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The impact of manufacture information on the evaluation of private label products

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Abstract

The manufacturer of a private label stays in most cases unknown for the general consumers. In some cases big national labels use their production plants to manufacturer private labels. In other cases smaller manufacturers make the products. What would be the effect on consumer behavior when consumers do know who made their private label product? This thesis studies the effect of the presentation of manufacturing information on the product's package in terms of perceived quality and credibility. By performing an experiment, where the respondents evaluate private labels with or without the added manufacturer's logo on the package, the effect of the presentation of the manufacturing information is measured. The results show that the added information about the manufacturer has a positive influence on the perceived quality of the private label, which in turn influences the purchase intention. Retailers should therefore present information about the manufacturer, to increase the purchase intention.

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1.1 Introduction

When consumers go to their local supermarket all kinds of different products are displayed on the shelves for them to buy. Different aspects of the product are evaluated before making the decision to buy a product or not. Important factors in this evaluation are the brand and the packaging of the product (Kuvykaite, Dovaliene, & Navickiene, 2009). People buy products from different brands. These brands can be divided in private labels (or private brands) and national labels. Until the 1980's national labels were far ahead on retailers, in terms of product knowledge, insight and professionalism (Quelch & Harding, 1996). These days however, private brands are catching up with the national brands and private labels are becoming fundamental items in the consumer's shopping bag. Especially in Europe and North America private labels have taken a strong position in retailer's assortments and are seen as one of the hottest trends in grocery retailing (Ter Braak, Geyskens, & Dekimpe, 2014). In 2014 private brands accounted for 27% of the products bought in Dutch supermarkets and this percentage is growing every year (Nielsen, 2014). Despite the popularity of the private labels in the Netherlands, Europe and North America, the production of these products are typically a little secretive (Kumar & Steenkamp, 2007).

This secretiveness leads to an absence of the manufacturer of a private label on the packaging of the product. So people do not know where and by whom a private label product is produced. The reason of the lack of the producer's information is that big national labels, who often produce the private labels, do not want to be associated with the production of a private label. National labels are afraid of negative associations that some consumers can have with a private label (Moers, 2005).

In the current time, a time in which packaging is becoming more important due to the increasing self-service and changing consumer lifestyle (Raheem, Vishnu, & Ahmed, 2014), it will be a good addition to the current literature to study if giving information about the private label's manufacturer on the private label's product package will change the purchase intention towards a product.

1.2 Problem statement

Consumers of private labels often do not know where the private label product came from or who the manufacturer is. Private label products just simply do not have this kind of information on their packages. The reason behind this is because a lot of big houses of brands like Unilever, Nestle and P&G often produce private labels and they do not want their big well-known brands to be associated with often lower quality private labels (Moers, 2005). However, in December 2014 Amazon introduced 'a transparent origins label' on its private label diapers called: Amazon Elements. Although not every consumer uses this kind of information, there is a trend visible towards increasingly attention towards this kind of label information like nutrition labels, safety labels, animal friendly labels and country of origin labels (Hieke & Taylor, 2011; Minneboo, 2017). Amazon is one of the first companies ever who introduced this kind of information on a private label. Sadly for Amazon the diapers did not sell very well and were pulled from the market after two months (Business Insider, 2015). A possible explanation is that consumers did not care about more information about the manufacturer and the dilution effect occurred, where more irrelevant information leads to lesser credibility and loss of trust (Meyvis & Janiszewski, 2002).

This move of Amazon was a source of inspiration for this thesis subject and sparked the question: is it wise to communicate the source of a private label product to the customer, or are consumers not interested in this kind of information?

To give more insight on this matter and in the light of the recent move of Amazon, this study checks if there is a difference in the purchase intention of a private label when the manufacturer is presented on the product. The general research question hereby will be:

“What is the effect on the purchase intention of private labels when the manufacturer is presented on the product”

To answer this question in the best way the following sub-questions are provided:

- *Will the perceived product quality improve if there is information on the manufacturer on the product?*
- *Will it give more credibility to the product if there is information of the manufacturer on the product?*
- *Does the credibility and quality perception vary for premium private labels and budget private labels if there is information of the manufacturer on the product?*
- *How does the need for cognition (i.e., the tendency for an individual to engage in and enjoy thinking) of the consumer influence the credibility and quality perception of the private label?*

1.3 Managerial relevance

A topic that many private retailers are struggling with is the packaging of this private label (Wells, Farley, & Armstrong, 2007). Retailers know the packaging has a major impact on the consumers buying process and that it is one of the key ways to differentiate their product (Gofman & Moskowitz, 2010). Differentiating a product with a product package is becoming more important because of the continuing expansion of supermarkets assortment make it is harder than ever to distinguish a product from the wide range of similar products super and-hypermarkets currently offer (Rettie & Brewer, 2000; Wells, Farley, & Armstrong, 2007).

Furthermore product packaging for private labels is even more important for private labels than for national brands. This is because consumers are more likely to want information about the product that they are unfamiliar with than a national brand which has often more brand awareness (Hurley, Ouzts, Fischer, & Gomes, 2013).

So it is clear why it is important for retailers to have a good product packaging of their private label but how will the information given in this study will of practical use for managers? First, retailers can use insights, given in this study, when designing a product package of their private labels. The results are particularly interesting for package designers who are responsible for the product labels that are present on the product or not.

Information from this study will allow them, when taking their preferred business model and core consumers groups into consideration, to make informed decisions whether presenting the manufacturer of their private label on their kind of private label will enhance their perceived credibility and quality or maybe will create confusion, less extreme judgment or broken trust.

Second, when a retailer wants to present the manufacturer on their private label they have to negotiate with the manufacturer on the terms and conditions of doing this. Retailers can use this study as a source when convincing the manufacturer of the fact that they will sell more if they show who made it. Then the manufacturer will have to produce more products which is profitable for them.

1.4 Academic relevance

This study makes an addition to the literature of two different topics. These different topics are private labels and product packaging. To give a clear view of the different streams of literature here the academic relevance is explained separately.

1.4.1 Private labels

For each of the stakeholders, (retailers, consumers and manufacturers) private labels have many advantages. The different advantages that made private labels such a success as it is today are widely examined (Hoch & Banerji, 1993; Batra & Sinha, 2000; Ailawadi et al, 2008; Kremer & Viot, 2012; Ter Braak et al, 2014). A topic that the literature left alone is the manufacturing of private labels. A reason for this is that manufacturers of national brands who also make private labels (dual branders) are not eager to share their information (Sethuraman & Jagmohan, 2012). It is recognized by the literature that more research on this topic is needed. In a recent study by Ter Braak et al (2014) there is an explicit call for more research in the relationships of private label suppliers and retailers. This study responds to that call by exploring the added value of a manufacturer on the product package and tries to be relevant for future studies on the relationship of private label suppliers and retailers.

1.4.2 Product packaging

Like the manufacturing of private labels, product packaging is also a topic where the amount of literature is scant. Especially in top journals the availability of literature used to be very limited (Bloch, 1995) and at the present day has not changed much (Rundh, 2005; Kuvykaite et al, 2009; Wang, 2013). This could be seen as odd because the packaging of the product is one of the most important factors in communicating the brand message to the targeted customer (Nancarrow, Wright, & Brace, 1998; Silayoi & Speece, 2004).

This study is relevant for the literature done on the influence of verbal package elements. In the current literature it is shown that these verbal package elements are the most important for the consumers purchase decision (Kuvykaite, Dovaliene, & Navickiene, 2009).

It is even found that having information about the manufacturer on the product package has a positive effect on the consumer's buying behavior (Adam & Ali, 2014). Here it will be studied if these findings also are still valid when using a private label brand instead of a national label which were used by Kuvykaite et al, (2009) and Adam & Ali, (2014).

1.5 Structure of the thesis

In the previous sections of chapter 1, the problem statement, research questions, academic relevance and managerial relevance are described. In chapter 2, the existing literature relevant for this thesis is discussed, which results in the formulation of the hypotheses section 2.2. Chapter 3 will be about the methodology of the experiment. The data and results are presented in Chapter 4. In the 5th chapter, the findings that have been yielded from the questionnaire are discussed, research questions are answered and the final conclusions are drawn. Finally, at the end of this thesis the reference list and the appendix can be found.

2. Literature review & hypothesis development

For this study two topics of literature are relevant to explain. These two topics are Private Labels and product packaging and are handled separately. In section 2.1.1. all the relevant academic work about private labels is discussed and in paragraph 2.1.2. the relevant academic work on product packaging is covered.

2.1.1. Private labels

Private labels are all products that are sold by retailers that are exclusive for that chain or purchase group, and because of that have no national distribution (Moers, 2005). Since the late 90's every big grocery store developed a group of private label products (Geyskens, Gielens, & Gijsbrechts, 2012). They all joined in this private label trend because it has a lot of benefits to offer retailers. For most retailers the biggest reason to sell private label products is the higher margins that can be realized for private labels over national brands.

In the top right corner we find the *brand buyers*. These people perceive a big difference between national labels and private labels in terms of quality and are have a low price sensitivity. These people typically buy national labels. The *toss-ups* differ on price sensitivity but also perceive a large quality difference between the two kinds of labels. The *private label buyers* experience the opposite of the brand buyers and are inclined to buy private label products. The last group of consumers is the *random buyers*. These people do not expect a big quality difference between private and national labels and are not particular price sensitive. This last group and the toss-ups are the interesting groups because there is the most market share to gain for private label managers.

The way to seduce random buyers in buying private label is to influence them with in-store stimuli like point of sale displays; good shelf placement and shelf tag-ons. The toss-ups are harder to persuade and have to be convinced that the quality of the private label products is in the same range as the quality from its national label competitors.

Trying to convince the consumers of the quality of their private label is exactly what the product managers of AH are trying to do and succeeded in for the four successful CPG categories. As a result of the closed gap of quality perception many toss-up buyers bought AH (Kumar & Steenkamp, 2007). Combining this group of buyers with the Private label buyers and a share of the Random buyers has led to the high AH market share.

Next to the insight that a lower price not always leads to a higher private label share, another interesting fact that can be deduced from the Albert Heijn example is the fact that the perceived quality for private labels varies across different product categories. When we look at the perceived quality of private label versus national label product categories it is found that in 89% of the product categories the national labels are still perceived as having a better quality. However in 50% of the categories the quality gap is perceived as small (Rao, 2009). This should be a sign for the national labels that private labels are knocking on the door and either improve quality or face the consequences.

When consumers infer the quality of a product they look at various cues. These cues are built out of extrinsic cues which are all the cues that are related to the product but not the product itself and the intrinsic cues which are directly derived from the product itself. An example of the intrinsic cues can be the nutrition content of the product and the extrinsic cues can be the price, brand name or a warranty (Kirmani & Rao, 2000; Rao & Monroe, 1989).

However the persuasion effectiveness of these different factors depends on the credibility of them (MacKenzie, Lutz, & Belch, 1986; Hovland, Kelley, & Janis, 1953). This perceived credibility is depending on past behavior of the brand or retailer and market conditions which includes competitive and consumer behavior. In the literature about credibility it is broadly defined as “the believability of an entity’s intentions at a particular time and is posited to have two main components: trustworthiness and expertise” (Erdem & Swait, 2004). The sub dimension expertise is defined as “the extent to which a communicator is perceived to be a source of valid assertions” (Hovland, Kelley, & Janis, 1953). Hovland, Janis and Kelley (1953) define the sub dimension trustworthiness as “the degree of confidence in the communicator’s intent to communicate the assertions he considers most valid”. The trustworthiness relates to the degree of acceptance and confidence in the message of the communicator. The dimension of expertise defines the authoritativeness and competence of the communicator itself (Ohanian, 1990). Ohanian (1990) has made a source-credibility scale that is used to measure the two components of credibility in the questionnaire.

In comparison with national labels consumers have less extrinsic cues they can depend on to form an opinion on a private label’s credibility. For instance private label products typically have no marketing budget for specific products. Therefore consumers cannot deduce any information about a product’s credibility based on any marketing communications. Furthermore, in most cases private labels do not have a lot of manoeuvring space in the price because it has to be lower-priced than the national label (Kuvykaite, Dovaliene, & Navickiene, 2009). The lack of these important cues makes it harder to form an opinion on the product’s credibility and makes the packaging of private label products so important.

There are different things a private label can place on their product package to make it a more credible brand or product. For instance, a package designer can put an expert or celebrity on the product package making a statement about the product delivering what it promises (Dong, 2015).

This cue itself is credible because there is an expert or influential communicator making the claim about the product. Having a credible communicator makes the cue credible which has a positive effect on the whole product’s credibility and therefore the purchase intention (Ohanian, 1990). If presenting information about the manufacturer on the product is also a credible cue that would enhance the perceived credibility of the product is discussed in further sections of this study.

2.1.2. Product packaging

Product packaging basically has three different functions. These functions are protecting the product from damaging, helping with the using of the product and communicating the message of the product (Smith & Taylor, 2004). When this message is communicated on the product package in a proper way it attracts the consumer's attention to a particular brand, influences consumer perception about a product and enhances its image (Rundh, 2005).

On the other hand if the information about the product message is not properly communicated the trust in the brand is broken. This happens when manufacturers use small fonts or dense writing styles in order to put as much product information as possible on a label. The outcome is that consumers will get confused and have a hard time reading the label and the chance becomes very small of a consumer buying that product (Underwood & Ozanne, 1998).

Another pitfall when designing a product package is giving irrelevant product information. This is also known as the dilution effect (Meyvis & Janiszewski, 2002). In the literature of consumer behavior there are several studies that show that irrelevant product information can influence the buying process in a negative way. For instance, Zukier and Jennings (1983) show that when a person is being exposed to irrelevant information this leads to a less extreme judgment. They found that jurors were less likely to convict a man of murdering his aunt when irrelevant information (e.g. he was of average height) was added to the evidence (e.g. his DNA was found on the body). Meyvis and Janiszewski (2002) translated this study to a setting where irrelevant product information was added on a product package. The researchers found that when this irrelevant information was added to the supportive product information the consumer's belief in the product's credibility weakens drastically. So package designers should avoid the dilution effect by presenting only relevant information on their products.

The product package is constructed out of visual and verbal elements. The verbal elements are related to the product information. This can be the brand name, the nutrition label or the country of origin. Information like this informs consumers and helps them in making the purchase decision (Adam & Ali, 2014). Consumers with a high involvement towards the product typically tend to value this kind of information over the visual elements.

Shape, size, material, image layout, colors of the design and typography are these visual elements (Rettie & Brewer, 2000; Silayoi & Speece, 2004). These elements have more impact on a consumer if the product has a low involvement. Consumers do not have much interest in these products and ignore any brand or product information (i.e. verbal package elements). Together these elements make the message a retailer wants to communicate with its consumers.

Face-to-face communication from a retailer to a consumer has over the past decades decreased to almost no contact in current supermarkets. People search for the products themselves and in modern supermarkets people also scan and pay their products entirely on their own. So retailers cannot give any product information to their consumers by oral communication in the store. The consequence is that the packaging of a product and especially the verbal packaging elements are becoming increasingly important to have all the information on it that a consumer asks for. So the packaging of a product is becoming increasingly important when the current trend of self-service retail formats will continue to grow (Silayoi & Speece, 2004).

So package fills in an important role in today's marketing communications and is being treated as one of the most important factors in the consumers purchase intention (Kuvykaite, Dovaliene, & Navickiene, 2009). In this context studying the package of a private label and how it can enhance to the proper communication of the message of the product becomes increasingly relevant.

2.2 Hypotheses

The two main dependent variables that have the focus in the hypotheses are the perceived quality and the perceived credibility. There are different reasons to focus specifically on these two factors. First, the perceived credibility and perceived quality both are big predictors of the consumers purchase intention (Erdem & Swait, 2004). This means that if a consumer evaluates the credibility or quality of a product highly, that they are more inclined to buy that product. Second, because private labels often cannot use price as a brand building tool, other tools like perceived quality and perceived credibility are becoming drastically more important (Kumar & Steenkamp, 2007).

Third, prior research on product packaging shows that the credibility and perceived quality both can be influenced by the information on the product package (Bloch, 1995; Dong, 2015).

2.2.1. The influence on perceived quality

To be able to understand the decision making process that consumers go through when buying a private label, we look at the framework Richardson, Jain and Dick (1996) propose. In this framework, as is shown in Figure 3, all the different factors that have influence on the purchase decision of a consumer are shown.

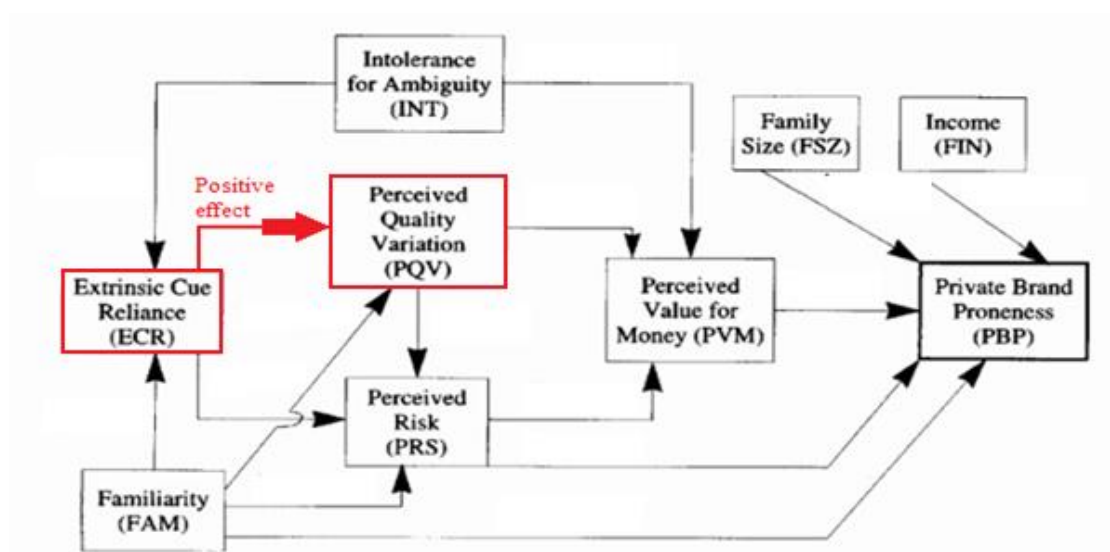


Figure 3. (Richardson, Jain, & Dick, 1996)

In this framework the perceived quality variation is the most essential building block on which the choice for a private label is built. The perceived quality is defined as the subjective judgment of quality in relation to the expected quality.

These expectations about the quality can come from a person's own and others experiences and different factors from the marketing mix like price, brand reputation and advertising (Mitra & Golder, 2006).

The perceived quality variation (PQV) is formed out of the Familiarity (FAM) with the product, and the Extrinsic Cue Reliance (ECR). The extrinsic cues of a product are the packaging, price and brand name. These cues are very important for a private label because of the absence of marketing around a private label product. The extrinsic cues are the only information people can get about a product (Richardson, Jain, & Dick, 1996; Kuvykaite, Dovaliene, & Navickiene, 2009).

Richardson, Jain and Dick (1996) found that the appearance of extrinsic cues information has a positive effect on the PQV. This is highlighted in the framework with a red arrow.

Consequently it is expected that information about the manufacturer of the product can also function as an extrinsic cue and therefore has positive effect on the perceived product quality.

It is important to keep in mind that only the appearance of manufacturer information is studied here. In other words, only the additional information about the manufacturer has an effect on the perceived product quality. Because of this, it is key for this research that the subjects do not have any familiarity or knowledge of the manufacturer whatsoever. If information would have been given about manufacturers that consumers know, the consumer can derive value from this cue and the subject perceives a different product quality of the product when it is presented to information about an unknown manufacturer (Rao & Monroe, 1988). From the above information the following hypothesis follows:

- H1. *Information about the manufacturer presented on the private label product package has a positive effect on the perceived private label quality.*

2.2.2. The influence on perceived credibility

When people are doing their groceries in a supermarket and are making a decision whether to buy a product or not, they are looking for signals or cues (Kumar & Steenkamp, 2007). Examples of these signals and cues are product placement, packaging and prices. With these cues in mind people try to make a decision on which product will fulfill their needs the best but it is almost impossible for a customer to know all the information there is about a product (Spence, 1974). In these kinds of situations with asymmetric information (i.e. consumers do not have all the information about a product that companies have) the different cues retailers and brands offer to their customers are very important (Kuvykaite, Dovaliene, & Navickiene, 2009).

But these cues can only be effective if they are properly presented, relevant and credible (Meyvis & Janiszewski, 2002; Silayoi & Speece, 2004, 2007). Different elements of the marketing mix can be used that enhance the perceived credibility of the brand or product. Giving a warranty on a product, country of origin, charging a high price, general product information or distribution via certain channels all can influence the perceived credibility (Erdem & Swait, 2004). The reason that all these cues enhance the perceived credibility of a product is because by giving more information about the product and brand there is less uncertainty and information asymmetry. In other words, more properly presented, relevant and credible information about the product leads to more information symmetry that results in higher product credibility and consumers that are able to make a more considered decision about their purchase (Erdem & Swait, 2004; Silayoi & Speece, 2004).

Giving information about the manufacturer of a private label will therefore lead to a shrinkage of information asymmetry between the private label and the consumer. However this is only true if the subjects find the cue of manufacturing information credible. In this study it is expected that the manufacturer information is evaluated as a credible cue because it leads to a shrinkage of the information asymmetry between the retailer and the consumer.

- H2. *Information about the manufacturer presented on the private label product package is evaluated as a credible cue and has a positive effect on the private label's perceived credibility.*

2.2.3. The moderating effect of different private label types on perceived quality

In the previous chapter the different kind of private labels are already explained in detail. The distinction in this study is made between the premium private labels and the budget private labels. The budget private labels were created to fight hard discounters and offer a low priced, basic product (Gielens, Raju, Thomas, & Dekimpe, 2011). Premium private labels are meant to serve the more demanding consumers and have a higher quality and a higher price (Kumar & Steenkamp, 2007).

In a study about product involvement Martin (1998) found that brands that have a high perceived quality are more relationship prone than brands with a low or mediocre perceived quality. This happens in a similar way in social relationships between people. When people identify desirable quality characteristics in one another they bond with each other in the same way as they bond with a brand that has desirable quality characteristics. A lot of people find quality a desired characteristic for a product and therefore bond with a product. This bond or relationship can be based on the fact that product fulfills the needs of the consumer in a high-caliber or consistent pattern. Another possibility for a consumer to bond with a high quality product is that a consumer receives status and prestige of owning a good high quality and durable product. In other cases it is possible that because of the quality and durability a product lasts longer and because of the stretched product life a consumer has a longer time to build a bond with a product or brand. Because of the higher relationship proneness consumers are more interested in a product and want to gain more information about the story of a brand or product (Barta & Ray, 1986; Park & Moon, 2003). Taking this relationship proneness in mind, consumers who buy premium private label with high perceived quality are inclined to process the manufacturer information more thoroughly than consumers who buy a budget private label with a low perceived quality.

Because of this difference in processing intensity the effect that the manufacturer's information has on the perceived quality of a product it is expected to be higher for a premium private label than for a budget private label.

Consumers have less relationship proneness for a budget private label and therefore are less motivated to gain information about the product.

H3. Information about the manufacturer presented on the private label product package has a stronger positive effect on the perceived quality for premium private labels than it does for budget private labels.

2.2.4 The moderating effect of different product types on credibility

In the theory about private labels in section 2.1.1. it is explained that a product or brand quality can be built or enhanced by using different tools from the marketing mix. Giving a product a certain price, better shelf placement or being sold in certain stores can be a cue that enhances the perceived quality and purchase intention. The credibility of these factors however, depends on other factors.

Each of the above mentioned marketing mix tools may or may not be credible cues, depending on the market circumstances which consist out of competing companies and consumer behavior (Cox, Cox, & Bobinski, 1996; Erdem & Swait, 2004). This principle is explained with the help of the following example. The high costs that come with producing high quality premium products will result in a higher selling price. The price here is a credible cue for the quality of the product because you pay more for a higher quality. However, in a case where a product has a high selling price but it is combined with an inferior quality, the price is not a credible factor for the quality, because you pay more but do not get a higher quality (Erdem & Swait, 1998). This study assumes that the mechanism mentioned above is also applicable in the case of the private label where information about a manufacturer is presented on the package. When a premium private label, with a high perceived-and experienced quality, is giving information about the manufacturer the consumer presumably values the manufacturer as expert. The manufacturer makes a good quality product and therefore must have expertise. This makes the manufacturer credible since expertise is one of the two main components of the credibility of a cue (Erdem & Swait, 2004). Consequently, it is expected that consumers who see manufacturing information on a premium private label will value this cue as credible.

On the other hand, if a consumer sees and experiences a bottom of the market budget private label, supposedly it does not value the manufacturer as an expert. The manufacturer makes a product of an inferior quality and thus will people not value him as an expert. Consequently, giving information about the manufacturer of the budget private label is not considered as a credible cue. This leads to the following hypothesis:

- *H4. Information about the manufacturer presented on the private label product package has a stronger positive effect on the credibility for premium private labels than it does for budget private labels.*

2.2.5. The moderating effect of need for cognition on perceived quality

The way people process information depends on the difference in need for cognition (NFC) people have. With this information Cacioppo and Petty (1986) designed the Elaboration Likelihood Model (ELM) that gives a view in how people process information (like manufacturer information) and make sense of their world. In the ELM Cacioppo and Petty suggest that stimuli are processed in two different ways, namely the peripheral route and the central route. People who process information via the central route have a high NFC. Other people that try to make sense out of the stimuli presented to them via the peripheral route have a low NFC.

Both groups of people tend to evaluate information, solve problems and form opinions in different ways (Cacioppo & Petty, 1982). People with a high NFC naturally tend to seek, collect, overthink and evaluate information to make sense of the stimuli presented to them in order to let everything make sense in their perception. People with a low NFC are more likely to rely on other things to make up their opinions. They are more likely to rely on easily processable cues like general impressions (i.e. looks good or looks bad), other identities like celebrities and experts, or social comparison processes when they form their opinions. In other words, the NFC of an individual depends on the ability and motivation to use their cognitive capacities to process, information (Cacioppo & Petty, 1986; Cacioppo, Petty, Feinstein, & Jarvis, 1996; Drolet, Luce, & Simonson, 2009).

Manufacturing information on private labels is also processed according to this mechanism. In general the rationale of the ELM and NFC proposes that consumers with a low NFC depend more on external cues to infer an opinion about the product under consideration (Buda & Zhang, 1999). As stated in section 2.2.1 manufacturing information can function as an extrinsic cue (Richardson, Jain, & Dick, 1996). Therefore it is expected that people who have a low NFC rely more on the extrinsic cue of manufacturing information when forming an opinion on the quality and the credibility than people with a high NFC. This results in higher credibility and quality evaluations of low NFC participants. Apart from this overall expected moderation there is another way that NFC moderates the quality evaluation.

In a study done by Martin, Lang and Wong (2003) it is found that low NFC individuals are unaffected by cue quality. The high NFC individuals tend to evaluate the quality of the cues (i.e. if the product claims are strong and valid) more and are more critical about the cue's quality. The examined cue in this study is manufacturing information that is presented on a private labels package. Considering the fact that the consumer does not know the manufacturer, it is expected that the high NFC individual does not rate the quality of the cue high. This is expected because; presenting an unknown manufacturer does not give the consumer any valuable information, like the way of manufacturing or the place of origin. Therefore the high NFC consumer finds the quality of this cue low and their opinion of the perceived product quality is less influenced by the appearance of manufacturing information. Low NFC consumers, on the other hand are not influenced by the cue's quality and their opinion is more affected by giving information about the manufacturer (Martin, Lang, & Wong, 2003). Their evaluations of the perceived quality from low NFC consumers are therefore expected to be more positive than the evaluations of the high NFC consumers.

- *H5. Information about the manufacturer presented on the private label product package has a weaker effect on the perceived quality for people with a high need for cognition than on people with a low need for cognition.*

2.2.6. The moderating effect of need for cognition on credibility

In the previous section 2.2.5. it is already stated that because of the difference in NFC between people, the NFC it is expected to moderate the effect information about the manufacturer has on the quality and credibility evaluation of the private label product.

The credibility evaluation is also moderated in another way that is specific for the credibility. This specific moderation is derived from the fact that, a message or a piece of information about a product that is communicated by a professional or expert to a low NFC audience has a greater impact than when the low NFC audience is compared to a high NFC audience. The high NFC consumers are more critical about the expert's or professional's expertise and thus the credibility of the cue (Buda & Zhang, 1999). Because of the fact that high NFC consumers are more critical about the expertise of the cue it is expected that they are also critical about the manufacturer's information if they are not familiar with it. That is why it is proposed that the credibility evaluation of products with manufacturer information on the package is lower for high NFC consumers than for low NFC consumers.

H6. Information about the manufacturer presented on the private label product package has a weaker effect on the credibility for people with a high need for cognition than on people with a low need for cognition.

2.3. Conceptual map

All the hypotheses above are displayed in the conceptual map, which is shown in Figure 4. The variables and moderators are indicated with different colors which are explained in the side note.

The perceived credibility and perceived quality both have individual boxes that lead to the purchase intention. In line with previous academic work this thesis assumes that the higher the perceived quality and credibility of a product, the higher the purchase intention (Kotler, 1991). So the perceived credibility and quality both influence the purchase intention in a positive way.

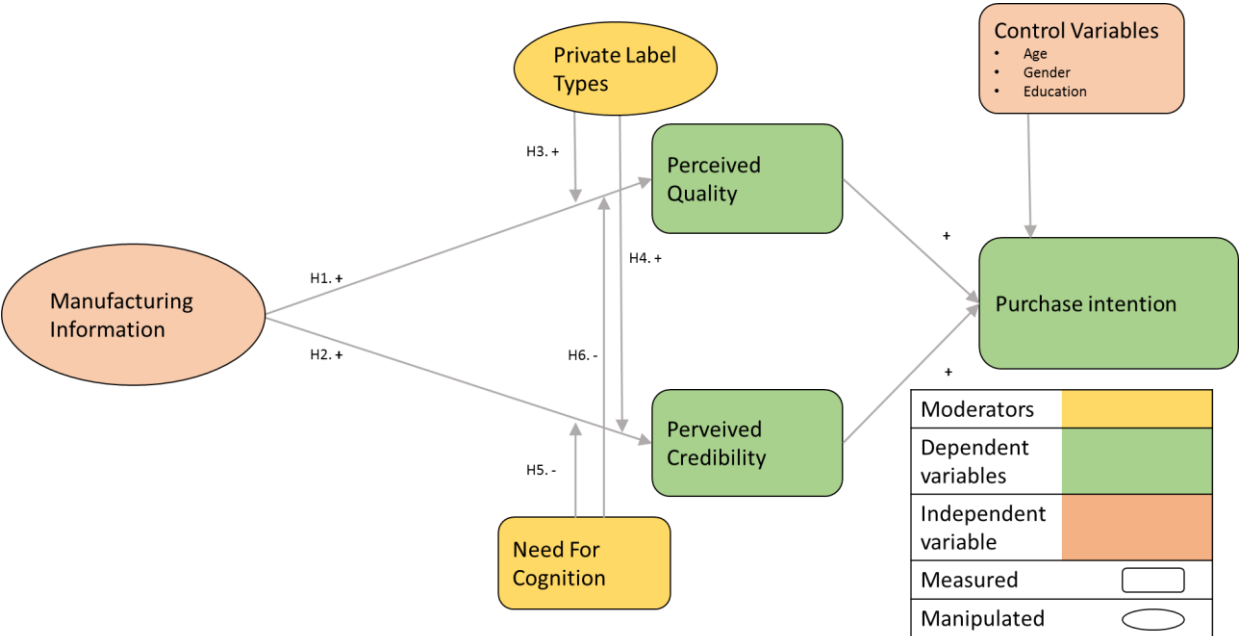


Figure 4. Conceptual map

3 Research methodology

This chapter explains how the hypotheses are tested. The chapter starts with information about the method. Subsequently the experimental design and procedure is clarified. In these sections information about the participants, variables, manipulations, the reliability and validity of the experiment is discussed.

3.1 Method

In this thesis an experiment is set up to test the hypotheses. The data for the experiment come from an online questionnaire that has been distributed via social media. The participants clicked on a hyperlink that directed them to the questionnaire on the website of Qualtrics. Here subjects could answer the items of one of four conditions that are created for this experiment. In each condition a private label orange juice of Albert Heijn is showed. The only difference is the type of private label or the appearance of the manufacturer's logo which can be found in Appendix 2 and 3. The total sample of the experiment contains 170 subjects from which 124 are used in the final dataset.

3.2 Experimental Design

In this study a between-subject experimental design is used. Experiments with a between-subject design use separate groups of subjects for each of the different conditions in the experiment (Field, 2009).

The advantage of using a between-subject design over other experimental designs is that subjects only have to rate a product once. In a mixed- or within subject design the subject must see and rate two pictures with the same product and only a small difference: the manufacturer is presented or not. This may seem unnatural for the participant because the difference between the two products is too small to evoke any differences in the credibility and quality perception. Therefore the use of a between subject design is the best option for this experiment.

The different private label types are two different brands and have a lot more visual differences between each other than only the appearance of a manufacturer on the package. The differences in packaging designs between the budget and premium private labels can be found in Appendix 3. Because of the big differences between the private labels the evaluations of these products could be measured using a mixed-subject design. Still a between subject design is the better choice because a mixed subject design would enlarge the length of the questionnaire too drastically. A mixed-subject design would mean 22 extra items for the subjects on a questionnaire that already takes ten to fifteen minutes to complete. A questionnaire with that many questions would lead to more boredom when filling in the questionnaires and less completed ones (Field & Hole, 2003).

In this experiment there are four conditions to which a participant can be randomly assigned. The four conditions are corresponding to the levels of the independent variable and moderator. These variables are shown in the conceptual maps in Figure 4 as 'Private Label Types' and 'Manufacturing Information'. Each of them is indicated as manipulated variables with an oval box. Both of the independent variables have two levels.

In the experiment the variable Private Label Types functions as an independent variable as well as a moderator. For the sake of clarity this variable is referred to as moderator throughout the experiment.

The independent variable 'manufacturing information' has two levels. The levels of this, between-group manipulated, variable are 'presenting manufacturer information' versus 'not presenting manufacturer information'. The condition 'not presenting manufacturer information' functions as a control condition and acts as a baseline against which the 'presenting manufacturer' condition can be set off to.

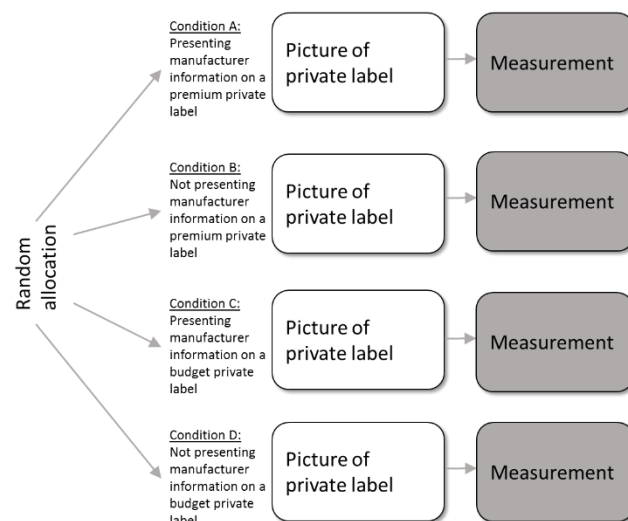


Figure 5. Overview experimental design

The two levels of the moderator, private label type are: budget private label and premium private label. Consequently, with the two conditions from the other independent variable, there are four different conditions. An overview of the conditions and manipulations is displayed in Figure 5.

3.2.1 Measurement

Each subject participated in only one condition, and provided three scores for the three independent variables: perceived quality, perceived credibility and the purchase intention. In the conceptual map in Figure 4 the dependent variables are displayed with a square box.

The moderators in this experiment are the NFC and the private label type. The NFC is measured with an 18-item scale and measures if a subject has a high or a low NFC.

3.3 Procedure

The participants are presented with an online questionnaire. In each condition participants are asked to evaluate the product package of private label orange juice from Albert Heijn. The product that is evaluated can be premium or budget-private label depending on the condition a subject is assigned to. In condition A and C participants see orange juice with a label on it that gives the fictional manufacturers name '*JJ Productions*' and logo. In condition B and D participants also see orange juice only these products do not have the manufacturer's name and logo on the product. The pictures that the participants are exposed to can be found in Appendix 3.

On the landing page of the questionnaire participants are thanked for their participation and informed on the time takes them to fill in the questionnaire. On the next page subjects are asked to picture themselves in a supermarket and see the orange juice. They are asked to look at the product picture very carefully. This is done to ensure the manipulation of the manufacturer's logo. To be sure that respondents looked at the picture the time spend on the product pictures page is measured.

In each condition participants are asked to rate the product package of private label orange juice from Albert Heijn in terms of familiarity (Kent & Allen, 1994), purchase intention (Rossiter, 2002), credibility (Ohanian, 1990) and quality (Erdem & Swait, 2004).

In the next phase of the survey, 18 questions compiled by Cacioppo, Petty and Kao (1984) are asked. These questions are meant to build a profile of a subject whether the subject has a high NFC or a low NFC. In the last phase of the questionnaire the control variables gender, age, level of education, location and brand familiarity are asked. The whole questionnaire can be found in Appendix 1.

All the attributes that are rated by the participants are measured using a multi-item scale. Only the purchase intention is measured using a single-item. Purchase intention can be measured with a single item scale because according to Rossiter (2002) it is a concrete attribute. Credibility, quality, familiarity and NFC are less concrete attributes and studies that cover these topics always use multiple item scales which is therefore also used in this experiment.

3.4. Internal and external validity

The package design of the private label orange juice has a crucial place in this experiment. The selection of the product and its package was therefore done carefully and a lot of concerns were taken into account. Orth and Markowitz (2008) have provided four main points that are essential for selecting an appropriate example product when measuring impressions evoked by package design is the goal of the experiment.

First, to ensure generalizable results, package elements should be commonly found in other consumer goods. Second, the used product should not have a brand name that is familiar to the sample population to avoid any confounds in different levels of brand familiarity. Third, package design and product should have a measurable impact on the subjects purchase decision and impression.

Fourth, the tested packages should have a large variance in package designs between them. The package of budget and premium private label of Albert Heijn's orange juice meets all these criteria. However point two about the brand familiarity needs some elaboration. In this experiment it is important the manufacturer has a name that is unfamiliar to the sample population, and not the brand of the product. The brand of the product is not important because with the between subject design it is compared itself. When comparing the product to itself, with only a slight difference of the manufacturer, it evokes the same brand associations.

Then the effect of the difference in levels of brand familiarity is not present (Field, 2009). The concern of point two is however relevant for the name of the fictional manufacturer.

Therefore a neutral name and logo: JJ productions, is used in this experiment to eliminate any unwanted associations to brands or origin (Rao & Monroe, 1988). The logo of JJ productions can be found in Appendix 2.

AH private label orange juice meets all of the concerns of Orth and Markowitz mentioned above, and has useful practical advantages. The product is a FMCG, available in all supermarkets, it is being sold a lot and the brand has existed for a long time (Kist, 2013; Nielsen, 2016; Voedings Centrum, 2017). These points are all positive for the brand familiarity.

The product that is used has a clear distinction between premium and budget private label. The last important point of why AH private label orange juice is chosen is the fact that it has numerous elements (font, nutrition label style, picture of product) on the product package that are found on many other premium and budget private labels. This makes the outcomes of this experiment easily generalizable for all the private label products (Orth & Malkewitz, 2008).

The reason that Albert Heijn's private label is used is because Albert Heijn is the only Dutch retailer that has a clear separation between the budget private label, which is called 'AH Basic', and the premium private label, that is called 'AH Excellent'. If the private label of another retailer like Jumbo would have the same types like Albert Heijn, it would be possible to measure any kind of dissimilarities in the valuations of the different retailers private labels.

The retailer could function as an independent variable with two levels, the private label of Albert Heijn versus the private of another retailer like Jumbo. This would benefit the external validity of this experiment (Orth & Malkewitz, 2008). Unfortunately, Jumbo or any other retailers do not have the same deviation in premium and budget private labels so it would hurt the internal validity too much if we still used the private label of other retailers as a benchmark.

4 Results

4.1 Data description

Table 1 shows the main information of the subjects that submitted the online questionnaire during a period of 29 days. 170 subjects submitted a questionnaire, of whom 46 were disqualified. 41 Were not used in the final data set because the subjects were under the minimal age limit of 18, the questionnaire was incomplete or was completed in under the pre-defined minimum time of four minutes. Five subjects who did not look carefully at the product picture and clicked to the next page in less than five seconds were also excluded from the final data set. The minimum exposure time is set on five seconds because an online ad is only fully effective when a subject is exposed to it for four seconds (Cadreon, 2015).

The reason of the exclusion is to ensure an effective manipulation of the subjects by the product picture. The exposure time of the subject to the product picture is used in the regression analyses as a control variable to check for any influences of the exposure time.

With the cleaning of the disqualified and incomplete responses the final dataset consists of 129 respondents (N=129). Each condition has the minimum amount of 30 respondents in order to perform parametric tests (Field & Hole, 2003). Table 1 provides the spreading of subjects over the four conditions which is roughly equal.

Table 1
Main information sample population

Total respondents	170		
Dataset after cleaning	N= 124		
Age	Mean: 33.68 Std. Deviation: 14.740	Con. A	N= 32
Gender	Male: 48.1% Female: 51.9%	Con. B	N= 36
Education	VMBO: 1% HAVO: 3% VWO: 13% MBO: 2% HBO: 33% WO Bachelor: 15% WO Master: 34%	Con. C	N= 30
Familiar with product	65%	Con. D	N= 31

4.1.1. Assumptions concerning variables

Before one can use the regression's output, numerous assumptions have to be met (Janssens, Wijnen, De Pelsmacker, & Van Kenhove, 2008). The assumptions about the characteristics of the variables are as follows: i) the dependent variables must be interval or nominal scaled, ii) the independent and dependent variables must have a linear relationship, iii) there cannot be multicollinearity between the independent variables.

The items in the questionnaire have a 5- or 7 point Likert scale and therefore are strictly speaking ordinal scales. This would mean that a regression analysis is not the best way to test this experiment's hypotheses. However, the 'assumption of equal appearing intervals' allows a five or more point Likert scale item to be valued as an interval scale (Janssens, Wijnen, De Pelsmacker, & Van Kenhove, 2008). The first assumption is therefore satisfied.

The second assumption is validated by checking the ZRESID ZPRED graphs of the different regressions in Appendix 4. The graphs do not show any pattern that would signal a non-linear relationship and thus confirms that the second assumption is met.

The last assumption concerning the variables is tested by checking the variance inflation factor (VIF). Although there are no strict rules about what VIF value should be a threshold for multicollinearity, Field (2009) reports that a VIF greater than 5 is a cause for concern and a Tolerance below 0.1 is a serious problem. Fortunately, the VIF and the Tolerance values of the regressions are between these thresholds. The collinearity diagnostics can be found in Appendix 5.

4.1.2. Assumptions concerning data

The used data has to satisfy the following assumptions to be suitable for a regressions analysis i) no presence of outliers ii) normality distribution of the residuals iii) the data set must have a homogeneity variance between the variables.

Outside three standard deviations, outliers could not be detected. Hence the dataset meets the fourth assumption, since there are no outliers in the dataset.

The normality distribution is tested with a Kolmogorov–Smirnov and Shapiro–Wilk test for each condition. Both tests, displayed in Appendix 6, show an acceptance of the null hypothesis in each condition which indicates a normal distribution of each combination of the dependent variables.

To be able to meet the final assumption about the homoscedasticity, the dependent variable has to have a similar variance across the values of an independent variable. This is indicated with the ZRESID ZPRED graphs, displayed in Appendix 4. The first graph for regression of the purchase shows signs of a triangle pattern, which indicates heteroscedasticity.

The violation of a part of this assumption can be overcome by using the bootstrap option in SPSS when performing the regression analysis (Field & Hole, 2003). This method does not rely on homoscedasticity and therefore still can give valuable information about the tested correlation. Therefore bootstrapping is used for the multiple regression analyses of purchase intention.

4.2. Verification of hypotheses

4.2.1. Purchase intention

The first step in testing the hypotheses is verifying the positive relationship between the perceived quality and credibility that the theory is suggesting.

The relation is tested to establish the managerial relevance of the dataset. By studying the expected positive influence of presenting the manufacturer, this study helps managers to enhance the quality and credibility perception of their products. Ultimately managers care for sales and not for credibility or quality. Therefore, if quality and credibility do not have a positive influence on the purchase intention the managerial relevance would be threatened. With the use of a multiple regression, Table 2 shows that the data support these theoretical findings with Credibility ($\beta = .298, p < 0.05$) and Quality ($\beta = .344, p < 0.01$) being significant with a R^2 of .331. This means that a higher quality or credibility evaluation leads to a higher purchase intention.

The control variable age is marginally significant ($\beta = -.017, p < 0.10$). This indicates that older respondents have less intention to buy the private label product that they saw in the experiment.

The effects of control variables gender, NFC, education, exposure time to product and familiarity on the purchase intention are not significant.

Table 2
Regression analyses Purchase Intention

	Dependent variable: Purchase intention		
Multiple regression β (bootstrapped)	<i>SE B</i>	<i>P-Value</i>	
Constant	1.463	1.341	.287
Quality	.344	.123	.007***
Credibility	.298	.140	.043**
Familiarity	-.008	.077	.904
Gender	.164	.253	.517
Education	.000	.085	.997
Exposure time to product	1.580	7.394	.304
Age	-.017	.010	.073*
NFC	-.146	.270	.592
Type of private label	.443	.288	.129
R²	.331		

*: Sig. at 10% **: Sig. at 5% ***: Sig. at 1%
Confidence intervals and standard errors based on 1000 bootstrap samples

4.2.2. Perceived quality

The perceived quality shows a significant positive influence on the purchase intention but what independent variables have a significant influence on the quality? After performing a multiple regression, the results at the left side in Table 3 show that a premium private label ($\beta = 1.745, p < .01$), being familiar with the product ($\beta = .204, p < .01$) and presenting the manufacturer on the product package ($\beta = .511, p < .05$) leads to significant higher quality ratings with a R^2 of .438.

From this data it can be concluded that presenting the manufacturer information on the product's package leads to a higher quality evaluation. An explanation of this significance is that the appearance of the manufacturer functions as an extra extrinsic cue that can enhance the perceived quality. An overview of how consumers rely on extrinsic cues can be found in Figure 3 where the framework of Richardson, Jain, & Dick (1996) is displayed. Extrinsic cues that influence the perceived quality can be price, product package or advertising, and according to the results of the regression the manufacturers information can also enhance the quality perception.

The analysis of the interaction effects shows an insignificance of the moderating variables type of private label and the NFC. This means that, in contrast to what was expected, the effect of presenting a manufacturer's logo on the quality perception is not subject to the type of private label. This is showing that the manufacturer has the same influence on the quality perception for a budget or premium private label.

A cause of this insignificance could lie in the fact that in a normal setting, consumers are expected to process the product information of the premium products with more intensity than budget products (Park & Moon, 2003). It was expected that this difference in process intensity would lead to differences in the quality evaluations. However, presumably subjects processed both types of private labels with the same intensity because it was an experimental setting. Therefore the effect of the manufacturer's information is the same over both types of private label.

Another unexpected insignificance is the interaction of the NFC. The outcomes in Table 3 show that the expected difference in quality ratings, for participants with a high versus low NFC is not present. Both groups of high and low NFC participants do not value the quality of the product differently. With the latter findings it can be concluded that hypothesis 1 is supported by the data but hypotheses 3 and 5 are not.

The significance influence of the control variable private label type means that the premium private label 'AH Excellent' is evaluated with a higher quality than the budget private label 'AH Basic'. This is of course only logical when the difference in branding and package is considered.

Control variable familiarity is also significant which indicates that people who know the product better, evaluate the quality higher. The framework of Richardson, Jain, & Dick (1996) in Figure 3 shows that familiarity is a main factor in the quality variation people perceive so the significance is not unexpected.

The control variables gender, education, exposure time to product and age have no significant *P*-values and therefore do not influence the quality.

Table 3
Regression analysis: quality

Dependent variable: Quality	Model 1		Model 2		Model 3		Model 4		
	β	<i>P-Value</i>	β	<i>P-Value</i>	β	<i>P-Value</i>	β	<i>P-Value</i>	
Multiple regression									
Constant	2.351	.028**	2.358	.035**	1.754	.215	1.581	.268	
Show manufacturing information	.511	.017**	.694	.024**	.512	.017**	.713	.021**	Hypothesis 1
Private label type	1.745	.000***	1.911	.000***	1.746	.000***	1.928	.000***	
Private label type* manufacturing information			-.339	.403			.399	.384	Hypothesis 3
NFC* manufacturing information (centred)					.361	.428	-.371	.363	Hypothesis 5
Education	-.046	.512	-.045	.527	-.042	.554	-.040	.574	
Exposure time to product	2.061	.452	1.868	.497	1.839	.505	1.604	.562	
Age	.011	.220	.011	.224	.011	.234	.010	.240	
Familiarity	.204	.002***	.204	.002***	.202	.003***	.202	.003***	
Gender	.248	.248	.233	.279	.249	.246	.234	.279	
NFC	-.204	.386	-.204	.387	-.017	.960	.003	.993	
R ²	.438		.441		.441		.445		

*: Sig. at 10% **: Sig. at 5% ***: Sig. at 1%

4.2.3. Perceived credibility

In the multiple regression analysis with credibility as a dependent variable, there are three significantly dependent variables displayed in Table 4. The target variable however, presenting manufacturing information, is insignificant. This means that knowing who the manufacturer of a product is does not influence the manufacturer's credibility. Presumably consumers do not care who the manufacturer is and find it irrelevant information. Another possibility could be that the presentation of the manufacturer's information leads to a dilution effect for some participants. They could value the extra information on the product package as too much and therefore rate the credibility of the product lower.

The other two target variables are the interaction variable private label type and the NFC. In the two middle columns in Table 4 it is clear that the moderating effects of these two variable are not present. With the introduction of these two variables the relation between the credibility and the manufacturing information still seems to be non-existent. With these findings we can therefore conclude that hypotheses 2, 4 and 6 are not supported by the data. The three control variables that are significant are private label type ($\beta = .422, p < .05$), familiarity ($\beta = .109, p < .10$) and the exposure time ($\beta = 4.396, p < .10$). The significance influence of the private label type is again not unexpected considering the difference in packaging and branding.

A longer exposure time presumably leads to a higher credibility evaluation but only with a probability .10. This probability is normally too weak to be able to speak about a genuine effect (Field & Hole, 2003).

This also concerns the marginal significance of the familiarity. A possible explanation of the higher credibility ratings subjects give to a product that they are more familiar with, could be that the same framework of Richardson, Jain, & Dick (1996) propose for the quality evaluation is also applicable to the way subjects evaluate a products credibility.

Table 4
Regression analysis: credibility

Dependent variable: Credibility	Model 1		Model 2		Model 3		Model 4		
	β	P-Value	β	P-Value	β	P-Value	β	P-Value	
Multiple regression									
Constant	2.661	.008***	2.654	.008***	3.150	.014**	3.148	.015**	
Show manufacturing information	.062	.741	.076	.781	.061	.326	.064	.815	Hypothesis 2
Private label type	.422	.026**	.434	.094*	.421	.026**	.423	.104	
Private label type* manufacturing information			-.025	.945			-.005	.990	Hypothesis 4
NFC* manufacturing information (centred)					-.253	.533	-.253	.537	Hypothesis 6
Education	.049	.436	.049	.437	.046	.467	.046	.469	
Exposure time to product	4.396	.073*	4.382	.077*	4.552	.066*	4.549	.068*	
Age	.000	.951	.000	.952	.001	.929	.001	.929	
Familiarity	.109	.065*	.109	.066*	.111	.063*	.111	.064*	
Gender	.015	.937	.014	.942	.014	.942	.014	.943	
NFC	.070	.740	.070	.741	-.062	.835	-.062	.837	
R ²	.090		.090		.093		.093		

*: Sig. at 10% **: Sig. at 5% ***: Sig. at 1%

4.3. Robustness and further analyses

The non-parametric tests that are used in this experiment rely on a set of assumptions that in some analyses cannot be met. The regression in Table 2 is such an analysis where the assumption of homoscedasticity is not met. However, with the use of a test that is robust to violations of these assumptions a meaningful test can still be done with the same data (Field, 2009).

Bootstrapping is such a robust method and it gets around the problem of the heteroscedasticity by estimating the properties of the sampling distribution from the sample data (Efron & Tibshirani, 1993). Instead of using these properties only once, the bootstrap method uses this for 1000 bootstrap samples which makes it possible to make valuable outcomes of data that is not normally distributed or is heteroscedastic.

Another situation where a robust method is needed is the moderation check of NFC. Here the NFC is 'mean-centered' which means that the NFC score is subtracted from the mean. By using a centered variable, multicollinearity issues are prevented and it helps the interpretation of the moderating effect at different levels (Enders & Tofighi, 2007).

The levels, on which the NFC has a significant moderating effect, become clear by using a spotlight analysis (Field, 2009). The moderating effect of the NFC is checked with a spotlight analysis for both credibility and quality. The spotlight analysis for credibility shows no significant points in the range of NFC values but in the analysis for quality there is a range of points where the NFC significantly moderates the effect manufacturing information has on the perceived quality.

This range of levels goes from .1660 point above the mean to -.7114 point below the mean. The full range can be found in the table in Appendix 7. Most significant NFC values are negative which indicates that they lay below the sample's mean. This is in line with hypothesis 5 that proposes that people with a lower NFC value the quality higher than people with a higher NFC. However, not the whole range of lower NFC values have a significant influence. If the NFC is more than .7114 points below the average, the moderating influence is no longer significant.

The range of NFC levels below the mean that have a moderating influence, found with the spotlight analysis, is supporting hypothesis 5. However, not all lower NFC values have a significant influence which makes it hard to fully support its acceptance. Hypothesis 5 is therefore partially supported.

Spotlight analysis cannot be performed to analyze the moderating effect of the private label types because this variable is dichotomous.

The further analysis of the credibility leads to two remarkable insights about the influence of the private label type and the familiarity. The concept of credibility is built up out of two components; the cues expertise and its trustworthiness. Further analysis shows that the private label type mostly has an influence on the trustworthiness of the cue ($\beta = .664, p < .05, R^2 = .083$), and familiarity has the most influence on the expertise ($\beta = .154, p < .01, R^2 = .124$). An explanation of the influence the private label type has on the trustworthiness could be the variety of product descriptions in different languages on the package of the budget private label showed in Appendix 3.

These different languages, that are irrelevant and incongruent for the product, can have a negative impact on the credibility of a product and can lead to a less perceived trustworthiness for the budget private label (Meyvis & Janiszewski, 2002; Hornikx, Meurs van, & Hof, 2013).

4.4 Hypothesis overview

The theoretical framework provides several hypotheses made about the presentation of the manufacturer on a private label, the influence on the perceived quality and credibility, the influence of the type of private label and the influence of the NFC. Some of them are supported by the data and some are not or partially supported. Table 5 shows a list of the hypotheses with a conclusion on whether they are supported or rejected.

Table 5
Overview hypotheses.

<i>Hypothesis</i>	<i>Prediction</i>	<i>Results</i>
1	<i>Information about the manufacturer presented on the private label product package has a positive effect on the perceived private label quality.</i>	Supported
2	<i>Information about the manufacturer presented on the private label product package is evaluated as a credible cue and has a positive effect on the private label's perceived credibility.</i>	Unsupported
3	<i>Information about the manufacturer presented on the private label product package has a stronger positive effect on the perceived quality for premium private labels than it does for budget private labels.</i>	Unsupported
4	<i>Presenting the manufacturer on a private label, has more influence on a premium private label's credibility than a budget private label's credibility</i>	Unsupported
5	<i>Information about the manufacturer presented on the private label product package has a weaker effect on the perceived quality for people with a high need for cognition than on people with a low need for cognition.</i>	Partially Supported
6	<i>Information about the manufacturer presented on the private label product package has a weaker effect on the credibility for people with a high need for cognition than on people with a low need for cognition.</i>	Unsupported

5 Discussion

5.1 Summary and conclusion

The main problem statement of this study reads as follows: *'What is the effect on the purchase intention of private labels when the manufacturer is presented on the product?'*

Previous literature focused on other brand building tools besides the manufacturing information, which could enhance the purchase intention like the country of origin or celebrity endorsers. This study takes a different approach and lays its focus on the biggest trend in retail: private labels. It investigates if giving information about the private labels manufacturer is also a subtle way to enhance the purchase intention.

Perceived credibility and quality are used as the two pillars this study is built upon. There are three reasons for the use of these concepts but the most important one is the fact that they have a major influence on the purchase intention (Erdem & Swait, 2004). This assumption is tested and the data show that the credibility and quality indeed have a significant influence on the purchase intention.

The results show that the implementation of the manufacturer's logo has a positive influence on the perceived quality. Subjects see the logo as an extrinsic cue which, according to the framework of Richardson, Jain, & Dick (1996), leads to a positive effect on the quality evaluation.

The type of private label does not influence this relationship between the manufacturer's information and the perceived quality. It was expected that a premium private label with manufacturer's information on the package would evoke higher quality ratings than a budget private label with the manufacturer's logo but this is not the case.

Also the NFC does not affect the relationship between the manufacturer's information and the perceived quality. The centred interaction term is not significant in the multiple regression analysis. Further spotlight analysis however shows that there is a range of NFC levels that significantly moderates the relationship. This would mean that we still could speak of a hypothesis that is supported by the data but the lack of a full range of NFC levels below the mean that has a significant influence, makes it hard to fully accept its influence.

Therefore we have to conclude that hypothesis 5 is only partially supported by the data.

The control variable familiarity and gender also had a significant influence on the quality evaluation. The fact that the familiarity had a positive influence was not unexpected. Richardson, Jain, & Dick (1996) already listed this variable in their framework as an enhancer of the perceived quality variation.

The analysis of the credibility shows that it is not influenced in any way by presenting a manufacturer's logo on the product package. Presumably subjects do not value the manufacturer of a private label product as meaningful information for their credibility evaluation. The type of private label and the NFC both do not play any part in this and are both insignificant.

The analysis also shows that the familiarity, private label type and the time being exposed to the picture do influence the credibility positively. The type of private label and familiarity both influence different aspects of the perceived credibility. The familiarity impacts the expertise aspect of the credibility and the private label type influences the trustworthiness aspect.

5.2 Managerial implications

The insights of this study have useful implications for retailers. Brand managers of private labels could benefit from the insights because it provides a new brand building tool that will enhance the perceived quality of their private label which will ultimately result in a higher purchase intention. The findings result in the following recommendations to retailers private label brand management teams.

The first advice indicates the usefulness of presenting the manufacturer's information as a brand building tool for a private label. The information can be seen as a source of secondary brand information which can be used in the brand manager's advantage. The quality perception, and therefore the purchase intention, is proven to benefit from presenting the information on the private labels product package. The higher perceived quality can be used by retailers who are competing with Albert Heijn for Figure 2's toss-up and random buyers and lure them to their supermarkets.

To implement this a retailer should find a suited manufacturer of their private label and implement its logo on the product package. Examples of these kind of manufacturers that produce private labels and are unknown for the general public are Vezet, which produces pan ready vegetables, or Delica, which makes chocolate decoration (Moers, 2005). This study can be used to persuade these manufacturers to link their names to a product and convince them of the usefulness.

This implementation of just the logo should already enhance the quality perception, but a retailer could go a step further and follow the example set by Amazon, by presenting a QR code on the package. Amazon already has a QR code on some of their private label products and by scanning this code consumers can find the whole manufacturing story of their product.

The example of the online retailer Amazon can be translated to a setting more useful for an offline retailer. Consumers that are interested in a product's manufacturer and their story could go to an in-store scanner which provides them with the whole story about the manufacturer and the product's journey to the retailer's shelves. This scanner could function as a modern store clerk in the self-service retail formats that are becoming increasingly popular in today's supermarkets.

5.3 Limitations

The presented experiment has some limitations and some of them may serve as source for further research.

The experiment only uses one product, which is a private label orange juice, to evoke credibility and quality associations from the subjects. The conclusions that this study draws are therefore most relevant for the beverages product category. In the product categories of food and non-food other criteria may apply but there is no literature about this topic available up to now.

Additional refinement on the experiment could be achieved by establishing a better heterogeneity in the NFC levels. The participants for this experiment are reached via my personal network which resulted in a sample with an overrepresentation of students with a higher educational background. The earlier suggested tripartite partitioning establishes a greater variance in the NFC levels. But to be able to perform this tripartite partitioning a bigger sample size should be realized.

5.4 Further research

The main focus in this study are private labels with a manufacturer that was unknown to the general public. Brand houses like Unilever or Nestle also produce private labels but do not want to be associated with these products and typically have a secretive attitude towards their production of these private labels. They are afraid of the image of their brands being damaged.

An interesting topic for further research could be to study the effects on the national labels if they lose their secretiveness and give their name on the private label's package. Will the increasing revenue of the private label cover the damage in the national labels image, for what kind of products could this be possible, and what will this do to the relation between the retailer and the national label are questions that this study could address.

The second point of interest is that the experiment only uses one product from one retailer, which is AH orange juice, to evoke credibility and quality associations from the subjects. The conclusions that this study draws are therefore most relevant for the beverages product category from Albert Heijn. In the product categories of food and non-food other criteria may apply but there is no literature about this topic available up to now. To get a better representation of the full retail landscape over different product categories different types of products of different retailers can be used in the experiment.

6 Appendix

Appendix 1

Instruction

Dear respondent,

Thank you for participating in this survey.

The survey will take approximately 10 minutes of your time and will be processed completely anonymous. Due to the use of pictures it is recommendable to fill in the questionnaire on a computer.

Good luck with completing the questions and thank you for making the effort. It is highly appreciated.

If you have any questions or remarks regarding this survey please send a message the following e-mail address: 355112jh@eur.nl

Before the survey starts it is important that you answer the questions with the following scenario in mind:

Imagine yourself walking in the supermarket and seeing the orange juice that you will see in the next picture.

It is important that you look at the picture carefully. After the picture questions about the picture will follow.*



Condition A



Condition B



Condition C



Condition D

* Only one picture is showed in one condition

Product familiarity

Please indicate how the following quotes about the orange juice apply to you

(Schlosser, 2003; Kent & Allen, 1994) I am familiar with this brand

(Kent & Allen, 1994) I have experience with this brand

(Kent & Allen, 1994) I am knowledgeable with this brand

(1 = strongly disagree and 7 = strongly agree)

Purchase Intention

(Rossiter, 2002) The next time I buy orange juice I will buy this brand

(1 = strongly disagree and 7 = strongly agree)

Product quality

(Erdem & Swait, 2004): In terms of overall quality I would rate this product as a... (1-10)

(Erdem & Swait, 2004): The quality of this private label is very high

(1 = strongly disagree and 7 = strongly agree)

Product credibility (Ohanian, 1990):

The manufacturer of this product is JJ Productions.*

On the product packaging and in advertisements, JJ Productions makes the following claims about orange juice:

Claims condition A & B: *Contains 100% pure juice*

No added sugar

Claims condition C & D: *Freshly squeezed*

Only hand selected oranges used

* References to JJ productions only in conditions A and C

Trustworthiness

Please answer the following questions about the claims

The claims on the product package are honest

The claims on the product package are reliable

The claims on the product package are trustworthy

Expertise

Please answer the following questions about the manufacturer

The manufacturer of this product is experienced

The manufacturer of this product is qualified

The manufacturer of this product is an expert

(1 = strongly disagree and 7 = strongly agree)

Personal Involvement (Zaichkowsky, 1994):

Please indicate how the following statements apply to you

To me this orange juice is:

- | | | |
|------------------|----------------------------------|-------------------|
| 1. Important | __ : __ : __ : __ : __ : __ : __ | Unimportant* |
| 2. Boring | __ : __ : __ : __ : __ : __ : __ | Interesting |
| 3. Relevant | __ : __ : __ : __ : __ : __ : __ | Irrelevant* |
| 4. Exciting | __ : __ : __ : __ : __ : __ : __ | Unexciting* |
| 5. Means nothing | __ : __ : __ : __ : __ : __ : __ | Means a lot to me |
| 6. Appealing | __ : __ : __ : __ : __ : __ : __ | Unappealing* |
| 7. Fascinating | __ : __ : __ : __ : __ : __ : __ | Mundane* |
| 8. Worthless | __ : __ : __ : __ : __ : __ : __ | Valuable |
| 9. Involving | __ : __ : __ : __ : __ : __ : __ | Uninvolving |
| 10. Not needed | __ : __ : __ : __ : __ : __ : __ | Needed |

Need for cognition (Cacioppo, Petty, & Kao, 1984):

Please indicate how the following statements apply to you

* indicates item is reverse scored

1. I would prefer complex to simple problems.
 2. I like to have the responsibility of handling a situation that requires a lot of thinking.
 3. Thinking is not my idea of fun.
 4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
 5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.
 6. I find satisfaction in deliberating hard and for long hours.
 7. I only think as hard as I have to.
 8. I prefer to think about small, daily projects to long-term ones.
 9. I like tasks that require little thought once I've learned them.
 10. The idea of relying on thought to make my way to the top appeals to me.
 11. I really enjoy a task that involves coming up with new solutions to problems.
 12. Learning new ways to think doesn't excite me very much.
 13. I prefer my life to be filled with puzzles that I must solve.
 14. The notion of thinking abstractly is appealing to me.
 15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought
 16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.
 17. It's enough for me that something gets the job done; I don't care how or why it works.
 18. I usually end up deliberating about issues even when they do not affect me personally.
- (1 = extremely uncharacteristic and 5 = extremely characteristic)

Exposure time (Cadreon, 2015)

The time spend on the product picture's page is measured.

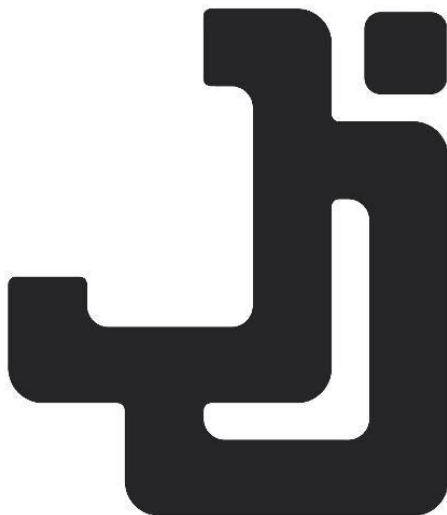
Demographics What is your gender?

1. Female
2. Male

Demographics What is your age?**Demographics** What is the highest degree or level of school you have completed?

1 = 'Primary School' 2 = 'VMBO' 3 = 'HAVO' 4 = 'VWO' 5 = 'MBO' 6 = 'HBO' 7 = 'WO Bachelor' 8 = 'WO Master'

Appendix 2



Appendix 3

oh BASIC
100% ORANGE JUICE
FROM CONCENTRATE
 SINAASAPPELSAP UIT CONCENTRAAT / POMERANČOVÁ
 ŠŤÁVA Z KONCENTRÁTU / JUS D'ORANGE À BASE DE
 CONCENTRÉ / ORANGENSAFT AUS KONZENTRAT

100% JUICE

1,5 L e

per glass (200ml)	per 100ml
82 kcal	41 kcal
350 kJ	175 kJ

oh BASIC
100% ORANGE JUICE
FROM CONCENTRATE
 SINAASAPPELSAP UIT CONCENTRAAT / POMERANČOVÁ
 ŠŤÁVA Z KONCENTRÁTU / JUS D'ORANGE À BASE DE
 CONCENTRÉ / ORANGENSAFT AUS KONZENTRAT

100% JUICE

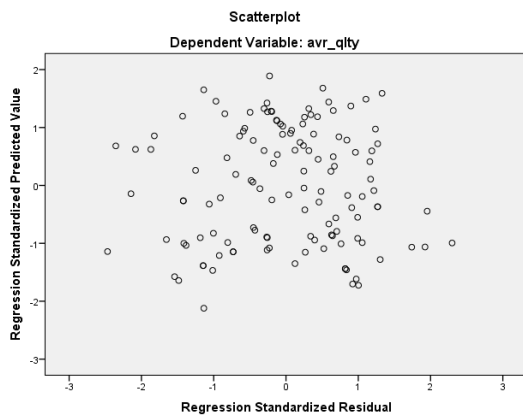
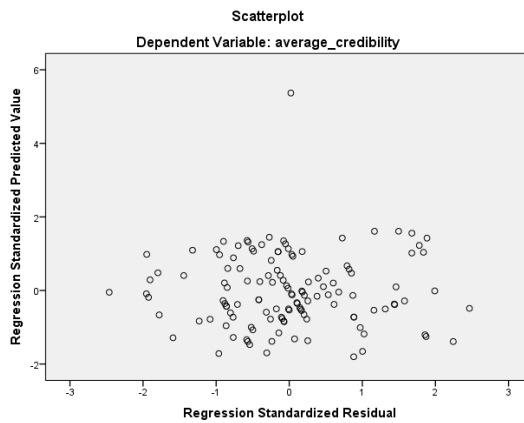
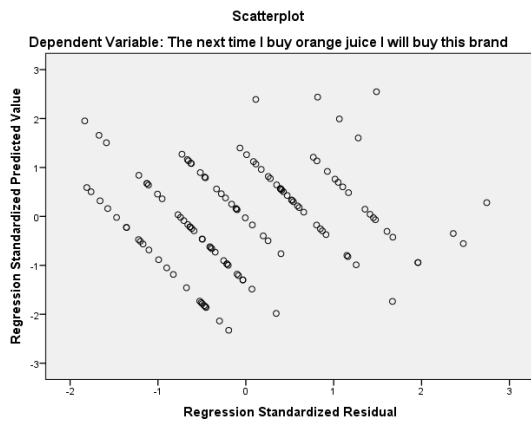
Manufactured by
JJ Productions

1,5 L e

per glass (200ml)	per 100ml
82 kcal	41 kcal
350 kJ	175 kJ



Appendix 4



Appendix 5

Collinearity Purchase intention

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,463	1,307		1,120	,265		
	avr_qty	,344	,116	,327	2,966	,004	,468	2,138
	average_credibility	,298	,133	,198	2,239	,027	,722	1,385
	Duration (in seconds)	1,580E-006	,000	,039	,496	,621	,902	1,108
	What is your gender	,079	,241	,026	,329	,743	,914	1,094
	Familiarity	-,008	,079	-,009	-,107	,915	,728	1,373
	education	,000	,082	,000	-,004	,997	,871	1,148
	Average_NFC	-,146	,272	-,043	-,538	,592	,890	1,124
	What is your age	-,017	,010	-,152	-1,645	,103	,663	1,507
	Prem_PL	,443	,301	,145	1,474	,143	,587	1,703

a. Dependent Variable: The next time I buy orange juice I will buy this brand

The bootstrapping of this regression is done with this data. The bootstrap analysis itself does not give collinearity statistics

Collinearity quality

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,581	1,421		1,112	,268		
	Show_Man	,713	,305	,245	2,339	,021	,432	2,314
	Duration (in seconds)	1,604E-006	,000	,042	,581	,562	,909	1,100
	education	-,040	,071	-,041	-,563	,574	,879	1,138
	Familiarity	,202	,066	,238	3,057	,003	,781	1,281
	Average_NFC	,003	,334	,001	,008	,993	,445	2,245
	What is your age	,010	,009	,099	1,180	,240	,672	1,488
	What is your gender	,234	,215	,080	1,089	,279	,872	1,147
	Prem_PL	1,928	,289	,662	6,681	,000	,483	2,072
	Interaction_PL_show	-,371	,406	-,111	-,913	,363	,324	3,088
	Moderator_Show_NFC_C enterd	,399	,456	,090	,873	,384	,449	2,227

a. Dependent Variable: avr_qty

Collinearity credibility

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,148	1,273		2,472	,015		
	Show_Man	,064	,273	,031	,234	,815	,432	2,314
	Duration (in seconds)	4,549E-006	,000	,170	1,839	,068	,909	1,100
	education	,046	,063	,068	,726	,469	,879	1,138
	Familiarity	,111	,059	,186	1,870	,064	,781	1,281
	Average_NFC	-,062	,299	-,027	-,206	,837	,445	2,245
	What is your age	,001	,008	,010	,089	,929	,672	1,488
	What is your gender	,014	,192	,007	,072	,943	,872	1,147
	Prem_PL	,423	,258	,207	1,637	,104	,483	2,072
	Interaction_PL_show	-,005	,364	-,002	-,013	,990	,324	3,088
	Moderator_Show_NFC_C entered	-,253	,409	-,081	-,619	,537	,449	2,227

a. Dependent Variable: average_credibility

Appendix 6

Condition A:

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,124	32	,200 [*]	,953	32	,170

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

a. Lilliefors Significance Correction

Condition B:

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,101	36	,200 [*]	,980	36	,756

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

a. Lilliefors Significance Correction

Condition C:

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,151	31	,069	,933	31	,054

a. Lilliefors Significance Correction

Condition D:

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	,121	30	,200*	,957	30	,255

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

a. Lilliefors Significance Correction

Appendix 7

centerd_NFC	Effect	se	t	p	LLCI	ULCI
-1,5026	1,0567	,7145	1,4789	,1418	-,3582	2,4717
-1,3693	1,0077	,6570	1,5337	,1278	-,2934	2,3087
-1,2359	,9586	,6001	1,5975	,1128	-,2297	2,1469
-1,1026	,9095	,5439	1,6722	,0971	-,1675	1,9866
-,9693	,8604	,4887	1,7606	,0809	-,1074	1,8283
-,8359	,8114	,4350	1,8653	,0646	-,0500	1,6728
-,7114	,7655	,3866	1,9803	,0500	,0000	1,5311
-,7026	,7623	,3832	1,9891	,0490	,0034	1,5212
-,5693	,7132	,3344	2,1326	,0350	,0510	1,3755
-,4359	,6642	,2900	2,2898	,0238	,0898	1,2385
-,3026	,6151	,2524	2,4368	,0163	,1152	1,1149
-,1693	,5660	,2250	2,5159	,0132	,1205	1,0115
-,0359	,5167	,1973	2,6187	,0097	,1677	,9362
,0974	,4673	,1736	2,6913	,0077	,2166	,8941
,1660	,4426	,2235	1,9803	,0500	,0000	,8853
,2307	,4188	,2349	1,7832	,0771	-,0463	,8839
,3641	,3697	,2670	1,3847	,1688	-,1590	,8985
,4974	,3206	,3078	1,0418	,2996	-,2889	,9302
,6307	,2716	,3542	,7666	,4448	-,4299	,9731
,7641	,2225	,4044	,5502	,5832	-,5783	1,0233
,8974	,1734	,4571	,3794	,7050	-,7317	1,0786
1,0307	,1244	,5115	,2431	,8083	-,8885	1,1372
1,1641	,0753	,5671	,1328	,8946	-1,0477	1,1983

Double-click to activate

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