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The impact of Sustainable Packaging in the Purchase Intent of consumers.

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ABSTRACT

Title: “The Impact of Sustainable Packaging in the Purchase Intent of Consumers.”

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Key Words: Sustainable; Packaging; Purchase Intent; Consumers; Perceived Value; Willingness to Pay

Nowadays the Sustainable Packaging theme is very trendy. The impact of the pollution, global warming and other circumstances led people to get more concerned about their habits and their effect on the planet. Regulations have increased and companies need to stay tuned and meet consumers’ expectations and wants.

The aim of this dissertation is to understand the impact of the Packaging Stimulus (Sustainable vs Normal packaging) on the Purchase Intent of the consumers. The conceptual model includes two mediators – Perceived Value and WTP - that may affect the dependent variable.

In depth interviews and an online survey were run, which allowed collecting both qualitative and quantitative data. 182 valid responses were gathered in the online survey. The results showed that the Packaging Stimulus does not have a direct significant impact on the Purchase Intent of consumers. The same happened that the overall model, with two mediators. However, if the model would be using only one mediator - WTP – there is a significant impact on the dependent variable. Moreover, Sustainable Packaging was defined as a package that can be reused and recycled. These conclusions have managerial impact, as the Sustainable Packaging theme is very relevant nowadays, and companies could use this information to make strategic decisions, such as whether to offer the consumer the option to buy a Sustainable option.

SUMÁRIO

Título: O impacto das embalagens sustentáveis na intenção de compra dos consumidores.

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Palavras-Chave: Sustentável; Embalagens; Intenção de compra; Consumidor; Valor perceptível; predisposição de compra.

Hoje em dia o tema das embalagens sustentáveis é relevante. O impacto na poluição, no aquecimento global e noutros acontecimentos levou as pessoas a ficarem alerta em relação aos seus hábitos e os respectivos efeitos no planeta. A legislação das embalagens tem aumentado e as organizações precisam de prestar atenção e respeitar os desejos dos consumidores.

O objectivo desta tese é perceber o impacto das embalagens sustentáveis na intenção de compra dos consumidores. O modelo conceptual inclui dois mediadores – valor atribuído e predisposição para pagar – que podem afectar a variável dependente.

Foram feitas entrevistas e um questionário online, que levaram a tirar conclusões qualitativas e quantitativas. 182 respostas foram alcançadas no questionário. Os resultados mostram que o estímulo da embalagem (e a embalagem sustentável) não tem um efeito directo na intenção de compra. O mesmo acontece com o modelo geral, com dois mediadores. No entanto, se o modelo usar um mediador – predisposição de compra – há um impacto significativo na variável dependente. A embalagem sustentável foi definida como embalagens que podem ser reutilizadas e recicladas. Estas conclusões têm impacto na gestão das empresas dado que as embalagens sustentáveis são um tema muito relevante hoje em dia. Assim, as empresas poderiam usar esta informação para tomarem decisões estratégicas, como por exemplo se devem dar a opção das embalagens sustentáveis aos consumidores.

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GLOSSARY

WTP – Willingness to Pay

NP – Normal Packaging

SP – Sustainable Packaging

RH – Research Hypothesis

PI – Purchase Intent

PV – Perceived Value

CHAPTER 1: INTRODUCTION

1.1 Background

Consumers care more and more about the environment and they want to actively participate towards a goal: keep it safe (Hartmann Group, 2017). Their behaviour has been changing to more environmental friendly choices, which includes actions such as choosing green brands and products, and accept new types of options like recycled goods (Mobley et al., 1995 and Tsen et al., 2006). So the new purchasing patterns created a new segment of consumers, the green consumers (do Paço & Raposo, 2009). In the 90's, environmental concerns started to have a big role in society behaviour in general, but also in people purchasing decisions (Prothero, 1996; Menon et al., 1999). Nowadays the social pressure also has a position in this change (Alsmadi, 2008; Finisterra do Paço, A, et al., 2009). Sustainability is about whether the current generation is able to manage resources to guarantee that future generations have access to the same bundle of supplies and reserves that are available today (Kotler, 2011). The access to information has been increasing, which makes people more aware and more educated regarding this topic. Actually, some studies say that people who have higher education levels and easy access to information are expected to care more about the environment and act accordingly (do Paço & Raposo, 2009). Presently many countries have imposed laws and restrictions regarding the consumption of sustainable products (Essoussi & Linton, 2010). Due to global warming, natural disasters and all recent events, people are becoming more conscious of this issue. Human kind does not face only one challenge, but many environmental problems, such as the climate change, an increase of desertification, air and water pollution, lack of fresh water, or depletion of natural resources (Scott, Walter Georgio, 2005). Many companies are presently working on solutions to be part of this purpose, by producing sustainable products (Borin, Cerf, & Krishnan, 2010), and they must change their marketing strategies accordingly if they want to achieve sustainability (Kotler, 2011). Although consumers show concerns about the environment, their consumer behaviour sometimes does not match the initial attitudes (Essoussi & Linton, 2010). When going to a point of purchase the consumer is faced with a lot of options. So brands started to play more competitive, and one of the strategies used to convince consumers to buy one product is through packaging (Ranjbarian, 2009). The packaging has several characteristics and all of them positively contribute to the brand experience and the purchase decision (Hussain, Ibrahim, & Noreen, 2015). Procter & Gamble for example, has been investing in SP goods – “P&G’s 20 leadership brands including Always, Ariel, Dawn, Fairy, Febreze, Head & Shoulders, Pantene, Pampers, and Tide will enable and inspire responsible consumption

through packaging that is 100% recyclable or reusable, launching more sustainable innovations, and building trust through transparency and sharing our safety science.”

This thesis is covering the topic SP, which nowadays is a relevant theme.

1.2 Problem Statement

The main purpose of this dissertation is to comprehend how SP influences the PI of the consumer. This relationship is mediated by two variables, PV and WTP (WTP), which may impact the PI. In order to reach the objective of this study the following Research Questions were settled:

RQ1: What is Sustainable Packaging definition?

RQ2: What is the impact of Sustainable Packaging in the Purchase Intent of the consumer?

RQ3: What is the Perceived Value of consumers about Sustainable Packaging?

RQ4: What is the influence of Perceived Value in the WTP of consumers?

RQ5: What is the main driver of Purchase Intent among the three variables?

According to the literature and following the objective of this study the subsequent Hypothesis were framed:

H1: Sustainable Packaging will have a higher impact on Purchase Intent, than Non-Sustainable;

H2: Perceived Value will positively impact Purchase Intent of consumers;

H3: Sustainable Packaging will have a higher impact on Perceived Value, than Non-Sustainable;

H4: Perceived Value will positively impact WTP;

H5: Sustainable Packaging will create a higher WTP, than Non-Sustainable;

H6: WTP positively affects Purchase Intent of consumers;

1.3 Relevance

This study aims to create value for both academic and managerial areas. Regarding the former, this is a topic that still has gaps in terms of research, especially regarding packaging. There are academic papers about sustainability and green products, but they are more related to the product ingredients. Packaging can be deeper investigated and defined in terms of sustainability, and how it may impact the consumer choice. In the managerial area this topic is crucial, as many companies are investing in as an instrument to achieve loyalty and competitive advantage in the market. So having information about how consumers react to a sustainable package product in terms of PI creates value to managers by helping them to make strategic decisions.

Thus the final conclusions will contain valuable information about how affects consumers' intention and how PV and WTP may have an impact on the final PI.

1.4 Research methods

In order to have good and valuable responses to the Research Questions raised, detailed and rich information should be collected and analysed. Secondary data was important to have a strong theoretical background and base to further find valuable data and final conclusions. Primary data was gathered through two methods: five in depth interviews for qualitative data, and an online survey for both qualitative and quantitative data. In depth interviews were done before the online survey. The qualitative base was very helpful to build the online questionnaire, for example to choose the right questions, or the structure of the survey. In this method respondents talked freely about topic and it was possible to understand the reasoning and of each person. In depth interviews allowed to gather a group of characteristics that might define SP. This shows again that, besides the gaps of the literature, the concept SP is not clearly defined and it is not consistent. It also allowed clarifying incomplete answers. This method has some limitations, such as the potential misinterpretation of the results, the ambiguity from the interviewer and the results that are not representative of the population. To overcome some of these limitations it was used the online survey. This technique enables to capture a big amount of information, such as demographics, attitudes and decisions. It allows measuring the relationship between stimulus and actions. However sometimes respondents seek prestige which leads to bias responses. In the online survey in order to overcome this limitation the answers were all anonymous to make respondents feel more comfortable and answer with sincerity. It may also happen that people are not aware of the topic and the answers are not accurate. As previously mentioned the subject of the dissertation

is SP that is a hot theme nowadays, and people get information about it all the time. So the limitation of uniformed responses bias may not have a big weight in the case of this study. In online questionnaires the researcher does not have any chance to clarify the answers. This weakness may lose relevance by choosing the right questions. Finally, online surveys do not represent the population. Given the scope of this dissertation this is clearly a limitation. 182 people filled in the questionnaire. The number of respondents was influenced by the timing restrictions. As an online survey, it was possible to get information of people from different countries. This method was useful to get quantitative data.

Using both qualitative and quantitative data brings more value to the research, as it allows making better and more informed conclusions and have a stronger interpretation of the results.

1.5 Dissertation outline

Following the Introduction this dissertation has the subsequent plan. The second section is the Literature Review where the concepts SP, PV, WTP and PI are defined and described. The third chapter is about the Methodology that explains how the research is answering the RH, it clarifies more in detail how secondary data was gathered, how it was used to build primary data, and finally how statistical tests were important to reach final conclusions. Results is the fourth section and it is divided into two sub-sections: Results and Discussion. In the first one all the outcomes of the research are described, while in the second sub-section the results are interpreted to check if they respond to the main objective of this thesis. It is in this chapter where the validity of the RHs are tested. Finally the last section is Conclusions and Limitations, where final inference, restrictions and advices are identified.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter will explain the theoretical base of this thesis that will help answering all Research Questions and validate each Hypothesis. It is divided in four paragraphs, one for each variable or mediator. So the first is about the independent variable Sustainable vs Normal, the second explains the dependent variable PI, and the third and fourth are about PV and WTP respectively.

2.1 Sustainable Packaging

2.1.1 Packaging

The packaging of a product has two roles. One of them is to communicate to the consumers,

as many times the customer do not think about the options available until the moment of the purchase (Silayoi & Speece, 2007). Actually, 73% of the consumer choices are made in the store (Connolly and Davidson, 1996). If a packaging of a product is able to attract the consumer in store, it will help him/her in the buying decision (Silayoi & Speece, 2007). The way packaging communicates depends on the consumer, as they evaluate and interpret packaging in different ways. In a package consumers can find visual elements and informational elements. Visual elements are the illustrations, size and shape. Informational elements consist on the product information and the material about the packaging technologies (Silayoi & Speece, 2007). It is considered a packaging attribute anything that is relevant to the consumer choice and at the same time can be manipulated by the brand (Murphy et al. 2000). The main attributes are: colour, graphics, shape, product information and image. Many companies do not know how strong is packaging as a marketing tool. It is a very cost effective strategy and it reaches many more consumers than normal advertising (Twedi, 1968). If a package message is high quality, the product will be perceived as so. The same works on the other way around, so the product will be perceived to have low quality if the package communicated that message (Underwood et al., 2001; Silayoi and Speece, 2004). It may happen that if the quality perception of the consumer is bad, even though the product actually has high quality, the customer will hesitate in the purchase decision (Parmar & Amin, 2014). Positive perceptions can be achieved by manipulating some characteristics (Silayoi & Speece, 2007). So overall the packaging of a product is the major mechanism for a brand to be competitive in the market (Parmar & Amin, 2014). Besides the marketing role, packaging also has a logistical position – protect the content (Silayoi & Speece, 2007). The thesis will focus more on the marketing role - the power that packaging has in the consumer choice.

2.1.2 Sustainable Packaging

In order to reach sustainability companies must change their Marketing Mix strategy. Considering one of 4 P's – Product - Kotler suggests that companies need to rethink the packaging to be biodegradable (Kotler, 2011). Some literature defines products as green when manufactured through green technology or when not causing bad environmental consequences (Cellulases, Applications, & Processing, 2012). Others say that green consumption refers to products that are beneficial to the environment, or recyclable (Journal & Marketing, 2016). Sustainable has many designations, depending on the authors. It is compared with Green, for example, which is often used regarding the product itself. So a Green product must be cultivated at home, not be frozen, be organic, and not wrapped

(Tanner & Kast, 2003). Organic is another word that is commonly used. This type of products aim to increase the fertility of the soils, avoid the usage of pesticides, avoid pollution, and increase their quality (Bourn & Prescott, 2002). To narrow the scope and get to the real objective of this research, SP needs to be clearly defined. However, any research so far was able to describe exactly this concept. Procter and Gamble launched in Portugal two products that are fully produced with recycled plastic. These are Fairy and h&s. The company said that it was the time to act against the excess of plastic. Procter & Gamble defines SP as packages that are produced with 100% recycled plastic or paper. The company also explains that to pass the message that a product has a Sustainable Package, the manufacturer can use various ways. One of them is the colours of the packaging, usually green or pink. The second is through wording, for example “Palmolive’s Pure”. Additional labels can also be useful, for instance “Design for the Environment” (Lin & Chang, 2012). Consumers often do not know the difference between the different “sustainable” claims and its respective goals (Baker, Thompson, Engelken, & Huntley, 2004). To reach the purpose of this research the independent variable concept needs a deeper investigation. Due to the lack of definition this research will try to describe SP, based on the information that results from the in depth interviews and the online questionnaire sample.

2.2 Purchase Intent

PI can be defined as the conscious strategy of a consumer to buy a certain brand (Spears & Singh, 2004). This topic is recent and the buying process of sustainable products has a lot to be studied (Taylor, 2000). The fact that companies engage in this cause makes them sell the recycled products and actually make a profit (Lund 1982). Although consumers show concerns about the environment, their behaviour sometimes does not match the initial attitudes (Essoussi & Linton, 2010). The way SP can influence the consumer in the purchase decision is defended in different ways by distinct authors. Some defend that environmental attributes on packaging have no impact on the consumer decision (Roper and Parker, 2006). On the other hand, some support that environmental friendly packaging products are relevant and have an impact on customer choice (Silayoi & Speece, 2007). The stronger the relationship between the consumer and the environment, the higher is the probability that the former will buy environmental friendly products (Schuhwerk and Lefkokk-Hagius, 1995). A study from Nielsen says that the majority of consumers were expressing their ideas concerning the environment through their purchasing behaviour (Marketing, 1992). So it is not strange that people who care more about the environment actually purchase more green

products (Schlegelmilch, Bohlen, & Diamantopoulos, 1996). Currently people make a purchase decision based on their needs and at the same time try to minimize the impact on the environment (GFK, 2007; Torgler et al., 2008). However, as mentioned before, some research suggest that the expressed environmental attitudes are not consistent with the actual purchase behaviour (Barber, Kuo, Bishop, & Goodman, 2012). Other studies defend that people that have the intention to buy a product have higher purchasing rates than customers that show a lower PI (Brown, 2003). The PI also depends on the product, which means that the consumer may be or not willing to resign some elements for a more environmental friendly choice (Bazoche et al., 2008).

H1: Sustainable Packaging will have a higher impact on Purchase Intent, than Non-Sustainable;

The design of the packaging is one characteristic that brings more satisfaction to the buyer (Iran Manesh, 2008). So the PI of the consumer is influenced by how he perceived the product value. If it is positive then it will affect the PI (James, 2002). The PI leads to a purchase behaviour (Follows and Jobber, 2000).

H2: Perceived Value will positively impact Purchase Intent of consumers;

After having an ecological performance people increases their perception as consumers that engage in environmental behavior, so being environmental friendly consumers. This has an impact on their next purchase decisions. (Cornelissen, Pandelaere, Warlop, & Dewitte, 2008).

2.3 Perceived Value

PV is a multipart variable that depends on price, quality, benefits and sacrifice, and these sub parts can be intrinsic or extrinsic. The significance of this variable is calculated based on some trade-offs (Bolton and Drew, 1991; Holbrook, 1994). Some demographic characteristics may influence PV (Bolton and Drew, 1991). The value that the consumer gives to a product is built based on a reference point that reflects the customer expectations (Sinha & DeSarbo, 1998). The risk of the recycled product is more extra criteria for its evaluation, which combined with the respective price will impact the likelihood of the purchase (Essoussi & Linton, 2010). The way the message of the product is framed is also important for the PV of

consumers. Research defends that if the packaging is highlighting positive aspects of the product, the higher the value attributed to the product. If the information focus on how small negative aspects of the product are, the PV will be lower. So the framing of the message has a big importance in the way consumers perceive the value of the products (Yang, Vosgerau, & Loewenstein, 2013).

Consumers have been using social responsible criteria when buying goods. They have been choosing the ones that do not hurt the environment, which are the products that are less toxic or made with reusable and recycled materials (Lamb et al., 1994). Regarding recycled products, some consumers perceive these to be low quality (Reid, 1990). The compensatory inference strategy explains in this case that products that have greater “greenness” may have lower effectiveness in relation to regular products (Lin & Chang, 2012).

H3: Sustainable Packaging will have a higher impact on PV, than Non-Sustainable;

In fact, if the product will be perceived to have lower value due to the fact that it is recycled, than the WTP will be negatively affected, as the consumer attributes a high level of risk (Essoussi & Linton, 2010). Thus, the fourth hypotheses is the following:

H4: Perceived Value will positively impact WTP;

Besides highlighting the positive consequences of products with SP, it is also important to communicate that these will not lose convenience just because it has an environmental friendly pack. So brands have a critical role explaining to consumers the benefits of SP, and at the same time fulfil customers' needs. One way to do this is by using values, which are desirable goals that guide peoples' lives. Companies may promote SP by aligning its consequences with values orientation (Barber et al., 2012). Consumers may or not believe that their actions will have an impact in the environment. So the perception that each person has about his effect on the nature will affect the WTP for Sustainable Products (Banerjee and McKeage, 1994). Perceived Behavioural Control is the extent to which a person believes that his action will have an impact on the effective preservation of the environment. Consumers that have a higher PBC consequently have a more environmental friendly behaviour (de Pelsmacker et al., 2002). By increasing the available information about environmental issue, people become more aware and will change their attitudes and buying behaviour (Barber et al., 2012).

2.4 WTP

When going shopping consumers evaluate options and start to discriminate the several possibilities based on the products characteristics, especially when the difference in price is huge. So in order to be more competitive, companies need to look for customers that think and buy beyond the price tag (Bertini, Wathieu, & Iyengar, 2010). However, when faced with many options, consumers tend to make the purchase decision more based on price than when only few possibilities are in the decision basket. This happens, as price is easier to compare than the product quality (Hsee, 1996; Nowlis and Simonson, 1997). The framing of the message on the product does not only have an impact on the PV, but also on the WTP. The label on the packaging can influence radically how much a consumer is willing to spend to buy a certain product. If the package has positive information, the WTP increases. While if the message on the package is related to how a product avoids negative aspects the WTP is smaller (Yang et al., 2013).

In order to evaluate the WTP for recycled products, it is important to understand the type of the good, its usage, and the changes in consumer behaviour relative to that product. Nowadays some consumers are willing to pay a premium for sustainable products (Tsen et al., 2006), and they usually do it because they believe they will get more quality (Essoussi & Linton, 2010). Companies should create different options on price depending on the level of environmentally friendliness. Consumers who are more environmentally involved will be willing to pay more for sustainable products (Kotler, 2011).

H5: Sustainable Packaging will create a higher WTP, than Non-Sustainable;

The consumer's assessment of the product is moderated by the category and the respective price. The WTP is impacted by the risk associated with each product. This means that the difference of the cost that the consumer faces between a sustainable and a normal package will impact the WTP, and consequently the actual PI. When this difference reaches a certain value, the likelihood of purchasing a product with a SP may change (Essoussi & Linton, 2010). Some studies show that regarding gender, there is no evidence about any difference in terms of WTP. The whole segment represents the group in which brands should focus their marketing efforts (Laroche et al. 2001). This dissertation will be able to bring value to this discussion regarding SP products. WTP can be defined as the maximum amount of money that a consumer is willing to pay for a product or service (Didier and Lucie, 2008; Franke and Schreier, 2008; Voelckner, 2006; Wertenbroch and Skiera, 2002). Although SP can influence

WTP, these environmental friendly products do not have any benefit to the consumer despite the fact that people feel good when their actions have a direct impact on the planet. The trick is to offer products that fulfil client needs, and have competitive prices. This way, companies will be able to create value for both the consumer and the brand (Barber et al., 2012).

H6: WTP positively affects Purchase Intent of consumers;

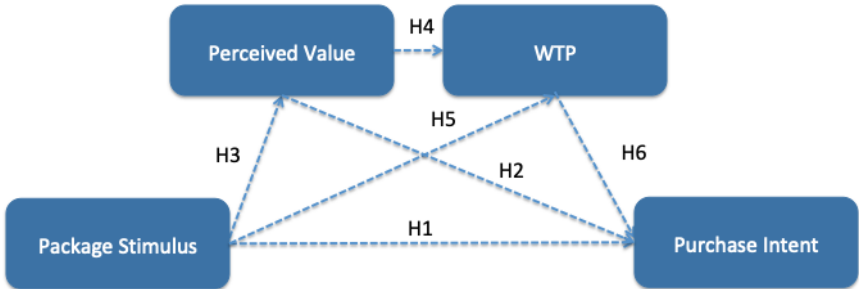


Figure 1 Conceptual Model

CHAPTER 3: METHODOLOGY

The methodology chapter was important to get together the secondary and primary data in order to achieve conclusions that afterwards will validate the Hypothesis presented in the Research Proposal section. For further understanding it is important to have in mind that the variable Package Stimulus includes both Sustainable and Normal Packaging populations.

3.1 Research Approach

As mentioned before, this research has two sources: secondary and primary data. Secondary data consists in all the concepts presented in the Literature Review chapter and other sources used for this dissertation, such as the theory to build the body of the thesis and the Internet search regarding the topic. The literature chapter covers the four variables of the conceptual model of this dissertation and insights related to each one. Primary data consists of both qualitative and quantitative “facts” that were gathered especially for this dissertation. Regarding only qualitative data collected, five in depth interviews were run. This method was useful to have insights on the definition for SP, and also to build the questionnaire. Afterwards, for the quantitative data an online survey was taken. This method is very cost effective comparing to other strategies, and allows get-together a big number of

responses to further have a complete analysis. The tool used to build the survey was Qualtrics, provided by Católica. The analysis of the data was done in SPSS.

3.2 Primary Data and Data Collection

The in depth interviews were run with five people. This method was not only effective to gather interesting qualitative data that is helpful to build the online survey, but also to get some insights regarding the SP definition. The literature was not able to get to a specific definition for this concept, as previous researches were related to the product itself and used names such as “green” and “organic”. This way, the first Research Question of the dissertation is regarding how SP must be defined. The interviewees were Portuguese and they were between 18 and 56 years old. All of them use to do shopping groceries, even if they are not the responsible for household shopping. A small guide was created with some questions regarding demographics, lifestyle, environmental awareness and attitude, and SP characteristics. Each interview took around 15 minutes. From the five in depth interviews it was possible to get several characteristics that interviewees believe make a packaging sustainable. The group of features was assessed in the online survey and these were: have recycling symbol, not made of plastic, package with brown color, can be reused, be biodegradable, can be recycled, with at least 30% made of recycled materials, fully produced with recycled materials, small package size and with no unnecessary extra features. Some of these characteristics go in the same direction as the Procter & Gamble new SP products definition. In depth interviews have strength and weaknesses. For this dissertation purpose the technique was chosen because it is not expensive and it enables to gather a lot of information from interviewees, as they have space to elaborate their answers. However, it is a very time consuming strategy.

For the purpose of this research survey was used because it allows to reach a big number people as the majority has access to Internet, it is not very time consuming and it is cost effective. The survey was sent via email and social media platforms, such as Facebook and Whatsapp. Any person who is over 18 years old, who has Internet access and able to fill in the Qualtrics survey could be part of the sample target. Besides these any other restrictions existed. Qualtrics was the tool used for the quantitative data gather. Due to time limitations it was possible to collect 182 valid responses. This number is still above the minimum required to proceed with the analysis.

The two techniques for primary data were chosen because they fit in the timing restrictions to gather all the necessary data, and they are both cost effective.



Figure 2 Sustainable Packaging in the online survey



Figure 3 Normal Packaging in the online survey

3.3 Measurement / Indicators

In order to test the conceptual model of this dissertation, the shopping environment might have been created. However it was not possible due to logistics and timings, so the respondents have a picture of the product to base their responses on. The product category chosen was washing detergent with a plastic packaging. This choice was based on the fact that the idea for this thesis came from the example of Procter & Gamble innovative products – Fairy Ocean Plastic. From previous research it is known that plastic is identified as the least environmental friendly material for packaging recently (Brouwers, 2018).

Before answering questions related to the variables of this research, it is important to understand what the respondents environmental attitudes are, the characteristics that a sustainable package must have, and to which extent respondents agree with the definition of sustainable package used in this research. The first question is regarding the environmental attitude. Although this variable does not make part of the conceptual model of this research, it is important to understand if the respondents are environmental aware and friendly or not, as it may influence the answers to the following questions. If this variable turns to be irrelevant,

then it will not be taken into account for the conclusions. Environmental attitude was measured based on a model developed by Dunlap et al. (2000) called New Environmental Paradigm (NEP). A 7 point Likert scale is used to measure 15 statements related to the environment. This model gives a valid image of the attitude of the respondents towards the environment. In the table below you can find the statements of the NEP model. Note that the 15 phrases may have positive and negative nature.

Table 1 NEP model statements

New Environmental Paradigm (NEP) scale
1) We are approaching the limit of the number of people the earth can support.
2) Humans have the right to modify the natural environment to suit their needs.
3) When humans interfere with nature it often produces disastrous consequences.
4) Human ingenuity will insure that we do NOT make the earth unlivable.
5) Humans are severely abusing the environment.
6) The earth has plenty of natural resources if we just learn how to develop them.
7) Plants and animals have as much right as humans to exist.
8) The balance of nature is strong enough to cope with the impacts of modern industrial nations.
9) Despite our special abilities humans are still subject to the laws of nature.
10) The so-called "ecological crisis" facing humankind has been greatly exaggerated.
11) The earth is like a spaceship with very limited room and resources.
12) Humans were meant to rule over the rest of nature.
13) The balance of nature is very delicate and easily upset.
14) Humans will eventually learn enough about how nature works to be able to control it.
15) If things continue on their present course, we will soon experience a major ecological catastrophe.

The second question is related to the characteristics of SP. For this one the results of the in depth interviews were used. All the characteristics that were by the interviewees were selected to the list used in the online questionnaire. The respondents were asked to order the characteristics based on their opinion from the one that best defines until the one that least defines SP. The characteristics gathered in the in depth interviews were: recycling symbol, not made of plastic, brown color, can be reused, biodegradable (“type of degradation involving biological activity” (Waber, Mann, & Merola, 1985)), can be recycled, made fully of recycled materials, made with at least 30% of recycled materials, small package size (without any extra unnecessary space), and without any extra unnecessary features on the package. Finally in the third question, a definition of SP was given based on the Procter&Gamble new product launches. From a 7 point Likert scale the respondents had to decide their level of agreement from “I strongly disagree” to “I strongly agree”. The two questions explained above were randomly ordered to avoid respondents to be influenced.

To study the PI variable, a model used by Spears & Singh (2004) was chosen. According to the authors PI can be measured by a 7 point semantic differential scale with 5 items (“I definitely do not buy it” – “I definitely buy it”; “I definitely do not intend to buy it” – “I definitely intend to buy it”; “I have very low purchase interest” – “I have very high purchase interest”; “I never intend to buy it” – “I definitely intend buy it”; “I probably do not buy it” – “I probably buy it”).

PV is a complex variable. As explained in the Literature Review it is a mix of quality, price, benefits and sacrifice. Bao (2011) perceived quality construct was used to directly measure PV, using a 7 point semantic differential scale with 4 items (“of very bad quality” – “of very good quality”; “an inferior product” – “a superior product”; “not at all reliable” – “very reliable”; “of low quality” – “of high quality”).

Finally regarding WTP, different authors measured this variable in the past using distinct methods. The one chosen for this research was a direct question of the maximum value that respondents are willing to pay for the product shown. This method was used by Van Doorn & Verhoef (2011).

Finally some questions regarding demographics were asked in order to have information about the respondents. These included gender, age, residence, occupation, household number, and household monthly net income.

Table 2 Constructs

Construct	Scale	# Items	Authors
Sustainable Packaging definition	7 point Likert scale and ranking	1	-
Environmental attitude	7 point Likert scale	15	(Dunlap & Van Liere, 1978; Dunlap et al., 2000)
Purchase Intent	7 point semantic differential scale	5	(Spears & Singh, 2004)
Perceived Value	7 point semantic differential scale	4	(Bao et al., 2011)
WTP	Numeric scale	1	(Van Doorn & Verhoef, 2011)

3.4. Data Analysis

SPPS program was used to analyze the quantitative data gathered in the online survey. Statistical tests were run.

The first analysis was on the sample. Descriptive statistics were used to describe the population that responded to the survey, mainly demographic information.

In the second place in order to validate the RH and respond to the Research Questions statistical tests such as, Independent Sample T Tests and Linear Regressions were run.

In order to check the different influence that NP and SP stimulus may have on PI, PV and WTP Independent Sample T Tests were used. This statistical test allows comparing the means of two independent groups, which in this case were the one that got the NP stimulus, and the one that was exposed to the SP stimulus. Respondents were presented to only one of these scenarios, and responded accordingly to the questions. For this statistical purpose the ANOVA could have been chosen as well. However Independent Sample T-test is specifically to two independent groups only, which was the case.

In order to study the relationship of variables such as PV and WTP, PV and PI, WTP and PI, regression analysis were done. This statistical analysis enables not only to understand if there is a relationship but the nature of the relationship as well

Finally, in order to assess the overall impact of the mediators in the model the add-on to SPSS Process was used. The conceptual model of this dissertation is model 6, meaning two mediators.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Results

It is in this chapter where quantitative and qualitative data are analyzed. The RH mentioned in the Literature Review section are tested and Research Questions are responded in the end.

4.1.1 Sample Characterization

The sample for this analysis is composed by 182 valid responses. As explained half got the NP and the other half SP stimulus. The questions asked to one group were exactly the same for the other group, only the stimulus varied.

The majority was female – 114 - while male – 68. More than 50% of the population was between 21 and 30 years old. The majority of respondents currently reside in Portugal – 89,6% - while nearly all from the remaining percentage belongs to European countries such as Belgium, Denmark, Germany, Hungary, Netherlands, Poland, Romania, Spain, Switzerland and UK, and there was one respondent from Chile. Regarding the occupation 52,7% of the population was employed and 31,5% is studying. 10% was working and studying at the same time. Concerning the number of people in the household three was the most common answer (32,1%), followed by four (22,3%) and two (14,1%). The large percentage of the population has a household monthly net income between 2,000€ and 2,999€ (21,2%). The second most common answer was 1,000€ to 1,999€ with 16,3%, followed by 3,000€ to 3,999€ with 15,2% of the population. These ranges are higher compared to the average income level in Portugal in 2018 - 887,€ (Correio da Manhã). Regarding the frequency people go for groceries shopping the results show that 29,3% goes more than once a week, 40% go once a week, 15,8% go once every two weeks, 11,4% once a month and around 2% never go. Finally 57,6% are responsible for the groceries shop in the household, while the rest is not. If these two questions are combined, it is possible to see that the respondents who are responsible for the household groceries shopping are the ones that go more often to shop – once a week (44 respondents) or more often (47). In the same way, the percentage of the population who are not responsible for the household groceries shopping go less often, for example once a month (19), once every two weeks (29). From those who are not responsible only 7 go more than once a week.

4.1.2 Measure Reliability

In order to evaluate the construct reliability of the sample Cronbach's Alpha tests were run for PI, PV and Environmental Attitude. As there were two different groups of respondents the Cronbach's Alpha test was done for SP group, for NP group and for the global sample for each of the three constructs mentioned above.

Regarding PI all Cronbach's Alpha values were above 0,9 that means that the reliability of these was excellent (George, D. and Mallery, P. ,2003). NP with 0,962, SP with 0,975 and global PI 0,962. The Cronbach's Alpha would not increase in case one of the items would be excluded.

PV Cronbach's Alpha values were also good and excellent (George, D. and Mallery, P. ,2003). NP value was 0,896, SP was 0,955 and global PV was 0,937. In case the item "not at all reliable – very reliable" was excluded the Cronbach's Alpha values for the three groups (NP, SP and Global) would increase to 0,94, 0,961 and 0,954. The improvement on reliability would not be significant, and due to the fact that it was already good and excellent the number of items were not changed.

Regarding Environmental Attitude the Cronbach's Alpha values were Acceptable for NP (0,792) and good for SP (0,824) and Global (0,810). However if some items were excluded the reliability would increase. In the case of NP the items to exclude were: "Humans have the right to modify the natural environment to suit their needs", "Humans ingenuity will insure that we do not make earth unlivable", "The earth has plenty of natural resources if we just learn how to develop them", "Humans will eventually learn enough about how nature works to be able to control it" and "The earth is like a spaceship with very limited room and resources". The Cronbach's Alpha increased to 0,808, which was a good reliability (George, D. and Mallery, P. ,2003). The same happened with SP, but by excluding fewer items that were "We are approaching the limit of the number of people the earth can support", "Despite our special abilities humans are still subject to the laws of nature" and "The balance of nature is very delicate and easily upset". The reliability increased from 0,824 to 0,839, which was not a significant improvement. Thus the exclusion was not considered essential. The global that includes all responses (from Normal and Sustainable Packaging) would not increase in case some items were excluded.

Table 3 Cronbach's Alpha before aggregation

Before aggregation		
Purchase Intent	Number of Items	Cronbach's Alpha
Normal Packaging	5	0,962
Sustainable Packaging	5	0,975
Global	5	0,970
Perceived Value	Number of Items	Cronbach's Alpha
Normal Packaging	4	0,896
Sustainable Packaging	4	0,955
Global	4	0,937
Environmental Attitude	Number of Items	Cronbach's Alpha
Normal Packaging	15	0,792
Sustainable Packaging	15	0,824
Global	15	0,810

Table 4 Cronbach's Alpha after aggregation

After aggregation		
Purchase Intent	Number of Items	Cronbach's Alpha
Normal Packaging	5	0,962
Sustainable Packaging	5	0,975
Global	5	0,970
Perceived Value	Number of Items	Cronbach's Alpha
Normal Packaging	4	0,896
Sustainable Packaging	4	0,955
Global	4	0,937
Environmental Attitude	Number of Items	Cronbach's Alpha
Normal Packaging	10	0,808
Sustainable Packaging	15	0,824
Global	15	0,810

4.1.3 Results from Hypothesis Tests

4.1.3.1 Hypothesis 1: Sustainable Packaging will have a higher impact on Purchase Intent, than Non-Sustainable.

a) Independent Sample T-test: Difference on impact between Sustainable and Non-Sustainable Packaging on Purchase Intent.

$$H_0: \mu \text{ Normal Packaging} = \mu \text{ Sustainable Packaging}$$

The first RH says that Sustainable Packaging has a higher impact on the PI of consumers than the NP. An Independent Sample T-test was run so that the different impacts of SP and NP on PI of consumers could be analysed.

The homogeneity of variances is not validated, as p-value is 0,026, meaning that the important line was “Equal variances not assumed”. Regarding the normal distribution the Shapiro Wilk test was used because the sample is relatively small, and it was rejected (p-value is 0,003) meaning that there is no normal distribution. However by looking to the histogram the PI can be considered normally distributed.

This way in the Independent Sample Test table, by looking to the line “Equal variances not assumed”, for a significance value of 5% the p-value is 0,399 meaning that NP and SP do not have a statistically different impact on PI. Therefore the Hypothesis 1 is not validated.

b) Linear Regression: Impact of Packaging Stimulus on Purchase Intent.

$$H_0: \beta = 0$$

In order to check the relationship between the Packaging Stimulus variable on the PI of the consumer a regression analysis was run.

The assumptions for the linear regression were checked. The Durbin-Watson is 2,059 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

The mean of PI is 4,1011, which within the range 0 to 7 is neither too high nor too low. The correlation between the two variables is positive but very low ($\rho = 0,063$). Moreover, the R square value is 0,004, meaning that only 0,4% of the PI variance is explained by the model, which is very small. By interpreting the ANOVA table it is possible to determine that the model does not significantly predict the PI, because p-value is 0,399. The coefficients table shows that for a confidence level of 95%, the Packaging Stimulus variable does not statistically impact the PI of consumers (p-value is 0,399). Therefore it is fair to conclude that Packaging Stimulus does not significantly affect the consumers PIion.

As an overall deduction Packaging Stimulus is not important in the PI of the consumer and the possibility of being sustainable does not affect the level of PI. Consequently Packaging Stimulus variable is irrelevant for PI.

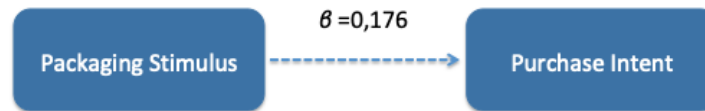


Figure 4 H1 Result

4.1.3.2 Hypothesis 2: Perceived Value will positively impact Purchase Intent of consumers.

a) Linear Regression: Impact of Perceived Value on Purchase Intent of consumers.

$$H_0: \beta = 0$$

To study the impact of PV on PI of consumers a regression analysis was run. Both variables are metric.

The assumptions for the linear regression were checked. The Durbin-Watson is 2,124 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

By looking to the mean of both PI and PV it is possible to see that in a range from 0 to 7 the values are not very high or very low. This means that respondents' level of agreements is similar for both variables. The correlation between PV and PI is positive and high ($\rho = 0,735$), meaning that the value perceived by the consumer increases his/her PI. The R-square value is 0,540, which is close to 60% (minimum acceptable for pure science studies). So this model explains 54% of the PI variance. By looking to the ANOVA table it is possible to see that this model significantly predicts the PI of consumers (p-value is 0), and at a significance level of 5% the PV has a statistically significant impact on the PI of consumers (p-value is 0). Unstandardized Beta is 0,792 meaning that by increasing 1 unit of PV the PI will increase 0,792 units.

Therefore Hypothesis 2 is validated and PV has a positive impact on the PI of consumers.

b) Linear Regression: Impact of Sustainable Packaging Perceived Value in the Purchase Intent of consumers.

$$H_0: \beta = 0$$

It would be interesting to understand of the relationship of PV and PI maintains in case respondents only are analysed. For this a regression analysis was done taking into consideration the respondents who had the SP stimulus.

The assumptions for the linear regression were checked. The Durbin-Watson is 1,875 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

The mean of PI had a small increase (from 4.1011 to 4.1890) and it is a similar scenario for the PV (from 4.1580 to 1.2500). This means that the SP respondents on average have a higher level of agreement compared to the global standard. Regarding the correlation, both variables continue to be positively and highly correlated ($\rho = 0,755$), just a little bit higher in this case. In regards to the R-square the value had a small increase compared to the global analysis (57,1%) so this model explains almost 60% of the PI variance. Looking to the ANOVA table the p-value is 0 meaning that this model significantly explains the PI of consumers that got the SP stimulus. For a significant level of 5% PV of SP has a significant impact in the PI of consumers (p-value is 0). By looking to the Unstandardized Beta (0,776) it is possible to conclude that for the SP respondents by increasing one unit of PV their PI will increase 0,776 units. This rate is a little bit smaller than the global model.

Therefore when analysing the SP group the correlation between PV and PI is higher than the global model, but the impact of the independent variable on PI is slightly smaller.

c) Linear Regression: Impact of Normal Packaging Perceived Value on Purchase Intent of consumers.

$$H_0: \beta = 0$$

In the same way the SP group was analysed, the NP group was taken into consideration for the investigation.

The assumptions for the linear regression were checked. The Durbin-Watson is 2,547 meaning that there may be some negative autocorrelation. The variables are approximately normally distributed (normal p-p plot), and the scatter plot shows homoscedastic data. The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

Looking to the PI and PV means these are slightly lower than the global averages and than the sustainable group. The correlation is also smaller ($\rho = 0,703$) compared to both analyses done previously, although remains positive and high. Regarding the R-square value (0,495) the model explains less of the PI variance than the global and SP models. Although this percentage is farer from the 60% it is almost 50%. Regarding the ANOVA table for a significance level of 5% the model significantly explains that PI of consumers (p-value is 0). By looking to the Coefficients it is possible to conclude that with a 95% level of confidence the PV of NP impact the PI of consumers (p-value is 0). The Unstandardized Beta value is 0,818 meaning that by increasing the PV the PI for the NP group will increase 0,818 units, which is higher compared to the impact for global and SP group.

Therefore although the correlation between variables is lower than the global and SP group, the impact of PV on the PI of consumers is higher. Overall this means that for the SP the relationship between PV and the PI is greater than for the NP, but the impact is lower.

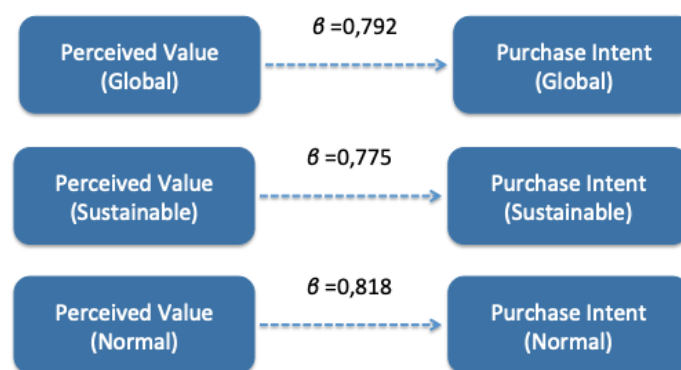


Figure 5 H2 results

4.1.3.3 Hypothesis 3: Sustainable Packaging will have a higher impact on Perceived Value, than Non-Sustainable.

a) Independent Sample T-test: Difference of the impact of Sustainable and Normal Packaging on Perceived Value.

To validate the different impact between the Sustainable Packaging and NP on the PV an Independent Sample T-test was run, because Sustainable and Normal were two independent groups.

$$H_0: \mu \text{ Normal Packaging} = \mu \text{ Sustainable Packaging}$$

The homogeneity of variances was not validated, thus the line used for the analysis was “Equal variances not assumed”. Regarding the normal distribution the Shapiro - Wilk test null hypothesis was rejected, however the histogram shows a normal tendency for the PV variable.

By looking to the means of PV it is possible to see that NP has a lower value than Sustainable Packaging. This means that the PV of NP products is lower than the PV of products with SP.

As the homogeneity of variances is not valid (p-value is 0,004), by looking to the line “Equal variances not assumed” the p-value is 0,342 meaning that NP does not have a statistically different effect on PV. Therefore RH 3 is not valid.

b) Linear Regression: Impact of Package Stimulus variable on Perceived Value.

$$H_0: \beta = 0$$

After concluding that Normal Package does not have a different impact on PV than Sustainable Package, it is important to understand if the Package Stimulus variable affects the PV. Consequently a Regression Analysis was done for the global sample.

The assumptions for the linear regression were checked. The Durbin-Watson is 1,922 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

The correlation between the two variables is positive and very weak ($\rho = 0,071$). Moreover the R-square value is 0,005 meaning that only 0,5% of the PV variance is explained by the model, which is an extremely low fraction. The ANOVA table shows that for a significance level of 5% this model does not significantly explain the PV (p-value is 0,342). In the same way from the Coefficients table it is feasible to conclude that Packaging Stimulus does not affect the PV (p-value is 0,342).



4.1.3.4 Hypothesis 4: Perceived Value will positively impact WTP.

a) Linear Regression: Impact of Perceived Value on WTP.

$$H_0: \beta = 0$$

Another relationship showed in the concept model is the one between PV and WTP. Both are metric variables and a Regression Analysis was run to study their association.

The Durbin-Watson is 1,917 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and the data is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

The correlation between the two variables is positive but it is not considered high ($\rho = 0,372$). The same happens with the R-square value (0,138) that means that the model only explains 13,8% of the WTP variance. The ANOVA table shows that the model significantly predicts the WTP of consumers (p-value is 0) for a 5% significance value. Looking to the coefficients table the p-value is also 0 meaning that PV impacts the WTP for a 95% confidence level. The Unstandardized Beta value is 0,380 meaning that by increasing one unit of PV the WTP will increase 0,380. To sum up the RH 4 is valid and PV has a positive impact on WTP.

b) Linear Regression: Impact of Perceived Value of Sustainable Packaging on WTP.

$$H_0: \beta = 0$$

It would be interesting to know how Perceived Value impacts WTP in case the packaging is sustainable. This way a Linear Regression test was taken only with the Sustainable Packaging group.

The assumptions for the linear regression were checked. The Durbin-Watson is 1,950 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and the data is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

Starting by comparing the mean of the WTP variable it is possible to see that the group with SP stimulus is willing to pay a high price for the product than the average value for the global sample (Sustainable WTP is 2,6813 and Global WTP is 2,3132). By looking to the mean of the PV the result is the same (Sustainable PV is 4,2500 and Global PV is 4,1580). In this case the correlation between the variable is higher compared to the global sample ($\rho_{sustainable} = 0,386$ and $\rho_{global} = 0,372$) but it is still considered low. The same reasoning applied to the R-square that is 0,149, meaning only 14,9% of the WTP variance is explained by the model, which is very low. The ANOVA table shows that this model significantly predicts the WTP of the consumers (p-value is 0). Furthermore for a 95% confidence level it is fair to conclude that PV significantly impacts WTP (p-value is 0) and by increasing one unit of PV the WTP for the Sustainable Packaging group increases by 0,395 units (Unstandardized Beta is 0,395).

Comparing to the global sample, the impact is still positive and a little higher.

c) Linear Regression: Impact of Perceived Value of Normal Packaging on the WTP.

$$H_0: \beta = 0$$

Applying the same exercise for the NP group, a Linear Regression analysis was run to check the relationship between the PV and the WTP.

The assumptions for the linear regression were checked. The Durbin-Watson is 2,033 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

Comparing the means of the WTP it is possible to see that the value for NP (1,9451) is smaller than the global sample and the Sustainable Packaging group. The correlation for the NP group is the lowest from the three groups ($\rho = 0,331$). The same happens for WTP variance explained by the model (R-square is 0,109), which is very low. By looking to the ANOVA table it is fair to conclude that the model significantly predicts the WTP (p-value is 0,001). For a significance level of 5% the p-value is 0,001 as well meaning that PV significantly impacts the WTP of consumers for the NP group. In this case the

Unstandardized Beta value is 0,302 meaning that by increasing the PV by one unit the WTP will increase 0,302 units.

Therefore comparing the three groups, PV impacts the WTP, where the one with the biggest correlation and the biggest increase is the Sustainable group.

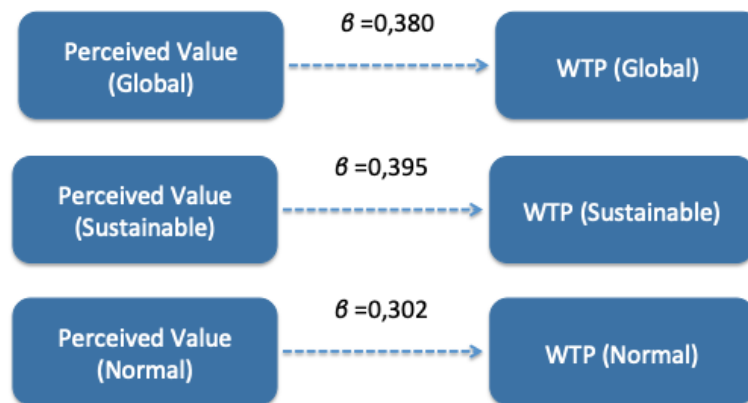


Figure 7 H4 results

4.1.3.5 Hypothesis 5: Sustainable Packaging will create a higher WTP, than Non-Sustainable.

a) Independent Sample T-test: Difference of the impact of Sustainable and Normal Packaging on WTP.

In order to analyse the different impact the SP and NP have on WTP an Independent Sample T-test was run, as Sustainable and Normal are two independent groups.

$$H_0: \mu \text{ Normal Packaging} = \mu \text{ Sustainable Packaging}$$

The assumptions for this statistical test were checked. As it happened with the other independent sample t-tests the Levene's test was rejected, meaning that for the analysis the line used was "Equal variances not assumed". Regarding the normal distribution the Shapiro-Wilk test was also rejected. However it is possible to see in the histogram that there is a normal distribution.

By looking to the means of the WTP for both groups it is possible to see that the SP group is willing to pay a higher value (2,6813) than the NP group (1,9451). The Levene's test is

rejected (p-value is 0,009) so by looking to the line “Equal variances not assumed” the p-value is 0 meaning that SP statistically differently affects WTP than NP. Taking into account that the mean of WTP for SP is higher than the WTP for NP the RH 5 is validated.

b) Linear Regression: Impact of Packaging stimulus variable on WTP.

$$H0: \beta = 0$$

After checking the SP has a higher impact on WTP than NP it would be interesting to know how Packaging stimulus variable relates to the WTP. For this a Linear Regression analysis was done.

The assumptions for the linear regression were checked. The Durbin-Watson is 1,840 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is homoscedastic (scatter plot). The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

The correlations table shows that Packaging Stimulus and WTP are positively correlated but the value is very small ($\rho = 0,277$). Another value that is very low is the R-square (0,077) meaning that the WTP variance explained by this model is only 7%. Looking to the ANOVA table it is possible to see that this model significantly predicts the WTP of consumers (p-value is 0). For a 95% of confidence level the p-value is 0 meaning that the Packaging Stimulus variable significantly impacts the WTP of consumers, and by changing from Normal to the WTP increases by 0,736 units.

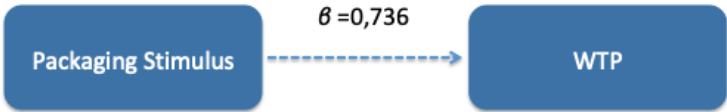


Figure 8 H5 results

4.1.3.6 Hypothesis 6: WTP positively affects Purchase Intent of consumers.

a) Linear Regression: Impact of WTP on Purchase Intent of consumers.

$$H0: \beta = 0$$

Finally the last RH analyses the relationship between WTP and PI. Both are metric variables and a Linear Regression was done for the global sample.

The assumptions for the linear regression were checked. The Durbin-Watson is 2,052 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is no homoscedastic as the scatter plot shows a cone format. The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

Looking to the correlations table it is possible to see that these variables are positively and poorly correlated ($\rho = 0,393$). In this case the R-square is 0,154 meaning that the model only explains 15,4% of the PI variance, which is very low. For a significance level of 5% the ANOVA table shows that the model significantly predicts the PI of the consumers (p-value is 0). In this case WTP significantly affects the PI (p-value is 0) and by increasing one unit of WTP the PI of consumers increases by 0,414.

Therefore the RH 6 is validated and WTP positively affects the PI.

b) Linear Regression: Impact of WTP of Sustainable Packaging on Purchase Intent of consumers.

$$H_0: \beta = 0$$

Making the same exercise as in the other hypothesis a Linear Regression analysis was done for the Sustainable group only.

The assumptions for the linear regression were checked. The Durbin-Watson is 1,817 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is not homoscedastic data because the scatter plot had the format of a cone. The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

For the Sustainable group WTP is positively and mid correlated with PI. The correlation value is higher than the global one ($\rho = 0,427$). The same happens with the R-square (0,182) that shows that in this case the model only explains 18,2% of the PI variance. Although it is higher than the global value it is still very low. In the ANOVA table the p-value is 0 meaning that the model significantly predicts the PI of consumers. For the SP group the WTP significantly impacts the PI of consumers, and by increasing one unit of WTP the PI will increase by 0,429

units. This value is higher than the one of the global sample, meaning that for the respondents of the SP group a higher WTP creates a higher PI than the global sample.

c) Linear Regression: Impact of WTP of Normal Packaging stimulus on the Purchase Intent of consumers.

$$H_0: \beta = 0$$

To finalise the quantitative analysis the same exercise was applied to the Normal Packaging.

The Durbin-Watson is 2,172 meaning that there is independence of observations. The variables are approximately normally distributed (normal p-p plot), and there is no homoscedastic data because the scatter plot shows a cone format. The residual errors of regressions are approximately normally distributed (histogram). Finally there is no multicollinearity (Tolerance=1).

In this case the correlation between the two variables is positive and small ($\rho = 0,335$). This is lower than both global and SP group. The same happens with the R-square (0,112) meaning only 11,2% of the PI variance is explained by this model. For a 5% significance value the model significantly predicts the PI of consumers (p-value is 0,01). In the case of the NP group the WTP significantly affects the PI and by increasing one unit in WTP the PI of consumers will increase 0,426 units. This value is higher than the global sample and lower than the SP group.

Therefore the impact of WTP on the PI is higher for the Sustainable group.

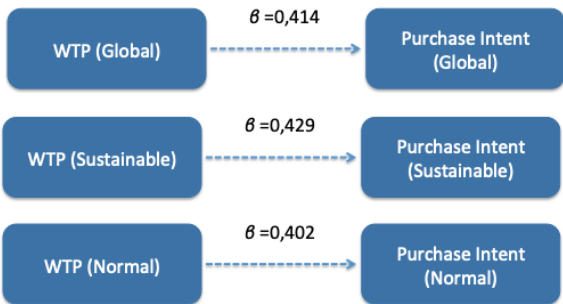


Figure 9 H6 results

4.1.4 Further Analysis

Besides the validation of the RH the data gathered allowed making extra analysis of the results.

4.1.4.1 Mediation effect of Perceived Value and WTP

It would be interesting to understand the mediation effect of the two mediators – Perceived Value and WTP – in the whole model. There is the direct effect, meaning the impact of X in Y, and the indirect effects, so the impact of X in Y mediated by Perceived Value and WTP.

The Process add-on for SPSS was used – model 6 – with two mediators.

Starting with the Total Effect there was no statistical impact on the PI of consumers as the bootstrapping confidence level is -0,2348 to 0,5865. The same happened with the Direct Effect, which interval is -0,3595 to 0,2138. Therefore there was no statistical direct impact of Packaging Stimulus variable on the PI.

Most likely due to the fact that Packaging Stimulus variable had no statistical effect on PV (p-value = 0,3418) and PI (p-value = 0,6166), the results of the Total and Direct Effects made sense. The Packaging Stimulus was the variable where the conceptual model starts and PI was where it ended. So two ways had no statistical impact. All the other relationships had a statistical effect:

- PV and WTP (p-value = 0,002)
- Packaging Stimulus and WTP (p-value = 0)
- WTP and PI (p-value = 0,0095)
- PV and PI (p-value 0)

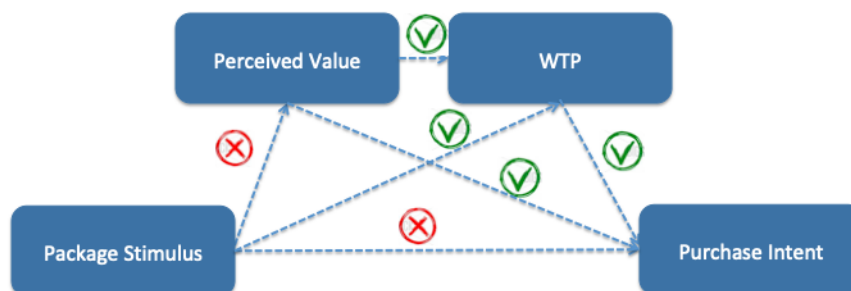


Figure 10 Result of Process

Regarding the Indirect Effect these were the findings. There was no Total Indirect effect, because the bootstrapping confidence level was -0,0662 to 0,5640.

Using the two mediators, meaning there was no statistical significant effect - bootstrapping confidence (-0,0110; 0,0403).

Using only one mediator, meaning Packaging Stimulus -> PV -> PI there was no statistical significant effect, because bootstrapping confidence (-0,1411; 0,4124).

Finally if using one mediator, meaning Packaging Stimulus -> WTP -> PI there was a statistical significant indirect effect, because the bootstrapping confidence interval (0,0204; 0,1425) and the effect is 0,1031.

Therefore it was possible to conclude that the conceptual model does not have good mediators, because there is no total effect. However if looking to the indirect effects, it is possible to check that by only using WTP as mediator this variable impacts the PI of consumer after the Packaging Stimulus variable. So the conceptual model would be better if using only one mediator, meaning:

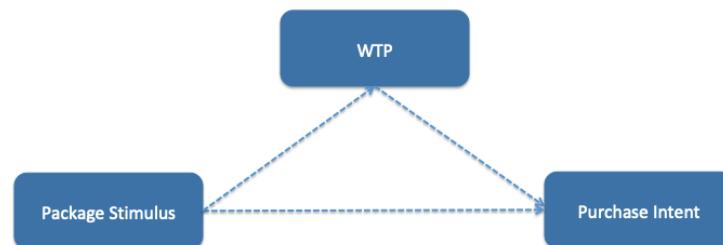


Figure 11 Better conceptual model

The same conclusions apply to both Normal and stimulus, when considering them individually.

4.1.4.2 Sustainable Packaging Definition

One of the Research Questions and the most important driver of this dissertation was the definition. A list of characteristics were gathered during the in depth interviews. Thus list was afterwards shared in the online survey so respondents could order from the most (1) to the less important (10) in the definition. The result was the following.

Table 5 Sustainable definition characteristics before Factor Analysis

	With recycling symbol	Not made of plastic	Package with brown colour	Can be reused	Biodegradable	Recycled	Made of recycled materials only	Made with at least 30% of recycled materials	Small package size	No extra features
Sum	1017	856	1560	670	548	726	640	1099	1452	1442
Place	6	5	10	3	1	4	2	7	9	8

1 - most important
10 - least important

The characteristic with the smallest sum is the most important. The characteristic with the biggest sum is the least important

The table above shows the score (sum) of each characteristic and the respective place depending on each mark. The characteristic with the smallest sum was the one considered the most important.

Some of these characteristics can be considered very similar. This way a factor analysis was run in order to understand if it would be possible to aggregate some in the same factor.

The number of factors was five, given the cumulative percentage of variance explained. At least 60% of it should be described by the existent factors. This way the chosen were:

- Factor 1: Package claims
- Factor 2: Simple package
- Factor 3: Made of recycled materials
- Factor 4: Can be recycled
- Factor 5: Can be reutilized

Factor 1 included “Package with recycling symbol” and “Package with brown colour”, Factor 2 merged “Biodegradable”, “Small package size” and “Package with no extra features”, Factor 3 contained “Made of recycled materials only” and “Made with at least 30% of recycled materials”, Factor 4 only included “Can be recycled”, and finally Factor 5 combined “Not made of plastic” and “Can be reused”. The new names were chosen in order to integrate all characteristics that were merged into one. Factor 5’s name was based on the assumption that the packaging is made of some material other than plastic and that can be reutilized.

One of the questions in the online survey was the one asking how far respondents agree with the following definition of “Packages that are made of 100% recycled plastic or paper”. The results showed that almost 30% agree with the statement, but there is also a significant percentage that does not agree, strongly or slightly, with the definition. This way it is not possible to take a serious conclusion out of this question.

Therefore it is possible to conclude that for the respondents the characteristic that best defines is a package that can be recycled.

Table 6 Sustainable definition characteristics after Factor Analysis

	Factor 1 - Package claims	Factor 2 - simple package	Factor 3 - Made of recycled materials	Factor 4 - Can be recycled	Factor 5 - Can be reutilized
Sum	2577	3442	1739	726	1526
Place	4	5	3	1	2

1 - most important
10 - least important

The characteristic with the smallest sum is the most important. The characteristic with the biggest sum is the least important

4.1.5 Results from in depth interviews.

The respondents were all Portuguese and they could be or not the responsible for the household groceries shopping.

Different opinions and definitions were given about SP, and as the first reaction people needed to think for a few seconds before answering. A big percentage mentioned the words “recycled” and “biodegradable”. Recycling symbol was stated as very important. Others went deeper and explained how the package would need to be simple. So the final list of characteristics was the one in Table 5. The fact that the definition was not known confirmed the situation that is not clearly defined yet.

More questions were asked, for example about the environmental awareness. All five respondents mentioned that they considered themselves environmentally friendly as they usually recycle. They also responded that they are aware of the environmental concerns. Afterwards interviewees were questioned if they would consider buying a different brand if it would have a sustainable package. The more frequent response was “it depends”. All respondents mentioned the price of the product. So if the price was not higher than the normal product they would buy the sustainable option. However in case the cost for purchasing a brand that would have a SP was higher they would choose the “normal” option. This shows that the SP would make sense in case the cost was the same or lower than the brand with NP.

4.2 Discussion

In this section the findings of the analysis were discussed taking into account the Literature Review and the goals of this dissertation. The findings and conclusions that the research allowed to make were also mentioned. Finally an assessment of the methodology used was done.

In the Literature Review section there is no definition stated yet by any author. Moreover this concept is never mentioned. On its place words like “Green”, “Organic”, or “Recycled” were used. Most of the times these were more related the product content itself than to the packaging. The characteristic chosen for SP was “Can be recycled”. Looking to the packaging world nowadays almost every packaging can be recycled. Everything made of plastic, paper or glass can be recovered. This way the conclusion is that this characteristic does not seem to be relevant taking into account the purpose of having a sustainable option in the shelf. This can already be considered a “must have”. Therefore the second place was taken into account. “Can be reutilized”. This one was more interesting due to the fact that nowadays almost everything the consumer uses goes to the garbage, and it is not reutilised. Therefore SP could be defined as a package that can be recycled and reused.

In the Literature Review it was mentioned that the packaging characteristics can influence the client purchase decision, as well as the perceived quality and value. The results showed that the PV and the PI rates were not very high. These results may be due to the fact that the packaging characteristics might be perceived as very poor. Therefore the manipulation of the packaging may be key for the perception of the consumer. The assumption about the perceived quality of the package could have been assessed by an extra question that would ask to grade the packaging. This way it would be possible to know if a good grade of the packaging would lead to a high-PV and PI rates, and the other way around.

Another statement that was defended in the Literature Review was the fact that environmental attributes of the packaging have no impact on consumer decision. This was not assessed in the analysis. The assumption that high PI would lead to a positive consumer decision could be made. In this situation the results show that the packaging stimulus does not statistically impact the PI of the consumer, and there is no significant difference of NP and SP impact on the PI. Therefore the statement on the Literature Review was validated by the quantitative analysis.

The thesis data analysis did not lead to any conclusion related to the statement that defends that it is believed that environmental friendly products are less effective, because no question on the in depth interviews or the online survey was asked. This could have been assessed by asking the respondents how they feel about the effectiveness of the following products.

The results allowed responding to the Research Questions presented. The relationships between the packaging stimulus, PV, WTP and PI created a model and the full analysis

permitted to assess how significant these relationships are and how strong the independent variables influence the dependent variables. The distinction between the SP and the NP populations were also clear. The fact that the sample size was not big may have lead to poor statistical results.

CHAPTER 5: CONCLUSIONS AND LIMITATIONS

Conclusions and Limitations is the last chapter of this dissertation and includes the main findings and conclusions, the managerial and academic implications, and finally the limitations and some suggestions for further research.

5.1 Main Findings & Conclusions

This section goes through the Research Questions presented in the beginning of the Introduction chapter, highlighting the main findings for each one.

RQ1: What is Sustainable Packaging definition?

The outcome of the investigation was he following definition: SP is a package that can be recycled and reutilized. The concept of recycling is already present these days in the majority of the products sold in the supermarket. Paper, plastic and glass can be recycled and a big fraction has the recycling symbol on the package. For this reason the decision to take into consideration the second characteristic most voted was carried on. Therefore the concept of Reutilization was included.

One way to reduce the amount of pollution and garbage would be by reutilizing the packaging. So for companies to offer a sustainable option they would need to think in packages that can be recycled but reutilized as well.

RQ2: What is the impact of Sustainable Packaging in the Purchase Intent of the consumer?

The answer to this research question was based on the quantitative analysis. The outcome of the analysis says there is no impact. The fact is that being sustainable or not does not impact the intention to purchase of the consumer.

This conclusion answers to the purpose of the research – if a sustainable option affects the PI of the customer – and it is No. Given all recent events about environmental concerns, it would be expected that the result would be positive, so the sustainable option would make a difference in the consumer intention. However the data clearly shows that the population studied is not aligned with that idea.

The fact that the sample size was small and mainly answered by Portuguese people may have influenced the results. Portuguese usually do not like the idea to pay for a product that is more expensive just because it is sustainable. Perhaps companies should offer the sustainable option and at the same time keep consumers satisfied.

RQ3: What is the Perceived Value of consumers about Sustainable Packaging?

The perceived value was assessed in a way that respondents rated from negative opinion (0) to positive opinion (7) some sentences about the product showed. The average rate of PV for the SP was 4,2500, which was above the global average (4,1580) and higher than the normal (4,0659). The rate allows concluding the PV is good, because it is above 3,5.

The results suggest that the PV of SP is higher than the NP. However the hypothesis that the type of packaging may influence the PV was not validated. Therefore it is fair to say that the PV of SP is good (4,2500), but it is not possible to conclude that the packaging type influences the PV of consumers.

RQ4: What is the influence of Perceived Value in the WTP of consumers?

Perceived quality of the packing may influence the value that the consumer is willing to pay for the product. Some authors defend the better the perceived quality the higher the WTP. As also mentioned in that section in this dissertation it is assumed that perceived quality is comparable to PV.

The relationship between PV and WTP was validated, so PV positively influences the WTP of consumers. The results show that, in global terms, these two variables are positively and slightly correlated, and by increasing one unit of PV the WTP will increase by 3,80 units.

Therefore the answer to the Research Question is that PV positively influences the WTP by 3,80 units per 1 unit increase.

RQ5: What is the main driver of Purchase Intent among the three variables?

The final Research Question was presented in order to have a broader view of the impact that each of the variables have on the PI of the consumers. The goal was to understand, from packaging stimulus, PV and WTP, what was the one that has a bigger influence on the PI.

It was concluded that the packaging stimulus has no influence on the PI of the consumers. Both PV and WTP have a significant impact on the PI. Between these two the one with the highest impact is PV. As mentioned in the Results section by rising 1 unit of PV the PI increases 0,792 units, while if WTP increases 1 unit the PI rises only 0,414.

Therefore the main driver of PI of consumers is the PV. In order to have more accurate results the packaging pictures presented in the online survey could have been better, meaning the physical aspect. However it was also possible to conclude that the overall conceptual model did not gain anything with PV mediator, as it did not have any statistical significant indirect effect on the PI of consumers. A better model would be the impact of Packaging Stimulus in the PI mediated by WTP.

The overall conclusion is that the Packaging Stimulus variable does not a significantly impact the PI of the consumer, neither directly nor through the whole model (with the two mediators). A model with a statistical impact on the dependent variable is the one with only one mediator only – WTP.

5.2 Managerial / Academic Implications

This dissertations was very relevant for both managerial and academic perspectives, because it analysis a situation that is pertinent nowadays and not only it impacts current decisions that companies are making, but also addresses topics and concepts that were not yet defined and completely clear in the existent literature.

In terms of managerial implications the sustainable concept is trendy these days. Daily news about product launches with environmental friendly packaging come out and companies are

adapting their strategy to the current world's situation. People are also starting to engage more often in the sustainable options. Therefore the theme of this dissertation is very actual and may be relevant to the current strategic decisions for the companies. If this study was done in greater scale and country specific the outcomes would be extremely interesting and valuable for the companies.

Regarding the academic implications this dissertation covers literature gaps that were not addressed before, such as the SP definition. As this is a current theme the outcome information is recent and relevant to real discussions. It can be also used as base for deeper studies around the theme that can fill the gaps of this thesis. Finally it explains how the whole model works and the relationships between the variables that are part of it, which was not analysed yet on its full scope.

5.3 Limitations and Further Research

This dissertation has several limitations in terms of sample significance and the outcome that the data gathered could have given.

The first and most important limitation is the fact that the sample size is not representative of the world's population. The number of respondents to the online survey was 182. Therefore the results obtained should not be generalized and conclusions should take this into account. For further research it would be suggested to have a bigger sample size.

The second limitation is about the way the quantitative data was gathered. The online survey was sent via Facebook, Whatsapp and email. Therefore the people who responded are part of a specific group of individuals and a big percentage of students characterize the sample.

The third limitation is related to the fact that the pictures presented in the online survey were not very appealing. This may have lead to bad rates. For further studies a picture with characteristics close to the real packaging should be used.

In the fourth place with the data gathered in the online survey a deeper analysis could have been done. The information about the environmental attitude could have been used to characterize the sample, for example creating personas.

The last limitation is about the fact that other interesting variables could have been included in the model. The perceived risk would be one example, because in the Literature Review it is mentioned that people may see sustainable options as products with less quality. Therefore other variables can be included for further researches.

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APPENDICES

1) In depth interviews

1. Demographic
 - a. Age
 - b. Gender
 - c. Nationality
 - d. Occupation
 - e. Number of people in household
2. Lifestyle
 - a. Do you do shopping groceries?
 - i. If yes, how often?
 - ii. Are you the responsible for household shopping?
3. Environment Care
 - a. Do you consider yourself environmentally friendly? Why?
 - b. Are aware of the impact of pollution on planet earth?
 - c. Do you buy a different product just because it has a sustainable package?
4. Sustainable Packaging characteristics
 - a. For you what are essential characteristics of a sustainable package

2) Online Survey

Q2 How often do you do groceries shopping?

- Never (2)
- Once a month (3)
- Once every two weeks (4)
- Once a week (5)
- More than once a week (6)

Q3 Are you responsible for the household groceries shopping?

- Yes (1)
- No (2)

Q4 How far do you agree with the following Sustainable packaging definition?

	I strongly disagree (1)	I disagree (2)	I somewhat disagree (3)	I neither agree or disagree (4)	I somewhat agree (5)	I agree (6)	I strongly agree (7)
*Packages that are made with 100% recycled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 This is a washing detergent product with an ordinary plastic packaging.



Q5 Below you have a list of characteristics that may define Sustainable Packaging. Based on your opinion please rank them from 1 (best defines) until 10 (least defines).

- _____ Recycling symbol (1)
- _____ Not made of plastic (2)
- _____ Package with brown color (3)
- _____ Can be reused (4)
- _____ Biodegradable (5)
- _____ Can be recycled (6)
- _____ Is made of recycled materials only (7)
- _____ Is made with at least 30% of recycled materials (8)
- _____ Small package size (9)
- _____ Package with extra unnecessary attachments (11)

Q7 Based on the impressions regarding the product shown previously please rate it on the following dimensions.

	The product is:							
	1 (1)	(2)	(3)	4 (4)	5 (5)	6 (6)	7 (7)	
of very bad quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	of very good quality
an inferior product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a superior product
not at all reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very reliable
of low quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	of high quality

Q23 What would be your maximum willingness to pay for the product shown previously?

0 2 3 5 6 8 9 11 12 14 15

In € ()

Q31 Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
I definitely do not buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely buy it
I definitely do not intend to buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it
I have very low purchase interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have very high purchase interest
I never intend to buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it
I probably do not buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I probably buy it

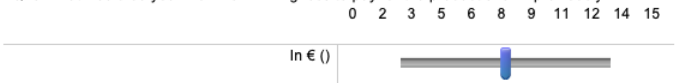
Q11 This is a washing detergent product with a sustainable packaging 100% made of recycled plastic.



Q25 Based on the impressions regarding the product shown previously please rate it on the following dimensions.

	The product is:							
	1 (1)	(2)	(3)	4 (4)	5 (5)	6 (6)	7 (7)	
of very bad quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	of very good quality
an inferior product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a superior product
not at all reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very reliable
of low quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	of high quality

Q26 What would be your maximum willingness to pay for the product shown previously?



Q27 Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
I definitely do not buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely buy it
I definitely do not intend to buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it
I have very low purchase interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I have very high purchase interest
I never intend to buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I definitely intend to buy it
I probably do not buy it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I probably buy it

Q46 Please indicate how far you agree with the following statements.

	I strongly disagree (1)	I disagree (2)	I somewhat disagree (3)	I neither agree or disagree (4)	I somewhat agree (5)	I agree (6)	I strongly agree (7)
"We are approaching the limit of the number of people the earth can support" (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Humans have the right to modify the natural environment to suit their needs" (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Humans are severely abusing the environment" (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Humans ingenuity will insure that we do not make earth unlivable" (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

"When humans interfere with nature it often produces disastrous consequences" (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Plants and animals have as much right as humans to exist" (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"The so called 'ecological crisis' facing humankind has been greatly exaggerated" (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

"The balance of nature is strong enough to cope with the impacts of modern industrial nations" (8)



"The earth has plenty of natural resources if we just learn how to develop them" (9)



"Despite our special abilities humans are still subject to the laws of nature" (10)



"Humans will eventually learn enough about how nature works to be able to control it" (11)



"The balance of nature is very delicate and easily upset" (12)



"The earth is like a spaceship with very limited room and resources" (13)



"Humans were meant to rule over the rest of nature" (14)



"If things continue on their present course, we will soon experience a major ecological catastrophe" (15)



3) Demographic Information

- Normal vs Sustainable respondents

Statistics

Package Stimulus

N	Valid	182
	Missing	2
Mean		.500

Package Stimulus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal Package	91	49.5	50.0	50.0
	Sustainable Package	91	49.5	50.0	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		

- Gender

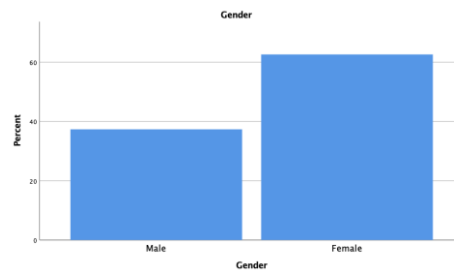
Statistics

Gender

N	Valid	182
	Missing	2
Mean		1.63

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	68	37.0	37.4	37.4
	Female	114	62.0	62.6	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		

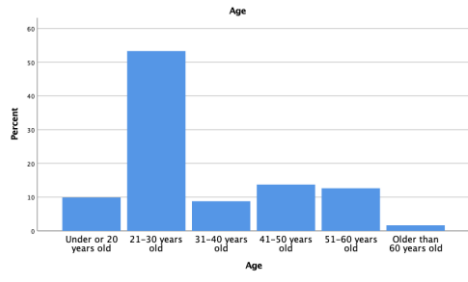


- Age

Statistics

Age		
N	Valid	182
	Missing	2
Mean		2.71

Age					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Under or 20 years old	18	9.8	9.9	9.9
	21-30 years old	97	52.7	53.3	63.2
	31-40 years old	16	8.7	8.8	72.0
	41-50 years old	25	13.6	13.7	85.7
	51-60 years old	23	12.5	12.6	98.4
	Older than 60 years old	3	1.6	1.6	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		

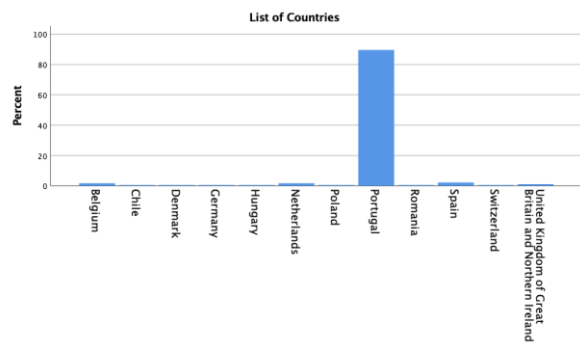


- Country of residence

Statistics

List of Countries		
N	Valid	182
	Missing	2
Mean		135.19

List of Countries					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Belgium	3	1.6	1.6	1.6
	Chile	1	.5	.5	2.2
	Denmark	1	.5	.5	2.7
	Germany	1	.5	.5	3.3
	Hungary	1	.5	.5	3.8
	Netherlands	3	1.6	1.6	5.5
	Poland	1	.5	.5	6.0
	Portugal	163	88.6	89.6	95.6
	Romania	1	.5	.5	96.2
	Spain	4	2.2	2.2	98.4
	Switzerland	1	.5	.5	98.9
	United Kingdom of Great Britain and Northern Ireland	2	1.1	1.1	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		

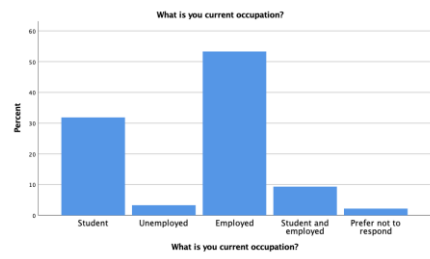


- Occupation

Statistics

What is your current occupation?		
N	Valid	182
	Missing	2
Mean		2.47

What is your current occupation?					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Student	58	31.5	31.9	31.9
	Unemployed	6	3.3	3.3	35.2
	Employed	97	52.7	53.3	88.5
	Student and employed	17	9.2	9.3	97.8
	Prefer not to respond	4	2.2	2.2	100.0
	Total	182	96.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		

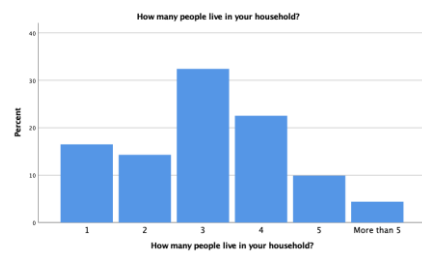


- Household number of people

Statistics

How many people live in your household?		
N	Valid	182
	Missing	2
Mean		3.08

How many people live in your household?					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	1	30	16.3	16.5	16.5
	2	26	14.1	14.3	30.8
	3	59	32.1	32.4	63.2
	4	41	22.3	22.5	85.7
	5	18	9.8	9.9	95.6
	More than 5	8	4.3	4.4	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		



- Household monthly net income level

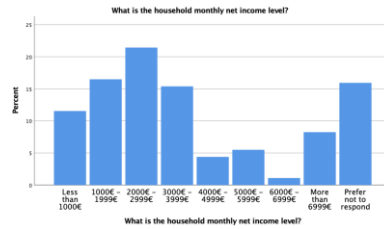
Statistics

What is the household monthly net income level?

N	Valid	182
	Missing	2
Mean		4.42

What is the household monthly net income level?

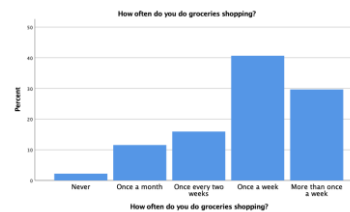
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1000€	21	11.4	11.5	11.5
	1000€ - 1999€	30	16.3	16.5	28.0
	2000€ - 2999€	39	21.2	21.4	49.5
	3000€ - 3999€	28	15.2	15.4	64.8
	4000€ - 4999€	8	4.3	4.4	69.2
	5000€ - 5999€	10	5.4	5.5	74.7
	6000€ - 6999€	2	1.1	1.1	75.8
	More than 6999€	15	8.2	8.2	84.1
	Prefer not to respond	29	15.8	15.9	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		



- Groceries shopping frequency

How often do you do groceries shopping?

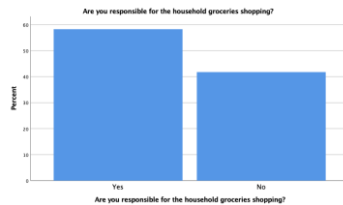
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	4	2.2	2.2	2.2
	Once a month	21	11.4	11.5	13.7
	Once every two weeks	29	15.8	15.9	29.7
	Once a week	74	40.2	40.7	70.3
	More than once a week	54	29.3	29.7	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		



- Groceries shopping responsibility

Are you responsible for the household groceries shopping?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	106	57.6	58.2	58.2
	No	76	41.3	41.8	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		



How often do you do groceries shopping? * Are you responsible for the household groceries shopping? Crosstabulation

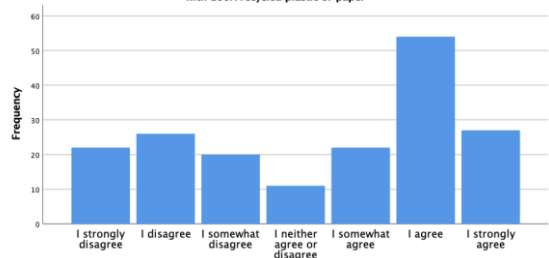
Count	How often do you do groceries shopping?	Are you responsible for the household groceries shopping?		Total
		Yes	No	
	Never	0	4	4
	Once a month	2	19	21
	Once every two weeks	13	16	29
	Once a week	44	30	74
	More than once a week	47	7	54
Total		106	76	182

- Sustainable package definition

How far do you agree with the following Sustainable packaging definition? - "Packages that are made with 100% recycled plastic or paper"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I strongly disagree	22	12.0	12.1	12.1
	I disagree	26	14.1	14.3	26.4
	I somewhat disagree	20	10.9	11.0	37.4
	I neither agree or disagree	11	6.0	6.0	43.4
	I somewhat agree	22	12.0	12.1	55.5
	I agree	54	29.3	29.7	85.2
	I strongly agree	27	14.7	14.8	100.0
	Total	182	98.9	100.0	
Missing	System	2	1.1		
Total		184	100.0		

How far do you agree with the following Sustainable packaging definition? - "Packages that are made with 100% recycled plastic or paper"



4) Cronbach's Alpha Analysis

Purchase Intent

- Normal package

Case Processing Summary			
		N	%
Cases	Valid	91	100.0
	Excluded ^a	0	.0
	Total	91	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	N of Items	
.962	5	

Item - Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not buy it. I definitely buy it	15.98	27.733	.866	.958
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not intend to buy it. I definitely intend to buy it	16.13	26.716	.897	.953
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not intend to buy it. I probably do not buy it. I probably buy it	16.00	24.978	.905	.952

Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I have very low purchase interest. I have very high purchase interest	16.14	26.835	.876	.956
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I never intend to buy it. I definitely intend to buy it	16.01	25.655	.931	.947
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I probably do not buy it. I probably buy it	16.00	24.978	.905	.952

- Sustainable package

Case Processing Summary			
		N	%
Cases	Valid	91	100.0
	Excluded ^a	0	.0
	Total	91	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	N of Items	
.975	5	

Item - Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not buy it. I definitely buy it	16.91	38.370	.890	.975
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not intend to buy it. I definitely intend to buy it	16.66	37.383	.961	.965
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I probably do not buy it. I probably buy it	16.71	36.584	.914	.972

Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I have very low purchase interest. I have very high purchase interest	16.76	36.763	.923	.970
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I never intend to buy it. I definitely intend to buy it	16.74	36.663	.957	.965
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I probably do not buy it. I probably buy it	16.71	36.584	.914	.972

- Global

Case Process

Cases	Valid	Excluded ^a	Total
	91	0	91

a. Listwise deletion variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.970	5

Item - Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not buy it. I definitely buy it	16.45	33.088	.876	.968
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I definitely do not intend to buy it. I definitely intend to buy it	16.40	31.942	.932	.959
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I probably do not buy it. I probably buy it	16.36	30.739	.909	.963

Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I have very low purchase interest. I have very high purchase interest	16.45	31.719	.904	.964
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I never intend to buy it. I definitely intend to buy it	16.37	31.119	.946	.957
Imagine that you are standing in front of the washing detergent shelf in the supermarket and you need to choose one product. You see the washing detergent presented previously. Please choose the best option that fits the overall feelings about this washing detergent. - I probably do not buy it. I probably buy it	16.36	30.739	.909	.963

Perceived Value

- Normal package

Case Processing Summary

		N	%
Cases	Valid	91	100.0
	Excluded ^a	0	.0
	Total	91	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.896	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of very bad quality of very good quality	17.99	12.300	.855	.833
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - an inferior product a superior product	18.23	13.202	.851	.839
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - not at all reliable very reliable	17.92	14.827	.561	.940
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of low quality of high quality	18.19	12.665	.838	.840

Reliability Statistics

Cronbach's Alpha	N of Items
.940	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of very bad quality of very good quality	11.80	6.516	.875	.915
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - an inferior product a superior product	12.04	7.176	.876	.916
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of low quality of high quality	12.00	6.667	.882	.909

- Sustainable package

Case Processing Summary

		N	%
Cases	Valid	91	100.0
	Excluded ^a	0	.0
	Total	91	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.955	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of very bad quality of very good quality	18.30	28.633	.907	.936
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - an inferior product a superior product	18.52	30.541	.900	.939
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - not at all reliable very reliable	18.01	29.767	.827	.961
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of low quality of high quality	18.53	30.230	.939	.928

- Global

Case Processing Summary

		N	%
Cases	Valid	182	100.0
	Excluded ^a	0	.0
	Total	182	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.937	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of very bad quality of very good quality	18.14	20.377	.889	.905
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - an inferior product a superior product	18.37	21.771	.884	.908
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - not at all reliable very reliable	17.97	22.176	.739	.954
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of low quality of high quality	18.36	21.358	.903	.902

Reliability Statistics

Cronbach's Alpha	N of Items
.954	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of very bad quality of very good quality	11.83	9.501	.905	.934
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - an inferior product a superior product	12.06	10.599	.883	.949
Based on the impressions regarding the product shown previously please rate it on the following dimensions. - of low quality of high quality	12.04	10.142	.927	.916

Environmental Attitude

- Normal Packaging

Case Processing Summary

		N	%
Cases	Valid	91	100.0
	Excluded ^a	0	.0
	Total	91	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.792	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Please indicate how far you agree with the following statements. – "We are approaching the limit of the number of people the earth can support"	72.6813	106.775	.369	.784
Please indicate how far you agree with the following statements. – "Humans have the right to modify the natural environment to suit their needs"	72.7363	108.552	.272	.794
Please indicate how far you agree with the following statements. – "Humans are severely abusing the environment"	71.5714	112.914	.280	.789
Please indicate how far you agree with the following statements. – "Humans ingenuity will insure that we do not make earth uninhabitable"	73.8462	112.376	.234	.794
Please indicate how far you agree with the following statements. – "When humans interfere with nature it often produces disastrous consequences"	71.8901	110.166	.410	.781

Please indicate how far you agree with the following statements. – "Plants and animals have as much right as humans to exist"	72.0440	107.042	.412	.780
Please indicate how far you agree with the following statements. – "The so called 'ecological crisis' facing humankind has been greatly exaggerated"	72.3736	97.681	.644	.758
Please indicate how far you agree with the following statements. – "The balance of nature is strong enough to cope with the impacts of modern industrial nations"	72.0659	104.840	.595	.767
Please indicate how far you agree with the following statements. – "The earth has plenty of natural resources if we just learn how to develop them"	74.1978	108.538	.285	.792
Please indicate how far you agree with the following statements. – "Despite our special abilities humans are still subject to the laws of nature"	71.8132	109.154	.465	.777

Please indicate how far you agree with the following statements. – "Humans will eventually learn enough about how nature works to be able to control it"	73.3956	106.064	.392	.782
Please indicate how far you agree with the following statements. – "The balance of nature is very delicate and easily upset"	71.9341	111.284	.384	.782
Please indicate how far you agree with the following statements. – "The earth is like a spaceship with very limited room and resources"	71.9780	115.466	.197	.794
Please indicate how far you agree with the following statements. – "Humans were meant to rule over the rest of nature"	72.1978	104.916	.537	.770
Please indicate how far you agree with the following statements. – "If things continue on their present course, we will soon experience a major ecological catastrophe"	72.0440	103.954	.671	.763

Reliability Statistics

Cronbach's Alpha	N of Items
.808	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Please indicate how far you agree with the following statements. – "We are approaching the limit of the number of people the earth can support"	50.7033	56.122	.414	.802
Please indicate how far you agree with the following statements. – "Humans are severely abusing the environment"	49.5934	59.533	.405	.799
Please indicate how far you agree with the following statements. – "When humans interfere with nature it often produces disastrous consequences"	49.9121	59.214	.450	.795
Please indicate how far you agree with the following statements. – "Plants and animals have as much right as humans to exist"	50.0659	55.862	.489	.791
Please indicate how far you agree with the following statements. – "The so called 'ecological crisis' facing humankind has been greatly exaggerated"	50.3956	50.820	.638	.771

Please indicate how far you agree with the following statements. – "The balance of nature is strong enough to cope with the impacts of modern industrial nations"	50.0879	57.659	.504	.789
Please indicate how far you agree with the following statements. – "Despite our special abilities humans are still subject to the laws of nature"	49.8352	59.273	.460	.794
Please indicate how far you agree with the following statements. – "The balance of nature is very delicate and easily upset"	49.9560	60.465	.401	.799
Please indicate how far you agree with the following statements. – "Humans were meant to rule over the rest of nature"	50.2198	58.196	.424	.798
Please indicate how far you agree with the following statements. – "If things continue on their present course, we will soon experience a major ecological catastrophe"	50.0659	54.862	.707	.769

- Sustainable Packaging

Case Processing Summary

		N	%
Cases	Valid	91	100.0
	Excluded ^a	0	.0
	Total	91	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.824	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted										
Please indicate how far you agree with the following statements. - "We are approaching the limit of the number of people the earth can support"	75.1099	120.988	.227	.830	Please indicate how far you agree with the following statements. - "Plants and animals have as much right as humans to exist"	74.1758	112.591	-.569	.805	Please indicate how far you agree with the following statements. - "Humans will eventually learn enough about how nature works to be able to control it"	75.6593	111.249	.514	.808
Please indicate how far you agree with the following statements. - "Humans have the right to modify the natural environment to suit their needs"	74.6264	111.859	.502	.809	Please indicate how far you agree with the following statements. - "The so called 'ecological crisis' facing humankind has been greatly exaggerated"	74.3187	112.486	.602	.803	Please indicate how far you agree with the following statements. - "The balance of nature is very delicate and easily upset"	74.1648	124.028	.244	.825
Please indicate how far you agree with the following statements. - "Humans are severely abusing the environment"	73.6484	120.431	.445	.814	Please indicate how far you agree with the following statements. - "The balance of nature is strong enough to cope with the impacts of modern industrial nations"	74.2747	113.913	-.565	.806	Please indicate how far you agree with the following statements. - "The earth is like a spaceship with very limited room and resources"	74.2527	120.791	.345	.819
Please indicate how far you agree with the following statements. - "Humans ingenuity will insure that we do not make earth unlivable"	76.1099	116.588	.374	.819	Please indicate how far you agree with the following statements. - "The earth has plenty of natural resources if we just learn how to develop them"	76.3187	114.597	.410	.816	Please indicate how far you agree with the following statements. - "Humans were meant to rule over the rest of nature"	74.5824	106.201	.679	.795
Please indicate how far you agree with the following statements. - "When humans interfere with nature it often produces disastrous consequences"	73.8462	121.398	.448	.815	Please indicate how far you agree with the following statements. - "Despite our special abilities humans are still subject to the laws of nature"	73.8901	127.966	.147	.828	Please indicate how far you agree with the following statements. - "If things continue on their present course, we will soon experience a major ecological catastrophe"	74.2527	113.280	.561	.806

Reliability Statistics

Cronbach's Alpha	N of Items
.839	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted										
Please indicate how far you agree with the following statements. - "Humans are severely abusing the environment"	56.9780	99.466	.421	.833	Please indicate how far you agree with the following statements. - "Humans were meant to rule over the rest of nature"	57.9121	85.570	.698	.810	Please indicate how far you agree with the following statements. - "The earth is like a spaceship with very limited room and resources"	57.5824	99.757	.325	.839
Please indicate how far you agree with the following statements. - "When humans interfere with nature it often produces disastrous consequences"	57.1758	100.369	.422	.833	Please indicate how far you agree with the following statements. - "If things continue on their present course, we will soon experience a major ecological catastrophe"	57.5824	92.935	.543	.824					
Please indicate how far you agree with the following statements. - "Plants and animals have as much right as humans to exist"	57.5055	91.386	.587	.821	Please indicate how far you agree with the following statements. - "Humans have the right to modify the natural environment to suit their needs"	57.9560	90.265	.532	.825					
Please indicate how far you agree with the following statements. - "The so called 'ecological crisis' facing humankind has been greatly exaggerated"	57.6484	91.631	.608	.819	Please indicate how far you agree with the following statements. - "Humans ingenuity will insure that we do not make earth unlivable"	59.4396	94.827	.393	.837					
Please indicate how far you agree with the following statements. - "The balance of nature is strong enough to cope with the impacts of modern industrial nations"	57.6044	92.531	.587	.821	Please indicate how far you agree with the following statements. - "The earth has plenty of natural resources if we just learn how to develop them"	59.6484	94.275	.387	.838					
					Please indicate how far you agree with the following statements. - "Humans will eventually learn enough about how nature works to be able to control it"	58.9890	89.411	.555	.823					

• **Global**

Case Processing Summary

	N	%
Cases Valid	182	100.0
Excluded ^a	0	.0
Total	182	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.810	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted										
Please indicate how far you agree with the following statements. - "We are approaching the limit of the number of people the earth can support"	73.8956	114.735	.289	.810	Please indicate how far you agree with the following statements. - "Plants and animals have as much right as humans to exist"	73.1099	110.352	.493	.794	Please indicate how far you agree with the following statements. - "Humans will eventually learn enough about how nature works to be able to control it"	74.5275	109.345	.453	.797
Please indicate how far you agree with the following statements. - "Humans have the right to modify the natural environment to suit their needs"	73.6813	110.495	.389	.803	Please indicate how far you agree with the following statements. - "The so called 'ecological crisis' facing humankind has been greatly exaggerated"	73.3462	105.454	.623	.783	Please indicate how far you agree with the following statements. - "Humans will eventually learn enough about how nature works to be able to control it"	73.0495	118.257	.313	.806
Please indicate how far you agree with the following statements. - "Humans are severely abusing the environment"	72.6099	117.112	.362	.803	Please indicate how far you agree with the following statements. - "The balance of nature is strong enough to cope with the impacts of modern industrial nations"	73.1703	109.998	.580	.789	Please indicate how far you agree with the following statements. - "The earth is like a spaceship with very limited room and resources"	73.1154	118.777	.274	.808
Please indicate how far you agree with the following statements. - "Humans ingenuity will insure that we do not make earth unlivable"	74.9780	115.138	.306	.808	Please indicate how far you agree with the following statements. - "The earth has plenty of natural resources if we just learn how to develop them"	75.2582	112.082	.350	.806	Please indicate how far you agree with the following statements. - "Humans were meant to rule over the rest of nature"	73.3901	106.405	.605	.785
Please indicate how far you agree with the following statements. - "When humans interfere with nature it often produces disastrous consequences"	72.8681	116.104	.431	.799	Please indicate how far you agree with the following statements. - "Despite our special abilities humans are still subject to the laws of nature"	72.8516	118.989	.320	.806	Please indicate how far you agree with the following statements. - "If things continue on their present course, we will soon experience a major ecological catastrophe"	73.1484	109.243	.611	.787

5) Quantitative Analysis

Hypothesis 1

- Independent sample t-test

Group Statistics

	Package Stimulus	N	Mean	Std. Deviation	Std. Error Mean
PurchaseIntentTotal	Normal Package	91	4.0132	1.27812	.13398
	Sustainable Package	91	4.1890	1.51917	.15925

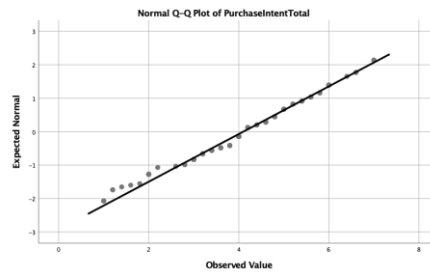
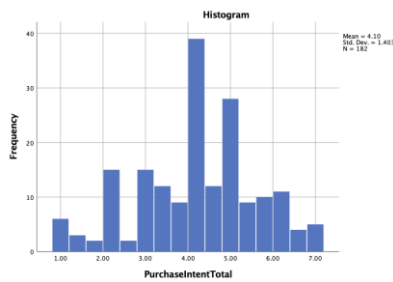
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PurchaseIntentTotal	Equal variances assumed	5.041	.026	-.845	180	.399	-.17582	.20812	-.58649	.23484
	Equal variances not assumed			-.845	174.882	.399	-.17582	.20812	-.58657	.23492

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PurchaseIntentTotal	.120	182	.000	.975	182	.003

a. Lilliefors Significance Correction



- Regression analysis

Descriptive Statistics

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.1011	1.40272	182
Package Stimulus	.500	.5014	182

Correlations

	PurchaseIntentTotal	Package Stimulus
Pearson Correlation	1.000	.063
	.063	1.000
Sig. (1-tailed)	.	.200
	.200	.
N	182	182
	182	182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.063 ^a	.004	-.002	1.40383	2.059

- a. Predictors: (Constant), Package Stimulus
 b. Dependent Variable: PurchaseIntentTotal

ANOVA^a

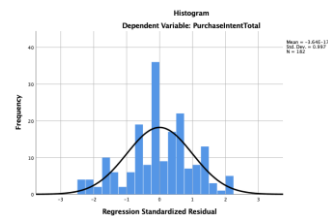
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.407	1	1.407	.714	.399 ^b
	Residual	354.733	180	1.971		
	Total	356.140	181			

- a. Dependent Variable: PurchaseIntentTotal
 b. Predictors: (Constant), Package Stimulus

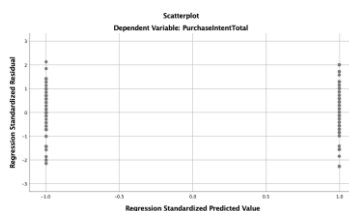
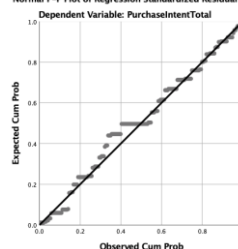
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	4.013	.147		27.271	.000		
	Package Stimulus	.176	.208	.063	.845	.399	1.000	1.000

- a. Dependent Variable: PurchaseIntentTotal



Normal P-P Plot of Regression Standardized Residual



Hypothesis 2

- Regression Analysis 1

Descriptive Statistics

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.1011	1.40272	182
PerceivedValueTotal	4.1580	1.30240	182

Correlations

	PurchaseIntentTotal	PerceivedValueTotal
Pearson Correlation	PurchaseIntentTotal	1.000
	PerceivedValueTotal	.735
Sig. (1-tailed)	PurchaseIntentTotal	.000
	PerceivedValueTotal	.000
N	PurchaseIntentTotal	182
	PerceivedValueTotal	182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.735 ^a	.540	.538	.95354	2.124

a. Predictors: (Constant), PerceivedValueTotal

b. Dependent Variable: PurchaseIntentTotal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	192.477	1	192.477	211.690	.000 ^b
	Residual	163.663	180	.909		
	Total	356.140	181			

a. Dependent Variable: PurchaseIntentTotal

b. Predictors: (Constant), PerceivedValueTotal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.809	.237		3.412	.001		
	PerceivedValueTotal	.792	.054	.735	14.550	.000	1.000	1.000

a. Dependent Variable: PurchaseIntentTotal

Collinearity Diagnostics^a

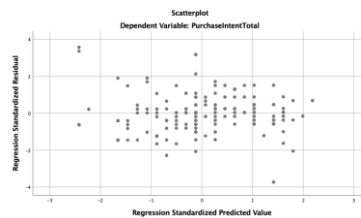
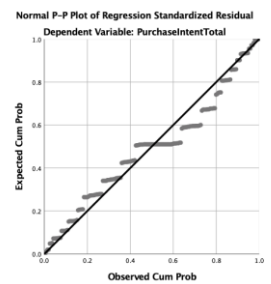
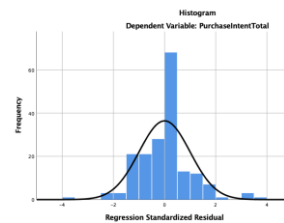
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PerceivedValueTotal
1	1	1.955	1.000	.02	.02
	2	.045	6.555	.98	.98

a. Dependent Variable: PurchaseIntentTotal

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.6007	6.3514	4.1011	1.03122	182
Residual	-3.55959	3.39932	.00000	.95090	182
Std. Predicted Value	-2.425	2.182	.000	1.000	182
Std. Residual	-3.733	3.565	.000	.997	182

a. Dependent Variable: PurchaseIntentTotal



- Regression analysis 2

Descriptive Statistics

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.1890	1.51917	91
PerceivedValueTotal	4.2500	1.47855	91

Correlations

	PurchaseIntentTotal	PerceivedValueTotal
Pearson Correlation	PurchaseIntentTotal	1.000
	PerceivedValueTotal	.755
Sig. (1-tailed)	PurchaseIntentTotal	.000
	PerceivedValueTotal	.000
N	PurchaseIntentTotal	91
	PerceivedValueTotal	91

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.755 ^a	.571	.566	1.00110	1.875

a. Predictors: (Constant), PerceivedValueTotal

b. Dependent Variable: PurchaseIntentTotal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	118.512	1	118.512	118.251	.000 ^b
	Residual	89.197	89	1.002		
	Total	207.709	90			

a. Dependent Variable: PurchaseIntentTotal

b. Predictors: (Constant), PerceivedValueTotal

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.891	.321		2.775	.007		
	PerceivedValueTotal	.776	.071	.755	10.874	.000	1.000	1.000

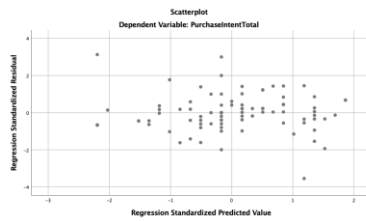
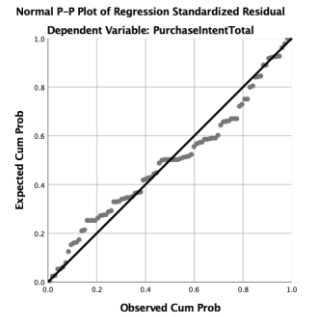
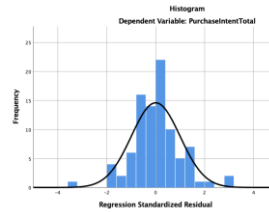
a. Dependent Variable: PurchaseIntentTotal

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PerceivedValueTotal
1	1	1.945	1.000	.03	.03
	2	.055	5.949	.97	.97

a. Dependent Variable: PurchaseIntentTotal

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.6666	6.3233	4.1890	1.14752	91
Residual	-3.54721	3.13335	.00000	.99553	91
Std. Predicted Value	-2.198	1.860	.000	1.000	91
Std. Residual	-3.543	3.130	.000	.994	91

a. Dependent Variable: PurchaseIntentTotal



Regression analysis 3

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.0132	1.27812	91
PerceivedValueTotal	4.0659	1.09914	91

Correlations

	PurchaseIntentTotal	PerceivedValueTotal
Pearson Correlation	1.000	.703
	PerceivedValueTotal	.703
Sig. (1-tailed)	PurchaseIntentTotal	.000
	PerceivedValueTotal	.000
N	PurchaseIntentTotal	91
	PerceivedValueTotal	91

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.703 ^a	.495	.489	.91371	2.547

a. Predictors: (Constant), PerceivedValueTotal

b. Dependent Variable: PurchaseIntentTotal

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72.721	1	72.721	87.105	.000 ^b
	Residual	74.303	89	.835		
	Total	147.024	90			

a. Dependent Variable: PurchaseIntentTotal

b. Predictors: (Constant), PerceivedValueTotal

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.688	.369		1.865	.066		
	PerceivedValueTotal	.818	.088	.703	9.333	.000	1.000	1.000

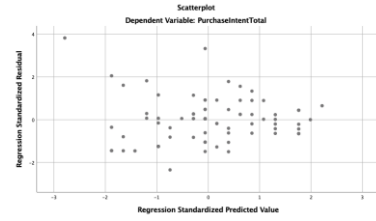
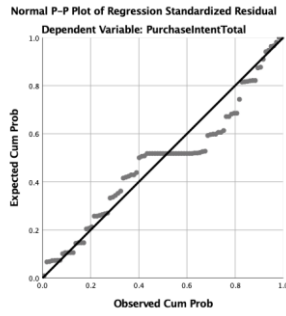
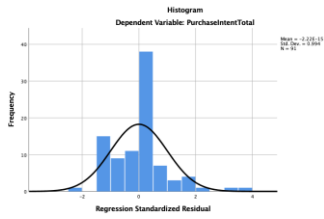
a. Dependent Variable: PurchaseIntentTotal

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PerceivedValueTotal
1	1	1.966	1.000	.02	.02
	2	.034	7.571	.98	.98

a. Dependent Variable: PurchaseIntentTotal

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.5058	6.0038	4.0132	.89890	91
Residual	-2.14590	3.49419	.00000	.90862	91
Std. Predicted Value	-2.789	2.215	.000	1.000	91
Std. Residual	-2.349	3.824	.000	.994	91

a. Dependent Variable: PurchaseIntentTotal



Hypothesis 3

- Independent sample t-test

Group Statistics

	Package Stimulus	N	Mean	Std. Deviation	Std. Error Mean
PerceivedValueTotal	Normal Package	91	4.0659	1.09914	.11522
	Sustainable Package	91	4.2500	1.47855	.15499

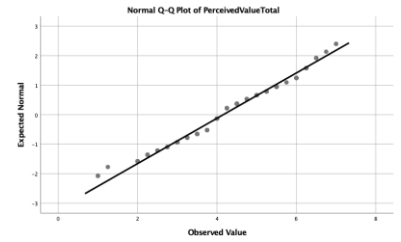
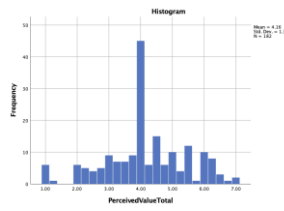
Independent Samples Test

		Levene's Test for Equality of Variances			t-test	
		F	Sig.	t	df	Sig. (2-tailed)
PerceivedValueTotal	Equal variances assumed	8.377	.004	-.953	180	.342
	Equal variances not assumed			-.953	166.201	.342

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PerceivedValueTotal	.128	182	.000	.971	182	.001

a. Lilliefors Significance Correction



- Regression analysis

Descriptive Statistics

	Mean	Std. Deviation	N
PerceivedValueTotal	4.1580	1.30240	182
Package Stimulus	.500	.5014	182

Correlations

	PerceivedValueTotal	Package Stimulus
Pearson Correlation	PerceivedValueTotal 1.000	.071
	Package Stimulus .071	1.000
Sig. (1-tailed)	PerceivedValueTotal .	.171
	Package Stimulus .171	.
N	PerceivedValueTotal 182	182
	Package Stimulus 182	182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.071 ^a	.005	-.001	1.30273	1.922

a. Predictors: (Constant), Package Stimulus

b. Dependent Variable: PerceivedValueTotal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.542	1	1.542	.908	.342 ^b
	Residual	305.479	180	1.697		
	Total	307.021	181			

a. Dependent Variable: PerceivedValueTotal

b. Predictors: (Constant), Package Stimulus

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	4.066	.137			29.773	.000	1.000	1.000
	Package Stimulus	.184	.193	.071		.953	.342	1.000	1.000

a. Dependent Variable: PerceivedValueTotal

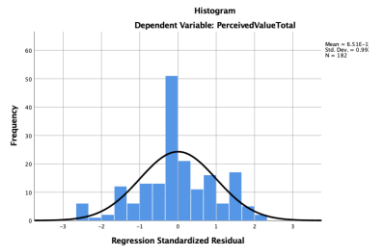
Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Package Stimulus
1	1	1.707	1.000	.15	.15
	2	.293	2.414	.85	.85

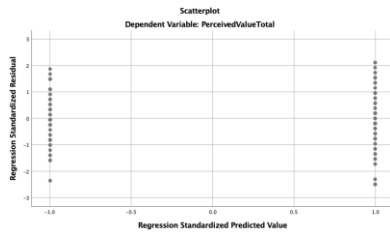
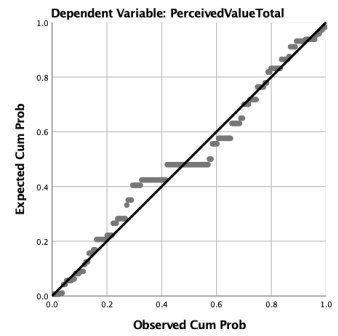
a. Dependent Variable: PerceivedValueTotal

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.0659	4.2500	4.1580	.09229	182
Residual	-3.25000	2.75000	.00000	1.29913	182
Std. Predicted Value	-.997	.997	.000	1.000	182
Std. Residual	-2.495	2.111	.000	.997	182

a. Dependent Variable: PerceivedValueTotal



Normal P-P Plot of Regression Standardized Residual



Hypothesis 4

- Regression analysis 1

Descriptive Statistics

	Mean	Std. Deviation	N
What would be your maximum willingness to pay for the product shown previously? - ln €	2.3132	1.33203	182
PerceivedValueTotal	4.1580	1.30240	182

Correlations

	What would be your maximum willingness to pay for the product shown previously? - ln €	PerceivedValueTotal
Pearson Correlation	1.000	.372
	PerceivedValueTotal	.372
Sig. (1-tailed)	.000	.000
	PerceivedValueTotal	.000
N	182	182
	PerceivedValueTotal	182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.372 ^a	.138	.133	1.23997	1.917

a. Predictors: (Constant), PerceivedValueTotal

b. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.393	1	44.393	28.873	.000 ^b
	Residual	276.755	180	1.538		
	Total	321.148	181			

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

b. Predictors: (Constant), PerceivedValueTotal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Beta	Tolerance
1	(Constant)	.732	.308		2.375	.019	1.000	1.000
	PerceivedValueTotal	.380	.071	.372	5.373	.000	1.000	1.000

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

Collinearity Diagnostics^a

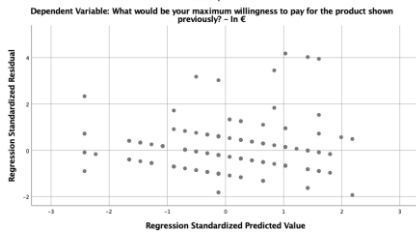
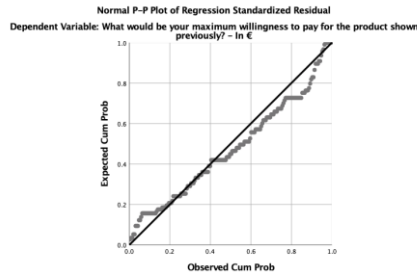
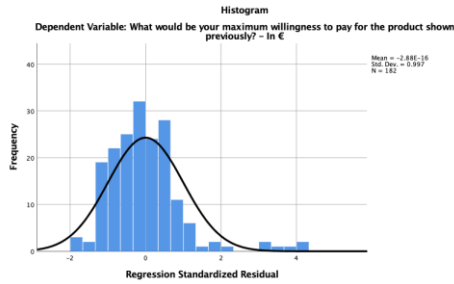
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PerceivedValueTotal
1	1	1.955	1.000	.02	.02
	2	.045	6.555	.98	.98

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.1124	3.3939	2.3132	.49524	182
Residual	-2.39388	5.17650	.00000	1.23654	182
Std. Predicted Value	-2.425	2.182	.000	1.000	182
Std. Residual	-1.931	4.175	.000	.997	182

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €



• Regression analysis 2

Descriptive Statistics

	Mean	Std. Deviation	N
What would be your maximum willingness to pay for the product shown previously? - In €	2.6813	1.51202	91
PerceivedValueTotal	4.2500	1.47855	91

Correlations

	What would be your maximum willingness to pay for the product shown previously? - In €	PerceivedValueTotal
Pearson Correlation	1.000	.386
PerceivedValueTotal	.386	1.000
Sig. (1-tailed)		.000
PerceivedValueTotal	.000	
N	91	91
PerceivedValueTotal	91	91

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.386 ^a	.149	.140	1.40238	1.950

- a. Predictors: (Constant), PerceivedValueTotal
- b. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.725	1	30.725	15.623	.000 ^b
	Residual	175.034	89	1.967		
	Total	205.758	90			

- a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €
- b. Predictors: (Constant), PerceivedValueTotal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.002	.450		2.228	.028		
	PerceivedValueTotal	.395	.100	.386	3.953	.000	1.000	1.000

- a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

Collinearity Diagnostics^a

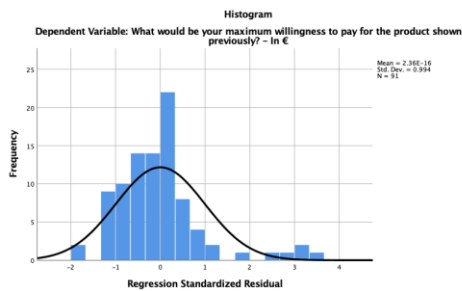
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PerceivedValueTotal
1	1	1.945	1.000	.03	.03
	2	.055	5.949	.97	.97

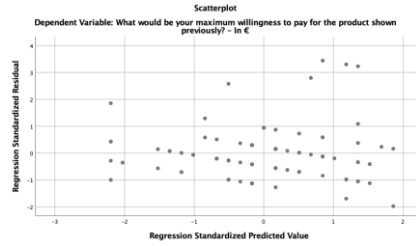
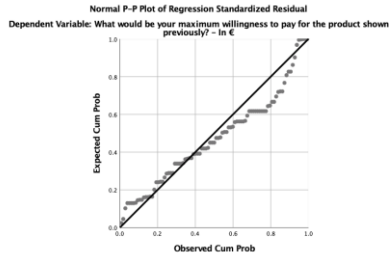
- a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.3970	3.7680	2.6813	.58428	91
Residual	-2.76804	4.82472	.00000	1.39457	91
Std. Predicted Value	-2.198	1.860	.000	1.000	91
Std. Residual	-1.974	3.440	.000	.994	91

- a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €





• Regression analysis 3

Descriptive Statistics

	Mean	Std. Deviation	N
What would be your maximum willingness to pay for the product shown previously? - ln €	1.9451	1.00402	91
PerceivedValueTotal	4.0659	1.09914	91

Correlations

	What would be your maximum willingness to pay for the product shown previously? - ln €	PerceivedValueTotal
Pearson Correlation	1.000	.331
	PerceivedValueTotal	.331 1.000
Sig. (1-tailed)		.001
	PerceivedValueTotal	.001 .
N	91	91
	PerceivedValueTotal	91 91

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.331 ^a	.109	.099	.95289	2.033

a. Predictors: (Constant), PerceivedValueTotal

b. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.913	1	9.913	10.917	.001 ^b
	Residual	80.813	89	.908		
	Total	90.725	90			

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

b. Predictors: (Constant), PerceivedValueTotal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.717	.385		1.865	.066		
	PerceivedValueTotal	.302	.091	.331	3.304	.001	1.000	1.000

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

Collinearity Diagnostics^a

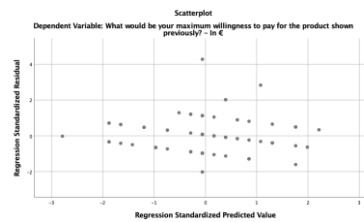
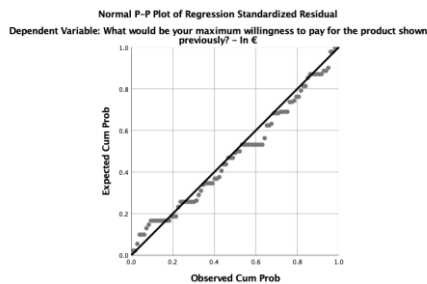
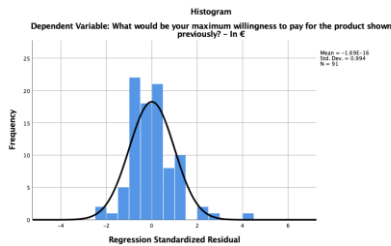
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PerceivedValueTotal
1	1	1.966	1.000	.02	.02
	2	.034	7.571	.98	.98

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.0193	2.6800	1.9451	.33187	91
Residual	-1.92515	4.07485	.00000	.94759	91
Std. Predicted Value	-2.789	2.215	.000	1.000	91
Std. Residual	-2.020	4.276	.000	.994	91

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - ln €



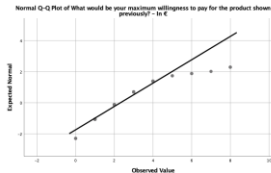
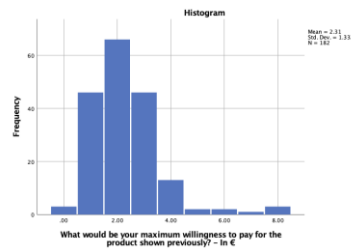
Hypothesis 5

Independent sample t-test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
What would be your maximum willingness to pay for the product shown previously? - In €	.225	182	.000	.821	182	.000

a. Lilliefors Significance Correction

What would be your maximum willingness to pay for the product shown previously? - In €



Group Statistics

	Package Stimulus	N	Mean	Std. Deviation	Std. Error Mean
What would be your maximum willingness to pay for the product shown previously? - In €	Normal Package	91	1.9451	1.00402	.10525
	Sustainable Package	91	2.6813	1.51202	.15850

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
What would be your maximum willingness to pay for the product shown previously? - In €	Equal variances assumed	6.964	.009	-3.870	180	.000	-.73626	.19026	-1.11170	-.36083
	Equal variances not assumed			-3.870	156.449	.000	-.73626	.19026	-1.11208	-.36044

Regression analysis

Descriptive Statistics

	Mean	Std. Deviation	N
What would be your maximum willingness to pay for the product shown previously? - In €	2.3132	1.33203	182
Package Stimulus	.500	.5014	182

Correlations

	What would be your maximum willingness to pay for the product shown previously? - In €	Package Stimulus
Pearson Correlation	1.000	.277
Sig. (1-tailed)	What would be your maximum willingness to pay for the product shown previously? - In €	.000
	Package Stimulus	.277
N	What would be your maximum willingness to pay for the product shown previously? - In €	182
	Package Stimulus	182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.277 ^a	.077	.072	1.28341	1.840

a. Predictors: (Constant), Package Stimulus

b. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.665	1	24.665	14.974	.000 ^b
	Residual	296.484	180	1.647		
	Total	321.148	181			

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

b. Predictors: (Constant), Package Stimulus

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.945	.135		14.457	.000		
	Package Stimulus	.736	.190	.277	3.870	.000	1.000	1.000

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Package Stimulus
1	1	1.707	1.000	.15	.15
	2	.293	2.414	.85	.85

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

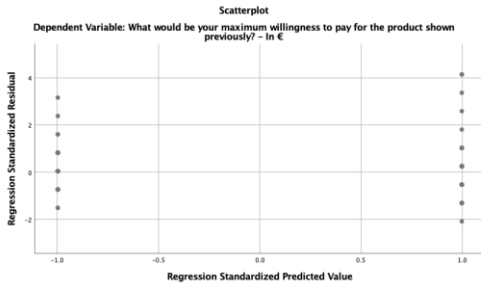
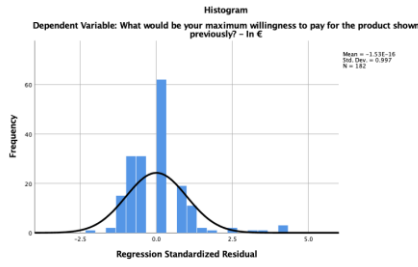
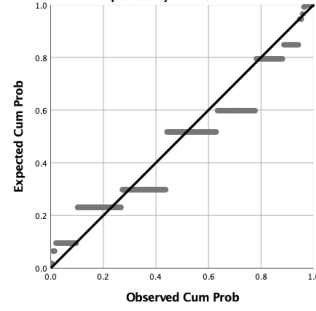
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.9451	2.6813	2.3132	.36915	182
Residual	-2.68132	5.31868	.00000	1.27986	182
Std. Predicted Value	-.997	.997	.000	1.000	182
Std. Residual	-2.089	4.144	.000	.997	182

a. Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: What would be your maximum willingness to pay for the product shown previously? - In €



Hypothesis 6

- Regression analysis 1

Descriptive Statistics

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.1011	1.40272	182
What would be your maximum willingness to pay for the product shown previously? - In €	2.3132	1.33203	182

Correlations

	PurchaseIntentTotal	What would be your maximum willingness to pay for the product shown previously? - In €
Pearson Correlation	PurchaseIntentTotal	1.000
	What would be your maximum willingness to pay for the product shown previously? - In €	.393
Sig. (1-tailed)	PurchaseIntentTotal	.000
	What would be your maximum willingness to pay for the product shown previously? - In €	.000
N	PurchaseIntentTotal	182
	What would be your maximum willingness to pay for the product shown previously? - In €	182

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.393 ^a	.154	.150	1.29356	2.052

a. Predictors: (Constant), What would be your maximum willingness to pay for the product shown previously? - In €
 b. Dependent Variable: PurchaseIntentTotal

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.946	1	54.946	32.837	.000 ^b
	Residual	301.194	180	1.673		
	Total	356.140	181			

a. Dependent Variable: PurchaseIntentTotal
 b. Predictors: (Constant), What would be your maximum willingness to pay for the product shown previously? - In €

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.144	.193		16.330	.000		
	What would be your maximum willingness to pay for the product shown previously? - In €	.414	.072	.393	5.730	.000	1.000	1.000

a. Dependent Variable: PurchaseIntentTotal

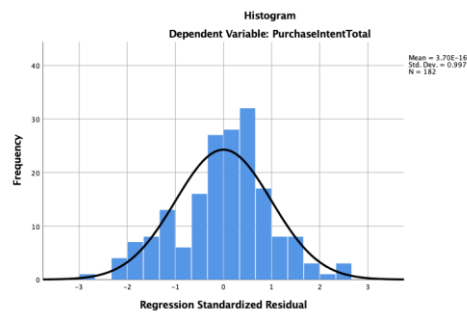
Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	What would be your maximum willingness to pay for the product shown previously? - In €
1	1	1.867	1.000	.07	.07
	2	.133	3.749	.93	.93

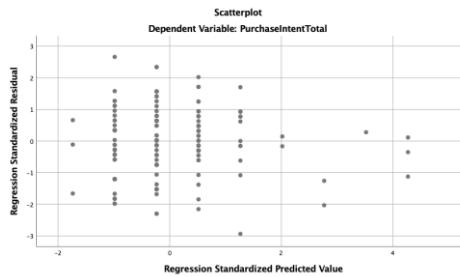
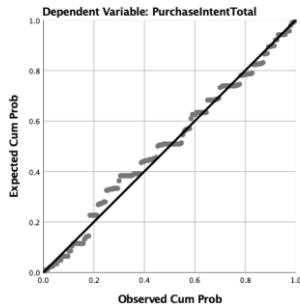
a. Dependent Variable: PurchaseIntentTotal

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.1443	6.4533	4.1011	.55097	182
Residual	-3.79882	3.44208	.00000	1.28998	182
Std. Predicted Value	-1.737	4.269	.000	1.000	182
Std. Residual	-2.937	2.661	.000	.997	182

a. Dependent Variable: PurchaseIntentTotal



Normal P-P Plot of Regression Standardized Residual



• Regression analysis 2

Descriptive Statistics

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.1890	1.51917	91
What would be your maximum willingness to pay for the product shown previously? - In €	2.6813	1.51202	91

Correlations

	PurchaseIntentTotal	What would be your maximum willingness to pay for the product shown previously? - In €
Pearson Correlation	PurchaseIntentTotal	1.000
	What would be your maximum willingness to pay for the product shown previously? - In €	.427
Sig. (1-tailed)	PurchaseIntentTotal	.000
	What would be your maximum willingness to pay for the product shown previously? - In €	.000
N	PurchaseIntentTotal	91
	What would be your maximum willingness to pay for the product shown previously? - In €	91

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.427 ^a	.182	.173	1.38138	1.817

- a. Predictors: (Constant), What would be your maximum willingness to pay for the product shown previously? - ln €
 b. Dependent Variable: PurchaseIntentTotal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.877	1	37.877	19.850	.000 ^b
	Residual	169.832	89	1.908		
	Total	207.709	90			

- a. Dependent Variable: PurchaseIntentTotal
 b. Predictors: (Constant), What would be your maximum willingness to pay for the product shown previously? - ln €

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.039	.296		10.264	.000	1.000	1.000
	What would be your maximum willingness to pay for the product shown previously? - ln €	.429	.096	.427	4.455	.000		

- a. Dependent Variable: PurchaseIntentTotal

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	What would be your maximum willingness to pay for the product shown previously? - ln €
1	1	1.872	1.000	.06	.06
	2	.128	3.828	.94	.94

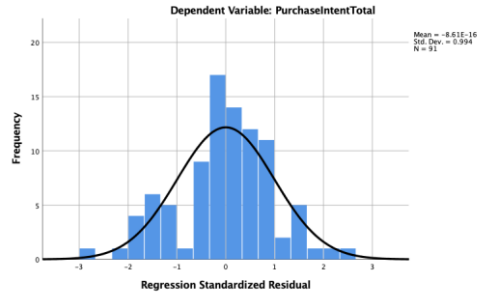
- a. Dependent Variable: PurchaseIntentTotal

Residuals Statistics^a

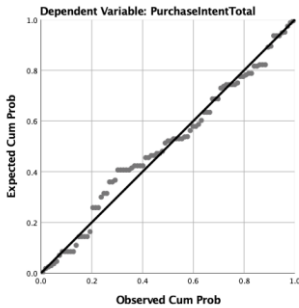
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.0386	6.4710	4.1890	.64874	91
Residual	-3.75480	3.53236	.00000	1.37369	91
Std. Predicted Value	-1.773	3.518	.000	1.000	91
Std. Residual	-2.718	2.557	.000	.994	91

- a. Dependent Variable: PurchaseIntentTotal

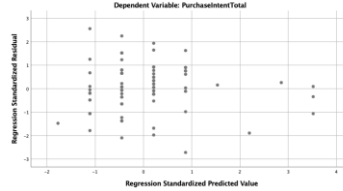
Histogram



Normal P-P Plot of Regression Standardized Residual



Scatterplot



• **Regression analysis 3**

Descriptive Statistics

	Mean	Std. Deviation	N
PurchaseIntentTotal	4.0132	1.27812	91
What would be your maximum willingness to pay for the product shown previously? - ln €	1.9451	1.00402	91

Correlations

	PurchaseIntentTotal	What would be your maximum willingness to pay for the product shown previously? - ln €
Pearson Correlation	PurchaseIntentTotal	.335
	What would be your maximum willingness to pay for the product shown previously? - ln €	.335
Sig. (1-tailed)	PurchaseIntentTotal	.001
	What would be your maximum willingness to pay for the product shown previously? - ln €	.001
N	PurchaseIntentTotal	91
	What would be your maximum willingness to pay for the product shown previously? - ln €	91

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335 ^a	.112	.102	1.21112	2.172

- a. Predictors: (Constant), What would be your maximum willingness to pay for the product shown previously? - ln €
 b. Dependent Variable: PurchaseIntentTotal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.479	1	16.479	11.235	.001 ^b
	Residual	130.545	89	1.467		
	Total	147.024	90			

- a. Dependent Variable: PurchaseIntentTotal
 b. Predictors: (Constant), What would be your maximum willingness to pay for the product shown previously? - ln €

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	3.184	.278		11.454	.000		
	What would be your maximum willingness to pay for the product shown previously? - ln €	.426	.127	.335	3.352	.001	1.000	1.000

- a. Dependent Variable: PurchaseIntentTotal

Collinearity Diagnostics^a

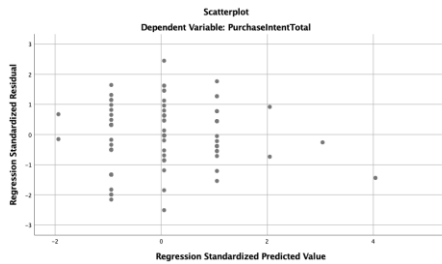
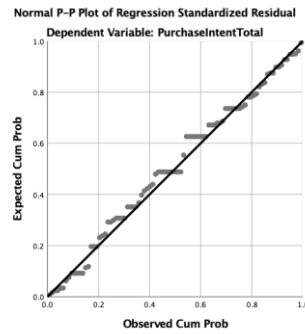
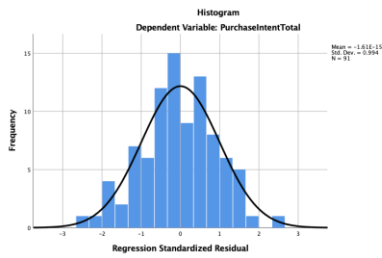
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	What would be your maximum willingness to pay for the product shown previously? - ln €
1	1	1.890	1.000	.06	.06
	2	.110	4.138	.94	.94

a. Dependent Variable: PurchaseIntentTotal

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.1842	5.7414	4.0132	.42790	91
Residual	-3.03660	2.96340	.00000	1.20437	91
Std. Predicted Value	-1.937	4.039	.000	1.000	91
Std. Residual	-2.507	2.447	.000	.994	91

a. Dependent Variable: PurchaseIntentTotal



6) Mediation Effect – Process analysis

a) Mediation Effect with Packaging Stimulus

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 6

Y : Purchase
X : Dummy_pa
M1 : Perceive
M2 : WTP

Sample Size: 182

OUTCOME VARIABLE:
Purchase

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.0789	.0050	1.6971	.9083	1.0000	180.0000	.3418

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	4.0659	.1366	29.7733	.0000	3.7965	4.3354	
Dummy_pa	.1841	.1931	.9531	.3418	-.1970	.5652	

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:
Purchase

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.0628	.0039	1.9707	.7137	1.0000	180.0000	.3993

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	4.0132	.1472	27.2706	.0000	3.7228	4.3036	
Dummy_pa	.1758	.2081	.8448	.3993	-.2348	.5865	

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c_ps	
	.1758	.2081	.8448	.3993	-.2348	.5865	.1253

Direct effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c'_ps	
	-.0729	.1453	-.5016	.6166	-.3595	.2138	-.0519

OUTCOME VARIABLE:
WTP

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4488	.2014	1.4327	22.5772	2.0000	179.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	-.4732	.3054	1.5495	.1230	-.1294	1.0759	
Dummy_pa	.6696	.1779	3.7642	.0002	.3186	1.0207	
Perceive	.3620	.0685	5.2857	.0000	.2268	.4971	

OUTCOME VARIABLE:
Purchase

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.7468	.5576	.8851	74.7951	3.0000	178.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.7244	.2417	2.9975	.0031	.2475	1.2012	
Dummy_pa	-.0729	.1453	-.5016	.6166	-.3595	.2138	
Perceive	.7352	.0579	12.7036	.0000	.6210	.8494	
WTP	.1540	.0587	2.6207	.0095	.0380	.2699	

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	.2487	.1606	-.0662	.5640
Ind1	.1353	.1426	-.1411	.4124
Ind2	.1031	.0435	.0286	.1992
Ind3	.0103	.0127	-.0110	.0403

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	.1773	.1142	-.0477	.4023
Ind1	.0965	.1015	-.1001	.2926
Ind2	.0735	.0310	.0204	.1425
Ind3	.0073	.0091	-.0079	.0287

Indirect effect key:

Ind1 Dummy_pa -> Perceive -> Purchase
Ind2 Dummy_pa -> WTP -> Purchase
Ind3 Dummy_pa -> Perceive -> WTP -> Purchase

b) Mediation Effect with Normal Packaging

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 6

Y : Purchase
X : NormalPa
M1 : Perceive
M2 : WTP

Sample Size: 181

OUTCOME VARIABLE:
Purchase

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.0728	.0053	1.7052	.9541	1.0000	179.0000	.3300

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	4.2556	.1376	30.9167	.0000	3.9839	4.5272	
NormalPa	-.1896	.1941	-.9768	.3300	-.5727	.1934	

OUTCOME VARIABLE:
WTP

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4494	.2020	1.4393	22.5270	2.0000	178.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.1520	.3184	3.6177	.0004	.5236	1.7803	
NormalPa	-.6754	.1788	-3.7766	.0002	-1.0282	-.3225	
Perceive	.3612	.0687	5.2593	.0000	.2256	.4967	

OUTCOME VARIABLE:
Purchase

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.7467	.5575	.8900	74.3467	3.0000	177.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.6498	.2594	2.5046	.0132	.1378	1.1618	
NormalPa	.0739	.1461	.5058	.6136	-.2145	.3623	
Perceive	.7353	.0580	12.6681	.0000	.6208	.8499	
WTP	.1541	.0589	2.6149	.0097	.0378	.2704	

Communalities

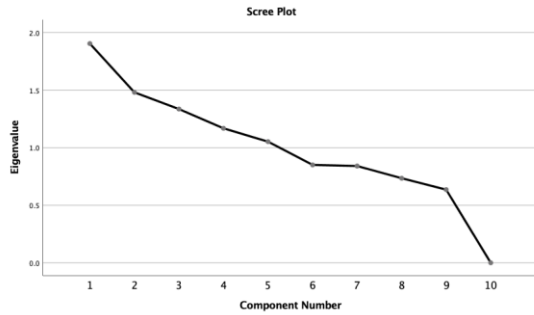
	Initial	Extraction
With Recycling symbol	1.000	.649
Not made of plastic	1.000	.882
Package with brown color	1.000	.733
Can be reused	1.000	.761
Biodegradable	1.000	.711
Can be recycled	1.000	.882
Made of recycled materials only	1.000	.648
Made with at least 30% of recycled materials	1.000	.675
Small package size	1.000	.489
Package with no extra features	1.000	.508

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.904	19.038	19.038	1.904	19.038	19.038	1.614	16.140	16.140
2	1.480	14.803	33.841	1.480	14.803	33.841	1.583	15.828	31.968
3	1.335	13.352	47.193	1.335	13.352	47.193	1.383	13.829	45.797
4	1.168	11.678	58.871	1.168	11.678	58.871	1.180	11.800	57.597
5	1.052	10.523	69.394	1.052	10.523	69.394	1.180	11.797	69.394
6	.850	8.502	77.896						
7	.840	8.405	86.301						
8	.735	7.345	93.646						
9	.635	6.354	100.000						
10	4.441E-16	4.441E-15	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component				
	1	2	3	4	5
With Recycling symbol	.604	.494	.152	.127	.028
Not made of plastic	-.214	.166	-.451	-.773	.089
Package with brown color	.393	.412	.555	-.054	-.312
Can be reused	-.366	-.266	-.236	.574	-.414
Biodegradable	.527	-.304	-.445	-.042	-.376
Can be recycled	.086	.281	-.414	.449	.650
Made of recycled materials only	.409	-.612	.198	-.054	.254
Made with at least 30% of recycled materials	-.232	-.564	.483	-.098	.244
Small package size	-.546	.241	.320	.073	.160
Package with no extra features	-.632	.214	.027	-.017	-.247

Extraction Method: Principal Component Analysis.
a. 5 components extracted.

Reproduced Correlations

	With Recycling symbol	Not made of plastic	Package with brown color	Can be reused	Biodegradable	Can be recycled	Made of recycled materials only	Made with at least 30% of recycled materials	Small package size	Package with no extra features
With Recycling symbol	.649 ^a	-.212	.510	-.327	.085	-.204	-.024	-.351	-.148	-.281
Not made of plastic	-.212	.882 ^a	-.282	-.340	.036	-.074	-.215	-.185	-.020	-.150
Package with brown color	.510	-.282	.733 ^a	-.287	-.045	-.307	-.058	-.127	.008	-.067
Can be reused	-.327	-.340	-.287	.761 ^a	.125	-.020	-.169	-.037	.035	.260
Biodegradable	.085	.036	-.045	.125	.711 ^a	-.119	.220	-.254	-.567	-.317
Can be recycled	-.204	-.074	-.307	-.020	-.119	.882 ^a	-.077	-.264	.025	-.174
Made of recycled materials only	-.024	-.215	-.058	-.169	.220	-.077	.648 ^a	.413	-.270	-.446
Made with at least 30% of recycled materials	-.351	-.185	-.127	-.037	-.254	-.264	.413	.675 ^a	.178	-.019
Small package size	-.148	-.020	.008	.035	-.567	.025	-.270	.178	.489 ^a	.365
Package with no extra features	-.281	-.150	-.067	.260	-.317	-.174	-.446	-.019	.365	.508 ^a
Residual ^b										
With Recycling symbol		.037	-.261	.040	-.105	-.158	-.025	.075	-.051	.006
Not made of plastic	.037		.047	.166	-.141	-.026	-.005	.012	-.041	-.166
Package with brown color	-.261	.047		.040	-.026	-.145	-.027	.011	-.009	-.069
Can be reused	.040	.166	.040		-.208	-.055	.007	.005	-.010	-.228
Biodegradable	-.105	-.141	-.026	-.208		.039	-.120	.038	.206	.029
Can be recycled	-.158	-.026	.145	-.055	.039		-.056	.062	-.111	.064
Made of recycled materials only	-.025	-.005	-.027	.007	-.120	-.056		-.312	.059	.142
Made with at least 30% of recycled materials	.075	.012	.011	.005	.038	.062	-.312		-.199	-.037
Small package size	-.051	-.041	-.049	-.050	.206	-.111	.054	-.199		-.235
Package with no extra features								-.037	-.235	

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
With Recycling symbol	.748	-.157	-.076	.243	.008
Not made of plastic	-.288	-.062	-.269	-.080	-.847
Package with brown color	.790	.058	-.050	-.314	.070
Can be reused	-.466	-.076	-.297	-.077	.667
Biodegradable	-.036	-.836	-.022	-.087	.047
Can be recycled	-.029	.050	-.076	.934	.030
Made of recycled materials only	-.012	-.280	.754	-.008	.040
Made with at least 30% of recycled materials	-.251	.328	.659	-.256	.071
Small package size	-.058	.687	-.107	-.022	.040
Package with no extra features	-.249	.430	-.441	-.254	.040

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.

Component Transformation Matrix

Component	1	2	3	4	5
1	.639	-.686	.302	.174	-.026
2	.578	.317	-.670	.255	-.228
3	.503	.554	.461	-.426	.215
4	.019	.055	-.093	.442	.890
5	-.072	.345	.489	.726	-.330

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

	Factor 1 - Package claims	Factor 2 - simple package	Factor 3 - Made of recycled materials	Factor 4 - Can be recycled	Factor 5 - Can be reutilized
Sum	2577	3442	1739	726	1526
Place	4	5	3	1	2

1 - most important
10 - least important

The characteristic with the smallest sum is the most important. The characteristic with the biggest sum is the least important