Does environmental-friendly retail consumer packaging influence the purchasing behavior of Dutch consumers?

Research about a topic that becomes more actual everyday

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EXECUTIVE SUMMARY

This research focusses on the subject environmental claims, displayed at the package of a product. To companies, packaging is an important function in communicating but it also has a negative impact, the overall environmental impact. The environmental discussions are a relevant topic these days. Some consumers can be skeptic about an environmental claim and interpret it as not credible as a method of greenwashing. Greenwashing is defined as 'using communication to highlight environmental commitments despite the absence of actions satisfying the engagements presented in the communication'. But does this effect the purchase intention of the customer? Therefore, the central research question in this research is as follows:

'What is the effect of environmental claims, which indicates a more sustainable package, to the purchase intention of the customer?'

The research question was tested in this research on the basis of six different hypotheses. To test the hypotheses in this study, an experimental research is used. This experiment will gather data through an online questionnaire. The between-groups experimental design is applied in this research and the experimental design (2 x 2 x 2) contains out of 8 conditions and each participant is randomly assigned to one of the 8 conditions.

The first hypothesis tested the mediated effect of perceived consumer effectiveness. The outcome shows that there is no relationship between this variable and the purchase intention. The fact that consumers believe that their individual efforts are contributing to the environmental issues in the world, will not play a role in the purchasing process of the customer. This outcome is in contrast with what was expected out of the literature. The expectation was that perceived consumer effectiveness would mediate the relationship between an environmental claim and the purchase intention in a positive way.

The second hypothesis tested the mediated effect of brand credibility, which did show a significant relationship to purchase intention. The relationship between these two variables is positive, which means, the higher the credibility of the brand, the higher the purchase intention of a customer, buying a product of that specific brand, will be. It is also the other way around, the less credible a brand is, the lower the purchase intention will be. This is in line with the expectations out of the literature.

The third hypothesis tested the effect of the location of the claim for the mediator variable brand credibility. Claim location related to brand credibility, didn't show any significant results.

The fourth hypothesis tested the effect of the claim location for the mediator perceived consumer effectiveness and this did show significant results. Claims that are located at a light location, which means at the top-left of the product package, show a significant effect. The more a claim is positioned at a light location, the higher the perceived consumer effectiveness of a customer will be, according to this research. The expectation out of the literature was in the exact opposite way. The heavier location on a package would have a stronger positive effect than claims that are placed at a light location.

The fifth hypothesis tested the effect of claim presentation for the mediator perceived consumer effectiveness. Unfortunately, the outcome of the field research didn't show any significant results. Which meant that it doesn't matter if the claim contains out of visual and text or just a visual presentation.

The last hypothesis tested the effect of claim presentation for the mediator variable brand credibility. The effect is measured positive, which means that, when a claim is presented with visual and supported with text, the credibility of the brand will be higher than when the claim just contains out of a visual presentation. This is in line with the expectations out of the literature, where was expected that the claim presentation would have a stronger positive effect when these claims contain out of visual and textual instead of just a visual presentation.

The conclusion that can be made, is that there is no effect of an environmental claim, placed on the package of a product, and the purchase intention of the customer. This outcome could be explained by the fact that there are a lot of influences in the purchasing process of a consumer. Besides the pivotal role of the packaging, there are a lot of other factors which are not measured in this research.

The outcome of this research can give relevant insights to firms. The first advice is to either focus on the credibility, instead of displaying several environmental claims at their packages. Another advice is related to the location of the claim. The light location of a package, top-left, is a place on the package that is measured as more effective, related to the variable perceived consumer effectiveness. Packages with a claim that is placed at the top-left, have a claim that is more effective to people that believe that their effort could have a contribution to the better environment. This can also be implemented for other important messages on a product, not just for an environmental claim.

The recommendations to further research are: take more factors into account in the purchasing process of the consumer and use more than one product and brand to test the effect of an environmental claim. The last recommendation is to also take the product itself into account, because this is also an important factor in the purchasing process.

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1.   INTRODUCTION AND RESEARCH QUESTION

This chapter starts with a short introduction about the subject that is researched in this thesis. After the introduction, the research question is presented, followed by a description of the managerial and academic relevance of the subject.

1.1   Introduction

Once a week, or sometimes every day, customers go to the supermarket to buy their daily groceries. The customer has a lot of choice and is confronted with a very wide assortment of products. All these products have dissimilar color, size, shape, font type and material (Warren Twedt, 1968). These aspects can persuade a customer to purchase a product or not. The features are all part of the package of the product, which is an extremely influential medium because of its persuasive impact on purchasers, its presence at the crucial moment when the purchase decision is made, and consumers' high level of involvement when they actively scan packages in their decision-making process (Orth & Malkewitz, 2008). The moment when people are looking at the package is crucial to their purchase intention and whether customers will buy it or not. Communication through packaging is a very effective way to get attention of the customer that a company wants to reach.

On the one hand, packaging has an important function in communicating, but on the other hand, packaging is one of the major factors that contribute to the overall environmental impact (Battini, Calzavara, Sgarbossa, & Persona, 2016), which is a downside of product packaging (Magnier & Schoormans, 2015).

In 2014, each citizen of the EU generated 162.9 kg of packaging waste (Eurostat, 2017). This means that packaging is an important issue when considering the environmental effects. There are several ways to make product packages more sustainable. From packages with less material and weight to packages with more sustainable materials and designs. Because consumers are showing their concerns about the environmental sustainability (Olsen, Chandukala, & Slotegraaf, 2014), it seems logical for companies to follow a more environmental-friendly strategy and introduce sustainable packages.

Consumers' perceptions of reduced environmental impact of packages can differ. Colors, material, size and environmental claim can all contribute to the consumers' perception of how sustainable a certain package is. The green product can contribute to the sustainable package perception, but also an eco-friendlier material. An environmental claim on the package of a product can represent a sensitive issue for companies (Magnier & Schoormans, 2017).

However, some consumers can be skeptic about an environmental claim and interpret it as not credible and a method of greenwashing. Greenwashing is defined as 'using communication to highlight environmental commitments despite the absence of actions satisfying the engagements presented in the communication' (Magnier & Schoormans, 2015). This research was done with presenting either a claim of no claim at the product package. But more specific messages or figures presenting the carbon footprint of the package or other textual messages featuring more scientific arguments (Magnier & Schoormans, 2017) could improve the credibility of the environmental claims at product packages.

1.2   Research question

The research question will be:

'What is the effect of environmental claims, which indicates a more sustainable package, to the purchase intention of the customer?'

1.3   Managerial Relevance

Sustainable packaging is a very important subject to companies, especially for designers, brand managers, product managers and packaging managers. Companies are facing constant pressure from government, the media and customers and being forced to consider how to develop more sustainable products (PricewaterhouseCoopers, 2010). This topic is relevant to managers in the following ways:

First, managers can use packages as a very influential medium to their customers in order to increase the purchase intention. The persuasive impact of packaging can be effective to increase the purchase intention of the customer. Therefore, it is important to product- and brand managers to use their packages in an effective way, increase the purchase intention of their customers and raise their profit (Orth & Malkewitz, 2008). Even after the purchase, the packaging can still influence the customer experience (Deng & Kahn, 2009). A more specific environmental claim which relates to a more sustainable package can have greater influence on the purchase intention of the customer.

Second, managers can use a more credible and specific way of communicating an environmental claim, in order to increase the brand attitude (Magnier & Schoormans, 2017). This can also contribute to the social responsibility of the company. But when managers don't use it in the right way, it can be seen as greenwashing. Greenwashing can really hurt brands, and this is the reason why it is important to managers to communicate a credible environmental claim on their product packages (Magnier & Schoormans, 2015).

Third, when companies creating packages that demonstrate sustainability in a visually way, such as with an environmental claim, this may have positive influence on the perceived quality of their products (Mugge, Magnier, & Schoormans, 2016). Perceived quality can be seen as a stable motivation for consumers to buy sustainable food products. Therefore, the purchase intention can increase when the perceived quality of the products is higher (Magnusson, Arvola, Hursti, Aberg, & Sjödén, 2003).

1.4   Academic Relevance

This research contributes to the following streams of literature: product packaging and sustainable marketing, in the following ways:

1.4.1 Product Packaging

Product packaging is a very well researched subject, because of the fact that the package of a product is an extremely influential medium (Orth & Malkewitz, 2008). The product package can play a pivotal role in a consumer's purchase decision. It is important to understand how the different variables, such as shape, color, size and graphics, affect the consumer perception. Marketing researchers have focused on the effects of package shape on volume perception, package preference, choice and consumption (Deng & Kahn, 2009).

But, the sustainable aspect of product packaging is not yet well researched. Sustainable product packaging is a relevant subject in the literature because of its importance these days, and research about this topic is mostly quite recent. The combination of sustainability and product packaging, especially, visible product packaging is not much researched in top journals. There has been done some research in several other journals about different aspects of sustainable packaging. The communication of green new products is expected to play a pivotal role (Olsen, Chandukala, & Slotegraaf, 2014) and can be done in different ways. One way is through environmental claims. But the question remains, if this is really an effective way of communication and do environmental claims really work? This study contributes to the literature by showing the effectiveness of environmental claims to the purchase intention of the customer.

1.4.2 Sustainable Marketing

Sustainable marketing is a topic that is not researched a lot in top journals. But, because of the fact that the topic: 'Sustainability' became more relevant, there is some research done about this subject in other journals.

In the different researches about sustainable marketing that has been done are several definitions about this concept. Sustainable marketing is a term, created by Sheth and Parvatiyar (1995) and addresses the 'ways and means' for reconciling economic and ecological factors through reinvented products and product systems. At this moment, the environmental impact of packaging is a very relevant topic, so is sustainability. Research of environmental claims, a part of the sustainability discussion, will contribute to the stream sustainable marketing to give more insights about the relevance of these claims. The literature has to gather more knowledge about this topic, because it is becoming more relevant every day.

2.   LITERATURE REVIEW

This chapter starts with the literature review of the stream product packaging, followed by the review of the second stream: sustainable marketing.

2.1   Review of Literature on Product Packaging

Before packaging became an important aspect, the most important function was that it must have at least the right protection for distributing the product. But with the shift to self-service, products came out from behind counters and customers could feel and touch the products themselves. The package of the product became more important and part of the purchasing process of the customer. Packages transformed from just a container, which was only meant to protect the product, to a real important package with a lot more influence (Warren Twedt, 1968).

In the past years, packaging became an extremely influential medium because of its role in the marketing communication. Packages can have a persuasive impact on purchasers and are always present at the crucial moment when the purchase decision is made. Also, consumers' high level of involvement, when scanning packages in their decision-making process, makes a package even more relevant (Orth & Malkewitz, 2008). Packages are not only important to consumers, it acts as a very influential medium to companies, brands and marketers too. In these cases, packages can be used to distinguish themselves from the other competitors that are active in the market. Even the position of text and symbols on packages matters and can influence the consumers' perception of the visual heaviness of the product (Deng & Kahn, 2009). It has been argued that packaging is such an important aspect, that it replaced the role of a salesperson in the communication with consumers at the moment of purchase. The fact that customers increasingly deciding their food purchases in store, instead of deciding this already at home, makes the package of a product even a more influential medium in the decision process (Rundh, 2009).

Because it will become even harder to distinguish a product, marketers use various visual techniques to increase the consumers' attention and choose for original materials, shapes and colors (Piqueras-Fiszman, Velasco, Salgado-Montejo, & Spence, 2013). The study of van Ooijen et al (2016) shows that atypical food packaging has a persuasive cue itself but also affects the persuasive impact of other information that is available on or around the product package. This kind of package will motivate consumers to distinguish high quality information from low quality information. Consumers will be able to distinguish strong or informative product claims from weak or unimportant claims that will be displayed on the package of a product (van Ooijen, Fransen, Verlegh, & Smit, 2016).

Another angle of product packaging is the research about transparent packages, which is more related to package design. Simmonds et al (2018) shows that the transparency of the package plays an important role in the product evaluation of the customer. This kind of packaging is appearing more frequently in the marketplace and many brands incorporate these features in their package designs. The industry predicts that this package innovation trend will increase in the upcoming years (Simmonds, Woods, & Spence, 2018).

Packages of products contains out of several elements. There is a division made between visual and verbal package elements. Visual elements are for example: images, while verbal packages are for example: claims and descriptions. Visual signals are mostly processed by customers while verbal package elements are considered to be more concrete (Magnier & Schoormans, 2015), such as a verbal claim that the package or product is sustainable (Obermiller & Spangenberg, 1998).

Sustainable packaging is becoming a relevant topic in the recent years, since the world is aware of the negative effects of product packaging. This importance will increase even more. Studying an aspect of sustainable packages if therefore very relevant.

The definition of packaging sustainability is 'the endeavor to reduce the products' footprint through altering the product's packaging, for example, by using more environmentally friendly materials' (Mugge, Magnier, & Schoormans, 2016). All product packages have an environmental footprint. This footprint not only depends on the product itself but also its package. To reduce this footprint, both intrinsic and extrinsic attributes of the product can be changed. Intrinsic attributes can be, for example communicating via labels and logos while extrinsic attributes are the package itself (Mugge, Magnier, & Schoormans, 2016).

An important intrinsic attribute, that is related to sustainability, of the package are environmental claims and are an important way of communicating the sustainable friendliness of the product. The definition of an environmental claim is: 'an eco-label with a message about a product causing less damage to the environment' (Steinhart, Ayalon, & Puterman, 2013). Companies can either choose if they want to design a package with an ecological look or produce a sustainable package with a conventional look that does not signal any sustainability. The risk with a conventional look is that it can easily be misunderstood by customers. Environmental claims can add value at this point and can highlight the visual design elements that show sustainability (Magnier & Schoormans, 2015).

It seems an easy decision, where to place an environmental claim on a package, but this needs to be a well-thought decision that effect the customer in a positive way. Brand managers and package designers were not much aware of the fact that claim location could play a pivotal role when designing a product package.

The place of a claim on the package is an important part of designing packages in the most effective way and lead it to the highest purchase intention (Deng & Kahn, 2009).

An ecological verbal claim doesn't have positive effects only. The downside of these kind of claims is that they come with skepticism (Obermiller & Spangenberg, 1998). It may improve the affective attitude towards the package and purchase intention on the one hand, but on the other hand it is possible that it may backfire when customers question the environmental claims and the credibility of the company (Magnier & Schoormans, 2015).


2.2   Review of Literature on Sustainable Marketing

Sustainable marketing is becoming more important every day. This because of all the environmental issues that the world is facing. Companies have no other choice than participate in this way of marketing. Sustainable marketing, also known as green marketing, is a description of the environmental approach to marketing (Murphy, 2005).

On the basis of the five concepts of the evolution in marketing, we will explain the presence of sustainability in marketing. The five concepts of marketing are: production concept, product concept, selling concept, marketing concept and societal marketing concept. The production concept is the oldest one, while the societal marketing concept is the most recent one. In this research is especially the last concept the most important one. This concept is related to sustainable marketing and is based on bringing the social and ethical aspect into the marketing activities of the company (Kumar, Rahman, Kazmi, & Goyal, 2012).

Sustainable marketing is a very wide and broad understanding with different definitions and distinguishes. Van Dam and Apeldoorn (1996) are relating sustainable marketing to the natural environment and even note the difference between *ecological marketing* and *green marketing*, which both exist when private companies have the need to combine profit making with sustainable contribution to the society. *Ecological marketing* is a societal marketing approach while *green marketing* is a more conventional micromarketing approach (Van Dam & Apeldoorn, 1996). Murphy (2005) defines sustainable marketing as the contemporary description of an 'environmentally enlightened' approach to marketing that has been around for several decades (Murphy, 2005). The research of Gordon et al. (2011) examines three ways in which sustainable marketing can be achieved. These three ways are: green marketing, social marketing and critical marketing. According to this article, sustainable marketing exists of these three concepts and also defines a solution in which commercial goods can be marketed in a responsible way that doesn't have a negative impact on the environment (Carrigan, Gordon, & Hastings, 2011).

To really perform sustainable as a company, it is necessary that sustainability is well adopt in the strategic marketing practices and in the marketing mix. Peattie and Belz (2010) developed the concept of the 4 C's. These are related to McCarthy's 4 P's of marketing. The 4 P's are converted into the 4 C's to add the sustainable aspect to the marketing mix. This is illustrated in figure 1.
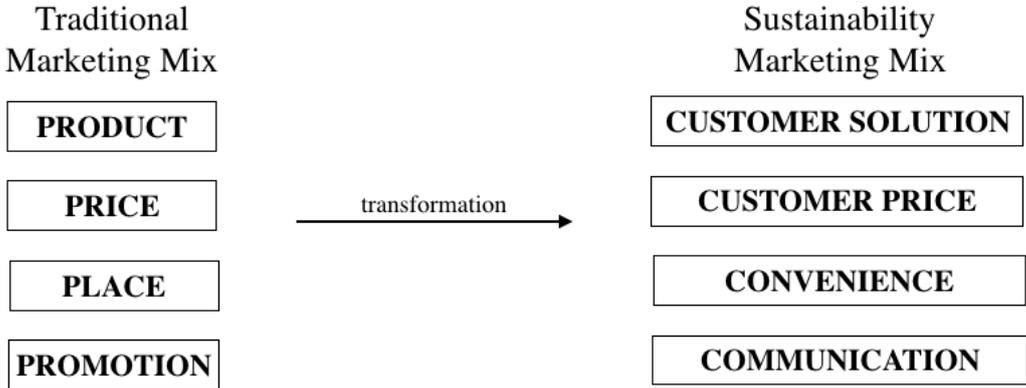
Figure 1: *McCarthy's 4 P's approach transformed to the Sustainability Marketing Mix*

Sustainable marketing has several benefits. It is potential profitable, it is good for the brand and corporate image and will result in some goodwill for public and media relations (Carrigan, Gordon, & Hastings, 2011). It also helps in competitive advantage but also opens doors for cost savings and innovations (Kumar, Rahman, Kazmi, & Goyal, 2012).

Besides the fact that sustainability is becoming a very important topic, there is still a lack of awareness, understanding and trust among customers (Chatzidakis, Hibbert, & Smith, 2007).

Sustainable marketing also has a downside. Many organizations are making statements that are quite misleading in their efforts to position themselves as environmentally concerned (Kangun, Carlson, & Grove, 1991). This is one of the reasons why people are becoming very skeptic about companies and their environmental performances. This skepticism will have a negative effect on the customers and might have a negative effect on their green purchase behavior. The study of Goh & Balaji (2016) show that green skepticism has an indirect negative effect on green purchase intentions though environmental concern and knowledge. When customers are very skeptic towards a green product, they will have a lower concern and lower knowledge about environmental issues. This will decrease their green product purchase intention (Balaji & Goh, 2016).

Green advertising is a way of sustainable marketing and is defined as: *'the promotional messages that may appeal to the needs and desires of environmentally-concerned customers.'* Green advertising has been studied extensively to find the most effective way of targeting green consumers (Jimenez & Yang, 2008). For example, the study of D'Souza & Taghian (2005) analyses whether there are differences in green advertisement attitudes between high involved and low involved customers. The study shows that there are differences between the two groups and their attitudes. Low involved customers more ignore and will not notice the green advertising compared to the high involved customers (D'Souza & Taghian, 2005).

An increasing number of companies are using a green positioning strategy in their advertising campaigns. The most important driver to do this for companies is the pressure of the customers and its increasing concerns about the environment. This concern will let marketers believe that this is an important driver for the purchase behavior of the customers. As a result, companies invest in sustainability and to make their brands greener. But the study of Kong & Zhang (2014) proves that green associations not always lead to a higher purchase intention. For companies with low perceived environmental impact products, green advertising can be risky. Consumer may think that the green information is unimportant or irrelevant. But the results for companies with high environmental impact products are more positive. Consumers would respond more positive to their green actions (Kong & Zhang, 2014).

However, green advertising has a downside too, which is called: 'greenwashing'. With the rise of importance of green advertising, companies have to take greenwashing into account. It is defined as: *'using communication to highlight environmental commitments despite the absence of actions satisfying the engagements presented in the communication'* (Magnier & Schoormans, 2015). Consumers are becoming more skeptical about the real actions and performances of companies that pretend to be green. Organizations that claim to be sustainable are often heavily investigated by the government, competitors and customers. This might keep companies away to advertise their sustainable goals, but there are still companies that compete with their sustainable performances. The growing green advertisement leaded to the growing skepticism by customers which resulted in a negative effect on the credibility of the company and the company performance (Nyilasy, Gangadharbatla, & Paladino, 2014).

Environmental claims are an important part in the greenwashing issue, because companies 'claim' to be sustainable and communicate this at the product packages. The research of Magnier & Schoormans (2015) show that the positive effect related to an environmental claim on a package is not straightforward. On the one hand, it may improve customers' attitude towards the package and increase the purchase intention, but on the other hand, it may backfire when customers question the credibility of the environmental claim.

3.   HYPOTHESIS DEVELOPMENT

This chapter will describe the different hypothesis that are formulated in this research. Each subsection describes literature and the corresponding hypothesis. At the end of this chapter, the conceptual model of this research will be explained.

To formulate the different hypothesis, two main mediator variables are important: *brand credibility* and *perceived consumer effectiveness*. There are several reasons why the focus in this research is on these two mediator variables.

First, brand credibility is important to the whole complete firm. A firm takes responsibility over the brand credibility and within the firm, brand credibility relates to all parts and functions in the company and plays a very important role to retain customers (Sweeneya & Swait, 2008). This variable plays a key role in the purchase intention and customer choice and affects the purchase intention in a positive way, when customers evaluate a brand as credible. The feeling of trust among customers, would influence the purchase behavior and the performances of the brand. When customers have no faith and trust in a brand, the purchase intention of these group of customers would be low (Jeng, 2016).

Second, perceived consumer effectiveness is a variable that is strong associated with green products in research, also green purchases and environmental topics are related to this variable. There are a number of studies that have proved that perceived consumer effectiveness influences the purchase intention of the customer and that these customers would have a greater likelihood to buy green (Kim, 2011).

Third, brand credibility is an important factor for the product packaging related to greenwashing. Consumers can be skeptic about an environmental claim of statement on the package of a product and interpret this as not credible. When a brand is seen as more credible, the trustworthiness will be higher, and the brand will be less accused of green washing (Magnier & Schoormans, 2015).

3.1   The mediating role of perceived consumer effectiveness

Most researches today define perceived consumer effectiveness as an estimation of the extent to which personal consumption activities contribute to a solution to the problem (Berger & Corbin, 1992). The more an individual believes that the efforts of an individual can make a difference in solving environmental problems, the greater the likelihood and purchase intention will be of buying green products.

Perceived consumer effectiveness is an effective variable to predict the environmentally conscious purchase behavior of customers and is determined by knowledge and direct and indirect experiences. This variable differs between customers with different knowledge and experiences (Kim & Choi, 2005). The attitude of a customer towards environmental issues might not always result in behavior that contributes to the environment in a positive way, but the effect can become greater when customers believe more strongly in the fact that their individual efforts are contributing to the environmental issues in the world (Kim, 2011).

Buying environmental-friendly products differs from general purchase behavior and is more related to the future-oriented outcome, such as a cleaner environment or plastic-free oceans. These are problems on the long term and customers should think about the long-term consequences of these problems while making purchases. When they do and take care about the environment, this will not just benefit the consumer itself, but also the society as a whole on the long-term. But, predicting consumers' pro-environmental behavior is very difficult. Sometimes people mention that the environment is an important factor to them when purchasing products and that they will contribute to an environmental-friendly society. When in fact, they will not notice if they actually buy environmental-friendly products. The result is that these customers are not as environmental-friendly as they indicate (Kim & Choi, 2005). Also because of the difference in level of knowledge and experience among customers, their perceived consumer effectiveness differs too. Customers are confronted with a lot of packages and claims while purchasing products. But the question remains, will people make an environmentally conscious choice?

When the perceived consumer effectiveness of one person is high, he believes that his actions can have a positive contribution to the society as a whole and feels that his actions matter. So, if an individual believes that his environmental-friendly purchase, environmental claims could have a positive effect on the purchase intention when this relationship is mediated by perceived consumer effectiveness. The environmental claims show these customers that they make an environmental-friendly purchase, when their perceived consumer effectiveness is high, they believe that their purchase could contribute to a better environment which would higher their purchase intention. The environmental claims give the customer the information that his purchase is an environmentally conscious choice. From the above information, the following hypothesis can be formulated:

H1: Environmental claims, presented on the package of a product, have a positive effect on perceived consumer effectiveness, which would higher the purchase intention of the individual consumer.

<u>3.2   The mediating role of brand credibility</u>

One of the most important characteristics of a brand is its credibility. Brands are important to customers, because it gives customers the possibility to identify themselves with the product of the company and differentiate the specific brand from the other competitors in the market (Keller, 2008). Brands are very valuable for companies and it is important that companies focus on this aspect, because the performances of one brand in a company with several brands, could tell the customer al lot about the company.

Brand credibility is based on the past performances, behavior and actions of the company and customers can evaluate the actions of the company as credible or non-credible. Previous studies suggested three components of brand credibility: trustworthiness, expertise and attractiveness/likeableness (Erdem & Swait, 2004). In brand credibility, there is a receiver and a sender. In this research, the receiver will be the customer and the sender will be the company. In the literature, brand credibility is studied from the source credibility research stream. Source credibility can be described as the senders' 'positive characteristics that influence the receivers' message acceptance. The role of sender and receiver are also important when describing the three components of brand credibility. Trustworthiness can be described as the receiver's trust in a sender. Expertise can be explained as a sources' perceived skills and attractiveness/likeableness refers to the sources image (Wang & Yang, 2010).
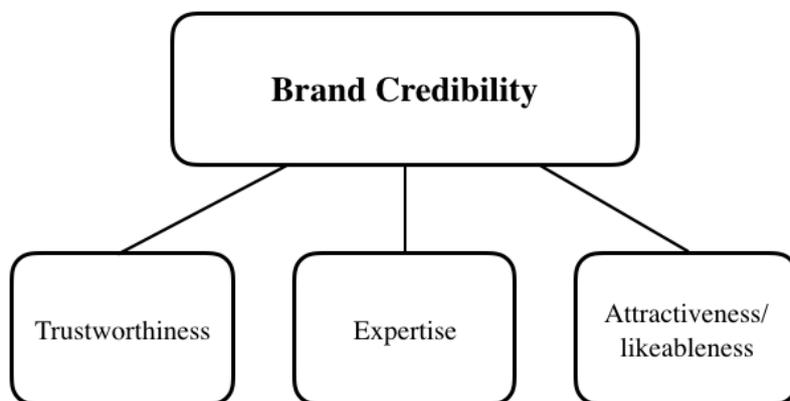
Figure 2: *Three components of brand credibility* (Wang & Yang, 2010)

The research of Carrete et al. (2012) provides insights, that environmental-friendly products have a very low level of trust among its consumers, especially with environmental claims that are presented on the package of products can be experienced as incredible. In their research they wanted to get a better understanding of deeper motivations of green consumer behavior in the context of emerging economies. The outcome told them that the participants

responded differently related to their skepticism about green products. The responses varied from mild skepticism to the conviction that companies and media lie about green products. When companies misleading their customers by presenting a false green claim, they will be accused of green washing and this will lower their credibility of the brand (Carrete, Castaño, Felix, Centeno, & González, 2012).

Altogether, when customers are skeptic about a specific brand and its claims, their purchase intention will be negatively affected. The trustworthiness of the receiver (customer) will be lower and the customer will lose his trust in the sender. When the brand credibility of one person is low, he will have less faith and trust in the brand, he is willing to purchase less and will be skeptic about the green claims. This will result in a lower purchase intention. Therefore, environmental claims have a negative effect on the purchase intention, when this relationship is mediated by brand credibility. The following hypothesis can be formulated:

H2: Environmental claims, presented on the package of a product, have a negative effect on the brand credibility, which would lower the purchase intention of the individual consumer.

3.3 The moderating effect of *claim location* on the *perceived consumer effectiveness*

The location of a certain claim on a product package can have influence on the customer. The study of Deng & Kahn (2009) focusses on the effect of different locations of images on packages and demonstrate the 'location effect'. This effect explains that product images, in this context environmental claims, displayed at certain location on a product package can be evaluated as 'heavy' and 'light' locations. The heavy locations indicate a heavier visual weight, which means that this location on the package is attracting the eye more and therefore people will recognize and notice the claim more than when these are placed at light locations. The light location will attract the eye of the people less and has a lighter visual weight. A claim placed on a light location will be less noticeable by its customers. Heavy locations on a package are considered at the bottom, right or bottom-right of the package and the less heavy locations, also 'lighter' ones are considered on the top, left or top-left of the package, this is illustrated in figure 3 (Deng & Kahn, 2009).
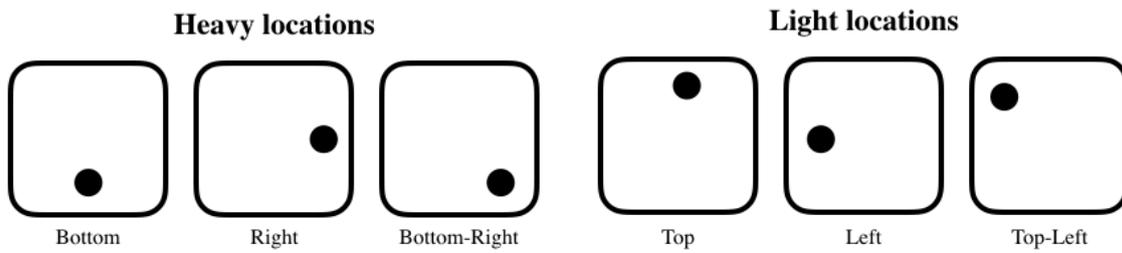
Figure 3: *Heavy and Light locations* (Deng & Kahn, 2009)

Packages with a claim displayed at heavy locations will be more recognized by its customers. Because perceived consumer effectiveness is strong related to the knowledge and experience of the customer, this will also play a role at the claim location. People that notice the claims even more, when placed at heavy locations, gather more knowledge about the environmental claims which results in stronger relationship between environmental claims and perceived consumer effectiveness. With the moderator variable, claim location, the positive effect of environmental claims on the perceived consumer effectiveness and the purchase intention becomes even more positive. The following hypothesis can be formulated:

H3^A: Environmental claims, presented on the package of a product, have a stronger positive effect on the perceived consumer effectiveness when these are placed at a heavier location instead of a lighter location on the package of the product.

H3^B: Environmental claims, presented on the package of a product, have a less positive effect on the perceived consumer effectiveness when these are placed at a lighter location instead of a heavy location on the package of the product.

3.4   The moderating effect of *claim location* on the *brand credibility*

In section 3.3 the moderator variable, claim location, is already well explained. The difference between the heavy and light locations on product packages is illustrated in figure 3. Environmental claims placed at heavy locations will be more noticed by the customers and will attract the eye more than claims placed at lighter locations, which people will notice less. The explanation in section 3.2 already explained that brand credibility goes together with skepticism and that because of the presence of environmental claims, brand credibility will have a negative effect on the purchase intention. When this relationship is moderated by the claim location, this relationship will be expected as more negative. Explained by the fact that, claims which are placed at heavy locations, will be more noticed by its consumers and be more attracted the eye and this would lower the brand credibility even more.

The visual weight of product packages, heavy or light locations, both have a moderated effect on the relationship of environmental claims on the brand credibility and purchase intention. The following hypothesis can be formulated:

H4^A: Environmental claims, presented on the package of a product, have a stronger negative effect on the brand credibility when these are placed at heavier locations instead of a lighter location on the package of the product.

H4^B: Environmental claims, presented on the package of a product, have a less negative effect on the brand credibility when these are placed at lighter locations instead of a heavier location on the package of the product.

3.5   The moderating effect of *claim presentation* on the *perceived consumer effectiveness*

The second moderator variable in this research is claim presentation. The appearance of packages is playing a more pivotal role in the purchasing process of customers these days. An important part of the appearance are the logos or claims that are displayed at packages. The previous moderator was about the place of the claim at the product packages. The second moderator variable focuses more on the claim itself. Some claims or logos just contain out of a visual or an image, while other claims are displayed with a visual or image enriched with text or a statement.

This variable is testing if there will be any influence of the manipulation, of a textual of visual and textual claim, in this research. According to Creusen & Schoormans (2005), six different roles for product appearance and its effect for customers can be identified. These six roles are: (1) communication of aesthetic, (2) symbolic, (3) functional, (4) ergonomic information, (5) attention drawing and (6) categorization. The presentation of an environmental claim on a product package, whether this claim contains out of text and a visual or just text, belongs to the fifth role: attention drawing. Gaining attention is a very important role in the purchasing process of the consumer. As well, the literature explains that for food-products in particular, the attention-drawing role of a package can higher the purchase intention of the customers (Creusen & Schoormans, 2005). It is assumed that the visual and textual claim draws more attention than just the visual claim, because of the fact that a claim that also contains out of text gives the potential customers more information and explanation about the claim of product itself.

As explained in section 3.1, when the perceived consumer effectiveness of an individual is high, this person believes that his actions can have a positive contribution to the society. In this research, it is expected that perceived consumer effectiveness will influence the purchase intention positively. Therefore, it is expected that the effect of the manipulation will be more positive for the claim that contains out of text and a visual instead of just a visual. From the above information, the following hypothesis can be formulated:

H5: Environmental claims, presented on the package of a product, have a stronger positive effect on the perceived consumer effectiveness, when these claims contain out of visual and textual presentation instead of just a visual presentation.

3.6 The moderating effect of *claim presentation* on the *brand credibility*

In the previous section, the second moderator variable is well explained. It is assumed that the claims that contain out of textual and visual presentation will draw more attention than claims that just contain out of a visual presentation.

In section 3.2, it is explained that the variable brand credibility goes together with skepticism in this research. The expectation is that a low brand credibility will have a negative influence on the purchase intention of the customer. When this relationship will be moderated by claim presentation, the relationship will be expected to be more negative. The claim will make the brand less credible because of the 'green washing' discussion. The following hypothesis can be formulated:

H6: Environmental claims, presented on the package of a product, have a stronger negative effect on the brand credibility, when these claims contain out of visual and textual presentation instead of just a visual presentation.

3.7 Conceptual Model

The different hypotheses that are tested in this research are illustrated in the conceptual model in figure 4. The model contains of an independent variable, two moderator variables, two mediator variables and a dependent variable. The first moderator, perceived consumer effectiveness is explaining the positive relationship between environmental claims and the purchase intention.

While the second mediator, brand credibility explains the negative relationship between environmental claims and the purchase intention. The model contains of two moderator variables: claim location and claim presentation. These variables describe whether the effects, between perceived consumer effectiveness and purchase intention and brand credibility and purchase intention, become (less) more positive or (less) more negative. The control variables for the dependent variable 'purchase intention' are: age, income, education, degree of environmental concern, shopping value of consumers (hedonic/utilitarian) and claim knowledge.
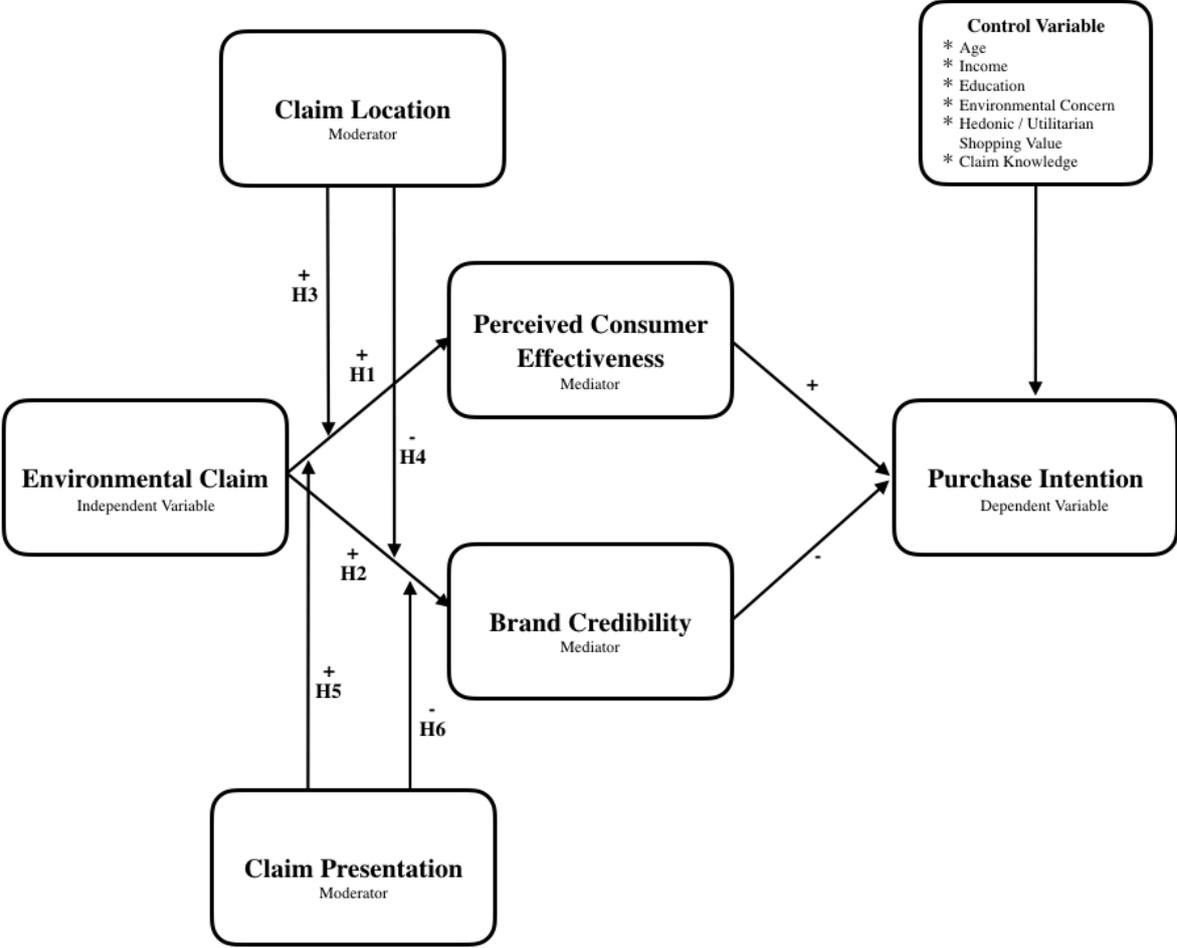

Figure 4: *Conceptual model*

4.   METHODOLOGY

In this chapter, the methodology of the research is explained. First the research method will be discussed, followed by the experimental design, the procedure, the internal and external validity of this research and the pre-test that is done.

4.1   Research Method

To the test the hypotheses in this study, an experimental research is used. This experiment will gather data through an online questionnaire that will be online through social media. The participants are asked to participate in the experiment and work through the questionnaire. The participant is randomly assigned to one of the 8 conditions in the experiment. In each condition a product package is displayed with a manipulation of the location of the environmental claim and a manipulation of the claim presentation. To make the experiment reliable and the data usable, it is recommended to gather 10-20 respondents for each condition, according to Field & Hole (2003). But, when using parametric test in the research, it is important to have a dataset with a minimum of 30 respondents. When the small dataset contains out of less than 30 respondents, it is not possible to get a good idea of the shape of distribution (Field & Hole, 2003). In the research of Mancl et al. (2000), 30 subjects were randomized to two conditions, this means that 15 subjects were assigned to each condition (Mancl, Leroux, & DeRouen, 2000). In this experiment are 8 conditions, therefore it will be necessary to gather at least 30 respondents for each condition. This means a minimum of: 30 x 8 = 240 respondents in total. Each group of subjects is exposed to one of the 8 conditions of this research (Field & Hole, 2003).

4.2   Experimental Design

In this research, the between-groups experimental design is applied. This kind of experimental design is using separate groups of participants for each of the conditions in the experiment. The experimental design (2 x 2 x 2) contains out of 8 conditions and each participant is randomly assigned to one the 8 conditions. It is essential to allocate participants randomly to the experimental conditions because, isolation of the effects of the manipulation of the independent variable is important. In this research, the manipulation will be at the independent variable: environmental claim and the moderator: claim location. These manipulations will test the possible changes in the dependent variable: purchase intention.

A between-group experimental design has several advantages. First, it's simplicity. For this kind of experiment, researchers only have to make sure that they allocate participants randomly to the different conditions created. Second, there is no possibility that performance in one condition can affect the performance in another condition in the experiment. This because each participant is only participating in one condition. Also, the fact that the questionnaire is less long than the other method (where participants need to go through all the conditions), the chance will be more likely that the participants will complete all questions in the questionnaire (Field & Hole, 2003).

Although, this method has a few disadvantages too. The fact that there are a lot of participants needed makes this kind of experiment time-consuming. The more conditions in the experiment, the more participants are needed to get reliable results. This is in contrast with the within-subject design method, where one participant goes through all the conditions. In this case, researches don't need to recruit much respondents but the risk that these respondents won't complete the full experiment is higher, because of the length (Field & Hole, 2003).

There will be 8 different conditions in this between-groups experiment with each two manipulations. These 8 conditions are related to the different levels of the independent variable and the moderator variable. First, there will be a distinction in claim type, whether it is an environmental claim or a non-environmental claim (e.g. claim related to health). The independent variable, environmental claim is represented by two levels: text or visual & text. The moderator variable: claim location is explained by a heavy or light location. In conclusion, the three manipulated variables, claim type, environmental claim and claim location, result in total 8 condition in this experiment, which are illustrated in figure 5.
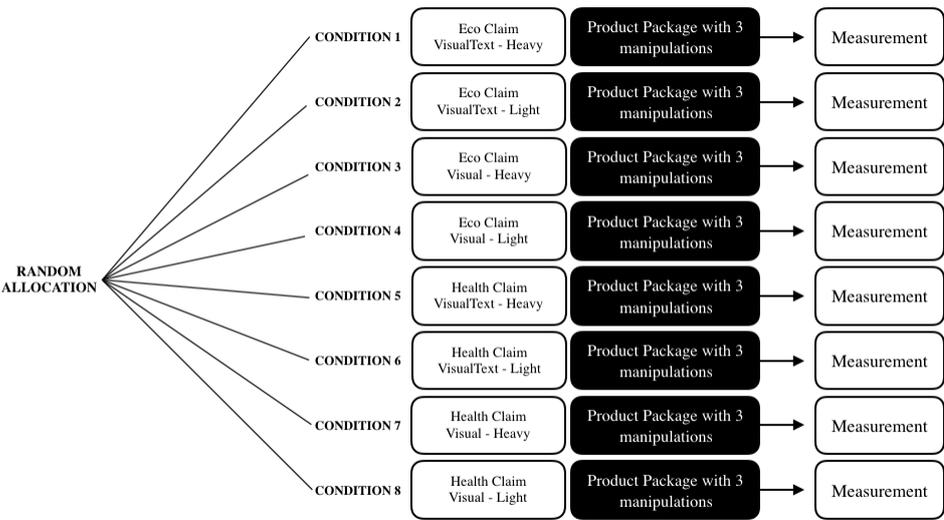
Figure 5: *between subject experimental-design overview*

4.3   Procedure

The subjects that are participating in the experiment are confronted with one of the 8 conditions. Each condition displays a fast-moving consumer product with three manipulations. The product that is used in the experiment is an ice-tea package of the brand Lipton. The reason why the brand Lipton is chosen is because Lipton is one of the largest tea traders in the world and part of the Unilever company. Unilever's tea beverages market share worldwide was 11.2% in 2017 and is expected to grow to 11.6% in 2021 (Statista, 2018). For the experiment, it is important that respondents know, recognize and probably once experienced the brand, to evaluate the brand credibility in the best way. The chance that respondents know and experienced Lipton as a brand, is very high. Also, the fact that Lipton gives a lot of attention to sustainability makes it a suitable brand for this research (Financial Times, 2011). In Lipton's their strategy to become more sustainable, they analyzed different certification schemes and to come to the best match between Lipton and an environmental claim. The claim: Rainforest Alliance Certified claim, which is displayed in figure 6, turned out to be the best match for Lipton (IMD, 2012).

Figure 6: *Rainforest Alliance Certified Claim*

Besides an environmental claim, also a health claim is tested in the experiment. For a long time, Lipton had the 'healthy choice' claim on its packages. The 'healthy choice' claim is a claim that is based on international dietary guidelines and gives consumers an indication how to make a healthy and conscious choice. In figure 7 the 'healthy choice' claim is displayed on the left-side in English and right in Dutch. The Dutch claim says: 'ik kies bewust' which is the translation of 'healthy choice'.

Figure 7: *The health claim 'healthy choice' (left: English and right: Dutch)*

This claim is displayed at a lot of products in supermarkets in the Netherlands. After introduction of this 'healthy choice' claim in 2006 and several promotion campaigns, the consumer awareness of the 'healthy choice' claim grew from 85% in 2008 to 95% in 2009. One of the motives behind this high percentage was that the claim was displayed on a wide variety of products. Because of the familiarity of this health claim and also the fact that these claims were displayed at Lipton products for a long time, this health claim is chosen for this research (Kornelis & Meeusen, 2010). In figure 8, several packages of Lipton ice-tea are displayed that contain the health claim: 'healthy choice'.

Figure 8: *Lipton product packages with a 'healthy choice' claim*

The experiment starts with an introduction to the respondents. In this introduction, the respondent is thanked in advance for participating in the experiment. Some information is provided to the respondent about the questionnaire and its duration. At the end of the introduction, it is specifically mentioned that the data is handled confidentially and won't be shared with third parties under any condition. After the introduction, the respondent will randomly be exposed to one of the 8 conditions which contains a picture of an ice-tea package with three manipulations. The first manipulation is about the claim itself, if it is an environmental claim of a health claim. The second manipulation is about the location of the claim, whether the claim is placed at a heavy or a light location and the last manipulation is about the design of the claim. The distinction was made between a claim that contains out of a visual (without text) presentation or a claim with visual and text.

After the respondent is exposed to one of the 8 conditions, it is specifically asked to respondents to study the picture well, to which they were confronted. After that, the first question is asked: 'are you familiar with this brand?'. This question is asked, because if respondents aren't familiar with Lipton, they can't answer the second question about brand credibility. If the respondent is answering 'yes' he is referred to the second question about brand credibility. If the respondent is answering 'no', he will be referred to the third question about perceived consumer effectiveness and will skip the question about the first mediator in this research: brand credibility.

In the second question, the picture of the ice-tea package is displayed again, and the respondent is asked to rate five statements on a 7-point Likert scale from strongly agree to strongly disagree about the first element of brand credibility, trustworthiness. The third and fourth question are a bit the same and are asked to measure the second and third element of brand credibility. Expertise is measured with two statements and attractiveness/likeableness with three statements, also both on a 7-point Likert scale. The fifth question is about the second mediator in this research: perceived consumer effectiveness. The respondent is asked to rate two statements on a 7-point Likert scale from strongly agree to strongly disagree.

Before question 6, the picture of the ice-tea package is displayed again, including the manipulations. The respondent is asked to rate the likelihood of purchasing the product on a 7-point Likert scale from very high to very low in question 6. In question 7, the control variable *environmental concern* is measured. The respondent is asked to rate 4 statements on a 7-point Likert scale from strongly agree to strongly disagree and the last question where respondents need to rate statements is question 8. This question is about the shopping values of the respondents and measures if the respondent is more a utilitarian or hedonic supermarket shopper. The following instruction is provided to respondents before answering the question:

'you will be asked to rate several statements about your shopping experience in the supermarket. Think about your last supermarket visit and use this to evaluate your experience.' After the instruction, the respondent is asked to rate 8 statements on a 7-point Likert scale from strongly agree to strongly disagree.

After this last question about ranking statements, one control variable is left to measure in the questionnaire: claim knowledge. In the description before question 9, the respondent is told that he will be asked to answer a few questions about labels or claims that are displayed on product packages. First, question 9 is asked: 'Do you have knowledge of labels or claims that are displayed on packages?', respondents can answer this question with 'yes' and 'no'. After this question, question 10 will follow: 'Was there a label or claim displayed at the ice-tea package that you just saw?', respondents can answer this question just with 'yes' and 'no'. If the respondent answers 'no', he will be redirected to the demographic questions. If respondents answer 'yes', he will be redirected to question 11: *'When there is a label or claim displayed at a product, will this have any influence on the value of this product for you?'*, respondents can answer this question with 'yes' and 'no'.

After the last question, it is told to the respondent that the experiment is almost at the end and that there are just a few general questions left. The first question is: 'What is your gender?', respondents can answer this question with 'male' or 'female', the second question is: 'What is your age?', respondents can fill in their age, the third question is: 'What is your income?' (per month), respondents can choose between 6 options. <€1000, €1000-€2000, €2000-€3000, €3000-€4000, €4000-€5000, > €5000. The last question is: 'What is your highest education?', respondents can choose between: primary school, high school, technical degree, bachelor's degree or master's degree. At the end of the questionnaire, the respondent is thanked for his participation and it is told that they could contact the researcher if they have questions.

The measurements scales, used in this experiment, are derived from top journals such as: Journal of Consumer Research and Journal of Marketing Research. The questions, measurement scales and the corresponding references can be found in appendix 1.

4.4   Internal and External Validity

Between-subject experimental designs are less susceptible to demand characteristics because each subject undergoes just one experimental condition. In this case, the participant is not aware of the differences between the 8 conditions in this experiment. Validity and reliability are both important in an experiment. Validity refers to the extent to which a measure or set of measures correctly represents the concept of the study and is concerned with how well the concept is defined by the measures, whereas reliability relates to the consistency of the measures in the study (Hair, Black, Babin, & Anderson, 2010).

Internal validity refers to the fact that the researcher really measured what was intended to measure whereas the external validity is about the how representative the study is to the humanity (Field & Hole, 2003).

The internal validity in this experiment is guaranteed by the fact that the respondents are randomly assigned to one of the eight conditions. When participants in one group communicate with participants in the other group, it can be possible that the outcomes are determined by other factors than the independent variable (Charnessa, Gneezyb, & Kuhnc, 2012). Another way to guarantee the internal validity in this experiment is the strong attention to the length of the experiment. When the experiment is too long, the 'time threat' can result in changes in the participants' behavior, when making the experiment not too long, there would be a smaller chance of changes in the participants behavior (Field & Hole, 2003).

To enhance the realism of the task in this study and therefore the external validity, the product selection was done very carefully. The decision was made to use a fast-moving consumer good and a long-standing brand in the experiment. It was important that the chosen product and brand were well-known among most of the respondents. Also, the fact that almost all questions are measured at a 7-point Likert scale gave respondents more scope to better express how they feel about something and the understanding among the respondents will possibly be higher (Field & Hole, 2003). Besides the fact that the product and brand were well-known, the selection of the example product is done carefully. The product that is chosen fits with the variables that are measured in this research. Especially, the environmental claim and health claim, which both were displayed at the Lipton ice-tea package. The health claim was displayed in the past on the packages of Lipton and at the moment, the environmental claim is displayed at the packages on a heavy location.

4.5   Pre-test

To make sure that the questionnaire is clear, not too long and understandable, the decisions was made to do a pre-test. Six persons were invited to participate in this pre-test and did not participate in the final online experiment. Three participants were asked how much time they needed to complete the questionnaire and the other three participants were asked to give feedback about the clarity of instructions and questions of the questionnaire.

The main results of the pre-test were quite positive. The questionnaire was evaluated as clear and understandable and the instructions were valuable to the questions. The pre-test participants that were asked how much time they needed to complete the questionnaire, evaluated the questionnaire as a bit too long. They all needed 8 minutes or more to complete the questionnaire. One person specifically noted that at the end of the questionnaire, his attention slipped away a bit.

To process the feedback of the pre-test, some small adjustments were made to improve the questionnaire. In question 8, respondents were asked to rate 15 statements and this question is asked at the end of the questionnaire. To shorten the questionnaire a bit, the amount is statements is reduced from 15 to 8 statements. Besides the fact that the feedback about the clarity was positive, the researcher still decided to make some adjustments in the instructions. When the picture of the ice-tea package was displayed with the question beneath, respondents just saw the ice-tea package and not the question when they answer the questionnaire on their mobile phone. To make it even more clear, above the picture the following text was displayed: *'Before you start with the questions, please study this picture very well and scroll down to answer the first question'.*

5. RESULTS

In this chapter, the results of this research are explained. The chapter starts with a paragraph about the data description, followed by the assumptions of the linear regression in this research and the hypotheses testing.

5.1   Data Description

The online questionnaire is completed by 311 respondents in a time period of 12 days (from July 19 till July 31). 311 respondents submitted the questionnaire, but some respondents were excluded from the dataset.

To complete this research and meet the requested reliability and validity, it was necessary to take a minimum of 30 respondents for each condition (Field & Hole, 2003). Before working with the data and making the analysis, the data needed to be cleaned. The respondents that didn't completed the questionnaire for more than 95%, were removed out of the dataset. These people were removed because, when removing these people, still the minimum amount of 30 people per condition was reached. This concerned 31 respondents out of the total of 311, which didn't complete more than 95%. After cleaning the dataset and exclude the respondents that didn't complete enough of the questions, the final dataset consists of 280 respondents.

Of the remaining 280 respondents, just three people didn't complete the questionnaire for 100%. One respondent in condition 3 and two respondent in condition 8. The data was supplemented by looking at the mean of the missing values for the relevant variable. The mean of each variable was filled in for every missing value for the three respondents.

Table 1 provides some important information of the sample population of the experiment. It shows the total of respondents before cleaning the dataset, the total of respondents after cleaning the dataset and the distribution of respondents per condition.

Total respondents before cleaning	N = 311
Total respondents after cleaning	N = 280
Condition 1	N = 30
Condition 2	N = 39
Condition 3	N = 38
Condition 4	N = 38
Condition 5	N = 30
Condition 6	N = 40
Condition 7	N = 33
Condition 8	N = 32

Table 1: *Sample population information*

Table 2 shows more detailed demographic information of the respondents that completed the questionnaire. The results per condition, gender, age, education and income are displayed below.

	Gender	Age (mean)	Education	Income
C1	**Male: 56,7%** Female: 43,3%	30,2	Primary School: 0% Highschool: 0% Technical Degree: 13,3% **Bachelor's Degree: 63,3%** Master's Degree: 23,3%	< €1000: 23,3% €1000-€2000: 26,7% **€2000-€3000: 30%** €3000-€4000: 6,7% €4000-€5000: 10% > €5000: 3,3%
C2	Male: 38,5% **Female: 61,5%**	29,21	Primary School: 0% Highschool: 5,1% Technical Degree: 7,7% **Bachelor's Degree: 56,4%** Master's Degree: 30,8%	**< €1000: 48,7%** €1000-€2000: 23,1% €2000-€3000: 15,4% €3000-€4000: 5,1% €4000-€5000: 2,6% > €5000: 5,1%
C3	Male: 42,1% **Female: 57,9%**	28,82	Primary School: 2,6% Highschool: 7,9% Technical Degree: 15,8% **Bachelor's Degree: 52,6%** Master's Degree: 21,1%	**< €1000: 52,6%** €1000-€2000: 18,4% €2000-€3000: 7,9% €3000-€4000: 13,2% €4000-€5000: 7,9% > €5000: 0%
C4	Male: 42,1% **Female: 57,9%**	33,87	Primary School: 0% Highschool: 2,6% Technical Degree: 15,8% **Bachelor's Degree: 57,9%** Master's Degree: 23,7%	< €1000: 23,7% **€1000-€2000: 34,2%** €2000-€3000: 23,7% €3000-€4000: 2,6% €4000-€5000: 2,6% > €5000: 13,2%
C5	Male: 33,3% **Female: 66,7%**	28,80	Primary School: 0% Highschool: 13,3% Technical Degree: 13,3% **Bachelor's Degree: 36,7%** **Master's Degree: 36,7%**	**< €1000: 36,7%** €1000-€2000: 26,7% €2000-€3000: 33,3% €3000-€4000: 0% €4000-€5000: 0% > €5000: 3,3%
C6	Male: 35% **Female: 65%**	28,15	Primary School: 0% Highschool: 10% Technical Degree: 7,5% **Bachelor's Degree: 42,5%** Master's Degree: 40%	**< €1000: 45%** €1000-€2000: 25% €2000-€3000: 12,5% €3000-€4000: 10% €4000-€5000: 2,5% > €5000: 5%
C7	Male: 45,5% **Female: 54,5%**	33,39	Primary School: 0% Highschool: 12,1% Technical Degree: 6,1% **Bachelor's Degree: 60,6%** Master's Degree: 21,2%	< €1000: 24,2% €1000-€2000: 24,2% **€2000-€3000: 33,3%** €3000-€4000: 9,1% €4000-€5000: 0% > €5000: 9,1%
C8	Male: 43,8% **Female: 56,3%**	29,47	Primary School: 0% Highschool: 9,4% Technical Degree: 6,3% **Bachelor's Degree: 68,8%** Master's Degree: 15,6%	< €1000: 31,3% **€1000-€2000: 40,6%** €2000-€3000: 18,8% €3000-€4000: 0% €4000-€5000: 0% > €5000: 9,4%

Table 2: *Demographic information sample population per condition*

The demographic information of the whole population is displayed in table 3:

Gender	Age (mean)	Education	Income
Male: 41,8% (N=117) Female: 58,2% (N=163)	30,22 Min: 17 Max: 65	Primary School: 0,4% (N=1) Highschool: 7,5% (N=21) Technical Degree: 10,7% (N=30) Bachelor's Degree: 54,6% (N=153) Master's Degree: 26,8% (N=75)	< €1000: 36,4% (N=102) €1000-€2000: 27,1% (N=76) €2000-€3000: 27,1% (N=59) €3000-€4000: 6,1% (N=17) €4000-€5000: 3,2% (N=9) > €5000: 6,1% (N=17)

Table 3: *Demographic information sample population*

5.2   Assumptions Linear Regression

Before starting to analyze the dataset, the data had to be checked whether the data related to the variables that consist out of multiple items, can be converted into one variable. The variables that consist out of multiple items in this research are: brand credibility (mediator variable), perceived consumer effectiveness (mediator variable), environmental concern (control variable) and shopping values (control variable).

The mediator variable brand credibility was measured using ten items on a 7-point Likert scale. To measure the reliability of this series of items, Cronbach's Alpha is used. Cronbach's Alpha is a way to assess the internal consistency reliability of multiple items that belong to one variable (Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011). The rules for interpretation of the alpha values are as follows:

Alpha coefficient range	Strength of association
< 0,6	Poor
0,6 to <0.7	Moderate
0,7 to <0,8	Good
0,8 to <0,9	Very Good
≥ 0,9	Excellent

Table 4: *Rules of thumb about Cronbach's Alpha coefficient size*
(Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011)

The Cronbach's alpha for the reliability of scale of brand credibility is 0,873. Which indicates a very good strength of association. The second mediator variable, perceived consumer effectiveness, is measured using two items on a 7-point Likert scale. The Cronbach's alpha for the reliability of the scale of perceived consumer effectiveness is 0,756 which means a good strength of association (Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011).

The Cronbach's alpha for the two control variables that consist out of multiple items, was calculated too. Both control variables, environmental concern and shopping values, are measured at a 7-point Likert scale. The variable environmental concern contains out of four

items. The Cronbach's alpha is calculated at 0,623, which indicates a moderate strength of association between the four items that measure environmental concern. Although the moderate association, this is not seen as a problem in this research because it concerns a control variable. The different items of environmental concern can still be converted into one single variable.

The second control variable: shopping values, consist out of eight items. Four items that represent the hedonic shopping values and four items that represent the utilitarian shopping values. The Cronbach's alpha for the variable shopping value is calculated at 0,647. This indicates a moderate strength of association between the eight items that measure the shopping values. As also mentioned above, this is not seen as a problem because it concerns a control variable. When the measurement is made for the hedonic and utilitarian items separately, the Cronbach's alpha is calculated at 0,708 (hedonic) and 0,665 (utilitarian). This indicates a good strength of association between the hedonic items and a moderate strength of association between the utilitarian items.

To make the data suitable for regression, several assumptions have to be met (Janssens, Wijnen, de Pelsmacker, & van Kenhove, 2008). First, the variables that are used in the regression need to be measured at an interval or ratio level. In this research, the two mediator variables: brand credibility and perceived consumer effectiveness and the dependent variable: purchase intention, are all measured at a 7-point Likert scale.

The second assumption is that the data must not contain any outliers (Janssens, Wijnen, de Pelsmacker, & van Kenhove, 2008). To examine this, the boxplot of the different variables in the model is measured and the results can be found in appendix 2. For several variables are outliers detected in the data. The mediator variable: brand credibility contains six outliers of the 280 respondents. The second mediator variable doesn't contain any outlier and therefore meets the assumptions. Likewise, the control variables both contain outliers, one for environmental concern and two outliers for the shopping values variable. When we look at the shopping value items separately, the hedonic shopping value doesn't contain any outlier and the utilitarian contains four outliers. As explained above, not all variables met the assumption for the linear regression. But the decision is made to run the regression analysis first without taking out the outliers. After the first analysis, the outliers are excluding from the data and the regression analysis is made again. That means that the sample population is limited from 280 respondents to 267 respondents.

The third assumption requires that there should be no multicollinearity between the variables. To check the multicollinearity between the variables it is necessary to calculate the VIF (variance inflation factor) and Tolerance of each variable. According to Curto and Pinto (2011) the rule of thumb for evaluating VIF is to be concerned with any value above 10 (Curto

& Pinto, 2011). A tolerance that value less than 0.1 may indicate the presence of multicollinearity according to Lin (2008), so if the tolerance of a particular variable is greater than 0.1, there is no multicollinearity between the variables (Lin, 2008). In appendix 3, the VIF and tolerance values are displayed in the three different tables. In the first table, purchase intention is measured as the dependent variable and in table 2 and 3, the mediator variable is measured as the dependent variable in the model. The results of all variables in all three tables meet the assumptions for multicollinearity.

5.3   Hypotheses testing

In this paragraph, the hypotheses of this research are tested. This paragraph is divided into four subsections. First the dependent variable: purchase intention is described followed by the first and second mediator variables: perceived consumer effectiveness and brand credibility. After that the moderator variables will be described, claim location and claim presentation.

5.3.1   Purchase intention

The hypotheses in this research are tested by using a regression analysis. First, the relationship between the two mediator variables and the dependent variable is tested.

The first mediator variable, perceived consumer effectiveness, did not show a significant effect on the purchase intention, $p = 0,253 > \alpha$ (0,05), displayed in table 5 and marked with a red square. The expectations out of the literature was that perceived consumer effectiveness should have a positive effect on the purchase intention because the purchase intention was expected to be higher when consumers believe more strongly in the fact that their individual efforts are contributing to the environmental issues in the world. Perceived consumer effectiveness itself, didn't have any effect on the purchase intention. In the next subsection, the variable environmental claim is included.

The second mediator variable, brand credibility, shows a significant effect on the purchase intention, $p = 0,000 < \alpha$ (0,05), displayed in table 5, marked with a green square. This relationship is even significant at a level of 1%. The β-value for brand credibility in this model is 1,281 (also marked with a green square), which refers to a positive relationship between brand credibility and purchase intention. The higher the brand credibility, the higher the purchase intention. The expectation was that when products with environmental claims are involved in the purchase process, the brand will be evaluated as less credible, because of the skepticism among environmental claims which are displayed at the packages of products. When customers are skeptic about a specific brand and its claims, their purchase intention will be

negatively affected. In table 5, the variable environmental claims are not yet included in the model and will be included in the next subsection.

The control variable age is considered acceptable (p = 0,070 < α (0,10)) on a significance level of 10% (Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011), displayed in table 5 below, marked with a blue square). The other control variables: environmental concern, shopping values, claim knowledge, gender, income and education are not significant in the regression analysis.

Dependent variable:	Unstandardized Coefficients		Standardized Coefficients		
Purchase Intention	B	Std. Error	Beta	t	Sig.
(Constant)	-1,238	,791		-1,565	,119
Perceived Consumer Effectiveness	,061	,054	,057	1,138	,256
Brand Credibility	**1,283**	**,106**	**,596**	**12,156**	**,000***
Environmental Concern	,087	,080	,055	1,085	,279
Hedonic Shopping Values Total	-,017	,080	-,010	-,217	,829
Utilitarian Shopping Values Total	-,052	,085	-,028	-,612	,541
Claim_Knowledge	-,044	,183	-,011	-,243	,808
Manipulation_Check	-,107	,187	-,026	-,572	,568
Gender	-,090	,169	-,025	-,534	,594
Age	**,015**	**,008**	**,104**	**1,818**	**,070**
Income	,086	,070	,069	1,233	,219
Education	,046	,098	,022	,473	,636

Table 5: *Regression output Purchase Intention*

(significance levels: * = 1%; ** = 10%)

5.3.2 Perceived Consumer Effectiveness

As explained in subsection 5.3.1, there is no significant effect between the perceived consumer effectiveness and the purchase intention of the customer. In the regression output in table 6 which is displayed on the next page, perceived consumer effectiveness is the dependent variable in this model and the independent variable is the claim (environmental claim / health claim) that is displayed to the respondents in the questionnaire. Also, the control variables: environmental concern, hedonic shopping values, utilitarian shopping values, claim knowledge, manipulation check, gender, age, income and education are included in the model.

Dependent variable:	Unstandardized Coefficients		Standardized Coefficients		
Perceived Consumer Effectiveness	B	Std. Error	Beta	t	Sig.
(Constant)	,939	,890		1,054	,293
Environmental Concern	**,604**	**,082**	**,409**	**7,347**	**,000***
Hedonic Shopping Values Total	**,157**	**,088**	**,101**	**1,777**	**,077****
Utilitarian Shopping Values Total	-,053	,095	-,031	-,557	,578
Claim_Knowledge	-,151	,207	-,041	-,730	,466
Manipulation_Check	-,028	,211	-,007	-,133	,894
Gender	**,425**	**,189**	**,129**	**2,251**	**,025***
Age	-,005	,009	-,039	-,571	,569
Income	**,135**	**,078**	**,117**	**1,729**	**,085****
Education	-,063	,109	-,033	-,584	,560
HealthClaim/EnvClaim	,185	,178	,057	1,040	,299

Table 6: *Regression output Perceived Consumer Effectiveness*

(significance levels: * = 5%; ** = 10%)

The results in table 6, above, show that environmental concern, p = 0,000 < α (0,05) and gender, p = 0,025 < α (0,05) are significantly related to the variable perceived consumer effectiveness, which is marked in the table with a green square. The variables: hedonic shopping values, p = 0,077 < α (0,10) and income, p = 0,085 < α (0,10) are both considered acceptable at a significance level of 10% (Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011), which are both marked with a blue square. The four variables, that are mentioned above, all lead to a significant higher perceived consumer effectiveness according to the regression output in table 6. These four variables are all control variables. The remaining control variables: utilitarian shopping values, claim knowledge, age and education are not significant in the regression analysis.

In contrast to the expectations, table 6 which is displayed above, shows an insignificant effect of the variable HealthClaim/EnvClaim, which is marked in table 6 with a red square. This means that there is no significant effect measured of the manipulation in the research, showing an environmental claim or health claim on the ice-tea package, and the respondents' perceived consumer effectiveness. The expectation was that the presence of an environmental claim would have a significant effect on the perceived consumer effectiveness of the customer, which will lead to a higher purchase intention.

5.3.3 Brand Credibility

As explained in subsection 5.3.1, there is a significant effect between brand credibility and purchase intention. In the regression output in table 7, which is displayed below, brand credibility is the dependent variable in the model and the independent variable is the claim (environmental claim / health claim) that is displayed to the respondents in the questionnaire. The control variables: environmental concern, hedonic shopping values, utilitarian shopping values, claim knowledge, manipulation check, gender, age, income and education are included in the model as well.

Dependent variable:	Unstandardized Coefficients		Standardized Coefficients		
Brand Credibility	B	Std. Error	Beta	t	Sig.
(Constant)	,505	,536		,943	,347
Environmental Concern	**,079**	**,042**	**,108**	**1,866**	**,063****
Hedonic Shopping Values Total	**,139**	**,045**	**,180**	**3,064**	**,002***
Utilitarian Shopping Values Total	-,012	,049	-,014	-,244	,807
Claim_Knowledge	-,082	,106	-,044	-,769	,443
Manipulation_Check	,077	,109	,041	,706	,481
Gender	,007	,097	,004	,070	,944
Age	**,017**	**,005**	**,255**	**3,655**	**,000***
Income	,011	,040	,019	,270	,787
Education	**,152**	**,056**	**,157**	**2,709**	**,007***
Conditions	,053	,093	,073	,572	,568
HealthClaim/EnvClaim	,202	,207	,125	,979	,328

Table 7: *Regression output Brand Credibility*

(significance levels: * = 5%; ** = 10%)

The results in table 7, displayed above, show that hedonic shopping values, p = 0,002 < α (0,05), age p = 0,000 < α (0,05) and education p = 0,007 < α (0,05) are significantly related to the variable brand credibility in this research, which are marked with a green square. The variable: environmental concern, p = 0,063 < α (0,10) is considered acceptable at a significance level of 10% (Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011), which is marked in table 7 with a blue square. These four variables are control variables and all lead to higher brand credibility according to the regression output in table 7. The remaining control variables: utilitarian shopping values, claim knowledge, gender and income are not significant in this analysis.

Like the same as the previous mediator variable, the variable HealthClaim/EnvClaim shows an insignificant effect, which is marked with a red square at the previous page in table 7. This means that there is no significant effect measured of the manipulation in the research, showing an environmental claim or health claim on the ice-tea package, and the respondents' brand credibility. The expectation was that the presence of an incredible environmental claim would lower the brand credibility, which would lead to a lower purchase intention. This means that hypothesis 2 in this research is partly accepted. There is a significant effect measured between the brand credibility and purchase intention, which is explained in the subsection 5.3.1. The relationship between these two variables is positive, which indicates that the higher the credibility of a customer about a specific brand, the higher the purchase intention of the customer will be. This supports the hypothesis partly because the variable of showing an environmental claim did not have a significant effect, but a lower brand credibility will result in a lower purchase intention, according the results of this research.

5.3.4 Claim Location

The location of the claim, on the package of a product, is in this research labelled as the first moderator variable. It is expected that this variable moderates the relationship between the independent variable: environmental claim and the two mediator variables: perceived consumer effectiveness and brand credibility. To measure the effect of the moderator variable, the variable Claim_Location is added to the regression output in table 8, with perceived consumer effectiveness as the dependent variable and in table 9, with brand credibility as the dependent variable, both tables are displayed at the next two pages.

The output of the adjusted regression output, with perceived consumer effectiveness as the dependent variable, is displayed in table 8 below. The results show the same significant control variables as the results in subsection 5.3.2 (table 6), environmental concern, hedonic shopping values, gender and income, marked in the table with a green square. The moderator variable: claim location, $p = 0,025 < \alpha$ (0,05), shows a significant effect on the perceived consumer effectiveness, which is marked with a blue square in the table 8 on the next page. The β-value for claim location in this model is 0,403, also marked with a blue square, which refers to a positive relationship between claim location and perceived consumer effectiveness. For the variable: claim location, the heavy location is coded as 0 and a light location is coded as 1. The positive relationship means, the higher the claim location (which means in this case the lighter the location) the higher the perceived consumer effectiveness will be in this research.

The outcome of this variable is in contrast with the expectation out of the literature. The expectations were suggesting that the moderating effect would be stronger when the claims are placed at heavier locations. The outcome of the research shows that it is the exact opposite way, the effect is significant when the claims are placed at lighter locations instead of heavier. The remaining control variables: utilitarian shopping values, claim knowledge, age and education are not significant in this analysis.

Dependent variable: Perceived Consumer Effectiveness	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	,939	,884		1,062	,289
Environmental Concern	**,585**	**,082**	**,396**	**7,127**	**,000***
Hedonic Shopping Values Total	**,150**	**,088**	**,097**	**1,707**	**,089****
Utilitarian Shopping Values Total	-,080	,095	-,046	-,836	,404
Claim_Knowledge	-,147	,205	-,040	-,718	,473
Manipulation_Check	,008	,210	,002	,040	,968
Gender	**,405**	**,188**	**,123**	**2,157**	**,032***
Age	-,005	,009	-,038	-,566	,572
Income	**,137**	**,078**	**,118**	**1,758**	**,080****
Education	-,076	,108	-,039	-,700	,484
HealthClaim/EnvClaim	,183	,177	,056	1,035	,301
Claim_Location	**,403**	**,179**	**,124**	**2,249**	**,025***

Table 8: *Regression output Perceived Consumer Effectiveness*

(significance levels: * = 5%; ** = 10%)

The output of the adjusted regression analysis, with brand credibility as the dependent variable, is displayed in table 9 on the next page. The results show the same significant control variables as in table 7 in subsection 5.3.3: environmental concern, hedonic shopping values, age and education, which are marked with a green square in the table below. The variable Claim_Location is insignificant, according to table 9, marked with a red square. Which means that there is no significant relationship between the location of the claim and the brand credibility. It does not matter if the claim is positioned at a heavy or a light location, according to this research.

Dependent variable:	Unstandardized Coefficients		Standardized Coefficients		
Brand Credibility	B	Std. Error	Beta	t	Sig.
(Constant)	,665	,458		1,452	,148
Environmental Concern	**,079**	**,042**	**,108**	**1,866**	**,063****
Hedonic Shopping Values Total	**,139**	**,045**	**,180**	**3,064**	**,002***
Utilitarian Shopping Values Total	-,012	,049	-,014	-,244	,807
Claim_Knowledge	-,082	,106	-,044	-,769	,443
Manipulation_Check	,077	,109	,041	,706	,481
Gender	,007	,097	,004	,070	,944
Age	**,017**	**,005**	**,255**	**3,655**	**,000***
Income	,011	,040	,019	,270	,787
Education	**,152**	**,056**	**,157**	**2,709**	**,007***
HealthClaim/EnvClaim	,096	,092	,059	1,049	,295
Claim_Location	,053	,093	,033	,573	,567

Table 9: *Regression output Brand Credibility*

(significance levels: * = 5%; ** = 10%)

5.3.5   Claim Presentation

The presentation of the claim, on a package of a product, is in this research labelled as the second moderator variable. It is expected that this variable moderates the relationship between the independent variable: environmental claim and the two mediator variables: perceived consumer effectiveness and brand credibility. To measure the effect of the moderator variable, the variable Claim_Presentation is added to the regression analysis. This output is displayed in table 10 and 11, displayed on the next page. In table 10, the regression output is displayed with perceived consumer effectiveness as the dependent variable and in table 11, brand credibility is the dependent variable in the regression analysis.

The results in table 10 show the same significant control variables as in the previous outputs with perceived consumer effectiveness as the dependent variable: environmental concern, hedonic shopping values, gender and income. These are marked with a green square in table 10 below. The moderator variable: claim presentation, p = 0,746 > α (0,05) has no significant effect on the perceived consumer effectiveness, which is marked with a red square in table 10 below.

The output of this regression analysis, displayed in table 10, show that there is no significant relationship between the presentation of the claim (visual or visual&text) and the perceived consumer effectiveness. It does not matter of the claim is displayed with just a visual or a visual supported with text, according to this research.

Dependent variable:	Unstandardized Coefficients		Standardized Coefficients		
Perceived Consumer Effectiveness	B	Std. Error	Beta	t	Sig.
(Constant)	,902	,895		1,007	,315
Environmental Concern	**,604**	**,082**	**,410**	**7,339**	**,000***
Hedonic Shopping Values Total	**,159**	**,089**	**,102**	**1,793**	**,074****
Utilitarian Shopping Values Total	-,056	,096	-,032	-,586	,558
Claim_Knowledge	-,147	,207	-,040	-,710	,478
Manipulation_Check	-,029	,212	-,008	-,136	,892
Gender	**,425**	**,189**	**,129**	**2,247**	**,025***
Age	-,005	,009	-,037	-,545	,586
Income	**,136**	**,078**	**,118**	**1,734**	**,084****
Education	-,068	,109	-,035	-,622	,535
HealthClaim_EcoCLaim	,188	,179	,058	1,055	,293
Claim_Presentation	,082	,179	,025	,458	,647

Table 10: *Regression output Perceived Consumer Effectiveness*

(significance levels: * = 5%; ** = 10%)

The output of the adjusted regression analysis, with brand credibility as the dependent variable, is displayed in table 11 on the next page. The results show the same significant control variables as earlier explained in the regression outputs with brand credibility as the dependent variable: environmental concern, hedonic shopping values, age and education. These significant control variables are marked with a green square in table 11 on the next page.

The moderator variable Claim_Presentation is added to the regression analysis with the following results: p = 0,084 < α (0,10), which is considered acceptable at a significance level of 10% (Hair, Wolfinbarger Celsi, Money, Samouel, & Page, 2011).

This variable is marked in the table with a blue square and indicates a significant effect on the brand credibility. The β-value for claim presentation in this model is 0,159, also marked with a blue square and refers to a positive relationship between claim presentation and brand credibility. For the variable: claim presentation, the visual presentation is coded as 0 and the visual & text is coded as 1. The positive relationship means, the higher the claim presentation (which means in this case visual & text (=1)) the higher the brand credibility will be in this research.

The outcome of the moderator variable Claim_Presentation is in line with the expectation out of the literature. The expectations were suggesting that the moderating effect would be stronger when the claims are presented with a visual and supported with text. The outcome of the research shows that a claim that contains out of a visual & text would have a stronger effect on the brand credibility instead of claims that are presented with just a visual.

Dependent variable:	Unstandardized Coefficients		Standardized Coefficients		
Brand Credibility	B	Std. Error	Beta	t	Sig.
(Constant)	,593	,457		1,298	,196
Environmental Concern	**,082**	**,042**	**,112**	**1,958**	**,051****
Hedonic Shopping Values Total	**,144**	**,045**	**,186**	**3,177**	**,002***
Utilitarian Shopping Values Total	-,014	,049	-,017	-,295	,768
Claim_Knowledge	-,075	,106	-,041	-,706	,481
Manipulation_Check	,071	,108	,037	,657	,512
Gender	,009	,097	,006	,095	,924
Age	**,017**	**,005**	**,261**	**3,757**	**,000***
Income	,012	,040	,021	,296	,767
Education	**,144**	**,056**	**,150**	**2,587**	**,010***
HealthClaim_EcoCLaim	,102	,091	,063	1,120	,264
Claim_Presentation	**,159**	**,092**	**,098**	**1,734**	**,084****

Table 11: *Regression output Brand Credibility*

(significance levels: * = 5%; ** = 10%)

6.   CONCLUSION AND RECOMMENDATIONS

In this paragraph, the conclusion and recommendations of this research will be discussed. First, the important outcomes of the literature study will be discussed. After that, the outcomes of the field research that is done, will be discussed an at last there is a comparison made between the literature study and the empirical study. The hypotheses out of this research will be accepted or rejected according to the information this is given in this chapter. At the end of this chapter, the answer to the central research question will be presented. The central research question in this research is as follows:

'What is the effect of environmental claims, which indicates a more sustainable package, to the purchase intention of the customer?'

6.1   Important Outcome Literature Study

The literature shows that sustainable marketing is becoming a more relevant topic due to the current developments in the world. As a part of sustainable marketing, there is sustainable packaging and products, and this can be seen as an influential medium. According to Deng & Kahn, the package of a product can play an important role in the purchasing process of the customer. A lot of different aspects of a package can influence the decision-making process, such as: size, color, shape but also graphics and visuals that are placed at the package of a product (Deng & Kahn, 2009). Besides the fact that the sustainable aspect of packaging is not yet a well-researched subject in top journals, the literature does show the importance of sustainable packaging. According to (Olsen, Chandukala, & Slotegraaf, 2014), the communication of sustainable products, in particular, is expected to play an important role. This indicates that there is a need to know more about sustainable product packaging. Especially the verbal package elements of a product, which are more concrete than the visual elements of the packages, that mostly processed by consumers (Obermiller & Spangenberg, 1998). A verbal package element can be for example, an environmental claim at a product package.

According to Magnier & Schoormans (2005), environmental claims can add value to a package. These claims are able to highlight that the package is showing sustainability (Magnier & Schoormans, 2015). Besides the fact that the claim itself can be an influencer in the decision-making process, also the place of the claim could matter, according to Deng & Kahn (2009).

However, the literature shows a downside too about the increase of environmental claims and messages on product packages due to skepticism (Obermiller & Spangenberg, 1998). Among customers, there is a lack of awareness and trust (Chatzidakis, Hibbert, & Smith,

2007). The misleading statements of companies that claim to be sustainable, will negatively influence the purchase intention of the customer (Balaji & Goh, 2016) (Kong & Zhang, 2014).

On the one hand, product packages are an influential medium to show the sustainability of the package or the product itself, but on the other hand this may backfire when customers didn't believe the environmental-friendliness of the product. So, placing claims at packages and (pretend to) be sustainable is not that straightforward and comes with a great amount of skepticism these days. This leads to the remaining question in this research: what is the influence of environmental claims on the purchase intention of the customer?

The different variables that are measured in this research are: perceived consumer effectiveness, brand credibility, claim location and claim presentation. The outcomes out of the literature study in this research will be briefly described.

It is was expected that the perceived consumer effectiveness would mediate the relationship between displaying environmental claims versus health claims and the purchase intention. According to the literature, this effect was expected to be positive. Which means, the more a person believes that his actions contribute to the environment, the higher the purchase intention will be (Kim, 2011). In contrast, the second mediator variable: brand credibility, was expected to influence the relationship negatively. According to Carrete et al. (2012), environmental-friendly products have a low level of trust among its consumers. Companies will be accused of green washing, and this will lower their credibility as a company and a brand (Carrete, Castaño, Felix, Centeno, & González, 2012).

Additionally, the two moderator variables: claim location and claim presentation show different outcomes in the literature. Claim location, related to perceived consumer effectiveness, is expected to stronger the relationship between environmental claims and perceived consumer effectiveness, when these claims are placed at a heavier location (when the claims will be more recognized), instead of a light location. While the expectation for the variable: brand credibility, was a more negative effect on the relationship when these claims are placed at a heavier instead of a light location (Deng & Kahn, 2009). For the second mediator, claim presentation, it is assumed that the visual presentation supported with text can higher the attention-drawing level even more than a claim that just contains out of visual presentation. The importance of the attention-drawing role is very relevant, because this role of a package can higher the purchase intention of the customers (Creusen & Schoormans, 2005). It is expected that the claim presentation, related to perceived consumer effectiveness and brand credibility, both have a stronger positive effect when these claims contain out of visual and textual presentation instead of just a visual presentation.

6.2   Important Outcome Field Research

The outcomes of the field research that is done, in order to answer the research question, shows insights in how people react to environmental claims which give an indication of the effectiveness of the claims. There are several variables researched and the important outcomes of these variables will be discussed in this subsection.

First, one of the two mediator variables in this research: perceived consumer effectiveness, shows that there is no relationship between this variable and the purchase intention, according to the research outcomes. The fact that customers believe that their individual efforts are contributing to the environmental issues in the world, will not play a role in the purchase process of the customer.

In contrast to the first mediator variable, the second mediator variable: brand credibility, did show a significant relationship to purchase intention. The relationship between these two variables is positive, which means, the higher the credibility of the brand, the higher the purchase intention of a customer in buying a product of that specific brand will be. It is also the other way around, the less credible a brand is, the lower the purchase intention will be. This is in line with the expectations out of the literature.

Further, the independent variable in this research: displaying an environmental claim or a health claim, didn't show a significant effect to both of the mediator variables: perceived consumer effectiveness and brand credibility. This result means that the effect of showing an environmental claim or a health claim, didn't have any effect in this research and will not make any difference in the purchase process of the customer.

Besides the fact that the manipulation of an environmental claim or health claim didn't show a significant effect in this research, the results about the moderator variable: claim location, did show relevant insights. The claims that are located at a light location, which means at the top-left of the product package, show a significant effect related to the moderator variable: perceived consumer effectiveness. The more a claim is positioned at a light location, the higher the perceived consumer effectiveness of a customer will be, according to this research.

However, the outcomes of the other mediator variable: brand credibility, didn't show a significant effect. Which means that there is no moderating effect of the claim location on the relationship with brand credibility.

At last, the second manipulation in this research, claim presentation, shows no significant effects related to the perceived consumer effectiveness. Which is in contrast to the variable brand credibility, at which a significant effect is measured related to the claim presentation. The effect is measured as a positive relationship between claim location and brand credibility, which means in this research that when a claim is presented with visual and supported with text, the credibility of the brand will be higher than a claim that just contains out of a visual presentation.

In this subsection, there is a comparison made between the literature study and outcome of the questionnaire (field research). This comparison is made per variable, so that the connection between the different hypotheses can be made easily in the next subsection.

6.3.1 Perceived Consumer Effectiveness

The outcome of this research shows that there is no significant effect between the perceived consumer effectiveness and purchase intention. Which is in contrast with what was expected out of the literature. The expectation was that perceived consumer effectiveness would mediate the relationship between an environmental claim and the purchase intention in a positive way. The research outcome show that there is no significant effect at all. This means that the following hypotheses is rejected.

H1:   Environmental claims, presented on the package of a product, have a positive effect on perceived consumer effectiveness, which would higher the purchase intention of the individual consumer.

6.3.2 Brand Credibility

The outcome of the field research show that there is a significant positive relationship between the variables brand credibility and purchase intention. The positive relationship means that the higher the brand credibility, the higher the purchase intention will be. But this is also the other way around, the lower the brand credibility, the lower the purchase intention. This is in line with the expectations out of the literature, where it was expected that the a lower brand credibility will lower the purchase intention of a company.

This means that the following hypotheses is partly accepted. Environmental claims have no influence, but there is a significant negative effect measured of the brand credibility on purchase intention.

H2:   Environmental claims, presented on the package of a product, have a negative effect on the brand credibility, which would lower the purchase intention of the individual consumer.

6.3.3   Claim Location

The outcome of the field research, according to claim location, did show significant results related to the perceived consumer effectiveness. Claim location related to brand credibility, didn't show any significant results. The outcome that is related to the perceived consumer effectiveness is not in line with the expectations out of the literature. The expectation out of the literature was that the heavier location will have a stronger positive effect on the perceived consumer effectiveness instead of claims that are placed at a light location. The results of the field research show exactly the opposite way: claims that are located at a light location, which means at the top-left of the product package, show a significant effect related to the moderator variable: perceived consumer effectiveness. The more a claim is positioned at a light location, the higher the perceived consumer effectiveness of a customer will be, according to this research. This means that all hypotheses, related to the claim location, will be rejected.

H3^A: Environmental claims, presented on the package of a product, have a stronger positive effect on the perceived consumer effectiveness when these are placed at a heavier location instead of a lighter location on the package of the product.

H3^B: Environmental claims, presented on the package of a product, have a less positive effect on the perceived consumer effectiveness when these are placed at a lighter location instead of a heavy location on the package of the product.

H4^A: Environmental claims, presented on the package of a product, have a stronger negative effect on the brand credibility when these are placed at heavier locations instead of a lighter location on the package of the product.

H4^B: Environmental claims, presented on the package of a product, have a less negative effect on the brand credibility when these are placed at lighter locations instead of a heavier location on the package of the product.

6.3.4 Claim Presentation

The outcome of the field research didn't show any significant results related to the moderator claim presentation and perceived consumer effectiveness. This means that it doesn't matter if the claim contains out of visual and text or just a visual. The following hypotheses will be rejected:

H5: Environmental claims, presented on the package of a product, have a stronger positive effect on the perceived consumer effectiveness, when these claims contain out of visual and textual presentation instead of just a visual presentation.

But there is a significant effect of the claim presentation related to brand credibility. The effect is measured positive, which means that when a claim is presented with visual and supported with text, the credibility of the brand will be higher than when the claim just contains out of a visual. This is in line with the expectations out of the literature, where was expected that the claim presentation, related to brand credibility, would have a stronger positive effect when these claims contain out of visual and textual presentation instead of just a visual presentation. This means that the following hypotheses will be accepted.

H6: Environmental claims, presented on the package of a product, have a stronger negative effect on the brand credibility, when these claims contain out of visual and textual presentation instead of just a visual presentation.

6.3.5 The Manipulation of the Environmental Claim versus Health Claim

As an important part of this research, and related to the research question, the outcome of the manipulation of the environmental claim versus the health claim gives important insights. The outcome shows that there is no significant effect between the manipulation and the purchase intention, nor with the mediator variables: perceived consumer effectiveness and brand credibility. This is in contrast with what was conducted out of the literature. The results show that environmental claims didn't add that much value to the package as expected and that the claim is also not an influencer in the decision-making process according to this research (Magnier & Schoormans, 2015).

6.4   Central Research Question

The focus of this research relies on the effect of environmental claims on the purchase intention of the customer. The potential relationship was investigated in this research by showing the respondents an environmental claim or a health claim placed on an ice-tea package. In both situations, there was no significant effect measured of the claim displayed at the ice-tea package. Besides this direct effect of environmental claims on the purchase intention, also the effect of the claim on both mediator variables: perceived consumer effectiveness and brand credibility was measured. For both mediator variables there was no significant effect measured of the effect of the claim as well. The conclusion that can be made, according to the outcome of this research, is that there is no effect of an environmental claim, placed on the package of a product, and the purchase intention of the customer. This outcome could be explained by the fact that there are a lot of influences in the purchase process of a customer Besides the pivotal role of packaging, there are a lot of other factors which are not measured in this research.

6.5   Recommendations

In this subsection, the recommendations to firms and further researches will be described which are based on the research that is done.

6.5.1 Recommendations to Firms

The outcome of this research can give relevant insights to retailers, brand managers, designers and packaging managers. The first advice this research gives, is related to the effectiveness of presenting an environmental claim at a package of a product. This research shows that there is no effect of an environmental claim on the purchase intention of the customer. The results show that the brand credibility of a specific firm and purchase intention does show a significant effect. The higher the brand credibility of a specific brand is, the higher the purchase intention will be. Brand credibility does have a positive influence on the purchase intention, while environmental claims didn't have any effect at all. Because of the rising importance of environmentally friendly products and packages, the greenwashing discussion came up, as earlier explained. On the one hand, companies pretend to be greener than what they are in reality, but on the other hand, companies that are greener can be unjustified accused of green washing. This research can add value to this discussion. Because of the fact that environmental claims have no effect on the purchase intention, there is no need for companies to pretend to be greener to higher their sales and purchase intention of their products. Brand credibility is effective and does have an effect on purchase intention according to this research. It is more important for companies to work on their credibility and find the right balance between credibility and sustainability.

The second recommendation is related to the place of claims on a product package. This research shows a significant effect measured of the place of a claim related to the perceived consumer effectiveness of customers. The light location of a package, top-left, is a place on the package that is measured as more effective, related to the variable perceived consumer effectiveness. Packages with a claim that is placed at the top-left, have a claim that is more effective to people that believe that their effort could have a contribution to the better environment. This can also be implemented for other important messages or logos on a product, not just for an environmental claim.

6.5.2 Recommendations Further Researchers

The recommendation that can be done to further researchers is to take more factors into account in the purchasing process of the customer. In this research, only the packaging is a factor that plays a role in the purchasing process. But in reality, there are a lot more factors that can influence the purchasing process of the customer, such as: the store, the setting of the product and the colors of the packaging. The advice is to take other factors into account to measure the effect of environmental claims.

Another recommendation to further researchers is to use more than one product and brand to test the effect of an environmental claim. In this research, the choice was made for a beverage product and a specific brand: Lipton. The recommendation to further researchers would be to test different product categories and different brands to get a wider result.

The last recommendation to further researchers is to also take the product itself into account. The product itself is an important factor in the decision-making process of the customer. In this research, the total focus relies on the packaging of the product, but not on the product itself, which plays one of the most important roles in the purchasing process. The advice to further research will be to pay more attention to the product itself.

7.   REFLECTION

Looking back at this process, the conclusion can be made that it was an intensive learning process in every stage of the thesis from start to end. At the beginning there was a lot of struggle in finding the right subject to write a thesis about, after a few options presented in a proposal, the decision was made to focus on the subject environmental claims. The second struggle was related to the output of the SPSS data. Because of the fact that, in this research, there are eight conditions used, there were a lot of issues in cleaning the data. During this part of the process, a lot of time was lost in proceeding with the thesis. After some help, the problem turned out to be smaller than expected and the data could be prepared for analysis. The last struggle was related to the literature review in this research. It was experienced as difficult to find the right information that can be used to enrich the literature review and to support the subject of this research. Also, the fact that some skills were missing in finding the right papers at the beginning, was a big struggle in writing the thesis.

One of the limitations of this research is that there is no control group to which a package without a claim is presented. In this research, the choice was made to create a control group to which is a health claim presented instead of an environmental claim. The conclusion of the research tells that for both claims, there is no significant effect measured. But this doesn't implicate directly that there is no effect of a claim at all. It only implies the conditions that were tested in this research, an environmental claim of a health claim.

Another limitation is the kind of questions that are asked to respondents in the questionnaire. All questions are measured at a 7-point Likert scale. Respondents are continuously answering to the question in the same way and answer options. To make the questionnaire more interesting to the respondents, it was a better idea to ask different kind of questions. Also, an important result of this change could be that the respondents could better pay attention to each question and lower the risk of respondents that just click and finish the questionnaire in 1 minute.

The overall conclusion is that writing a thesis is a learning process. In this process, writers face a lot of problems that needs to be solved. The most important lesson learned is that it is not convenient to linger in problems, which is a waste of valuable time, but dare to ask for help and tips to overcome the problem.

APPENDIX

Appendix 1:   Questionnaire

Instruction
Dear Participant,

Thank you for participating in this experiment in order to help me obtain the master's degree at the Erasmus University.

In this study, you will be exposed to a picture of an ice-tea package and will be asked to answer a few questions. This questionnaire will take about 6 minutes of your time.

I guarantee that your data will be handled confidentially and will not be shared with third parties under any conditions. For more information, please contact me at 401193ts@student.eur.nl.

I would like to thank you in advance for participating in this research.

With kind regards,

Terri Stolk

Conditions

Condition 1

Condition 2

Condition 3

Condition 4

Condition 5

Condition 6

Condition 7

Condition 8

Mediator variable

Brand Credibility

Brand Credibility can be measured by adapting the scales that Erdem & Swait (2004) and Ohanian (1999) used in their researches. The three components of brand credibility are: trustworthiness, expertise and attractiveness/likeableness.

Trustworthiness (Erdem & Swait, 2004)*:*

- This brand delivers what it promises
- This brand product claims are believable
- Over time, my experiences with this brand have led me to expect it to keep its promises, no more and no less
- This brand has a name you can trust
- This brand doesn't pretend to be something it isn't

Expertise (Erdem & Swait, 2004)*:*

- This brand reminds me of someone who's competent and knows what he/she is doing
- This brand has the ability to deliver what it promises

Attractiveness/likeableness (Ohanian, 1990)*:*

- This brand is very attractive to me
- This brand is very elegant
- I think the image of this brand is very beautiful

All items are measured on a 7-point Likert agree/disagree scale.

Mediator variable

Perceived Consumer Effectiveness (mediator)

Perceived Consumer Effectiveness can be measured to adapt the two items that are used in the study of Ellen, Wiener & Cobb-Walgren (1991). These two items are measured at a 7-point Likert scale.

- There is not much that any one individual can do about the environment
- The conservation efforts of one person are useless as long as other people refuse to conserve

(Ellen, Wiener, & Cobb-Walgren, 1991)

<u>Dependent variable</u>

Purchase Intention

Purchase Intention can be measured to adapt one item that is used in the study of Dodds et al. (1991). This item is measured at a 7-point Likert scale from very high to very low.

- The likelihood of purchasing this product is (very high to very low)

(Dodds, Monroe, & Grewal, 1991).

<u>Control Variables</u>

Environmental Concern

Environmental Concern can be measured to adapt the four items that are used in the study of Ellen, Wiener & Cobb-Walgren (1991). These four items are measured at a 7-point Likert scale.

- Environmental problems are not affecting my life personally.

- Environmental problems are exaggerated, because in the long run things balance out

- I have too many obligations to take an active part in an environmental organization.

- I can think of many things I'd rather do than work toward improving the environment.

(Ellen, Wiener, & Cobb-Walgren, 1991)

Hedonic and Utilitarian Shopping Values

If a respondent is a hedonic or utilitarian shopper can be measured by using several items of the study of Babin, Darden & Griffin (1994). In this study 11 hedonic items and the 4 utilitarian items are used to measure the shopping value of an individual. But, the result of the pre-test was that the questionnaire was a bit too long and that the respondents were losing a bit of concentration. Because of the fact that this question is almost at the end of the questionnaire, the decision was made to ask respondents to rate 8 statements instead of originally 15 statements.

To make the statements a bit clearer, respondents are asked to think about their last supermarket visit and use this to evaluate their experience. Also, there is a small adjustment in the question, where the word *shopping trip* is replaced for *supermarket-visit*, to emphasize again that it is about a supermarket-visit.

Hedonic Items:

- This supermarket-visit was truly a joy

- This supermarket-visit truly felt like an escape

- While visiting the supermarket, I was able to forget my problems.

- This supermarket-visit was not a very nice time out *(reverse scoring)*

Utilitarian items

- I accomplished just what I wanted to during this supermarket-visit

- I couldn't buy what I really needed in the supermarket *(reverse scoring)*

- While in the supermarket, I found just the item(s) I was looking for

- I was disappointed because I had to go to other supermarket(s) to complete my grocery list *(reverse scoring)*

All these items are measured at a 7-point Likert scale from strongly agree to agree (Bearden, Netemeyer, & Haws, 2011).

Claim knowledge

To measure the control variable *claim knowledge*, the respondent is asked to answer two questions.

Do you have knowledge of labels / claims (in dutch: 'keurmerken') on packages?

- Yes

- No

Was there a label or claim displayed at the ice tea package that you just saw?

- Yes

- No

If 'Yes'

If 'No' respondent is redirected to general questions.

When there is a label / claim displayed at a product, will this have any influence on the value of the product for you?

- Yes

- No

These questions about claim knowledge are questioned to make a distinction between people that have knowledge and do not have knowledge about claims on product packages. Also, the control question (manipulation check question) is asked to verify if the respondent recognized the claim on the ice-tea package.

General questions:

Gender:

- What is your gender?
    o Male
    o Female

Age:

- What is your age?

Respondents can fill in their age in numbers (the option at Qualtrics is enabled to enforce that respondents only can fill in numbers)

Income:

- What is your income (per month)?
    o < €1000
    o €1000-€2000
    o €2000-€3000
    o €3000-€4000
    o €4000-€5000
    o > €5000

Education:

- What is your highest education?
    o Primary School (in dutch: 'basisonderwijs')
    o High School (in dutch: 'voortgezet onderwijs')
    o VMBO
    o HBO
    o Bachelor's degree
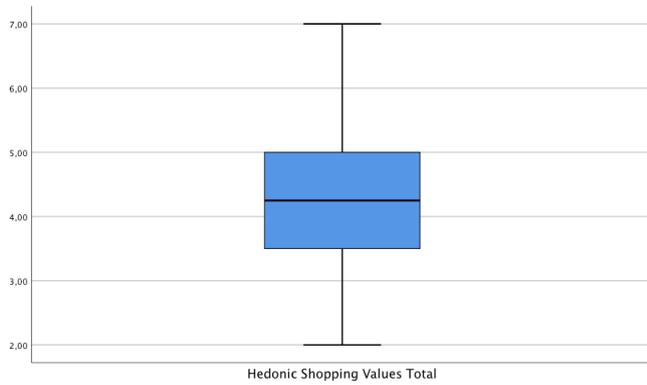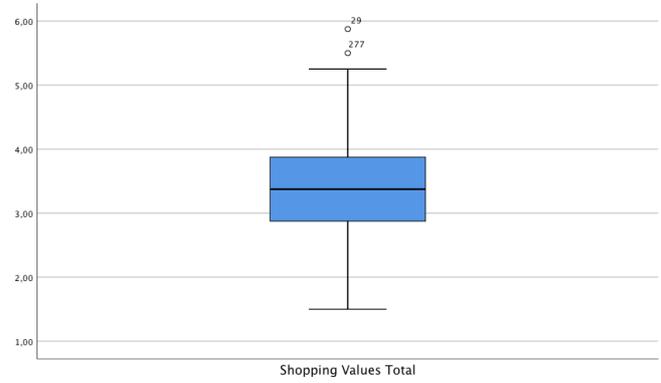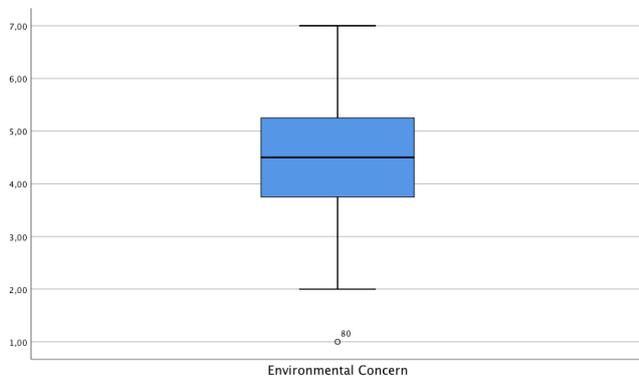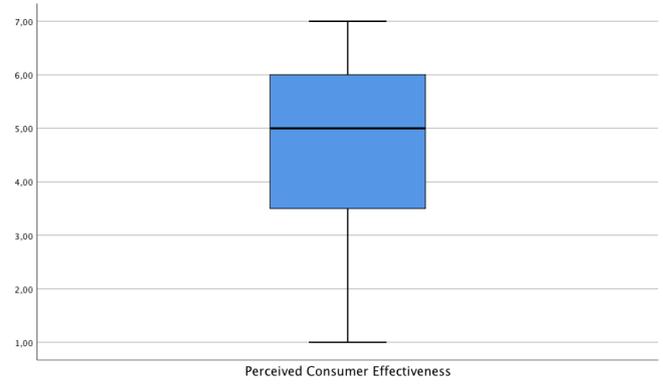   o Master's degree
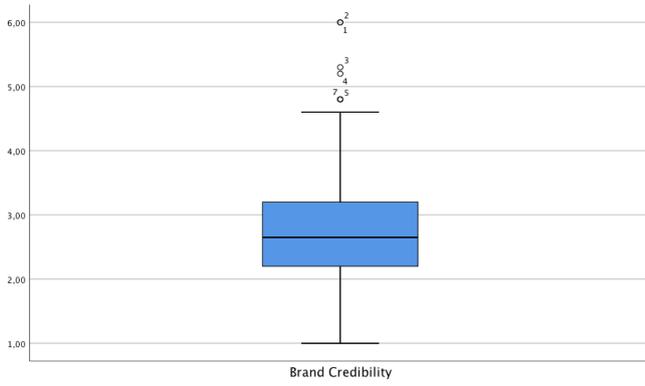
Thank you for participating in this study.

If you have any questions, please contact me: 401193ts@student.eur.nl.

With kind regards,

Terri Stolk

Appendix 2:   Boxplot

Brand Credibility

Perceived Consumer Effectiveness

Environmental Concern

Shopping Values Total

Hedonic Shopping Values Total

Utilitarian Shopping Values Total

Appendix 3:   Multicollinearity

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	HealthClaim/EnvClaim	,990	1,010
	Perceived Consumer Effectiveness	,808	1,237
	Brand Credibility	,839	1,192
	Environmental Concern	,785	1,274
	Hedonic Shopping Values Total	,899	1,113
	Utilitarian Shopping Values Total	,976	1,025
	Age	,617	1,620
	Income	,670	1,492
	Education	,923	1,084

a. Dependent Variable: The likelihood of purchasing this product is

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	HealthClaim/EnvClaim	,996	1,004
	Environmental Concern	,948	1,055
	Hedonic Shopping Values Total	,939	1,065
	Utilitarian Shopping Values Total	,977	1,023
	Age	,649	1,541
	Income	,674	1,483
	Education	,950	1,052

a. Dependent Variable: Brand Credibility

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	HealthClaim/EnvClaim	,996	1,004
	Environmental Concern	,948	1,055
	Hedonic Shopping Values Total	,939	1,065
	Utilitarian Shopping Values Total	,977	1,023
	Age	,649	1,541
	Income	,674	1,483
	Education	,950	1,052

a. Dependent Variable: Perceived Consumer Effectiveness

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