the questionnaire takes. This might also lower the missing values because respondents will be less likely to quit halfway when the effort level is lower.

Real brands will be used in the questionnaire. Quality is an important factor in this research since customers base their choice in products partly on this. Thus it is assumed that (perceived) quality, of both the introduced organic private label product and of the other products, will have an impact on the change in purchase intention (Yadav, 2016). Brands are a way for customers to perceive a product's quality and reduce risk in their purchase (Hoyer, MacInnis, & Pieters, 2016). When fake brands are used in this research, respondents will most likely find it more difficult to assess a product's quality. Even when the quality tier of each fake brand is explained. This is incomparable with the 'real world' where customers are familiar with brands, and would therefore bias the research results. When real brands are used, the consumer will perceive their quality more realistically and thus provide a more honest answer.

Furthermore, both a vice and a virtue category are included. Van Doorn & Verhoef (2011) found that the moderator 'health consciousness' might be different for vice categories than for virtue categories. Vice categories are 'want' products, that satisfy an immediate, short term need, but often lead to negative long term effects. Examples of this are wine or chocolate. Virtue categories contain 'should' products that satisfy a long term need, like milk or fruits. Van Doorn & Verhoef (2011) find that organic claims have a negative effect on the quality perception of products in vice categories. For virtue categories, they find no significant effect.

When both a vice and a virtue category are included in the questionnaire, unwanted influences of product categories can be filtered out of the results. The vice category used in the questionnaire is milk chocolate bars. The virtue category is whole milk.

Retailer Albert Heijn is chosen as a private label brand. Albert Heijn has a standard and a premium tier in her portfolio (Albert Heijn, n.d.j). This is required in this research. Jumbo does not have different quality tiers and is thus not suitable (Jumbo, n.d.). Aldi and Lidl are both known as discount retailers (Aldi, n.d; Lidl, n.d.). Their focus on low prices could steer respondents towards low tier products. Therefore, Albert Heijn is most suited to use in the questionnaire. The original prices that Albert Heijn has selected for these products are used. Using original prices keeps the experiment as close to reality as possible. Furthermore, the products contain equal content and characteristics. The milk cartons all contain 1L of whole milk. All chocolate bars contain 100g chocolate and are plain milk chocolate bars. To ensure this, the premium private label chocolate bar has been edited. The chocolate bar originally contained caramel flavoring. This flavoring could bias results since respondents could prefer the chocolate bar based on its flavoring instead of its brand and quality tier. Unfortunately, Albert Heijn did not have a plain milk chocolate bar in their *AH Excellence* assortment. Since no other retailer provided a better solution, the chocolate bar has been edited to match a plain milk chocolate bar. The edited version has been tested in a pre-test to ensure the brand type was recognizable (Appendix C). Based on the pre-test results, it has been altered a bit more to make the brand name *AH Excellence* more visible. The price has been calculated using the relative price difference between a plain standard private label chocolate bar and a flavored standard private label chocolate bar. This leads to a price of €1,50 for a premium private label milk chocolate bar.

Table 2: Price calculations chocolate bar

	Standard private label	Premium private label
Plain milk chocolate bar	€0.49	Calculated price: €1.50
Flavored chocolate bar	€0.65	€1.99

To make the shelves as realistic as possible, multiple versions of each product have been added. This creates the illusion of a full shelf. This is in line with how products are presented in the supermarket. Since an increase in shelf space can increase a product's sales, all products will receive a similar amount of shelf space and facings (Amrouche & Zaccour, 2007).

3.4 Statistical test

Multiple regression analysis will be used to test the hypotheses with the data received from the questionnaires. Regression analysis is a linear dependency between variables (Hair et al., 2013). When conducting a regression analysis, some assumptions need to be checked beforehand. First, there has to be a linear relationship between the DV and the IV's. Second, constant variance of the residuals is needed. Third, the residuals need to be independent. Fourth, the residuals need to be normally distributed (Hair et al., 2013). When the assumptions are checked, a regression analysis can be conducted. Since a regression analysis can only contain one dependent variable, multiple regressions are needed to test the hypothesis. Furthermore, all variables need to be metrically scaled. This can be achieved by turning some variables into dummy variables. When moderators are included in a regression analysis, a direct effect between the DV and the moderator is needed in the equation to avoid an invisible quadratic effect (Hair et al., 2013). The general form of a multiple regression prediction with two moderators is as follows:

$$\hat{Y} = b_0 + b_1X + b_2Z + b_3X*Z + b_4W + b_5X*W$$

In a predicted estimate, individual error terms are assumed to have a mean of zero. Therefore, no error term is added to the prediction formula. $\hat{Y}$ is the predicted value of Y, which is the dependent variable. b_0 is the estimate of the regression intercept. b_{1-5} are the estimate of the regression slope. Z and W are both moderators (Hair et al., 2013).

First, the main effect will be tested. Since the main effect contains multiple dependent variables, four regressions are needed. The independent variable (IV) in this analysis is the presence of an organic private label product. To make this IV metric, the variable will be transformed into a dummy variable with 0 = no organic private label product and 1 = organic private label product (OPL). The dependent variables (DV) in the analyses are the purchase intention of standard private label products (SPL), premium private label products (PPL), mainstream national brand products (MNB), and premium national brand products (PNB). The purchase intention is measured with a 7-point Likert scale, and thus metrically scaled. Furthermore, the moderators 'health consciousness' (HC) and 'quality consciousness' (QC) will be included in the regression analysis. 'Health consciousness' and 'quality consciousness' are both scaled on a 7-point Likert scale. Since the moderators are metrically scaled, the IV and the moderator both need to be mean-centered in the equation to avoid multicollinearity (Hair et al., 2013). 'Familiarity with organic products' and 'category involvement' are added as control

variables (F & CI). The control variables are mean-centered as well to increase the interpretation of the results (Dalal & Zickar, 2011). This leads to the following equations:

Purchase intention SPL_i

$$= b_0 + b_1OPL_i + b_2HC_i + b_3OPL_i * HC_i + b_4QC_i + b_5OPL_i * QC_i + b_6F_i + b_7CI_i$$

Purchase intention PPL_i

$$= b_0 + b_1OPL_i + b_2HC_i + b_3OPL_i * HC_i + b_4QC_i + b_5OPL_i * QC_i + b_6F_i + b_7CI_i$$

Purchase intention MNB_i

$$= b_0 + b_1OPL_i + b_2HC_i + b_3OPL_i * HC_i + b_4QC_i + b_5OPL_i * QC_i + b_6F_i + b_7CI_i$$

Purchase intention PNB_i

$$= b_0 + b_1OPL_i + b_2HC_i + b_3OPL_i * HC_i + b_4QC_i + b_5OPL_i * QC_i + b_6F_i + b_7CI_i$$

Second, the impact of the vertical shelf location will be measured. A separate analysis is necessary because, to measure the impact of the shelf location of the organic private label product, the data without an organic private label product needs to be deleted. The IV in this analysis is the shelf position of the organic private label product. To make this IV metric, the variable will be transformed into a dummy variable with 0 = no middle shelf and 1 = middle shelf position (SP). The dependent variables are ones again the purchase intention of standard private label products (SPL), premium private label products (PPL), mainstream national brand products (MNB), and premium national brand products (PNB). Since an organic private label product is necessary for this regression, only half of the respondents will be used in the analysis (only respondents from manipulation 2 & 3). The moderators ‘health consciousness’ and ‘quality consciousness’ are also added in the equation. However, since no interaction effect is expected between the moderators and shelf position, this is not included in the equation. This leads to the following equations:

$$\text{Purchase intention } SPL_i = b_0 + b_1SP_i + b_2HC_i + b_3QC_i + b_4F_i + b_5CI_i$$

$$\text{Purchase intention } PPL_i = b_0 + b_1SP_i + b_2HC_i + b_3QC_i + b_4F_i + b_5CI_i$$

$$\text{Purchase intention } MNB_i = b_0 + b_1SP_i + b_2HC_i + b_3QC_i + b_4F_i + b_5CI_i$$

$$\text{Purchase intention } PNB_i = b_0 + b_1SP_i + b_2HC_i + b_3QC_i + b_4F_i + b_5CI_i$$

3.5 Sample size

Some sample size requirements have to be met when conducting a regressions analysis. Choosing a correct sample size is very important because the size of the sample has a direct influence on the appropriateness and the statistical power of the regression (Hair et al., 2013). If the sample size is too small, the results aren't generalizable. However, when the sample size is too big, the test becomes over-sensitive, which leads to indicating almost any relationship as statistically significant. Hair et al. (2013) explain that a multiple regression requires a minimum sample of 50 respondents, but preferably a sample of 100 respondents. When running a regression analysis on the impact of the vertical shelf location, the questionnaires without organic private label products (manipulation 1) are no longer relevant. Therefore, it is important that the respondents in manipulation 2 & 3 still reach the sample size requirements formulated by Hair et al. (2013). To ensure these requirements are met, this thesis will strive for 50 respondents per manipulation. Since group 1 (with manipulation 1) is comparable to both group 2 and group 3 together, the sample goal for group 1 is 100 respondents instead of 50.

Furthermore, the respondents are unaware of the manipulations, and groups are divided randomly. The respondents are selected by convenience sampling, a method often used when a researcher has limited time, resources, and workforce (Etikan, Musa, & Alkassim, 2016). It is mostly used in quantitative studies and provides the researcher the possibility to use respondents that are easily accessible due to their proximity, availability, and willingness to participate. This increases the change of meeting the sample size requirements for this research.

4. Analysis

In the following chapter, the data analysis is conducted. First, the data is cleaned and missing values are removed. Second, the assumptions are tested. After that, the regression analyses are conducted.

4.1 Questionnaire respondents

The questionnaire was answered by 208 respondents. 11 respondents contained missing values and were removed from the data set. This makes a total of 197 usable respondents. The dataset contains 5 reversed questions. This means that respondents who answered positively to all questions are likely to suffer from an acquiescence bias and should be removed from the dataset (Friborg et al., 2006). Luckily, this was not the case so no extra respondents needed to be removed. The randomizer tool from Qualtrics was used to randomly divide respondents in one of the three manipulations. The option ‘evenly present elements’ was used to ensure the manipulations all reached their estimated group sizes. However, due to the missing values, manipulation three turned out a little below the estimated 50 respondents. Fortunately, this will not be a problem since the sample size is still well above the required 50 respondents per regression (Hair et al., 2013). The estimated and actual respondents can be viewed in the table underneath.

Table 3: Respondents distribution

	Estimated respondents	Actual respondents
Manipulation 1	100	99
Manipulation 2	50	52
Manipulation 3	50	46

64,5% of the respondents were female and 35,5% were male. The respondents were between 16 and 72 years old but 50% was 25 or younger. The skewness in age and gender is the result of a convenience sampling technique and will be further discussed in the limitations of this research.

4.2 Assumptions

Before testing the assumptions some modifications in the dataset need to be made. First, each measurement scale needs to receive one score. To ensure this, the reversed question scores were

mirrored in the data set and the question scores were transformed into one average score for each measurement scale. The purchase intention scores from the questionnaires are also transformed into one score for each tier by taking the average. Furthermore, a dummy variable that tests the presence of an organic private label product is added. A dummy variable for the shelf position will be added later on as well when the purchase intention data without an organic private label product is removed. Furthermore, two interaction effects are added.

Table 4: Descriptive statistics before mean-centring

	N	Minimum	Maximum	Mean	Std. Deviation
Purchase intention SPL milk	197	1	7	5.07	1.845
Purchase intention SPL chocolate	197	1	7	4.43	1.844
Purchase intention PPL milk	197	1	7	2.81	1.726
Purchase intention PPL chocolate	197	1	7	3.66	1.750
Purchase intention MNB milk	197	1	7	4.31	1.887
Purchase intention MNB chocolate	197	1	7	5.34	1.773
Purchase intention PNB milk	197	1	7	3.08	1.768
Purchase intention PNB chocolate	197	1	7	3.34	1.832
Presence OPL	197	0	1	0.50	0.501
Health consciousness	197	1	7	5.02	1.181
Quality consciousness	197	1	7	4.09	1.122
Familiarity with organic products	197	1	7	5.72	1.168
Category involvement milk	197	1	7	4.31	1.755
Category involvement chocolate	197	1	7	4.43	1.554
Middle shelf position of OPL	98	0	1	.53	.502

Lastly, the data is checked for outliers. Outliers are observations that differ substantially from the average and could bias results (Hair et al., 2013). These outliers can be found by looking at a boxplot (Appendix E). When an observation is positioned between 1.0 and 1.5 quartiles away from the box, it is considered an outlier. The independent variables are checked and several variables show outliers (health consciousness, quality consciousness, and familiarity with organic products). To check if these outliers affect the data, the 5% trimmed mean and the overall mean are compared. All three variables show a trimmed mean that is very close to the overall mean, and thus it can be assumed that the outliers are not problematic.

Once the modifications are made, it is necessary to check some assumptions before conducting the regression analysis. The first assumption requires linearity of the measured

phenomenon (Hair et al., 2013). This linear relationship needs to be checked in a univariate analysis and a bivariate analysis. The univariate analysis tests the individual variables for skewness and kurtosis, by using a frequency table (Appendix E). Based on a large sample size of almost 200 cases, the guideline of $-3/+3$ will be used. This means that if the skewness and kurtosis score falls between -3 and $+3$, linearity of the separate variables can be assumed. The frequency table shows that this is the case for all variables. A bivariate analysis tests the variate as a whole and is conducted by looking at a scatterplot (ZRESID/ZPRED) (Appendix E). Linearity can be assumed if the dots in the scatterplot form no clear pattern and all the dots are spread around the horizontal zero-line. When looking at the scatterplots, seven lines are distinguishable (Appendix E). This is due to the 7-point Likert scale used to collect the respondents' answers. A Likert-scale is not truly continuous, which results in seven lines. When looking more closely at the lines, the variance across different levels of the standardized predicted values is similar. To ensure the relationship of the measured phenomenon is truly linear, a partial regression plot is done for each independent variable. These separate plots showed no pattern or heteroskedasticity. Therefore, it can be assumed that the phenomenon measured has a linear relationship.

The second assumption is the constant variance of the residuals (Hair et al., 2013). To check this assumption, a scatterplot can be used as well (Appendix E). Residuals have a constant variance if there is no clear pattern or shape visible in the scatterplot. This means the scatterplot can be interpreted as homoscedastic. Looking at the scatterplots, no clear pattern or triangle shape can be detected. This means there is no sign of heteroskedasticity, and the scatterplot can be seen as homoscedastic. Thus, it can be assumed that there is a constant variance of the residuals.

The third assumption is independence of the residuals (Hair et al., 2013). Based on the between-subjects design of the questionnaire, independence of the residuals can be expected. However, the assumption is checked nonetheless by looking at the 'residuals statistics' table (Appendix E). Within this table, the 'standardized predicted value' needs to have a mean of 0 and a standard deviation of 1,000. All dependent variables meet this assumption. This is in line with the theoretical expectation and means that the residuals are independent.

The fourth assumption is normality of the residuals' distribution (Hair et al., 2013). This can be checked in multiple ways. First, the 'normal probability plot' is checked (Normal P-P Plot of Regression Standardized Residuals). When all the dots follow the diagonal line, and

there are no outliers, it can be assumed that there is a normal distribution. When looking at the plots (Appendix E), it seems that the dots follow quite closely around the diagonal line, and thus the residuals can be assumed to be normally distributed. Second, a Shapiro Wilk's W test is conducted (Appendix E). Surprisingly, this test is found significant for all dependent variables and thus indicates no normal distribution. Finally, the histograms are checked to take a closer look at the distribution of the residuals (Appendix E). This shows a relatively good distribution, even though it is not completely normally distributed. Based on the large sample size of the study and quite evenly distributed histograms (Hair et al., 2013), it will not be a problem that the residuals are not completely normally distributed. Therefore, no transformations in the dataset will be made.

Lastly, the independent variables are checked for multicollinearity. Multicollinearity occurs when one independent variable is largely explained by another independent variable in the model. This can cause problems for the interpretation of the results and the model fit (Hair et al., 2013). To test for multicollinearity, the variance inflation factor (VIF) is used. If the VIF is below 10, there is a low degree of multicollinearity in the model. The coefficients table (Appendix F) shows that all VIF scores are below 2, which means that the level of multicollinearity in the model is very low.

4.3 Regression

A confirmatory specification technique is used when conducting the regression analyses. This technique provides the researcher the opportunity to choose the exact set of independent variables that are included in the regression (Hair et al., 2013). When using this technique, the decisions must be fully based on theoretical findings. This technique is favored above a sequential search method because with confirmatory specification the researcher remains in control and the regression is less vulnerable to the impact of multicollinearity. During the regression, all variables are added simultaneously on the first block.

A second regression analysis is done to test the moderating effect of the middle shelf position. As explained in 3.4, the data set is altered for this analysis. This leaves 98 respondents of which 52 viewed the organic private label products in a middle shelf position and 46 respondents who viewed shelves without a middle position. The variables are again added simultaneously.

For both analyses, the adjusted R^2 is used to measure the descriptive power of the regression models. Furthermore, an alpha level of 0.05 is chosen to measure significance. To measure the impact of each independent variable separately, the unstandardized B coefficient and standard error are analyzed.

5. Results

The data from the regression analyses are summarized in separate tables for each dependent variable. This data can be used to assess the goodness-of-fit of the model, to confirm or reject the drafted hypotheses, and to measure the strength and direction of each significant effect. The overall goodness-of-fit of the model lays between 0.051 and 0.176 for each tier with an average model fit of 0.096. This means that on average, the model explains 9.6% of the variation of the dependent variables. The findings for each tier are summarized in the tables underneath.

Table 5: Purchase intention standard private label

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Presence organic PL	-.721	.242	.003*	-.285	.255	.265		
Health consciousness	-.215	.106	.045*	-.288	.112	.011*		
Quality consciousness	-.399	.115	.001*	-.338	.121	.006*		
Interaction effect								
Health consciousness	-.179	.125	.155	-.117	.132	.378		
Quality consciousness	-.213	.129	.101	-.006	.139	.967		
Control variables								
Familiarity with organic products	.220	.104	.036*	.103	.110	.350		
Category involvement	-.004	.070	.954	.044	.084	.600		
Total model								
Milk							.176	6.966
Chocolate							.082	3.490

* $p < .05$

Table 6: Purchase intention premium private label

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Presence organic PL	-.252	.240	.294	-.028	.242	.909		
Health consciousness	.073	.105	.488	-.073	.106	.490		
Quality consciousness	.181	.114	.114	.210	.115	.070		
Interaction effect								
Health consciousness	-.365	.124	.004*	-.291	.125	.022*		
Quality consciousness	.190	.128	.138	.108	.132	.413		
Control variables								
Familiarity with organic products	.274	.103	.009*	.142	.104	.175		
Category involvement	-.084	.069	.224	.254	.080	.002*		
Total model								
Milk							.078	3.380
Chocolate							.084	3.556

* $p < .05$

Table 7: Purchase intention mainstream national brand

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Presence organic PL	-.761	.266	.005*	-.780	.239	.001*		
Health consciousness	-.235	.127	.045*	-.297	.105	.005*		
Quality consciousness	.189	.127	.137	-.081	.114	.476		
Interaction effect								
Health consciousness	-.141	.138	.306	-.096	.124	.440		
Quality consciousness	.088	.142	.536	-.058	.130	.659		
Control variables								
Familiarity with organic products	-.184	.115	.111	.112	.103	.279		
Category involvement	-.002	.077	.979	.199	.079	.013*		
Total model								
Milk							.051	2.518
Chocolate							.103	4.206

* $p < .05$ **Table 8: Purchase intention premium national brand**

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Presence organic PL	-.171	.247	.489	.289	.250	.250		
Health consciousness	.221	.108	.043*	.011	.110	.921		
Quality consciousness	-.137	.118	.246	.263	.119	.028*		
Interaction effect								
Health consciousness	-.174	.128	.176	-.236	.130	.071		
Quality consciousness	.304	.132	.022*	.182	.136	.184		
Control variables								
Familiarity with organic products	.172	.107	.109	.037	.108	.733		
Category involvement	-.073	.071	.304	.301	.083	.000*		
Total model								
Milk							.066	2.970
Chocolate							.124	4.972

* $p < .05$

5.1 Main effect

The first hypotheses are focused on the influence of introducing an organic private label product on the purchase intention of other private label and national brand products. The similarity effect was used to predict the impact of introducing an organic private label product. The

similarity effect proposes that introducing a new product has a greater negative impact on the utility of similar products, than on the utility of dissimilar products (Geyskens et al., 2010).

In support of H1a, the introduction of an organic private label product has a negative effect on the purchase intention of standard private label products in the milk category ($\beta = -.721, p = .003$). However, introducing organic private label products has no impact on the purchase intention of standard private label products in the chocolate category ($\beta = -.285, p = .265$), and thus H1a is only partly confirmed. Surprisingly, the introduction of an organic private label product has no impact on the purchase intention of premium private label products in both the milk ($\beta = -.252, p = .294$) and chocolate category ($\beta = -.028, p = .909$) and thus H1b is rejected.

In contrast to H2a, the introduction of organic private label products has a negative impact on the purchase intention of mainstream national brand products in both the milk ($\beta = -.761, p = .005$) and chocolate category ($\beta = -.780, p = .001$). For premium national brand products (H2b), the introduction of organic private label products has no impact on the purchase intention in both the milk ($\beta = -.171, p = .489$) and chocolate category ($\beta = -.289, p = .250$). Therefore, H2b is rejected.

5.2 Moderating effect of health- and quality consciousness

The next hypotheses are focused on the moderating effects of health- and quality consciousness. The hypothesized impact of these moderators is based on the findings of e.g. Yadav (2016) and Kriwy & Mecking (2012). They proposed that health- and quality conscious consumers are more likely to buy organic private label products. Therefore, an increase in the similarity effect is expected. Since the similarity effect is not expected to influence the purchase intention of mainstream national brand products, there is no change expected there.

In contrast to H3a, health consciousness has no moderating effect on the cannibalizing impact of organic private label products on the purchase intention of standard private label milk ($\beta = -.179, p = .155$) or chocolate products ($\beta = -.117, p = .378$). There is, however, a direct negative impact of health consciousness on the purchase intention of standard private label products for both the milk ($\beta = -.215, p = .045$) and chocolate category ($\beta = -.288, p = .011$). In support of H3b, health consciousness has a negative effect on the cannibalizing impact of organic private label products on the purchase intention of premium private label products for

the milk ($\beta = -.365, p = .004$) and chocolate category ($\beta = -.291, p = .022$). This means that health conscious consumers are less likely to buy premium private label products after the introduction of an organic private label product. In line with H4a, health consciousness has no influence on the cannibalizing impact of organic private label products on the purchase intention of mainstream national brand milk ($\beta = -.141, p = .306$) or chocolate products ($\beta = -.096, p = .440$). However, health consciousness has a direct negative effect on the purchase intention of mainstream national brand products for milk ($\beta = -.235, p = .045$) and chocolate categories ($\beta = -.297, p = .005$). In contrast to H4b, health consciousness has no influence on the cannibalizing impact of organic private label products on the purchase intention of premium national brand milk ($\beta = -.174, p = .176$) or chocolate products ($\beta = -.236, p = .071$). There is however a direct positive effect of health consciousness on the purchase intention of premium national brand products in the milk category ($\beta = .221, p = .043$).

In contrast to H5a, the cannibalizing impact of organic private label products on the purchase intention of standard private label products is not influenced by quality consciousness in the milk ($\beta = -.213, p = .101$) or chocolate category ($\beta = -.006, p = .967$). Surprisingly, quality consciousness has a direct negative effect on the purchase intention of standard private label products in milk ($\beta = -.399, p = .001$) and chocolate categories ($\beta = -.338, p = .006$). Deviating from H5b, there is no effect of quality consciousness on the impact of organic private label products on the purchase intention of premium private label milk ($\beta = .190, p = .138$) or chocolate products ($\beta = .108, p = .413$). In support of H6a, there is no influence of quality consciousness on the cannibalizing impact of organic private label products on the purchase intention of mainstream national brand products for both milk ($\beta = .088, p = .536$) or chocolate categories ($\beta = -.058, p = .659$). Surprisingly, quality consciousness has a positive influence on the impact of organic private label products on the purchase intention of premium national brand products in the milk category ($\beta = .304, p = .022$). There is no moderating impact in the chocolate category ($\beta = .182, p = .184$). However, quality consciousness has a direct positive impact on the purchase intention of premium national brand products in the chocolate category ($\beta = .263, p = .028$). Since a negative moderating effect was expected, H6b is rejected.

5.3 Moderating effect of the middle shelf position

To test the moderating effect of the middle shelf position, a separate regression analysis is conducted. The information from the data outputs is summarized in the following tables.

Table 9: Purchase intention standard private label with middle shelf position

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Middle shelf position	-.477	.371	.202	-.403	.398	.314		
OPL								
Health consciousness	-.372	.169	.030*	-.399	.181	.030*		
Quality consciousness	-.602	.155	.000*	-.362	.172	.038*		
Control variables								
Familiarity with organic products	.342	.150	.025*	.232	.159	.147		
Category involvement	-.037	.109	.732	.055	.145	.706		
Total model								
Milk							.228	6.738
Chocolate							.104	3.243

* $p < .05$ **Table 10: Purchase intention premium private label with middle shelf position**

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Middle shelf position	-.287	.364	.432	-.154	.373	.680		
OPL								
Health consciousness	-.249	.166	.136	-.328	.170	.057		
Quality consciousness	.339	.152	.028*	.303	.161	.064		
Control variables								
Familiarity with organic products	.327	.147	.029*	.197	.149	.189		
Category involvement	-.045	.107	.672	.247	.135	.072		
Total model								
Milk							.067	2.384
Chocolate							.082	2.733

* $p < .05$ **Table 11: Purchase intention mainstream national brand with middle shelf position**

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Middle shelf position	-.808	.383	.038*	-.539	.386	.167		
OPL								
Health consciousness	-.370	.174	.036*	-.408	.176	.022*		
Quality consciousness	.244	.160	.131	-.096	.167	.566		
Control variables								
Familiarity with organic products	-.128	.155	.411	.199	.154	.198		
Category involvement	.084	.112	.458	.051	.140	.716		
Total model								
Milk							.056	2.153
Chocolate							.055	2.125

* $p < .05$

Table 12: Purchase intention premium national brand with middle shelf position

	Milk			Chocolate			Adjusted R ²	F
	B	Std. Error	Sig.	B	Std. Error	Sig.		
Direct effect								
Middle shelf position	-.435	.357	.225	.247	.360	.495		
OPL								
Health consciousness	.059	.162	.716	-.160	.164	.329		
Quality consciousness	.393	.149	.010*	.420	.156	.008*		
Control variables								
Familiarity with organic products	.295	.144	.044*	-.127	.143	.378		
Category involvement	-.065	.104	.536	.360	.130	.007*		
Total model								
Milk							.107	3.325
Chocolate							.152	4.469

* $p < .05$

Based on the findings of Drèze et al. (1994) and Gidlöf et al. (2017) a significant, negative relationship between the middle shelf position and the purchase intention of other products is expected. Surprisingly, in contrast to H7a, the middle shelf position does not affect the cannibalizing impact of organic private label products on the purchase intention of standard private label products in the milk ($\beta = -.477$, $p = .202$) and chocolate category ($\beta = -.403$, $p = .314$). Accordingly, despite H7b, the middle shelf position also has no moderating effect on the purchase intention of premium private label products in both milk ($\beta = -.287$, $p = .432$) and chocolate categories ($\beta = -.154$, $p = .680$). In line with H8a, the middle shelf position has no effect on the cannibalizing impact of organic private label products on the purchase intention of mainstream national brand products in the chocolate category ($\beta = -.539$, $p = .167$). However, the middle shelf position has a negative effect on the cannibalizing impact of organic private label products on the purchase intention of mainstream national brand products in the milk category ($\beta = -.808$, $p = .038$). Thus, H8a is only partly confirmed. In contrast to H8b, the middle shelf position has no effect on the cannibalizing impact of organic private label products on the purchase intention of premium national brand products in both milk ($\beta = -.435$, $p = .225$) and chocolate categories ($\beta = .247$, $p = .495$). In other words, when an organic private label product is positioned on the middle shelf, it only has a negative effect on the purchase intention of mainstream national brand milk products.

The overall significance and beta coefficient of all the hypotheses are summarized in the following table.

Table 13: Hypotheses significance

	Milk category		Chocolate category	
	β	p	β	p
H1a	-.721	.003*	-.285	.265
H1b	-.252	.294	-.028	.909
H2a	-.761	.005*	-.780	.001*
H2b	-.171	.489	-.289	.250
H3a	-.179	.155	-.117	.378
H3b	-.365	.004*	-.291	.022*
H4a	-.141	.306	-.096	.440
H4b	-.171	.176	-.236	.071
H5a	-.231	.101	-.006	.967
H5b	.190	.138	.108	.413
H6a	.088	.536	-.058	.659
H6b	.304	.022*	.182	.184
H7a	-.477	.202	-.403	.314
H7b	-.287	.432	-.154	.680
H8a	-.808	.038*	-.539	.167
H8b	-.435	.225	.247	.495

5.4 Control variables

Lastly, the significance of the control variables is checked to ensure these variables do not bias the results. The control variable familiarity with organic products is significant for several tiers in the milk category. For the standard private label tiers, familiarity with organic products is positively significant in both the first ($\beta = .220, p = .036$) and the second regression ($\beta = .342, p = .025$). Accordingly, familiarity with organic products is also positively significant for premium private label products in both the first ($\beta = .274, p = .009$) and second regression ($\beta = .327, p = .029$). For premium national brand products, the variable familiarity with organic products is significant in the middle shelf regression ($\beta = .295, p = .044$). Surprisingly, this means that if a customer is familiar with organic products, he/she is more likely to purchase standard- and premium private label milk products and partly premium national brand milk products.

The control variable category involvement is only significant in the chocolate category. In the first regression, category involvement is positively significant for premium private label ($\beta = .254, p = .002$), mainstream national brand ($\beta = .199, p = .013$), and premium national brand chocolate products ($\beta = .301, p = .000$). In the second regression, category involvement is positively significant for premium national brand chocolate products ($\beta = .360, p = .007$) as well. This means that if a customer is involved with the chocolate category, he/she is more likely to purchase premium private label, mainstream-, and premium national brand chocolate products. Strangely, this is not the case in the milk category.

The control variable product categories was measured by adding a vice (milk) and a virtue (chocolate) product category. When looking at the average adjusted R^2 for both categories in both regressions, no clear difference can be distinguished. The average adjusted R^2 for milk is 0.093 in the first regression and 0.115 in the second regression. The average adjusted R^2 for chocolate is 0.098 in both regressions. However, the two control variables above clearly show a difference between both categories. Familiarity with organic products has a positive impact in the milk category but no impact in the chocolate category and category involvement has a positive impact in the chocolate category and no impact in the milk category. Therefore, the impact of different product categories (vice/virtue) might be an interesting moderator for further research on this topic.

6. Discussion

The organic market is growing rapidly and many private label brands are introducing organic product lines (Chartier, 2019). This research uses the similarity effect from Geyskens et al. (2010) to explain the impact of introducing organic private label products. Based on the findings of Geyskens et al. (2010), the purchase intention of different quality tiers from private labels and national brands are analyzed separately.

6.1 Theoretical implications

To analyze the impact of organic private label products, the following research question was drafted: *to what extent does the introduction of organic private label products by private label brands, cannibalize or expand the purchase intention of other products of this private label or national brands.*

As expected, we find a cannibalizing impact on the purchase intention of standard private label products (only for the milk category). However, there is no impact on standard private label chocolate products. Surprisingly, we find that the introduction of organic private label products has no impact on the purchase intention of premium private label and premium national brand products. Moreover, the introduction of organic private label products has a negative impact on the purchase intention of mainstream national brand products for both categories. Some of these findings deviate from the hypothesized effects that were drafted beforehand. The hypotheses were based on the similarity effect, which proposes that introducing a new product has a greater negative impact on the utility of similar products, than on the utility of dissimilar products (Geyskens et al., 2010). Premium private label and premium national brand products were viewed as similar based on their quality level. According to Bezawada & Pauwels (2013), organic private label products can be seen as top tier products and thus comparable in quality to premium tier products. Standard private label products were viewed as similar due to their matching brand type (Geyskens et al., 2010). However, the findings of this study show that introducing organic private label products only has a cannibalizing impact on the purchase intention of mainstream national brand and standard private label products. Therefore, it could be argued that organic private label products are more comparable in quality to mainstream and standard tier products than premium tier products. This would explain why there is a cannibalizing impact on the purchase intention of mainstream national brand and standard private label products, and no impact on the purchase intention of premium private label and premium national brand products. This would indicate a change in the positioning of figure one,

in which organic private label products are positioned close to premium private label and national brand products. According to these findings, the organic private label tier should be positioned on the quality level of standard private label and mainstream national brand products (in the middle of these two). Based on the findings of Bezawada & Pauwels (2013) and Phillips & Pinckaers (2018) the price level of organic private label products remain at the price level of premium private label and national brand products. This would lead to the following figure:

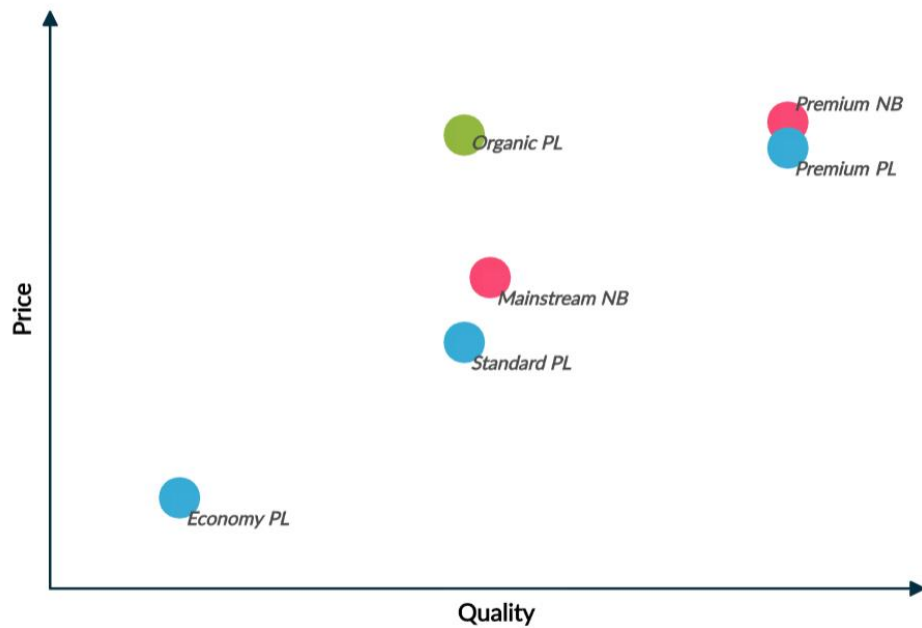


Figure 3: New positioning organic private label tier

However, further research in the price level of organic private label products is necessary to validate this. Furthermore, these findings indicate that quality level is leading in the similarity effect, as opposed to a similar brand type. Organic private label products and premium private label products contain the same brand type. However, there is no cannibalizing impact on the purchase intention of premium private label products. Therefore, it appears that a similar quality level is more determinative than a similar brand type.

An alternative explanation for the results could be that the most popular brands are more affected by the introduction of a new tier. The table below displays the purchase intention of each tier before the introduction of an organic private label tier. Based on these scores, it appears that standard private label and mainstream national brand products are the most popular. Remarkably, these tiers were also negatively affected by the introduction of organic private label products. This could mean that the most popular products are simply most affected by the

introduction of a new product. In this alternative explanation, the similarity effect is not taking place, but the negative impact of organic private label products is simply explained by the high customer base of standard private label and mainstream national brand products. Since these products have a large customer base, it is likely that a higher amount of customers will switch towards a new product, compared to a product with a small customer base. This could result in a negative impact on standard private label and mainstream national brand products.

Table 14: Purchase intention score before introduction organic private label

	Purchase intention score	
	Milk category	Chocolate category
Product tier		
Standard private label	5.47	4.53
Premium private label	2.98	3.74
Mainstream national brand	4.69	5.80
Premium national brand	3.18	3.24

However, this theory does not explain why standard private label chocolate products are not affected by the introduction of organic private label products. The purchase intention score of standard private label chocolate products is comparable to the purchase intention score of mainstream national brand milk products. This indicates that these products have the same level of popularity. However, mainstream national brand milk products are negatively affected by the introduction of organic private label products ($\beta = -.761$, $p = .005$), but standard private label products are not affected ($\beta = -.285$, $p = .265$). Therefore, further research into this theory is needed to validate that popular products are indeed more affected by the introduction of a new (organic) product.

When looking at the moderator health consciousness, we find that the impact of health consciousness on the purchase intention of standard private label, mainstream national brand, and premium national brand products does not depend on the presence of an organic private label product. Only for premium private label products, there is a negative moderating effect. This indicates that the cannibalizing impact of organic private label products on the purchase intention of premium private label products is stronger for health conscious consumers. For standard private label, mainstream and premium national brand products, we find a direct effect from health consciousness on the purchase intention of these tiers instead. Therefore, it could be argued that, despite the findings of Yadav (2016) and van Doorn & Verhoef (2011), health

consciousness has a direct effect on the purchase intention of different quality tiers, instead of a moderating effect via organic private label products. These findings could indicate that the effect of health consciousness is direct because health conscious consumers do not view organic products as more or less healthy than regular products. Therefore they are not affected by whether there are organic private label products on the shelf. However, further research on this topic is needed to validate this assumption. We find a negative impact on the purchase intention of standard private label and mainstream national brand products and a positive impact on the purchase intention of premium national brand milk products. This is in line with Szakály, Szente, Kövér, Polereczki, and Szigeti (2012) who find that customers with a healthy mindset are willing to pay a higher price for foods that are (supposed to be) healthy. Based on our findings, it appears that standard private label and mainstream national brand products are viewed as less healthy and that premium national brand milk products are viewed as more healthy. According to Szakály et al. (2012), there is a direct relationship between customers with a healthy mindset and the food they buy. The effect is not moderated by the presence of organic private label products.

Limited effects are found for the moderator quality consciousness. Only one moderating effect is found, for premium national brand milk products, and this effect is positive instead of the proposed negative effect. This could be due to the attraction effect of Geyskens et al. (2010), which explains that introducing a new product increases the choice probability of similar, superior products. When an organic private label product is introduced in the milk category, a premium national brand product might be viewed as a superior option. This could lead to an increase in the purchase intention of premium national brand milk products and explain the findings. However, further research on this topic is needed to validate this assumption. Furthermore, there is a direct negative effect on the purchase intention of standard private label products and a direct positive effect on the purchase intention of premium national brand chocolate products. The negative moderating effects that were proposed in the hypothesis are not found in the data. These negative moderating effects were based on the high-quality level of organic private label products (Bezawada & Pauwels, 2013). Due to the proposed high-quality level, organic private label products can be seen as comparable in quality to premium tiers and superior in quality to standard/mainstream tiers. Therefore, quality conscious consumers might prefer organic private label products above other products. However, when the findings of this study are taken into account, it appears that the quality level of organic private label products is more comparable to standard/mainstream tiers. This would mean that

quality conscious consumers will not be interested in buying organic private label products, because these products are not seen as high-quality. This would explain why no negative moderating effect is found. For premium national brand products, the effect is even reversed in the milk category. The direct effects of quality consciousness on the purchase intention of standard private label and premium national brand products are explained by Szakály et al. (2012), who find that food quality is an important driver in consumer's functional food preference.

The moderator middle shelf position of organic private label products only moderates the effect on the purchase intention of mainstream national brand milk products. Given earlier findings, it is understandable that no effect is found on the purchase intention of premium private label and premium national brand products because both tiers are not influenced by the presence of an organic private label tier as well. Therefore, it is logical that the position of this organic private label tier has no influence either. However, it is surprising that standard private label products and mainstream national brand chocolate products are both not affected by the middle shelf position. The mainstream national brand milk is negatively affected by the middle shelf position of the organic private label milk. This could be due to the similar packaging of the Campina milk (mainstream national brand) and the organic Albert Heijn milk (organic private label). Spence (2016) finds that one of the most important functions of a product package is to stand out on the shelf and that a product's visual packaging is an important determinant of a product's success rate on the supermarket shelf. Both packages contain similar colors green and blue and have a glass of milk on the front. When the organic Albert Heijn milk is positioned next to the Campina milk, it might not stand out as well as when it is positioned on the middle shelf. Thus, when the organic Albert Heijn milk is positioned on the middle shelf, consumers notice it more and are more likely to buy it. Ampuero & Vila (2006) also find that packaging is crucial because it can create "differentiation and identity" (Ampuero & Vila, 2006, p. 101), especially in a relatively homogenous product category like milk. When the similar packages of organic Albert Heijn milk and Campina milk are positioned together, there is little differentiation and identity and the packages do not stand out. The packaging of the standard Albert Heijn milk is very different from the organic Albert Heijn milk, and therefore it does not matter if the organic private label milk is positioned on the middle shelf or not. The mainstream national brand chocolate bar is also very different in packaging from the organic private label chocolate bar. And thus the position does not matter either. This assumption should be further tested, before it can be validated.

6.2 Managerial implications

Understanding the impact of introducing an organic private label tier on the purchase intention of other products is important to retailers and national brand manufacturers. The cannibalizing impact of an organic private label tier is specified on different quality tiers of both private labels and national brands. In contrast to earlier research (Bezawada & Pauwels, 2013), this study finds that organic private label tiers are more comparable in quality to standard private label and mainstream national brand tiers.

For retailers, this means that introducing an organic private label tier will cannibalize the purchase intention of standard private label and mainstream national brand products. However, this should not discourage retailers from introducing an organic private label tier. Not only can organic products improve a retailer's differential position and long-term image (Bezawada & Pauwels, 2013), it can also lead to an actual increase in the total profit. Since organic products are a private label tier, retailers receive a higher margin per product sold, compared to mainstream national brand products (Ailawadi et al., 2008). Furthermore, organic products might have a higher cost price compared to similar standard private label products, due to the strict regulations regarding their production (Phillips & Pinckaers, 2018). But overall, organic products have a higher gross margin, up to 30% to 50%, compared to conventional products that have a margin of 20% to 25% (Bezawada & Pauwels, 2013). Thus, selling organic private label products lead to an increase in the total category profit for retailers.

Health consciousness has a limited moderating impact that favors the organic private label tier. Only for premium private label products is the cannibalizing impact of organic private label products moderated by health consciousness. Apart from this, it seems that health consciousness has no impact on organic private label products. Instead, we find a direct impact of health consciousness on the purchase intention of different tiers. Retailers could try to change this by emphasizing the healthy aspect of organic products, to encourage health conscious consumers to buy organic private label products. Currently, health conscious consumers are more inclined to buy premium national brand products. This results in a lower gross margin for retailers, compared to selling organic products (Bezawada & Pauwels, 2013).

Accordingly, quality consciousness has no moderating impact that favors the organic private label tier. Instead, it appears that quality consciousness has a direct effect on the purchase intention of standard private label and premium national brand products. Retailers can

respond to this by making their organic private label tier appear more luxurious and of higher quality. For example by changing their packaging to contain more dark and cold colors and no graphic forms (Ampuero & Vila, 2006). These changes will provide a product with a more prestige status and might encourage quality conscious consumers to buy organic private label products.

The shelf position of organic private label products seems to have little impact on the purchase intention of other products. Therefore, retailers should not bother changing the shelf allocation to position the organic tier on the middle shelves. However, when products with similar packaging are positioned next to each other, they might blend in and receive less attention from customers (Spence, 2016). When this is the case, it might be advisable to reposition these products, to make sure they are no longer positioned next to each other. Furthermore, when customers are involved with a category or familiar with organic private label products, the cannibalizing impact is lower. Based on these findings, it is relevant for retailers to ‘know’ their customers before they introduce an organic private label tier.

For manufacturers of mainstream national brands, the introduction of an organic private label tier will inevitably lead to lower profits. This is due to their similarity in quality compared to organic private label products. Manufacturers can try to limit the impact of the similarity effect by positioning their products at a higher quality level or by creating a competitive advantage on the organic private label tier. When both product tiers are no longer comparable in quality, the similarity effect will not take place. However, it might not always be desirable or possible for brands to reposition their product as more premium quality. In that case, it could be helpful if a mainstream national brand product has a competitive advantage on an organic private label product, for example, a special flavor or a promotional action. This could make customers less willing to switch from mainstream national brand products towards organic private label products.

For manufacturers of premium national brand products, quality consciousness has a positive moderating effect on the purchase intention of premium national brand milk products. It appears that the introduction of organic private label products leads to an expansion of the purchase intention of premium national brand milk products for quality conscious consumers. There is no impact of introducing organic private label products on the purchase intention of premium national brand products without the moderating effect of quality consciousness. Based on these findings, manufacturers of premium national brand products can expect an increase in

the purchase intention of their products when organic private label products are introduced, because quality conscious consumers will be more inclined to purchase their product.

6.3 Limitations and further research

This research has several limitations that could be used to inspire further research. First, future research could replicate this study with a more balanced sample. Due to a convenience sampling technique, the sample contained a high percentage of female respondents. In addition, fifty percent of the sample is younger than 26. The skewness in age and gender could influence the results. For example, van Doorn & Verhoef (2015) found that male consumers are less likely to purchase organic. This study contains a high level of female respondents, which could result in a stronger cannibalization effect on the purchase intention of different product tiers compared to a balanced sample. Since women are more likely to buy organic products, the B coefficient of the presence of organic private label products on the purchase intention of different product tiers might have a stronger negative effect than it would have in a balanced sample.

Second, based on the findings of this study, it appears that organic private label products can be seen as comparable in quality to standard and mainstream product tiers. However, earlier research positioned organic private label products as a premium quality tier and thus comparable to premium product tiers (Bezawada & Pauwels, 2013). Further research should analyze how organic private label products are positioned in the minds of consumers and why. Whether they are viewed as standard/mainstream or premium products and whether this is due to their perceived quality level or something different (for example their price or image).

Third, the findings of this study could also be explained by the theory that the most popular products are affected most by the introduction of a new (organic) product. Even though the introduction of a new product tier has been analyzed frequently (e.g. Geyskens, Gielens, & Gijsbrechts, 2010; Gielens, 2012), there is no research that studies this particular theory. Therefore, further research could analyze whether popular products are indeed more affected by the introduction of new products in general or by the introduction of organic products in particular.

Fourth, only two product categories were used to filter out the difference between vice and virtue product categories and category involvement. The findings indicated that category involvement had a significant impact in the chocolate category, but no impact in the milk

category. To further measure the impact of product categories and vice/virtue products, a more in depth study on product categories is needed.

Fifth, real brands were used in the questionnaire to make the experiment as close to reality as possible. When existing brands are used, customers are familiar with brand names, and assessing the quality level of each product comes more naturally. However, the downside of using real brands is that some brands are more popular and well known than others, and might be favored based on their familiarity instead of their quality/price level. For example, in the chocolate category, Milka was used as a mainstream national brand and Lindt excellence as a premium national brand. Milka is a very well-known chocolate brand, and therefore customers might feel more comfortable buying Milka chocolate, because they are familiar with the quality, even though Lindt excellence chocolate is a higher quality product. To avoid the impact of brand familiarity, a similar study with fake brands could be conducted and the results of both studies should be compared. Furthermore, to keep the manipulations simple, each product contained an equal amount of shelf space. However, within official supermarket shelves, there is often a difference in shelf space between products. According to Amrouche & Zaccour (2007), an increase in shelf space and facings can lead to an increase in sales. Further research for specific retailers could use official supermarket shelves to receive a more detailed image of how the introduction of organic private label products would really affect their private label and national brand products.

Sixth, findings on the middle shelf position indicate that the similarity in packaging between products that are positioned close to each other might affect their purchase intention. When products with similar packaging are positioned next to each other, they might blend in with other products and receive less attention from customers (Spence, 2016). More in depth research into this theory is needed to validate the effect. However, if this theory is proven significant, it could result in an important implication for how retailers should design their shelves. Furthermore, the findings on the middle shelf could be biased by the fact that a laptop screen/smartphone is used to measure the impact of the middle shelf position. The advantage of the middle shelf position is based on the fact that the height of the middle shelf is comparable to the natural resting position of the eye (Drèze et al., 1994). However, this advantage might not exist when the shelves are viewed on a laptop instead of in real life. Therefore, it might be interesting to conduct an experiment with real shelves to see if this leads to different results.

Seventh, further research could analyze the impact of introducing an organic national brand tier as well. Earlier research has focused on the role of brand type in organic labeling and the difference in consumption between organic national brand products and organic private label products (Reinders & Bartels, 2016). However, no research is done on the impact of introducing an organic national brand tier on the purchase intention of other product tiers within both private labels and national brands including the organic private label tier. Furthermore, it can be interesting to analyze whether organic national brands and organic private label products would cannibalize or expand each other's sales.

Overall, this study has raised some interesting questions on the positioning of organic private label products, explains the direct impact of health- and quality consciousness, and offers a good starting point for further research on whether popular products are more affected by the introduction of new products and on how similar packaging of products positioned next to each other on the shelf impacts their sales.

Reference list

- Ailawadi, K. L., Pauwels, K., & Steenkamp, J. E. M. (2008). Private-Label Use and Store Loyalty. *Journal of Marketing*, 72, 19–30.
- Albert Heijn (n.d.a). *AH biologisch melkchocolade tablet* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi188950/ah-biologisch-melkchocolade-tablet>
- Albert Heijn (n.d.b). *AH biologische volle melk* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi61009/ah-biologisch-volle-melk>
- Albert Heijn (n.d.c). *AH boerderijzuivel volle melk* [Packshot]. Retrieved from <https://www.ah-boodschappen.nl/4588/ah-boerderijzuivel-volle-melk>
- Albert Heijn (n.d.d). *AH tablet melk chocolate* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi35362/ah-tablet-melk-chocolade>
- Albert Heijn (n.d.e). *AH volle melk* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi1524/ah-volle-melk>
- Albert Heijn (n.d.f). *Arla biologische volle melk* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi349195/arla-biologische-volle-melk>
- Albert Heijn (n.d.g). *Campina Langlekker volle melk* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi383519/campina-langlekker-volle-melk>
- Albert Heijn (n.d.h). *Lindt excellence milk extra creamy* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi467141/lindt-excellence-milk-extra-creamy>
- Albert Heijn (n.d.i). *Milka chocolade reep alpenmelk* [Packshot]. Retrieved from <https://www.ah.nl/producten/product/wi1408/milka-chocolade-reep-alpenmelk>
- Albert Heijn. (n.d.j). Zoek binnen ah.nl | online bestellen | Albert Heijn. Retrieved 31 January 2020, from <https://www.ah.nl/zoeken?query=biologisch&kenmerk=biologisch&merk=AH%20Biologisch&page=2>
- Aldi. (n.d.). Vers vlees. Retrieved 18 February 2020, from <https://www.aldi.nl/onze-producten/vers-vlees.html>
- Ampuero, O., & Vila, N. (2006). Consumer perceptions of product packaging. *Journal of Consumer Marketing*, 23(2), 100–112. <https://doi.org/10.1108/07363760610655032>
- Amrouche, N., & Zaccour, G. (2007). Shelf-space allocation of national and private brands. *European Journal of Operational Research*, 180, 648–633. <https://doi.org/10.1016/j.ejor.2006.05.008>
- Asif, M., Xuhui, W., Nasiri, A., & Ayyub, S. (2018). Determinant factors influencing organic food purchase intention and the moderating role of awareness: A comparative analysis. *Food Quality and Preference*, 63, 144–150. <https://doi.org/10.1016/j.foodqual.2017.08.006>
- Batra, R., & Sinha, I. (2000). Consumer-level factors moderating the success of private label brands. *Journal of Retailing*, 76(2), 175–191.
- Bauer, H. H., Heinrich, D., & Schäfer, D. B. (2013). The effects of organic labels on global, local, and private brands. More hype than substance? *Journal of Business Research*, 66(8), 1035–1043. <https://doi.org/10.1016/j.jbusres.2011.12.028>

- Batra, R., & Sinha, I. (2000). Consumer-level factors moderating the success of private label brands. *Journal of Retailing*, 76(2), 175–191.
- Bezawada, R., & Pauwels, K. (2013). What is special about marketing organic products? How organic assortment, price, and promotions drive retailer performance. *Journal of Marketing*, 77, 31–51. <https://doi.org/10.1509/jm.10.0229>
- Bionext. (2018). Trendrapport 2018: *Ontwikkelingen in de biologische sector*. Retrieved from <https://files.smart.pr/f1/176a685def40eb83f93864f9ccfbce/TRENDRAPPORT-BIOLOGISCHE-SECTOR-2018.pdf>
- Boatwright, P., & Nunes, J. C. (2001). Reducing Assortment : An Attribute-Based Approach. *Journal of Marketing*, 65, 50–63.
- Campina. (n.d.). Producten assortiment: Campina Biologisch | Campina.nl. Retrieved 18 February 2020, from <https://www.campina.nl/nl/c/campina-biologisch/>
- CBS. (2019). *Welvaart in Nederland 2019*. The Hague.
- Chartier, K. (2019). Gewoon biologisch: Minder groei, meer dynamiek. Retrieved from RaboResearch website: <https://research.rabobank.com/far/en/sectors/consumer-foods/Gewoon-biologisch-Minder-groei-meer-dynamiek.html>
- Dalal, D. K., & Zickar, M. J. (2011). Some common myths about centering predictor variables in moderated multiple regression and polynomial regression. *Organizational Research Methods*, 15(3), 339–362. <https://doi.org/https://doi.org/10.1177%2F1094428111430540>
- Dens, N., & De Pelsmacker, P. (2010). Consumer response to different advertising appeals for new products: The moderating influence of branding strategy and product category involvement. *Journal of Brand Management*, 18(1), 50–65. <https://doi.org/10.1057/bm.2010.22>
- Drèze, X., Hoch, S. J., & Purk, M. E. (1994). Shelf management and space elasticity. *Journal of Retailing*, 70(4), 301–326. [http://dx.doi.org/10.1016/0022-4359\(94\)90002-7](http://dx.doi.org/10.1016/0022-4359(94)90002-7)
- 123RF (n.d.). *Witte lege supermarkt winkel schappen op een witte achtergrond vector illustratie* [Illustration], Retrieved from <https://nl.123rf.com/clipart-vectoren/plank.html?sti=m7oblx4zd4l71vyfq5&mediapopup=31467082>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Fotopoulos, C., & Krystallis, A. (2002). Organic product avoidance: Reasons for rejection and potential buyers' identification in a countrywide survey. *British Food Journal*, 104(3), 233–260. <https://doi.org/10.1108/00070700210425697>
- Frank, R. E., & Massy, W. F. (1970). Shelf Position and Space Effects on Sales. *Journal of Marketing Research*, 7(1), 59–66. Retrieved from <https://www.jstor.org/stable/3149508>
- Friborg, O., Martinussen, M., & Rosenvinge, J. H. (2006). Likert-based vs. semantic differential-based scorings of positive psychological constructs: A psychometric comparison of two versions of a scale measuring resilience. *Personality and Individual Differences*, 40(5), 873–884. <https://doi.org/10.1016/j.paid.2005.08.015>
- Geyskens, I., Gielens, K., & Gijsbrechts, E. (2010). Proliferating private-label portfolios: How introducing economy and premium private labels influences brand choice. *Journal of Marketing Research*, 47(5), 791–807.

<https://doi.org/https://doi.org/10.1509%2Fjmk.47.5.791>

- Gielens, K. (2012). New products: The antidote to private label growth? *Journal of Marketing Research*, 49(3), 408–423. <https://doi.org/10.1509/jmr.10.0183>
- Gidlöf, K., Anikin, A., Lingonblad, M., & Wallin, A. (2017). Looking is buying. How visual attention and choice are affected by consumer preferences and properties of the supermarket shelf. *Appetite*, 116, 29–38. <https://doi.org/10.1016/j.appet.2017.04.020>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate Data Analysis* (7th ed.). Pearson Education Limited.
- Hoyer, W. D., MacInnis, D. J., & Pieters, R. (2016). *Consumer behavior* (7th ed.). Boston: Cengage Learning.
- Hwang, J., & Chung, J. E. (2019). What drives consumers to certain retailers for organic food purchase: The role of fit for consumers' retail store preference. *Journal of Retailing and Consumer Services*, 47, 293–306. <https://doi.org/10.1016/j.jretconser.2018.12.005>
- Jetten, J., Cox, P., & Deckers, H. (2018). *Organic Food*.
- Jonas, A., & Roosen, J. (2005). Private labels for premium products - The example of organic food. *International Journal of Retail and Distribution Management*, 33(8), 636–653. <https://doi.org/10.1108/09590550510608412>
- Jumbo. (n.d.). Boodschappen | Jumbo Supermarkten. Retrieved 4 February 2020, from <https://www.jumbo.com/producten/merken/jumbo/dieetvoorkeuren/biologisch/?offset=0&pageSize=25>
- Keller, K. O., Dekimpe, M. G., & Geyskens, I. (2016). Let your banner wave ? Antecedents and performance implications of retailers' private label branding strategies. *Journal of Marketing*, 80, 1–19. <https://doi.org/10.1509/jm.15.0154>
- Kirk, R. E. (2012). Experimental Design. In *Handbook of Psychology* (2th ed., pp. 23–44).
- Kriwy, P., & Mecking, R. A. (2012). Health and environmental consciousness, costs of behaviour and the purchase of organic food. *International Journal of Consumer Studies*, 36(1), 30–37. <https://doi.org/10.1111/j.1470-6431.2011.01004.x>
- Kumar, N., & Steenkamp, J. E. M. (2007). *Private label strategy: How to meet the store brand challenge*. Harvards Business Review Press.
- Lidl. (n.d.). Lidl | De hoogste kwaliteit voor de laagste prijs! Retrieved 18 February 2020, from <https://www.lidl.nl/nl>
- Linder, N. S., Uhl, G., Fliessbach, K., Trautner, P., Elger, C. E., & Weber, B. (2010). Organic labeling influences food valuation and choice. *NeuroImage*, 53(1), 215–220. <https://doi.org/10.1016/j.neuroimage.2010.05.077>
- Marian, L., Chrysochou, P., Krystallis, A., & Thøgersen, J. (2014). The role of price as a product attribute in the organic food context: An exploration based on actual purchase data. *Food Quality and Preference*, 37, 52–60. <https://doi.org/10.1016/j.foodqual.2014.05.001>
- Ngobo, P. V. (2011). What drives household choice of organic products in grocery stores? *Journal of Retailing*, 87(1), 90–100. <https://doi.org/10.1016/j.jretai.2010.08.001>
- Noormann, P., & Tillmanns, S. (2017). Drivers of private-label purchase behavior across quality tiers and product categories. *Journal of Business Economics*, 87(3), 359–395. <https://doi.org/10.1007/s11573-016-0837-1>

- Phillips, S., & Pinckaers, M. (2018). *The organic market in the Netherlands*. Retrieved from https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=The Organic Market in the Netherlands_The Hague_Netherlands_2-20-2018.pdf
- Reinders, M. J., & Bartels, J. (2016). The roles of identity and brand equity in organic consumption behavior: Private label brands versus national brands. *Journal of Brand Management*, 24(1), 68–85. <https://doi.org/10.1057/s41262-016-0019-z>
- Rijksoverheid. (2019). Milieubeleid en milieumaatregelen: Biologische voedingsmiddelen, 2000 - 2017. Retrieved from Compendium voor de leefomgeving website: <https://www.clo.nl/indicatoren/nl0365-biologische-voedingsmiddelen>
- Russel, R. A., & Urban, T. L. (2010). The location and allocation of products and product families on retail shelves. *Annals of Operations Research*, 179(1), 131–147. <https://doi.org/10.1007/s10479-008-0450-y>
- Smith, D. (2003). Five principles for research ethics. *American Psychological Association*, 34(1), 56.
- Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18(2), 93–104. <https://doi.org/10.1016/j.ausmj.2010.01.001>
- Spence, C. (2016). Multisensory Packaging Design: Color, Shape, Texture, Sound, and Smell. In *Integrating the Packaging and Product Experience in Food and Beverages: A Road-Map to Consumer Satisfaction* (pp. 1–22). <https://doi.org/10.1016/B978-0-08-100356-5.00001-2>
- Steenkamp, J. E. M., van Heerde, H. J., & Geyskens, I. (2010). What makes consumers willing to pay a price premium for national brands over private labels? *Journal of Marketing Research*, 47, 1011–1024.
- Szakály, Z., Szente, V., Kövér, G., Polereczki, Z., & Szigeti, O. (2012). The influence of lifestyle on health behavior and preference for functional foods. *Appetite*, 58(1), 406–413. <https://doi.org/10.1016/j.appet.2011.11.003>
- Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808–822. <https://doi.org/10.1108/00070700510629760>
- Van Doorn, J., & Verhoef, P. C. (2015). Drivers of and barriers to organic purchase behavior. *Journal of Retailing*, 91(3), 436–450. <https://doi.org/10.1016/j.jretai.2015.02.003>
- Van Doorn, J., & Verhoef, P. C. (2011). Willingness to pay for organic products: Differences between virtue and vice foods. *International Journal of Research in Marketing*, 28(3), 167–180. <https://doi.org/10.1016/j.ijresmar.2011.02.005>
- Van Herpen, E., van Nierop, E., & Sloot, L. (2012). The relationship between in-store marketing and observed sales for organic versus fair trade products. *Marketing Letters*, 23(1), 293–308. <https://doi.org/10.1007/s11002-011-9154-1>
- West, C. J. (1999). *Marketing research*. Macmillan International Higher Education.
- Wu, P. C. S., Yeong-Yuh Yeh, G., & Hsiao, C.-R. (2011). The effect of store image and service quality on brand image and purchase intention for private label brands. *Australasian Marketing Journal*, 19, 30–39. <https://doi.org/http://dx.doi.org/10.1016/j.ausmj.2010.11.001>
- Yadav, R. (2016). Altruistic or egoistic: Which value promotes organic food consumption among young consumers? A study in the context of a developing nation. *Journal of*

Retailing and Consumer Services, 33, 92–97.
<https://doi.org/10.1016/j.jretconser.2016.08.008>

Appendix A

All questions are measured on a 7-point Likert scale, in which 1-7 is agree (mee eens) – disagree (niet mee eens).

Quality consciousness (Ailawadi, Pauwels, & Steenkamp, 2008)
- I always strive for the best quality
- Quality is decisive for me while buying a product
- Sometimes I save money on groceries by buying products of lower quality (reversed)
Dutch translation
- Ik probeer altijd de beste kwaliteit te kopen
- Kwaliteit is doorslaggevend voor mij tijdens het kopen van producten
- Soms bespaar ik geld op boodschappen door producten van lagere kwaliteit te kopen (reversed)

Health consciousness (Tarkiainen & Sundqvist, 2005)
- I choose food carefully to ensure good health
- I think of myself as a health-conscious consumer
- I think often about health issues
Dutch translation
- Ik kies voedsel nauwkeurig om een goede gezondheid te garanderen
- Ik zie mezelf als een consument die op gezondheid gericht is
- Ik denk weinig na over gezondheidsrisico's (reversed)

Familiarity with organic products (Asif, Xuhui, Nasiri, & Ayyub, 2018)
- I know what an organic food is
- I am familiar with the term organic food
Dutch translation
- Ik weet wat biologisch voedsel is
- Ik ben niet bekend met de term 'biologisch voedsel' (reversed)

Category involvement (Steenkamp, Heerde van, & Geyskens, 2010)
- The <i>category X</i> is very important to me
- The <i>category X</i> interests me a lot
Dutch translation
- De productgroep melk is erg belangrijk voor me
- De productgroep chocoladerepen is erg belangrijk voor me
- De productgroep melk interesseert me niet (reversed)
- De productgroep chocoladerepen interesseert me niet (reversed)

Appendix B

To ensure the translation of the measurement scales is accurate, a round trip translation technique is used. The Dutch sentences are translated back to English by a native speaker.

Quality consciousness (Ailawadi et al., 2008)	Round trip translation
I always strive for the best quality	I always try to buy the best quality
Quality is decisive for me while buying a product	Quality is leading for me when buying products
Sometimes I save money on groceries by buying products of lower quality (reversed)	I sometimes save money on groceries when buying lower quality products (reversed)

Health consciousness (Tarkiainen & Sundqvist, 2005)	Round trip translation
I choose food carefully to ensure good health	I choose food carefully to ensure good health
I think of myself as a health-conscious consumer	I see myself as a consumer who is focused on good health
I think often about health issues	I don't worry much about health risks (reversed)

Familiarity with organic products (Asif et al., 2018)	Round trip translation
I know what an organic food is	I am familiar with the term 'organic food'
I am familiar with the term organic food	I am not familiar with the term 'organic food' (reversed)

Category involvement (Steenkamp et al., 2010)	Round trip translation
The category milk is very important to me	I am extremely interested in Milk as a product group
The category milk interests me a lot	I am not at all interested in Milk as a product group (reversed)

Appendix C

The premium private label chocolate bar has been edited to match flavor with the other bars. To ensure the brand name was visible after the edit, a small pre-test was done. Results show that the average response was between 'neutral' and 'agree'. Two out of eight respondents did not find the brand name visible enough. Based on those two respondents, the brand name on the chocolate bar is edited a bit more, to make the brand name bigger and more visible.

Statistics

Brand_visibility_Premium_PL

N	Valid	8
	Missing	0
Mean		3,5000
Std. Error of Mean		,50000
Std. Deviation		1,41421
Variance		2,000
Minimum		1,00
Maximum		5,00

Brand_visibility_Premium_PL

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1,00	1	12,5	12,5	12,5
2,00	1	12,5	12,5	25,0
3,00	1	12,5	12,5	37,5
4,00	3	37,5	37,5	75,0
5,00	2	25,0	25,0	100,0
Total	8	100,0	100,0	

Appendix D

Three questionnaires were designed in order to measure how respondents react to different manipulations. The first questionnaire contains no organic private label products. The second questionnaire contains organic private label products that are positioned on the middle shelf. The third questionnaire also contains organic private label products. However, in this manipulation, there is no middle shelf.

Questionnaire 1

Hi, mijn naam is Judith en ik ben student aan de Radboud Universiteit Nijmegen. Fijn dat u mee wilt doen aan mijn onderzoek. Het doel van dit onderzoek is om 'koop intentie' te meten. Uw antwoorden zullen anoniem blijven. Alvast hartelijk dank voor uw deelname.

Hieronder is een fictief supermarkt schap met 'volle melk' producten afgebeeld. Onderstaande vragen zijn hierop gebaseerd.

Manipulatie 1



(123RF, n.d.; Albert Heijn, n.d.c, n.d.e, n.d.f, n.d.g)

Koopintentie is het voornemen om een product te kopen.

Ga er vanuit dat u een pak volle melk nodig heeft.

Geef voor elk van de producten op de schaal hieronder aan wat uw koopintentie is. Waarbij 1 een lage intentie om te kopen is en 7 een hoge intentie om te kopen.



Lage koopintentie	1	2	3	4	5	6	7	Hoge koopintentie
-------------------	---	---	---	---	---	---	---	-------------------



Lage koopintentie	1	2	3	4	5	6	7	Hoge koopintentie
-------------------	---	---	---	---	---	---	---	-------------------



Lage koopintentie	1	2	3	4	5	6	7	Hoge koopintentie
-------------------	---	---	---	---	---	---	---	-------------------



Lage koopintentie	1	2	3	4	5	6	7	Hoge koopintentie
-------------------	---	---	---	---	---	---	---	-------------------

Volgende pagina

Hieronder is een fictief supermarkt schap met ‘melk chocolade repen’ afgebeeld. Onderstaande vragen zijn hierop gebaseerd.

Manipulatie 1



(123RF, n.d.; Albert Heijn, n.d.d, n.d.h, n.d.i)

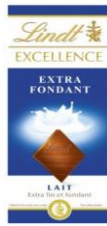
Koopintentie is het voornemen om een product te kopen.

Ga er vanuit dat u een reep melkchocolade nodig heeft.

Geef voor elk van de producten op de schaal hieronder aan wat uw koopintentie is. Waarbij 1 een lage intentie om te kopen is en 7 een hoge intentie om te kopen.



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie

Volgende pagina

Geef bij de volgende stellingen aan of deze op u van toepassing zijn, waarbij 1 'helemaal niet mee eens' is en 7 'heel erg mee eens'.

1. Ik probeer altijd de beste kwaliteit te kopen

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

2. Kwaliteit is doorslaggevend voor mij tijdens het kopen van producten

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

3. Soms bespaar ik geld op boodschappen door producten van lagere kwaliteit te kopen

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

4. Ik kies voedsel nauwkeurig om een goede gezondheid te garanderen

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

5. Ik zie mezelf als een consument die op gezondheid gericht is

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

6. Ik denk weinig na over gezondheidsrisico's

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

7. Ik weet wat biologisch voedsel is

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

8. Ik ben niet bekend met de term 'biologisch voedsel'

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

9. De productgroep 'melk' is erg belangrijk voor me

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

10. De productgroep 'melk' interesseert me niet

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

11. De productgroep 'chocoladerepen' is erg belangrijk voor me

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

12. De productgroep 'chocoladerepen' interesseert me niet

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

Volgende pagina

Ik ben een

0 Man 0 Vrouw 0 Anders

Mijn leeftijd is

Ik ben (een)

0 student 0 werkende 0 gepensioneerd 0 anders

Bedankt voor uw tijd om aan deze enquête deel te nemen.

Uw antwoord is geregistreerd.

Mocht u nog vragen hebben over dit onderzoek, dan kunt u deze mailen naar **J.Butz@student.ru.nl**.

Questionnaire 2

Hi, mijn naam is Judith en ik ben student aan de Radboud Universiteit Nijmegen. Fijn dat u mee wilt doen aan mijn onderzoek. Het doel van dit onderzoek is om 'koop intentie' te meten. Uw antwoorden zullen anoniem blijven. Alvast hartelijk dank voor uw deelname.

Hieronder is een fictief supermarkt schap met 'volle melk' producten afgebeeld. Onderstaande vragen zijn hierop gebaseerd.

Manipulatie 2



(123RF, n.d.; Albert Heijn, n.d.b, n.d.c, n.d.e, n.d.f, n.d.g)

Koopintentie is het voornemen om een product te kopen.

Ga er vanuit dat u een pak volle melk nodig heeft.

Geef voor elk van de producten op de schaal hieronder aan wat uw koopintentie is. Waarbij 1 een lage intentie om te kopen is en 7 een hoge intentie om te kopen.



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie

Hieronder is een fictief supermarkt schap met ‘melk chocolade repen’ afgebeeld. Onderstaande vragen zijn hierop gebaseerd.

Manipulatie 2



(123RF, n.d.; Albert Heijn, n.d.a, n.d.d, n.d.h, n.d.i)

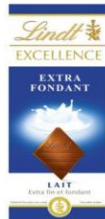
Koopintentie is het voornemen om een product te kopen.

Ga er vanuit dat u een reep melkchocolade nodig heeft.

Geef voor elk van de producten op de schaal hieronder aan wat uw koopintentie is. Waarbij 1 een lage intentie om te kopen is en 7 een hoge intentie om te kopen.



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie

Volgende pagina

Geef bij de volgende stellingen aan of deze op u van toepassing zijn, waarbij 1 'helemaal niet mee eens' is en 7 'heel erg mee eens'.

1. Ik probeer altijd de beste kwaliteit te kopen

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

2. Kwaliteit is doorslaggevend voor mij tijdens het kopen van producten

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

3. Soms bespaar ik geld op boodschappen door producten van lagere kwaliteit te kopen

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

4. Ik kies voedsel nauwkeurig om een goede gezondheid te garanderen

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

5. Ik zie mezelf als een consument die op gezondheid gericht is

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

6. Ik denk weinig na over gezondheidsrisico's

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

7. Ik weet wat biologisch voedsel is

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

8. Ik ben niet bekend met de term 'biologisch voedsel'

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

9. De productgroep 'melk' is erg belangrijk voor me

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

10. De productgroep ‘melk’ interesseert me niet

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

11. De productgroep ‘chocoladerepen’ is erg belangrijk voor me

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

12. De productgroep ‘chocoladerepen’ interesseert me niet

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

Volgende pagina

Ik ben een

0 Man 0 Vrouw 0 Anders

Mijn leeftijd is

Ik ben (een)

0 student 0 werkende 0 gepensioneerd 0 anders

Hartelijk dank voor uw tijd. Bedankt voor uw tijd om aan deze enquête deel te nemen.

Uw antwoord is geregistreerd.

Mocht u nog vragen hebben over dit onderzoek, dan kunt u deze mailen naar **J.Butz@student.ru.nl**.

Questionnaire 3

Hi, mijn naam is Judith en ik ben student aan de Radboud Universiteit Nijmegen. Fijn dat u mee wilt doen aan mijn onderzoek. Het doel van dit onderzoek is om ‘koop intentie’ te meten. Uw antwoorden zullen anoniem blijven. Alvast hartelijk dank voor uw deelname.

Hieronder is een fictief supermarkt schap met ‘volle melk’ producten afgebeeld. Onderstaande vragen zijn hierop gebaseerd.

Manipulatie 3



(123RF, n.d.; Albert Heijn, n.d.b, n.d.c, n.d.e, n.d.f, n.d.g)

Koopintentie is het voornemen om een product te kopen.

Ga er vanuit dat u een pak volle melk nodig heeft.

Geef voor elk van de producten op de schaal hieronder aan wat uw koopintentie is. Waarbij 1 een lage intentie om te kopen is en 7 een hoge intentie om te kopen.



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie

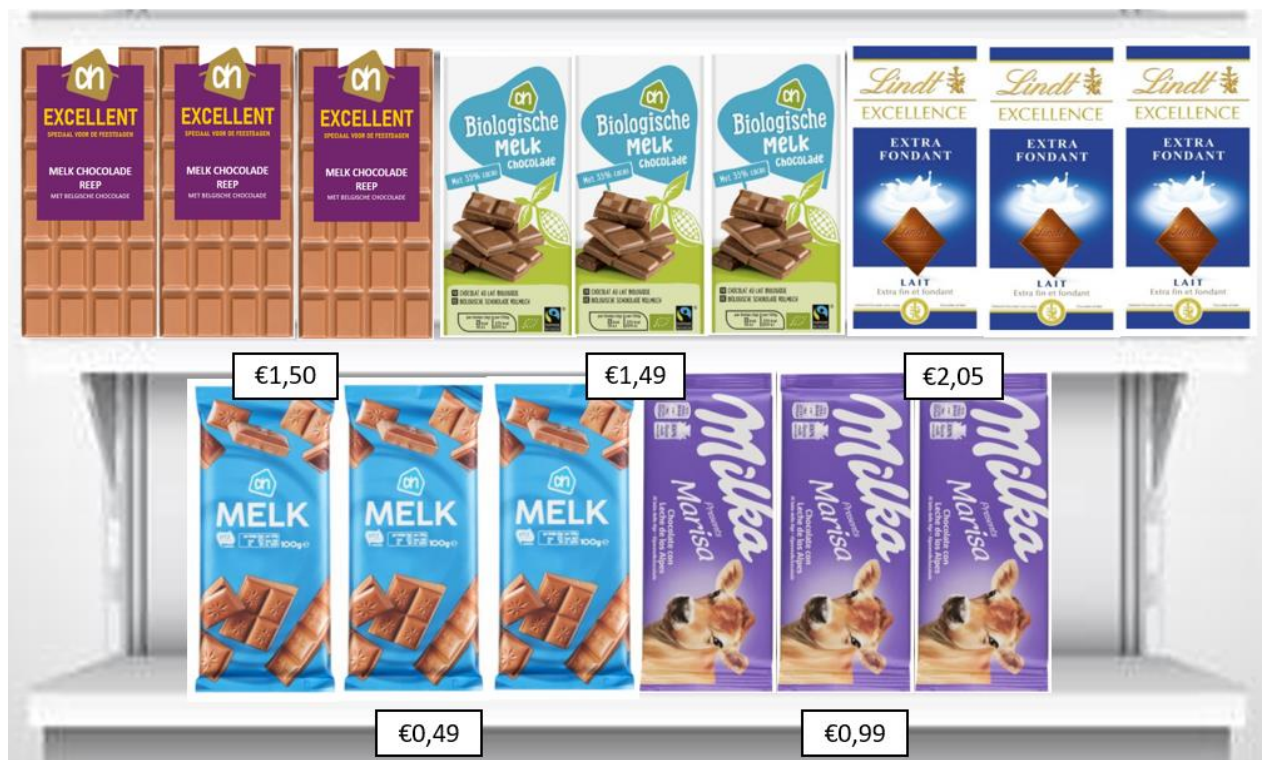


Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie

Volgende pagina

Hieronder is een fictief supermarkt schap met ‘melk chocolade repen’ afgebeeld. Onderstaande vragen zijn hierop gebaseerd.

Manipulatie 3

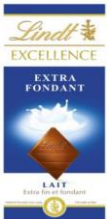


(123RF, n.d.; Albert Heijn, n.d.a, n.d.d, n.d.h, n.d.i)

Koopintentie is het voornemen om een product te kopen.

Ga er vanuit dat u een reep melkchocolade nodig heeft.

Geef voor elk van de producten op de schaal hieronder aan wat uw koopintentie is. Waarbij 1 een lage intentie om te kopen is en 7 een hoge intentie om te kopen.

										
Lage koopintentie	1	2	3	4	5	6	7	Hoge koopintentie		
										
Lage koopintentie	1	2	3	4	5	6	7	Hoge koopintentie		



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie



Lage koopintentie 1 2 3 4 5 6 7 Hoge koopintentie

Volgende pagina

Geef bij de volgende stellingen aan of deze op u van toepassing zijn, waarbij 1 'helemaal niet mee eens' is en 7 'heel erg mee eens'

1. Ik probeer altijd de beste kwaliteit te kopen

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

2. Kwaliteit is doorslaggevend voor mij tijdens het kopen van producten

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

3. Soms bespaar ik geld op boodschappen door producten van lagere kwaliteit te kopen

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

4. Ik kies voedsel nauwkeurig om een goede gezondheid te garanderen

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

5. Ik zie mezelf als een consument die op gezondheid gericht is

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

6. Ik denk weinig na over gezondheidsrisico's

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

7. Ik weet wat biologisch voedsel is

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

8. Ik ben niet bekend met de term 'biologisch voedsel'

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

9. De productgroep 'melk' is erg belangrijk voor me

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

10. De productgroep 'melk' interesseert me niet

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

11. De productgroep 'chocoladerepen' is erg belangrijk voor me

Helemaal niet mee eens	1	2	3	4	5	6	7	Heel erg mee eens
------------------------	---	---	---	---	---	---	---	-------------------

12. De productgroep 'chocoladerepen' interesseert me niet

Helemaal niet mee eens 1 2 3 4 5 6 7 Heel erg mee eens

Volgende pagina

Ik ben een

0 Man 0 Vrouw 0 Anders

Mijn leeftijd is

Ik ben (een)

0 student 0 werkende 0 gepensioneerd 0 anders

Bedankt voor uw tijd om aan deze enquête deel te nemen.

Uw antwoord is geregistreerd.

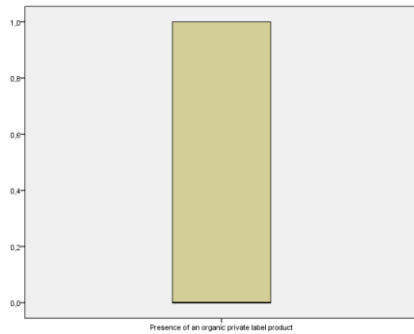
Mocht u nog vragen hebben over dit onderzoek, dan kunt u deze mailen naar **J.Butz@student.ru.nl**.

Appendix E

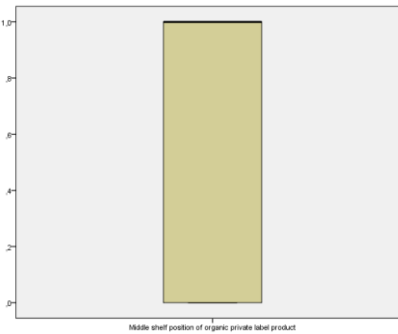
To test the assumptions of the regression analyses, some SPSS outputs were used. These can be found in the tables underneath.

Outlier Assumption

Presence of an organic PL



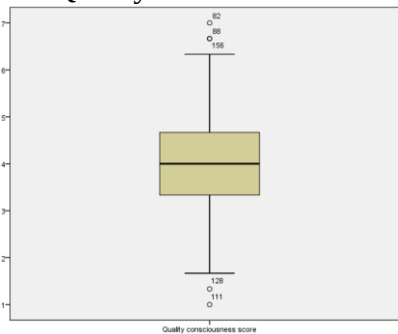
Middle shelf position of organic PL



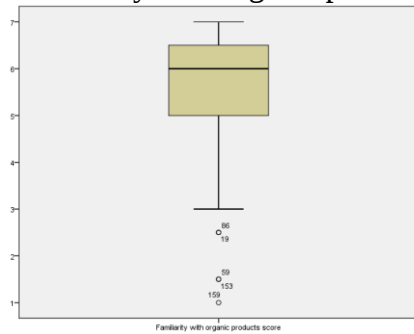
Health consciousness



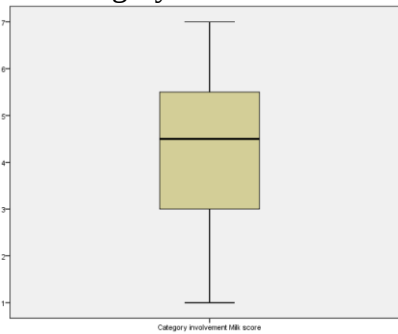
Quality consciousness



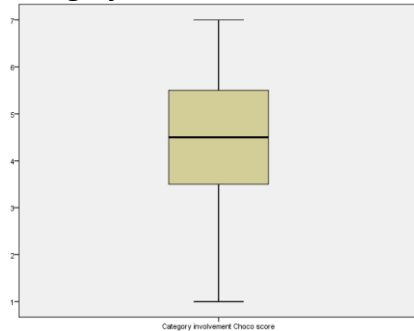
Familiarity with organic products



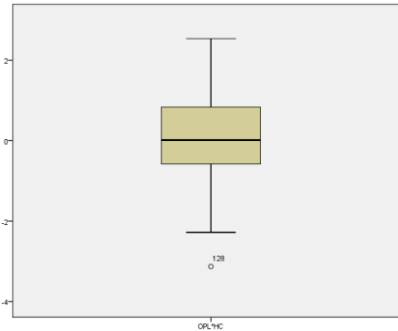
Category involvement milk



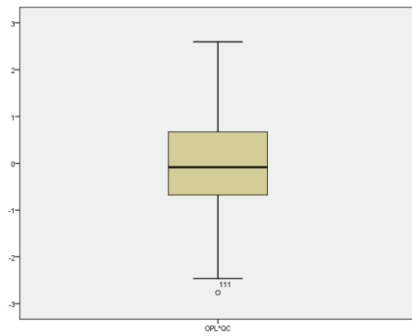
Category involvement chocolate



Interaction effect health consciousness



Interaction effect quality consciousness



Descriptive outlier table		
Variable	Mean	5% trimmed mean
Health consciousness	5.02	5.06
Quality consciousness	4.09	4.10
Familiarity with organic products	5.72	5.82
Interaction effect – health consciousness	0.072	0.088

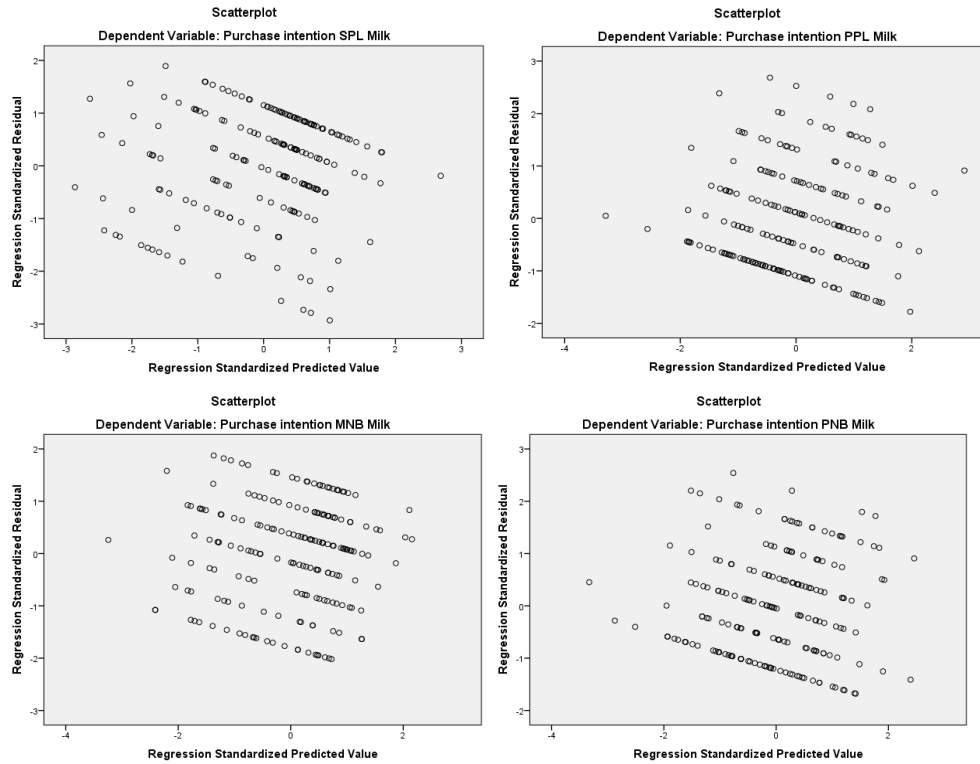
Assumption 1 - Univariate analysis

Statistics												
		Purchase intention SPL Milk	Purchase intention PNB Milk	Purchase intention MNB Milk	Purchase intention PPL Milk	Presence of an organic private label product	Health consciousness score	Quality consciousness score	OPL*HC	OPL*QC	Familiarity with organic products score	Category involvement Milk score
N	Valid	197	197	197	197	197	197	197	197	197	197	197
	Missing	0	0	0	0	0	0	0	0	0	0	0
Mean		5,07	3,08	4,31	2,81	,50	5,02	4,09	,0715	-,0011	5,72	4,31
Std. Error of Mean		,131	,126	,134	,123	,036	,084	,080	,07088	,07117	,083	,125
Std. Deviation		1,845	1,768	1,887	1,726	,501	1,181	1,122	,99488	,99892	1,168	1,755
Skewness		-,795	-,430	-,345	-,643	,010	-,618	-,040	-,183	-,023	-,1401	-,309
Std. Error of Skewness		,173	,173	,173	,173	,173	,173	,173	,173	,173	,173	,173
Kurtosis		-,381	-,956	-,944	-,622	-,2021	-,184	-,105	-,126	-,094	2,118	-,1047
Std. Error of Kurtosis		,345	,345	,345	,345	,345	,345	,345	,345	,345	,345	,345

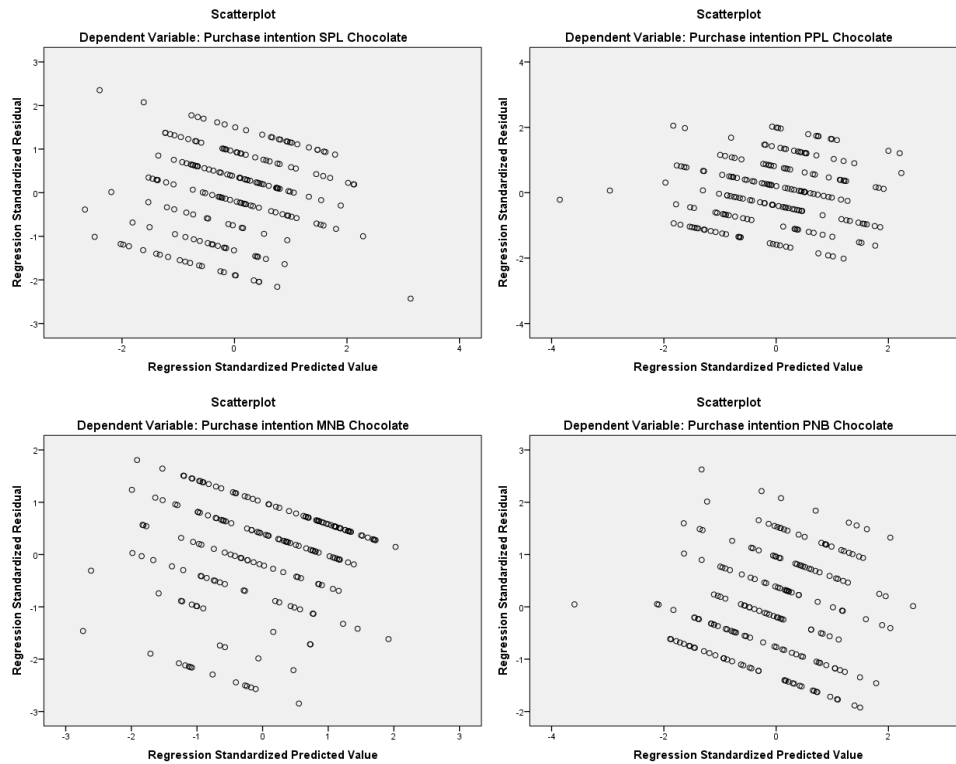
Statistics												
		Purchase intention PPL Chocolate	Purchase intention SPL Chocolate	Purchase intention MNB Chocolate	Purchase intention PNB Chocolate	Presence of an organic private label product	Health consciousness score	Quality consciousness score	OPL*HC	OPL*QC	Familiarity with organic products score	Category involvement Chocolate score
N	Valid	197	197	197	197	197	197	197	197	197	197	197
	Missing	0	0	0	0	0	0	0	0	0	0	0
Mean		3,66	4,34	5,34	3,34	,50	5,02	4,09	,0715	-,0011	5,72	4,43
Std. Error of Mean		,125	,131	,126	,131	,036	,084	,080	,07088	,07117	,083	,111
Std. Deviation		1,750	1,844	1,773	1,832	,501	1,181	1,122	,99488	,99892	1,168	1,554
Skewness		-,157	-,372	-,1092	-,284	,010	-,618	-,040	-,183	-,023	-,1401	-,468
Std. Error of Skewness		,173	,173	,173	,173	,173	,173	,173	,173	,173	,173	,173
Kurtosis		-,835	-,861	-,347	-,1115	-,2021	-,184	-,105	-,126	-,094	2,118	-,589
Std. Error of Kurtosis		,345	,345	,345	,345	,345	,345	,345	,345	,345	,345	,345

Assumption 1 – Bivariate analysis

Milk



Chocolate



Assumption 3

Milk

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2,68	7,32	5,07	,835	197
Residual	-4,909	3,173	,000	1,645	197
Std. Predicted Value	-2,864	2,687	,000	1,000	197
Std. Residual	-2,931	1,895	,000	,982	197

a. Dependent Variable: Purchase intention SPL Milk

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	,92	4,49	2,81	,576	197
Residual	-2,948	4,448	,000	1,627	197
Std. Predicted Value	-3,291	2,908	,000	1,000	197
Std. Residual	-1,779	2,684	,000	,982	197

a. Dependent Variable: Purchase intention PPL Milk

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2,52	5,50	4,31	,551	197
Residual	-3,709	3,445	,000	1,805	197
Std. Predicted Value	-3,244	2,156	,000	1,000	197
Std. Residual	-2,018	1,874	,000	,982	197

a. Dependent Variable: Purchase intention MNB Milk

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1,23	4,45	3,08	,557	197
Residual	-2,870	4,343	,000	1,678	197
Std. Predicted Value	-3,331	2,459	,000	1,000	197
Std. Residual	-1,679	2,541	,000	,982	197

a. Dependent Variable: Purchase intention PNB Milk

Chocolate

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2,68	6,29	4,34	,624	197
Residual	-4,293	4,155	,000	1,735	197
Std. Predicted Value	-2,659	3,131	,000	1,000	197
Std. Residual	-2,430	2,352	,000	,982	197

a. Dependent Variable: Purchase intention SPL Chocolate

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1,36	4,99	3,66	,597	197
Residual	-3,377	3,434	,000	1,645	197
Std. Predicted Value	-3,854	2,230	,000	1,000	197
Std. Residual	-2,016	2,050	,000	,982	197

a. Dependent Variable: Purchase intention PPL Chocolate

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,43	6,76	5,34	,699	197
Residual	-4,727	2,998	,000	1,629	197
Std. Predicted Value	-2,737	2,025	,000	1,000	197
Std. Residual	-2,849	1,807	,000	,982	197

a. Dependent Variable: Purchase intention MNB Chocolate

Residuals Statistics^a

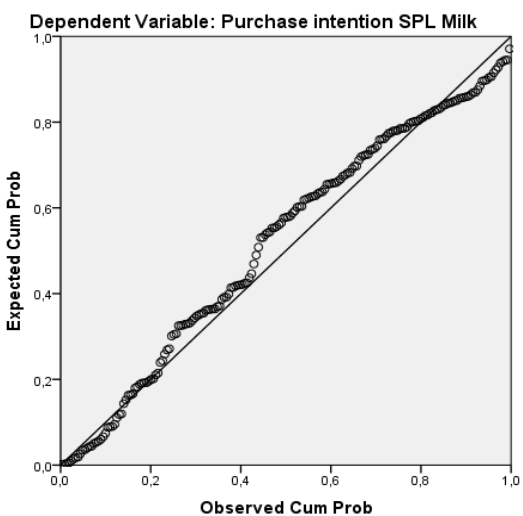
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	,92	4,98	3,34	,673	197
Residual	-3,342	4,558	,000	1,704	197
Std. Predicted Value	-3,593	2,440	,000	1,000	197
Std. Residual	-1,925	2,627	,000	,982	197

a. Dependent Variable: Purchase intention PNB Chocolate

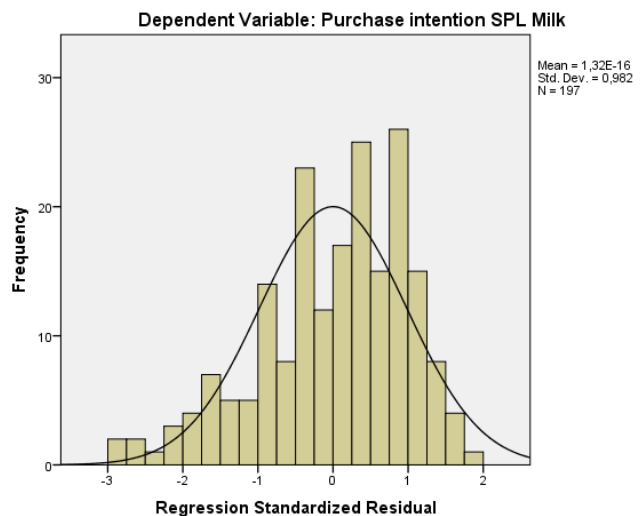
Assumption 4

Standard private label milk

Normal P-P Plot of Regression Standardized Residual



Histogram



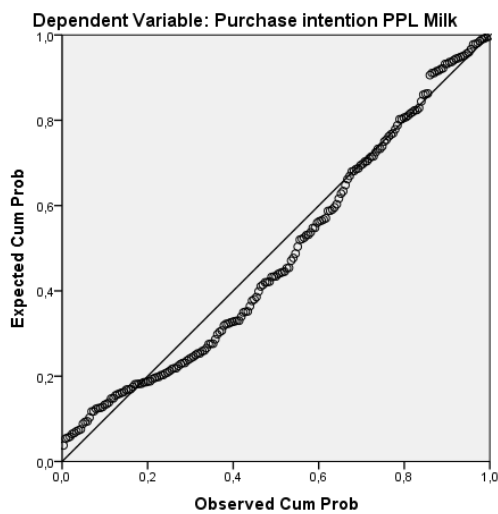
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,089	197	,001	,959	197	,000

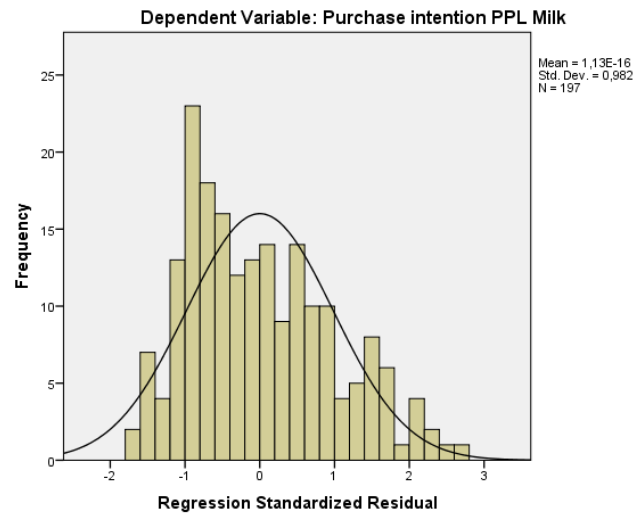
a. Lilliefors Significance Correction

Premium private label milk

Normal P-P Plot of Regression Standardized Residual



Histogram



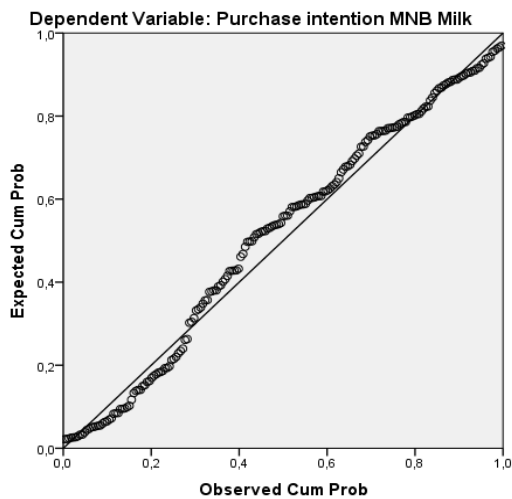
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,089	197	,001	,962	197	,000

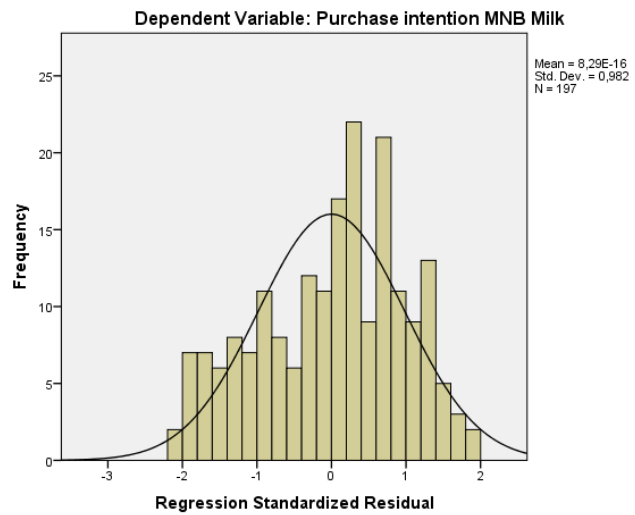
a. Lilliefors Significance Correction

Mainstream national brand milk

Normal P-P Plot of Regression Standardized Residual



Histogram



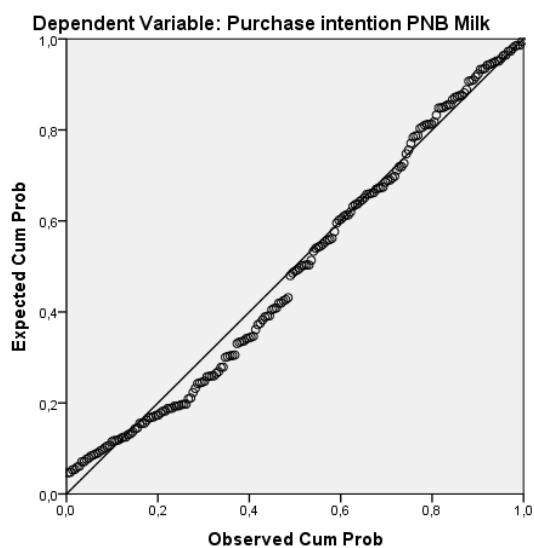
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,081	197	,003	,969	197	,000

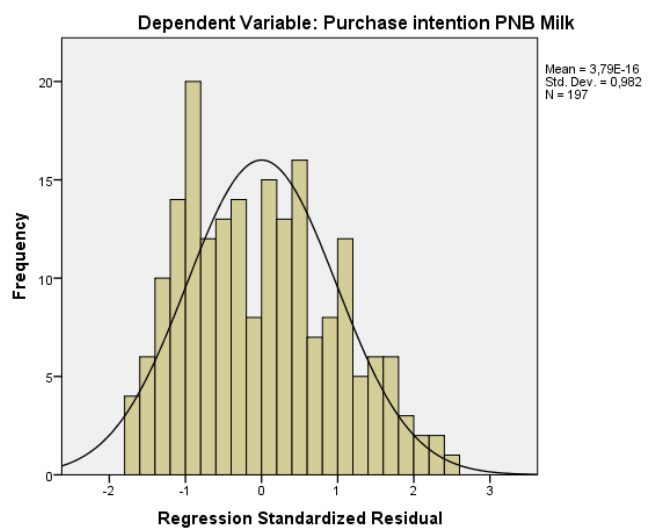
a. Lilliefors Significance Correction

Premium national brand milk

Normal P-P Plot of Regression Standardized Residual



Histogram

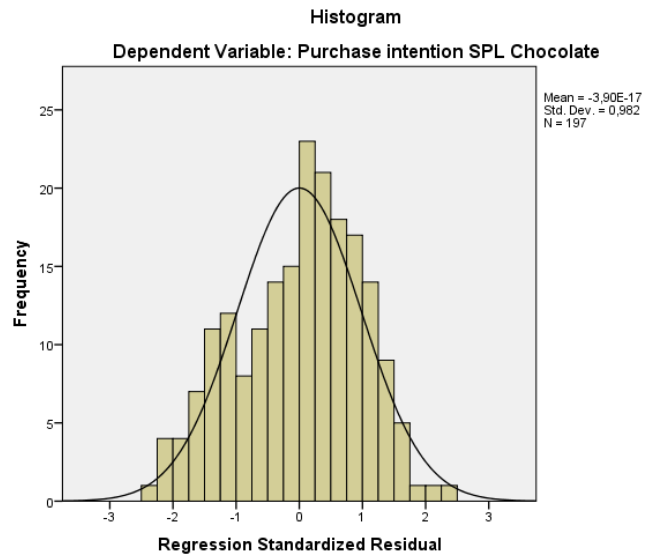
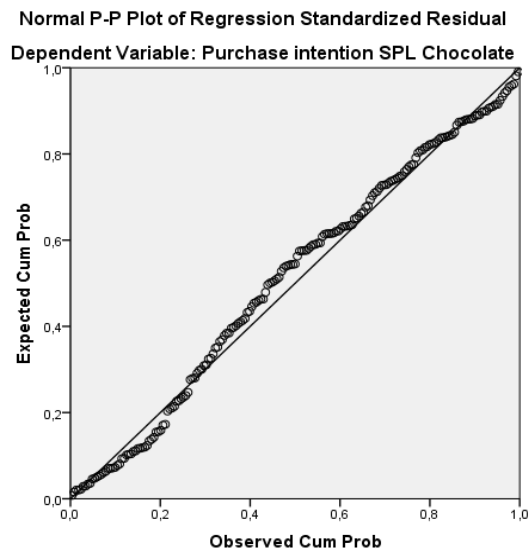


Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,071	197	,018	,971	197	,000

a. Lilliefors Significance Correction

Standard private label chocolate

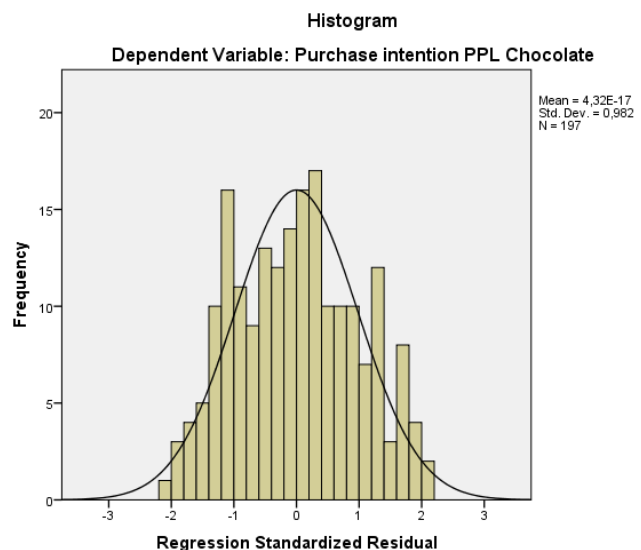
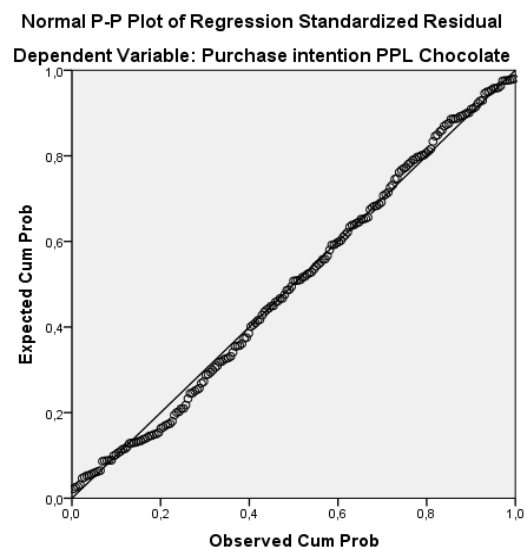


Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,069	197	,025	,982	197	,012

a. Lilliefors Significance Correction

Premium private label chocolate



Tests of Normality

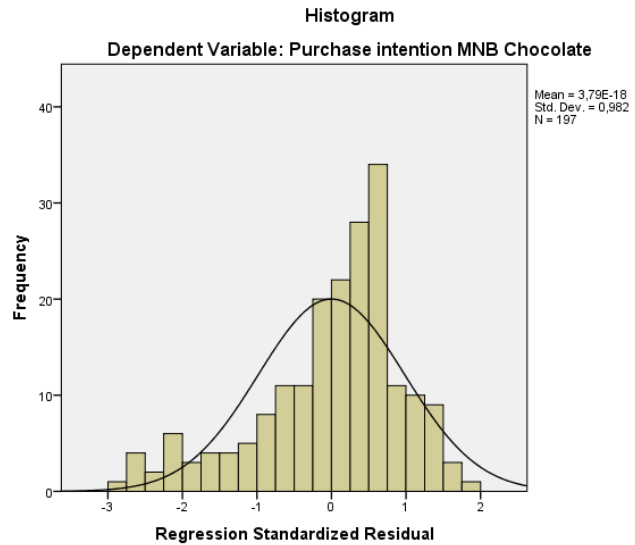
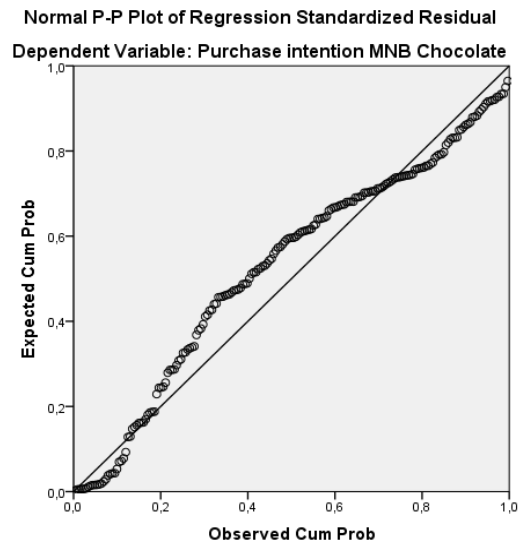
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.

Standardized Residual	,053	197	,200*	,983	197	,016
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*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Mainstream national brand chocolate

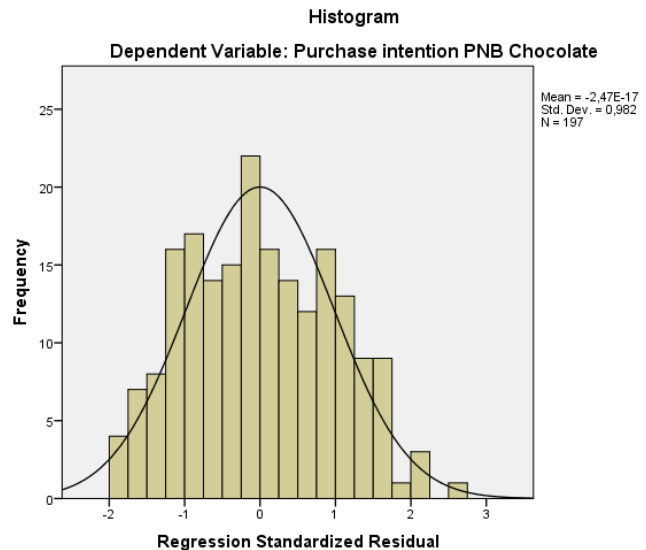
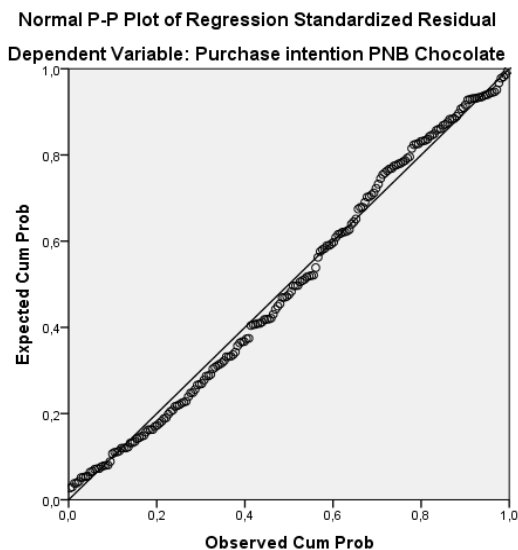


Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,126	197	,000	,931	197	,000

a. Lilliefors Significance Correction

Premium national brand chocolate



Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,048	197	,200 [*]	,983	197	,019

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix F

Milk

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	6,914	,850		8,133	,000		
Presence of an organic private label product	-,721	,242	-,196	-2,978	,003	,971	1,029
Health consciousness score	-,215	,106	-,138	-2,021	,045	,908	1,101
Quality consciousness score	-,399	,115	-,243	-3,463	,001	,855	1,170
Familiarity with organic products score	,220	,104	,139	2,107	,036	,961	1,040
OPL*HC	-,179	,125	-,096	-1,427	,155	,921	1,086
OPL*QC	-,213	,129	-,115	-1,649	,101	,861	1,161
Category involvement Milk score	-,004	,070	-,004	-,058	,954	,954	1,048

a. Dependent Variable: Purchase intention SPL Milk

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	,654	,841		,777	,438		
Presence of an organic private label product	-,252	,240	-,073	-1,052	,294	,971	1,029
Health consciousness score	,073	,105	,050	,694	,488	,908	1,101
Quality consciousness score	,181	,114	,118	1,588	,114	,855	1,170
Familiarity with organic products score	,274	,103	,185	2,650	,009	,961	1,040
OPL*HC	-,365	,124	-,211	-2,948	,004	,921	1,086
OPL*QC	,190	,128	,110	1,488	,138	,861	1,161
Category involvement Milk score	-,084	,069	-,086	-1,220	,224	,954	1,048

a. Dependent Variable: Purchase intention PPL Milk

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	6,164	,933		6,607	,000		
Presence of an organic private label product	-,761	,266	-,202	-2,865	,005	,971	1,029
Health consciousness score	-,235	,117	-,147	-2,016	,045	,908	1,101
Quality consciousness score	,189	,127	,112	1,495	,137	,855	1,170
Familiarity with organic products score	-,184	,115	-,114	-1,603	,111	,961	1,040
OPL*HC	-,141	,138	-,074	-1,026	,306	,921	1,086
OPL*QC	,088	,142	,046	,620	,536	,861	1,161
Category involvement Milk score	-,002	,077	-,002	-,027	,979	,954	1,048

a. Dependent Variable: Purchase intention MNB Milk

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,845	,867		,975	,331		
	Presence of an organic private label product	-,171	,247	-,049	-,693	,489	,971	1,029
	Health consciousness score	,221	,108	,147	2,035	,043	,908	1,101
	Quality consciousness score	,137	,118	,087	1,165	,246	,855	1,170
	Familiarity with organic products score	,172	,107	,114	1,612	,109	,961	1,040
	OPL*HC	-,174	,128	-,098	-1,360	,176	,921	1,086
	OPL*QC	,304	,132	,172	2,312	,022	,861	1,161
	Category involvement Milk score	-,073	,071	-,073	-1,032	,304	,954	1,048

a. Dependent Variable: Purchase intention PNB Milk

Chocolate

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,533	,950		6,878	,000		
	Presence of an organic private label product	-,285	,255	-,078	-1,119	,265	,975	1,026
	Health consciousness score	-,288	,112	-,184	-2,570	,011	,912	1,096
	Quality consciousness score	-,338	,121	-,206	-2,790	,006	,859	1,164
	Familiarity with organic products score	,103	,110	,065	,936	,350	,961	1,040
	Category involvement Choco score	,044	,084	,037	,526	,600	,933	1,071
	OPL*HC	-,117	,132	-,063	-,883	,378	,918	1,089
	OPL*QC	-,006	,139	-,003	-,042	,967	,829	1,206

a. Dependent Variable: Purchase intention SPL Chocolate

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.264	.901		1.404	.162		
	Presence of an organic private label product	-,028	.242	-,008	-,115	.909	.975	1,026
	Health consciousness score	-,073	.106	-,050	-,692	.490	.912	1,096
	Quality consciousness score	.210	.115	.135	1.824	.070	.859	1,164
	Familiarity with organic products score	.142	.104	.095	1.361	.175	.961	1,040
	Category involvement Choco score	.254	.080	.226	3.194	.002	.933	1,071
	OPL*HC	-.291	.125	-,165	-2.318	.022	.918	1,089
	OPL*QC	.108	.132	.062	.821	.413	.829	1,206

a. Dependent Variable: Purchase intention PPL Chocolate

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,036	,892		6,767	,000		
	Presence of an organic private label product	-,780	,239	-,221	-3,259	,001	,975	1,026
	Health consciousness score	-,297	,105	-,198	-2,828	,005	,912	1,096
	Quality consciousness score	-,081	,114	-,052	-,715	,476	,859	1,164
	Familiarity with organic products score	,112	,103	,074	1,086	,279	,961	1,040
	Category involvement Choco score	,199	,079	,174	2,519	,013	,933	1,071
	OPL*HC	-,096	,124	-,054	-,774	,440	,918	1,089
	OPL*QC	-,058	,130	-,032	-,442	,659	,829	1,206

a. Dependent Variable: Purchase intention MNB Chocolate

Coefficients ^a								
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,532	,933		,570	,570		
	Presence of an organic private label product	,289	,250	,079	1,155	,250	,975	1,026
	Health consciousness score	,011	,110	,007	,099	,921	,912	1,096
	Quality consciousness score	,263	,119	,161	2,209	,028	,859	1,164
	Familiarity with organic products score	,037	,108	,024	,342	,733	,961	1,040
	Category involvement Choco score	,301	,083	,255	3,645	,000	,933	1,071
	OPL*HC	-,236	,130	-,128	-1,817	,071	,918	1,089
	OPL*QC	,182	,136	,099	1,332	,184	,829	1,206

a. Dependent Variable: Purchase intention PNB Chocolate