Green Brand Image in Digital Retail – A research on Green Labeling Impact on Willingness to Pay

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ABSTRACT

The environmental consciousness of customers continues to rise, while digital retail provides them with additional purchase options. This dissertation explores the impact of a sustainable brand image on consumers' willingness to pay in an online retail context, focusing on the significance of green labels.

For the empirical investigation, four distinct stimuli were developed based on the results of an online pre-survey. The stimuli comprise of a T-Shirt with and without a green label and applied to two brands, of which one has been found to be regarded as sustainable, while the other has been found to not be perceived as sustainable. These stimuli were applied to an online questionnaire and presented randomly to 277 respondents. Brand image concerning sustainability and the willingness to pay were assessed, and the determinants of the Theory of planned behavior.

This research found that a sustainable brand image positively affects consumers' willingness to pay. Though the relationship between brand image and willingness was not found to be moderated by the existence of green labeling, green labeling has been found to result in a (significant) higher willingness to pay. The determinants of the Theory of planned behavior participated in the model as partial mediators.

This thesis contributes to close the literature gap concerning green labeling and its impact on the relationship between brand image and willingness to pay. From a managerial point of view, this study helps to give implications better to understand the relationships of the different variables under study.

Keywords: Brand image, green labels, eco-labels, labeling, sustainable brand image, willingness to pay, theory of planned behavior, digital retail, online shopping, online fashion

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SUMÁRIO

A consciência ambiental dos clientes continua a aumentar, enquanto que o retalho digital lhes proporciona opções de compra adicionais. Esta dissertação explora o impacto de uma imagem de marca sustentável na vontade dos consumidores de pagar num contexto de retalho em linha, centrando-se no significado dos rótulos verdes.

Para a investigação empírica, foram desenvolvidos quatro estímulos distintos com base nos resultados de um estudo prévio em linha. Os estímulos compreendem uma T-Shirt com e sem rótulo verde e aplicados a duas marcas, das quais uma foi considerada como sustentável, enquanto a outra foi considerada não sustentável. Estes estímulos foram aplicados a um questionário em linha e apresentados aleatoriamente a 277 respondentes. A imagem de marca relativa à sustentabilidade e a vontade de pagar foram avaliadas, e os determinantes da Teoria do comportamento planeado.

Esta pesquisa descobriu que uma imagem de marca sustentável afecta positivamente a vontade dos consumidores de pagar. Embora a relação entre a imagem de marca e a vontade não tenha sido moderada pela existência da rotulagem verde, verificou-se que a rotulagem verde resultou numa vontade (significativa) mais elevada de pagar. Os determinantes da Teoria do comportamento planeado participaram no modelo como mediadores parciais.

Esta tese contribui para colmatar a lacuna da literatura relativa à rotulagem verde e o seu impacto na relação entre a imagem da marca e a vontade de pagar. De um ponto de vista de gestão, este estudo ajuda a dar implicações para uma melhor compreensão das relações das diferentes variáveis em estudo.

Palavras-chave: imagem de marca, etiquetas verdes, rótulos ecológicos, rotulagem, imagem de marca sustentável, vontade de pagar, teoria do comportamento planeado, retalho digital, compras online, moda online

Green Brand Image in Digital Retail - Uma investigação sobre o impacto da rotulagem ecológica na vontade de pagar

Lukas Nils Leggen

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GLOSSARY

DV	Dependent variable
GOTS	Global Organic Textile Standard
IV	Independent variable
WTP	Willingness to pay
TPB	Theory of planned behavior

CHAPTER 1: INTRODUCTION

1.1 Background

Due to growing environmental challenges and rising consumer awareness about the effect of their consumption decisions, an ever-growing body of research is dedicated to investigating the topics of green branding, green products, and green brands in practically every sector of the economy (Górska-Warsewicz et al., 2021). Brand equity, also referred to as intangible brand property, is the value concealed by a well-known brand name (Mohd et al., 2007). Aaker (1991) defines brand equity as a combination of brand assets and liabilities associated with a brand, its name, and its symbol that increase or decrease the value a product or service gives to a company and its customers. Accordingly, Chen (2010) characterizes green brand equity as "a set of brand assets and liabilities about green commitments and environmental concerns linked to a brand, its name, and symbol that add to or subtract from the value provided by a product or service". Chen (2010) introduced the novel concept of "green brand image," characterizing it as a set of customer impressions of a company tied to environmental commitments and concerns.

As brand image is the primary driver of brand equity, referring to a consumer's entire perceptions and emotions regarding a brand (Zhang, 2015), it is crucial to investigate further on this topic in the field of green marketing.

Rebranding towards sustainability is vital for companies because the ever-increasing threat of climate change also strengthens consumers' awareness of the need to use resources more consciously (Khandelwal et al., 2019) and triggers a shift in purchasing behavior. An IPSOS study from the end of 2019 found that 69 percent of customers globally had adjusted the goods and services they use because they were worried about climate change (Statista Research Department, 2021). While sustainability concerns are rising, the consumers focus also changed from brick-and-mortar stores to the online environment. In 2021, worldwide retail e-commerce sales reached around $5.2 trillion. This number is expected to increase by 56% over the next decade, reaching around $8.1 trillion by 2026 (Stephanie Chevalier, 2022). Due to these respective growth numbers, a focus on digital retail is more relevant than ever.

Further research on these topics will help to predict consumer behavior and better target marketing efforts. In particular, the use of labeling concerning customers' willingness to pay in an online retail context needs to be fully reflected in the academic literature. Green labeling often refers to the certification of products that meet the specific environmental standards of a regulating organization (Leal Filho, 2019). Retailers, government organizations, and manufacturers are continually exploring innovative ways to give consumers product

sustainability information to alter their choices and create a more sustainable world. (Sustainability Consortium, 2018).

Empirical results show that green brand equity positively correlates with green brand image, customer satisfaction, and trust. The positive association between green brand image and green brand equity is mediated by green satisfaction and green trust. It is suggested that companies invest more resources in boosting their green brand equity because green brand image, satisfaction, and trust are all positively connected with it (Chen, 2010).

Hence this thesis is dedicated to closing this gap by investigating the impact of a sustainable brand image on consumer's willingness to pay, as well as the effects of green labeling on this relationship mediated by the determinants of the Theory of planned behavior, namely attitudes towards the behavior, subjective norms, and perceived behavioral control.

1.2 Problem Statement

The ever-increasing threat of climate change is forcing society and the economy to rethink how it handles its scarce resources. Numerous governmental groups worldwide are working to develop the necessary laws and regulations to protect the environment, while environmentally friendly products and materials are becoming more popular among consumers (Vazifehdoust et al., 2013). Despite the fact that eco-friendly or "green" products are typically more expensive, consumers are increasingly eager to buy them (Su et al., 2012). This thesis investigates whether and to what extent a sustainable brand image influences consumers' willingness to pay and what role green labeling plays in this context. The determinants attitude towards the behavior, subjective norm, and perceived behavioral control will be considered mediators. This leads to the following research questions:

RQ1: What impact does green brand image have on consumers' willingness to pay?

RQ2: How does the existence of green labeling impact the relationship between brand image and consumers' willingness to pay?

RQ3: How do attitude toward the behavior, subjective norm, and perceived behavioral behavior influence the relationship between brand image and consumers' willingness to pay?

1.3 Relevance

The topic of green marketing has become increasingly popular in recent years. As consumers' sustainability and environmental concerns increase, it becomes more vital for businesses to concentrate not just on the supply of new products but also on conveying their efforts in making this supply sustainable. Managers need to consider the effects of a green brand image on consumers' willingness to pay, considering the implications of green labeling (Vazifehdoust et al., 2013). Even though eco-friendly or "green" products are frequently more expensive, people are increasingly willing to pay a premium for products they perceive as being supplied sustainably (Su et al., 2012). Managers must understand these changes in customer preferences to optimally price and present their products.

For this study, the online shopping environment is particularly fascinating. Due in no small part to the coronavirus epidemic, online retail has become one of the most important economic channels, exhibiting extraordinarily solid growth rates for the foreseeable future (Stephanie Chevalier, 2022). Managerial and academic implications of how customers react monetarily to different brand images and what effect green labels can have in this context are extremely valuable.

This research is worth doing because it adds to the existing literature on green brand equity, labeling and image by investigating the effect of brand image on willingness to pay and the moderating effect of green labeling, potentially uncovering biases that managers and marketing executives can incorporate into their strategy.

1.4 Research methods

The research methodology for this dissertation consists of several approaches; First, an extensive literature review was conducted. Previous research was examined to place the study in the context of existing knowledge. This information was gathered from various past research, academic journals, papers, and books emphasizing brand equity and image in the context of green marketing, digital retail, willingness to pay, green labeling, and the Theory of planned behavior. The result is a theoretical framework that forms the basis for the conceptual framework applied in this study. To advance this research to an operational level, it was necessary to carry out two studies with primary data; first, an initial online survey was conducted to select the most appropriate product, brand, and label for this research. Second, the main survey then measured the relationship between brand image and consumers' willingness to pay, including the effects of green labeling and the determinants of the Theory of planned behavior. The research design was a 2-by-2 design and the sample size of this survey contained

277 respondents. The obtained data was examined using IBM's SPSS statistical software. The statistical tests most suitable for the data and the hypothesis under investigation were (Multi-) Linear Regressions, Mann-Whitney U Test, and the PROCESS model 4 and 5 from Hayes (2013).

1.5 Dissertation outline

There are a total of five chapters in the current dissertation. The subsequent second chapter is a comprehensive literature review that thoroughly comprehends the hypothesis and how the existing academic knowledge on the topic supports it. In the third chapter, the research methodology for this investigation is presented. It comprises of a comprehensive explanation of the research undertaken, details the procedures, data measurements, and analysis for each statistical test. In the fourth chapter, the outcomes of the previously gathered data are presented to understand and assess the veracity of each hypothesis. The fifth and final chapter consists of conclusions addressing the study's key findings, limitations, and recommendations for further research.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter presents a theoretical framework on the topics related to the main research questions and study purpose. The subjects were explored using previous studies' support and a summary of empirical evidence from various academic journals. The first part of this literature review focuses on green brand equity, providing some theoretical insights into the main findings from previous research. Secondly, the topic of digital retail is introduced. The theoretical classification of willingness to pay follows before diving into the topic of brand image, where the first hypotheses are formed and conducted. Further, Green labeling will be introduced, providing another hypothesis. The chapter closes with the Theory of planned behavior and its three determinants, providing hypotheses accordingly.

2.1 Green Brand Equity

The ever-increasing threat of climate change is strengthening consumers' awareness of the need to consciously use resources. There are many changes and impacts on the rules and patterns of global industrial competition due to the trends of strict international environmental regulations and popular environmental consciousness among consumers (Chen, 2008). An IPSOS study from the end of 2019 found that 69 percent of customers globally had adjusted the goods and services they use because they were worried about climate change (Statista Research Department, 2021). Therefore, managers need to consider the effects of green brand equity. "From a cost perspective, several pieces of research have produced evidence that more effective green marketing activities can reduce operating expenses (Hart, 1997; Yakhou & Dorweiler, 2004), allow firms to make better use of resources (Graedel and Allenby, 2001; King and Lenox, 2001), and stimulate innovation in production technology (McDonough & Braungart, 2002)" (Kang & Hur, 2012, pp. 1–2).

Brand equity, typically known as intangible brand property, is the value that a well-known brand name conceals (Mohd et al., 2007). Due to higher brand equity, customers may be more willing to pay for a comparable level of quality because of the name attached to the product or service (Bello & Holbrook, 1995). According to Aaker (1991), brand equity can be defined as "a set of brand assets and liabilities linked to a brand, its name, and symbol that add to or subtract from the value provided by a product or service to a firm and to the firm's customers.''. Numerous studies have been conducted on green branding, green products, and green brands in practically every sector of the economy due to growing environmental challenges and rising consumer awareness (Górska-Warsewicz et al., 2021). Chen (2010) characterizes green brand equity as "a set of brand assets and liabilities about green commitments and environmental

concerns linked to a brand, its name, and symbol that add to or subtract from the value provided by a product or service." Many publications referred to this definition and further modified it. Empirical results show that green brand equity positively correlates with green brand image, customer satisfaction, and trust. The positive association between green brand image and green brand equity is mediated by green satisfaction and green trust. It is suggested that companies invest more resources in boosting their green brand equity because the green brand image, satisfaction, and trust are all positively connected with it (Chen, 2010).

2.2 Digital Retail

Digitalization and related technology advancements are driving significant innovations in the retail sector. The rate of change has increased significantly during the Covid-19 crisis (Bradley et al., 2021). Online shopping was viable as retail sites shuttered and people stayed indoors to prevent the virus. The share of global e-commerce in total retail sales increased from 15% in 2019 to 21% in 2021. It currently represents an estimated 22% of sales (Morgan Stanley, 2022). In 2021, worldwide retail e-commerce sales reached around 5,2 trillion U.S. dollars. This number is expected to increase by 56% over the next decade, reaching around $8,1 trillion by 2026 (Stephanie Chevalier, 2022). Due to these respective growth numbers, a focus on digital retail is more relevant than ever. Several consumer studies (Pålsson et al., 2017; Rizet et al., 2010) demonstrate that this tendency has negatively impacted the environment by increasing CO2 emissions and energy consumption. The positive or negative impacts of e-commerce on the environment remain uncertain, even though many customers prefer online shopping because it is more convenient.

2.3 Willingness to pay

"Various approaches to measure brand equity (cf., e.g., Farquhar, 1989; Srivastava and Shocker, 1991; Park and Srinivasan, 1994) emphasize customers' WTP in terms of the (monetary) added value endowed by a brand to a specific product vis-à-vis its' competitors or an unbranded baseline product" (Breidert et al., 2006, p. 2). Many aspects of marketing management, such as choosing prices or developing new products, heavily depend on knowing how much a product's (possible) buyers are ready to pay. Although academic and practical pricing research has made significant strides in recent years, many businesses still make pricing decisions without a thorough understanding of how (possible) customers and rivals will react to different price quotations. These businesses risk failing to pursue a pricing strategy suitably customized to their marketing environment because they lack adequate knowledge of the

customer's willingness to pay (WTP) for their products. As a result, they also risk ignoring important sources to boost the profitability of the products they sell (Breidert et al., 2006).

Liebe et al. (2011) discovered that factors influencing WTP are different for "in principle WTP," meaning whether one is willing to pay for something at all, and "amount of WTP." Income, e.g., does not affect whether one is willing to pay in general but influences the monetary amount someone is willing to spend. Furthermore, several theoretical approaches have been discussed to explain customers' WTP, having different determinants influencing it.

WTP is determined by two factors in economic models: income and use of the good in question. When consumers think about paying for better environmental quality, their options and responses to valuation questions are limited by their (disposable) income. As a result, income is expected to have a positive impact on WTP. Concerning the use of the good in question, it is assumed that users have a higher WTP than nonusers (Carson et al., 2001).

The Theory of public goods focuses on the determinants of the Dilemma concern and trust in other people's cooperation. Essentially the theory is that no one is excludable from the good once it is provided, even if not contributing to the provision of the good. As a result, there is an incentive to rely on the contributions of others and to take advantage of the good as a free rider, leading to a social dilemma (Liebe et al., 2011).

According to Liebe et al. (2011) Altruistic/ Moral Behavior models focus on the determinants of General warm glow and Subjective obligation to pay. These are based on a broader motivational structure than standard economic models. Encouraging altruistic behavior can be facilitated by using a utility function that includes a "taste for having others better off," where "others" may not always refer to human beings but can also refer to environmental amenities. This may lead to perceived obligations to contribute to, e.g., environmental protection. Economically general feelings of obligation are discussed in terms of "a warm glow of giving." People may obtain utility from altruistic behavior in and of itself, regardless of whether others will benefit. According to Kahneman and Knetsch (1992), moral satisfaction can vary depending on the good: some goods provide more satisfaction than others. They also provide empirical evidence that moral satisfaction can be purchased. WTP is expected to be positively affected by a subjective obligation to pay for the specific good in question and a general warm glow unrelated to the specific good in question.

The Norm-activation model focuses on the determinants of awareness of the need for paying and awareness of responsibility. It assumes that a personal norm leading to moral obligations regarding a specific action is only activated and transformed into behavior if certain conditions are fulfilled. Personal norms to pay for the good, awareness of the need regarding providing the

good, and awareness of responsibility for paying are all considered behavioral determinants in the context of WTP analyses. It is expected that both positively affect WTP (Liebe et al., 2011). The Attitude behavior paradigm assumes that attitudes can predict behavior. Accordingly, the e.g., environmental concern would favor WTP for green goods, focusing only on environmental concern as a determinant. (Cooper et al., 2004).

Willingness to pay in the context of the Theory of planned behavior is explained later this chapter.

2.4 Brand Image

In the literature on brand equity, there are various conceptual and operational brand image models (D. A. Aaker, 1996; Keller, 1993). Some operational models were designed to be relevant to various product categories (Lassar et al., 1995; Netemeyer et al., 2004; Yoo & Donthu, 2001), while others are more specific. Brand Image is the key driver of brand equity, referring to a consumer's overall view and feelings about a brand (Zhang, 2015). Brand image is crucial in marketplaces where it is difficult to identify items or services based on concrete qualitative characteristics (Mcdowell et al., 1997). Brand image is the mental image of a brand in a consumer's mind, which is comprised of symbolic meanings associated with the brands' distinctive characteristics (Cretu & Brodie, 2007; Padgett & Allen, 1997). Cretu and Brodie (2007) and Keller (1993) define a brand image as a collection of consumer perceptions about a brand based on its brand associations. Thus, Park et al. (1986) stated that brand image encompasses functional, symbolic, and experiential benefits. With these definitions as the basis, Chen (2010) proposed the novel construct "green brand image", defining it as "a set of perceptions of a brand in a consumer's mind that is linked to environmental commitments and environmental concerns.'' Companies that invest heavily in enhancing their brand images might not only prevent the hassle of environmental protests or penalties, but also increase customer satisfaction regarding environmental aspirations, sustainable expectations, and green demands. Since brand image is a significant predictor of customer satisfaction, past research has hypothesized a positive association between brand image and customer satisfaction (Chang & Tu, 2005; Martenson, 2007). Anselmsson et al. (2014) studied price premiums (for food brands). They discovered that the brand image dimensions awareness, quality, CSR, home nation origin, social image, and uniqueness are significantly associated with paying a premium and, consequently, with the willingness to pay.

Based on these facts, the initial hypothesis is stated as such:

H1: Brand image has a positive impact on consumers' willingness to pay.

While also:

H1a: A perceived sustainable brand image has a stronger impact on consumers' willingness to pay than a non-perceived sustainable brand image.

2.4 Green Labeling

'Green labeling' often refers to the accreditation of items following the specific environmental criteria of a governing body. 'Environmental labels' and 'eco-labels' are other names for green labels. To protect the environment, green labeling is a crucial endeavor to address the issue of environmental degradation. It encourages more nations and regions to begin sustainable development (Leal Filho, 2019). Because of the vital environmental issues, numerous governmental groups worldwide are working to develop the necessary laws and regulations to protect the environment. Environmentally friendly products and materials are becoming more popular among consumers (Vazifehdoust et al., 2013). Even though eco-friendly or "green" products are frequently more expensive, people are becoming more eager to buy them (Su et al., 2012). Retailers, government agencies, and manufacturers are all constantly working to figure out new ways to provide product sustainability information to consumers to change their preferences and create a more sustainable environment (*Sustainability Consortium*, 2018). Increasing the purchase of sustainable products through labeling is a noble goal, though consumer perceptions of the labeling and its subsequent impact on purchase behavior can differ (Cho & Baskin, 2018).

Green or environmental product labels can be classified and categorized in various ways. There are two primary distinctions: whether the scheme is mandatory or voluntary and whether certification (granting the right to use the label) is done independently or not. Mandatory labeling is mandated by law and appears more common for specific performance issues such as water or energy-consuming devices.

While mandatory labeling is prescribed by law and appears to be most common for specific performance issues, such as water or energy-consuming devices, voluntary labels are categorized into three types by the International Standards Organization (ISO). Type I labels are third-party certified product labels that use a logo associated with certified products; type II labels are based on self-declarations; Type III labels offer quantitative life cycle environmental data in a more comprehensive report format (Horne, 2009).

Four hundred fifty-five sustainability labels are in circulation in 199 countries and 25 industry sectors, according to the Ecolabel Index (2022). The labels address various social and

environmental concerns and consider different stages of product life cycles. While some labels focus on a specific environmental or social concern (e.g., "Carbon Trust"), others (e.g., "Global Organic Textile Standard (GOTS)") include numerous sustainability issues. Horne (2009) concludes that adopting eco-labels is an opportunity for increased sales through product differentiation, increased accountability, or increased consumer choice in a greening retail environment. According to the findings, regulated or government-sponsored labels are generally preferred over others. A broader, more socially realistic response is required, incorporating the role of environmental information such as eco-labels into a broader range of social and behavioral phenomena.

It has been demonstrated that sustainability labeling directly influences sustainable purchasing decisions. E-commerce firms have recently implemented third-party and private sustainability labels on their websites as nudging tools to advise online buyers about sustainable choices (Gossen et al., 2022). Sustainability labels can directly influence purchasing behavior because they provide consumers with timely, effective, and efficient assistance in discovering sustainable product alternatives at the point of purchase (Thøgersen et al., 2012). Therefore, a relationship between green labeling, brand image, and willingness to pay can be anticipated. Digitalization and access to technology have drastically altered consumption patterns and practices. Thus, online businesses must take an active role in encouraging sustainable consumption. Their position at the customer interface in digital distribution channels enables them to deliver immediate sustainability information at the point of sale (Bălan, 2021). Research has demonstrated the importance of labels dependability and reputation in influencing consumer choices. Using the responses of 1,282 Indian customers, Kumar et al. (2021) studied the association between green information quality and green brand confidence. Their empirical study examined the effect of eco-label credibility on the product categories of electronics, cosmetics, and clothes and discovered that eco-label credibility had a moderating effect for all three categories, thus influencing the brand image. Another study with young Italian consumers indicated that self-declared claims (ISO label type II) significantly influenced their willingness to pay than third-party labels (Rossi & Rivetti, 2020).

Based on these findings, the second hypothesis can be stated as such:

H2: The existence of Green Labeling moderates the relationship between brand image and consumers' willingness to pay.

2.3 The Theory of Planned Behavior

Ajzen (1991) extends the Attitude behavior paradigm in his Theory of Planned Behavior (TPB), which is widely used to explain consumer behaviors in the literature. TBP mainly focuses on intent. As the intention to pay for a product or service also influences the amount a person is willing to pay, they can be seen as substitutes. The theory focuses on the three determinants of attitude toward the behavior, which are the positive or negative evaluation of performing the behavior, subjective norm, which captures an individual's perception of social pressure from reference group members to engage in the behavior, and perceived behavior control, being the perceived ease or difficulty of performing the behavior. TPB concerns a person's predictable behavior toward an object, a circumstance, or another person. The theory seeks to predict behavior and proposes that the intention to engage in that behavior is a valuable predictor of behavior. For public environmental goods, e.g., WTP is expected to rise in response to a more favorable attitude toward paying for such goods, increased social pressure to pay, and increased perceived behavioral control to paying for such goods (Liebe et al., 2011).

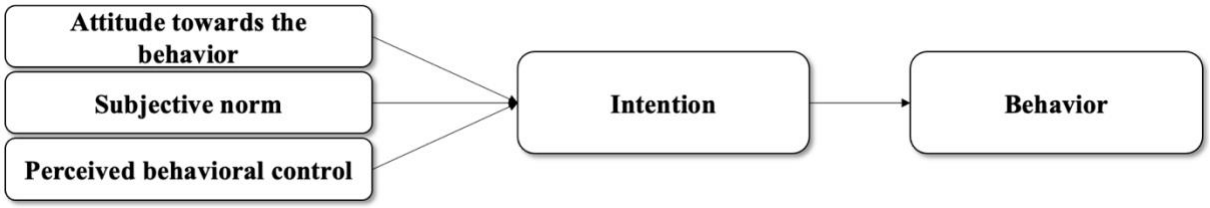

Figure 1: Theory of planned behavior

In her research, López-Mosquera (2016) demonstrates that an improved TPB model provides a helpful and efficient framework for analyzing the interrelationships between a socio-demographic variable (gender), the original TPB components, moral standards, and WTP. According to Ajzen (1991), an individual's intention to do the activity under consideration should be stronger the more favorable their attitude and subjective norm are toward the behavior and the larger their perception of behavioral control. Therefore, a closer look is taken at the three determinants of the theory of planned behavior as mediators of the relationship between brand image and willingness to pay.

2.3.1 Attitude toward the behavior

According to Ajzen (1991), the attitude toward the behavior, also the intention, is the individual's intention to perform a specific action. The motivational factors influencing the behavior are assumed to be captured by these intentions. They indicate how hard a particular

individual is willing to try and how much effort one will put in to perform the behavior. Generally, the stronger the intention to engage in a particular behavior, the more likely its execution should be. It was discovered that customers' attitudes and perceptions influence their purchasing behavior. Leonard et al. (2004) pointed out that attitude comprises an evaluation of whether the action under discussion is good or bad and whether the actor wishes to engage in the behavior. According to Ramayah et al. (2010), attitude encompasses the perceived consequences of behavior, and to Kochen and Reiling (2000), it is the primary predictor of behavioral intention. In the context of green products, a favorable association between attitude and behavioral intention has been shown across numerous cultures (Mostafa, 2007). Therefore, a mediating relationship between the attitude toward the behavior and the willingness to pay can be assumed. This leads to *H3a:*

H3a: Attitude mediates the relationship between brand image and WTP.

2.3.2 Subjective norm

The subjective norm is "the perceived social pressure to perform or not to perform the behavior" (Ajzen, 1991, p. 188). To rephrase it, subjective norm refers to the perceived opinions of persons who impact an individual's decision-making (e.g., family members, close friends, co-workers/colleagues, or business partners) (H. S. Park, 2000). Subjective norm captures an individual's perception of the social pressure they experience regarding a particular activity. Furthermore, consumers with good subjective norms about a particular activity are likelier to have positive behavioral intentions (Han et al., 2010; Taylor S & Todd P, 1995). Numerous studies have identified subjective norms as a crucial determinant of environmentally conscious consumption (Khare, 2015; Moser, 2015; Tsarenko et al., 2013). In these studies, a positive link has been identified between subjective norms and intention. When consumers believe that their "significant others" favor green purchasing, they are more likely to engage in these behaviors. Therefore, it can be assumed that subjective norms also mediate willingness to pay. This leads to *H3b:*

H3b: Subjective norms mediate the relationship between brand image and WTP.

2.3.3 Perceived behavioral control

Perceived behavioral control refers to "the perceived ease or difficulty of performing the behavior" (Ajzen, 1991, p. 188). Particularly, perceived behavioral control evaluates the impression of one's ability to manage aspects that may facilitate/restrict the activities required to deal with a particular circumstance. Numerous research has shown that people's intention/activity is favorably affected by their confidence in their ability to do the behavior (Baker et al., 2007; Cheng et al., 2006; Conner & Abraham, 2001; Taylor S & Todd P, 1995). Therefore, it can be assumed that willingness to pay is influenced by perceived behavior control.

Based on these findings, the following hypothesis can be conducted:

> *H3c: Perceived Behavioral Control mediates the relationship between brand image and WTP.*

2.7 Conceptual Framework

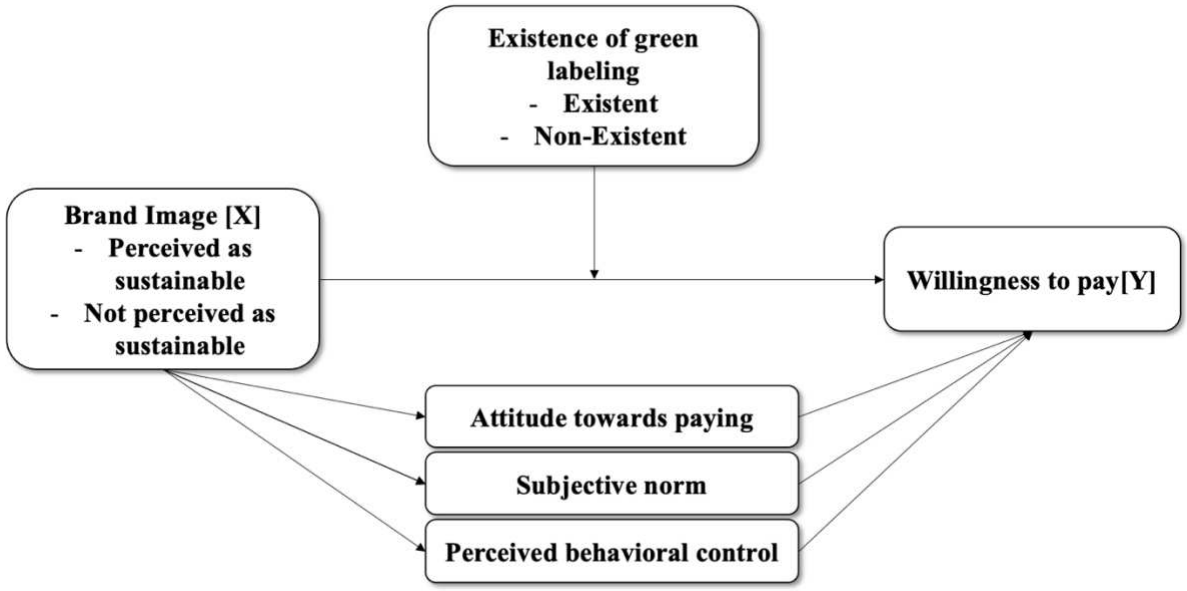

Figure 2: Conceptual Framework

CHAPTER 3: METHODOLOGY

The subsequent chapter describes the methodology applied to answer the research questions and test the offered hypotheses in depth. It begins with an overview of the research approach, followed by details addressing the collection of primary data to reach conclusions that will help support the hypotheses proposed in the previous chapter.

3.1 Research Approach

This dissertation seeks to gain insights into the relationship between brand image and willingness to pay, analyzing the impacts of green labeling and the antecedents of the Theory of planned behavior as mediators. This was achieved by conducting a literature review on the respective topics, such as green brand equity, brand image, digital retail, green labeling, and willingness to pay, including the determinants of attitude towards the behavior, subjective norm, and perceived behavioral control. This review built the basis for the development of the conceptual framework for this study.

A variety of research approaches were applied to address the research questions and evaluate the validity of the offered hypotheses. To gain familiarity with the topic and obtain new insights, exploratory research was conducted first. Thus, to establish the appropriate factors and hypothesize their relationships, the existing literature was reviewed for relevant information. Afterward, confirmatory/ explanatory research was applied to assess the hypotheses and explain their relationships. Furthermore, this dissertation relies exclusively on quantitative data to validate hypotheses and draw the required conclusions.

The first step was to conduct a preliminary survey to select the examined product, brand(s), and label to achieve this objective. The objective was to prevent researcher bias and select brands, a product, and a label familiar to respondents and suitable for the study.

Following the development of qualitative research, online questionnaires via Qualtrics were used to conduct quantitative research. After data collection, IBM's SPSS software was used to conduct statistical analysis.

3.2 Primary Data

Primary data was obtained via two online surveys to gather information to answer the research questions and validate the hypotheses. A pre-survey was created first to identify a suitable green label, brands, and type of product for the research, followed by a survey questionnaire that functioned as the primary research instrument.

3.2.1 Pre-Survey

A pre-study was conducted to avoid biases concerning the chosen product, brands, and label of investigation. This also guarantees that the chosen products, labels, and brands are familiar among the cohort of respondents.

3.2.1.1 Data Collection

Since the objective of the first study was to collect quantitative data on products, brands, and labels in an organized and standardized manner, the most appropriate method was a questionnaire (Saunders et al., 2007). This questionnaire was disseminated online due to the rapidity with which essential data can be collected, and it was available in English to surmount potential language barriers. A convenience sample was collected using a non-probability sampling technique to compile the obtained data. Due to time restrictions and resource limits, this method was chosen despite the possibility that it could introduce a degree of bias to the results (Malhotra et al., 2017).

The research is conducted in the context of online retail sector of fashion and apparel. This sector was chosen, because of its economic importance, namely being the best-selling industry in e-commerce (Miller, 2022).

The pre-survey begins with a section regarding green labels. The respondent was presented with different green labels for fashion/ apparel goods commonly used in the online environment and was asked to choose the ones he or she was familiar with. The presented labels were the Global Organic Textile Standard label, the EU-Eco label, the Fairtrade label, the Blue Angel label, and the FSC label, as they have been found to be the most reliable and commonly used third-party labels in fashion. The respondent also had to assess the trustworthiness of the labels chosen.

Afterward, the respondent was presented with different brands from the online retail fashion environment and had to assess their brand image in terms of sustainability. The presented brands were Nike, Adidas, Patagonia, Zara, Veja, Calvin Klein, Reebok, H&M, Levi's, The North Face, and Carhartt, and the responded had the option also to add a brand. This aimed to understand which brands are perceived as sustainable for creating the stimuli concerning a sustainable brand image.

The last part of the survey asks the respondent about which product type he or she most commonly purchases online for the stimuli development concerning the product choice. The presented categories were T-Shirts, Hoodies & Pullovers, Jackets, Sportswear, Underwear, Jeans, Trousers, Swimwear, Shoes & Sneakers, and Accessories.

3.2.1.2 Measurement/ Indicators

To measure the awareness of the different labels and their trustworthiness, the respondents were asked which of the five presented labels is familiar to them, being able to choose all that applied and to fill in another label. For the choice of brand, the respondents had to assess how sustainable they perceive the brands on a 7-point Likert scale from 1=strongly agree to 7=strongly disagree. To assess the choice of product, a multiple-choice question was presented to the respondents. This was the most appropriate method because responders could select more than one of the options provided (Malhotra et al., 2017).

3.2.1.3 Analysis and Results

Quantitative data for this study were gathered and analyzed using Qualtrics and IBM's SPSS Statistics. This questionnaire received 57 replies, of which 53 were legitimate, and four were invalid because they did not meet the standards.

Frequency statistics were applied, and it was seen that the most known label is the Global Organic Textile Standard label, with 42 respondents being aware of it in the context of fashion and apparel, followed by the Fairtrade label, with 36 respondents being aware (Appendix 2).

In general, all five labels displayed to the respondents are highly valued in trustworthiness. The trustworthiness was measured by a 7-Point Likert scale. The GOTS label showed the highest mean with 6.51, being the trust-worthiest label of the five, followed by The Blue Angel (Appendix 2).

The brand which was perceived as the most sustainable was Patagonia. Respondents were asked to indicate their agreement that they perceive the brand as sustainable, measured by a 7-Point Likert scale. Patagonia's mean was 6.94, being perceived as the most sustainable brand, followed by Veja, with a mean of 6.5. The brand that is neither perceived as sustainable nor unsustainable is Adidas, with a mean of 4.04, making it a perfect match for the main study. (Appendix 2)

The product which is most shopped online by the respondents is a T-Shirt, chosen by 41 of the respondents. Therefore, it is reasonable to consider T-Shirts as the most appropriate product for this research.

3.3.2 Main Study

This survey aimed to understand the relationship between brand image and willingness to pay. It included the influences of green labeling to be tested as a moderating factor and the three

determinants of attitude towards the behavior, subjective norms, and perceived behavioral control as mediating factors, following the conceptual model proposed earlier.

Applying this research approach may result in significant benefits, but it may also cause particular challenges for the entire research. Though inexpensive, quick, and easy to evaluate, there is no control over the respondent, little chance to clarify questions, and it may not represent the population (Malhotra et al., 2017). It may suffer from sample bias.

A pilot test was undertaken to ensure the usefulness and intelligibility of the questionnaire. Adjustments were made in response to the 7 replies received, which were taken into consideration.

3.3.2.1 Data Collection

The purpose of this study was to obtain data on the relationship between brand image and willingness to pay, taking into consideration the effects of green labeling and the determinants of attitude towards the behavior, subjective norm, and perceived behavioral control. The chosen category for this study is the online retail environment. A T-Shirt is the chosen product for this investigation. Patagonia and Adidas are the chosen brands of investigation. The GOTS label was chosen as the most familiar one in the context of fashion and apparel for the respondents in the pre-survey.

Data collection took place between 14/11/22 and 24/11/22 with an online questionnaire using the platform Qualtrics. The survey was mainly distributed via social media platforms such as LinkedIn, WhatsApp, Instagram, Facebook, etc.

Regarding the target population, the focus was on consumers who regularly purchase goods via online retailers. A control question was designed to automatically eliminate respondents who had not purchased goods via online retailers in the past year to ensure conformity with this premise. There were no restrictions concerning age or nationality. The questionnaire was available in English to be able to increase the distribution.

The data for this study was collected through a non-probability sampling technique, which means that the sample was not randomly selected from the population. This sampling method has the advantages of being cost- and time-effective (Kothari, 2004) and being best applicable under time and financial constraints. The convenience technique was also used because, for this investigation, it was only possible to use naturally formed groups. Hence, this may lead to fewer variations in the population and could contribute to limitations in the research (Malhotra et al., 2017).

The survey questionnaire is divided into several sections. The survey started with a brief introduction given by the researcher, thanking the respondents, and shortly introducing himself. According to Crow & Wiles (2008), anonymity and secrecy are key ethical research procedures; both were guaranteed. The second part of the survey is the control question, reassuring that only those respondents continue who have purchased a fashion good via an online retailer in the preceding year. This is followed by an initial question concerning the respondent's online shopping behavior, assessing how often fashion was is purchased on average. Afterward, a randomizer is applied, giving each respondent either one of the four stimuli developed with questions regarding his or her willingness to pay and the brand image. Another block is questions regarding attitude, subjective norm, and perceived behavioral control concerning purchasing fashion online. For each stimulus, a manipulation check was applied. The different questions were randomized. Before the survey concluded with a section on demographic characteristics, a question concerning label knowledge was presented. (Appendix 3).
277 responses were collected, with 202 being valid.

3.3.2.2 Stimuli Development

The questionnaire for the survey had a cross-sectional design. Data was collected only once from the given population. The model had a 2 (brand image perceived as sustainable, brand image not perceived as sustainable) by 2 (existence of green labeling, no existence of green labeling) design.

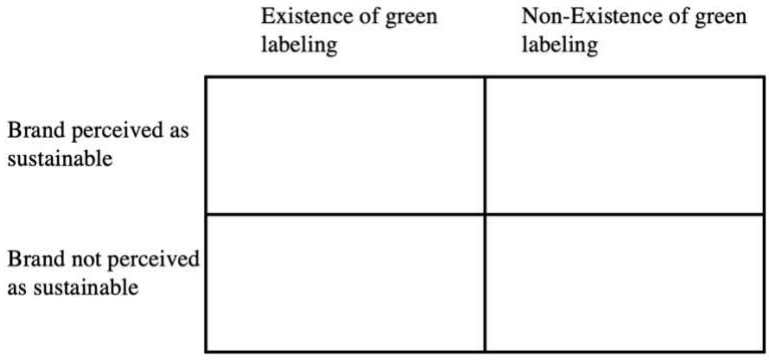

Figure 3: Cross-Sectional Design Matrix

The developed stimuli resulted from the pre-study conducted in advance. The Global Organic Textile Standard label was chosen for the label, being most known by the respondents of the pre-survey. The brand perceived as sustainable is Patagonia, being perceived as the most sustainable by the respondents of the pre-survey. The brand, not neither perceived as sustainable

nor unsustainable is Adidas. The product most shopped online by the respondents of the pre-survey is a T-Shirt. Hence a T-Shirt is the chosen product for the stimuli. The stimuli are presented below.

Figure 4: Stimulus – Patagonia with green label

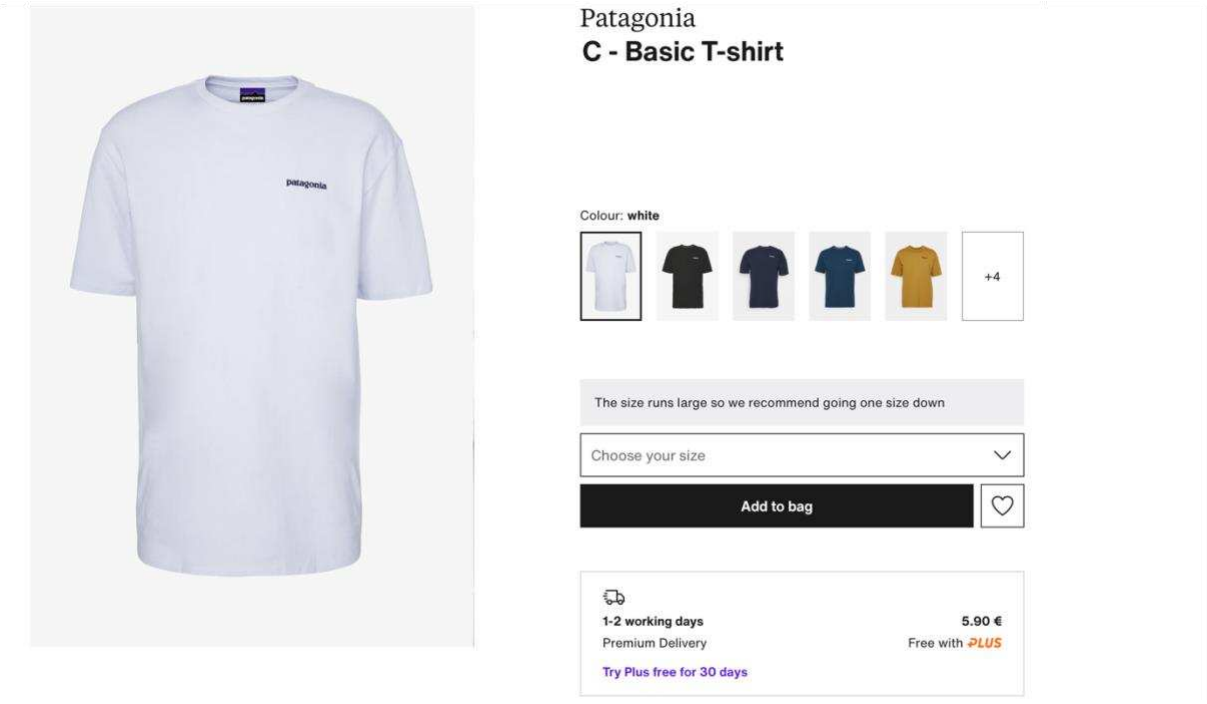

Figure 5: Stimulus - Patagonia without green label

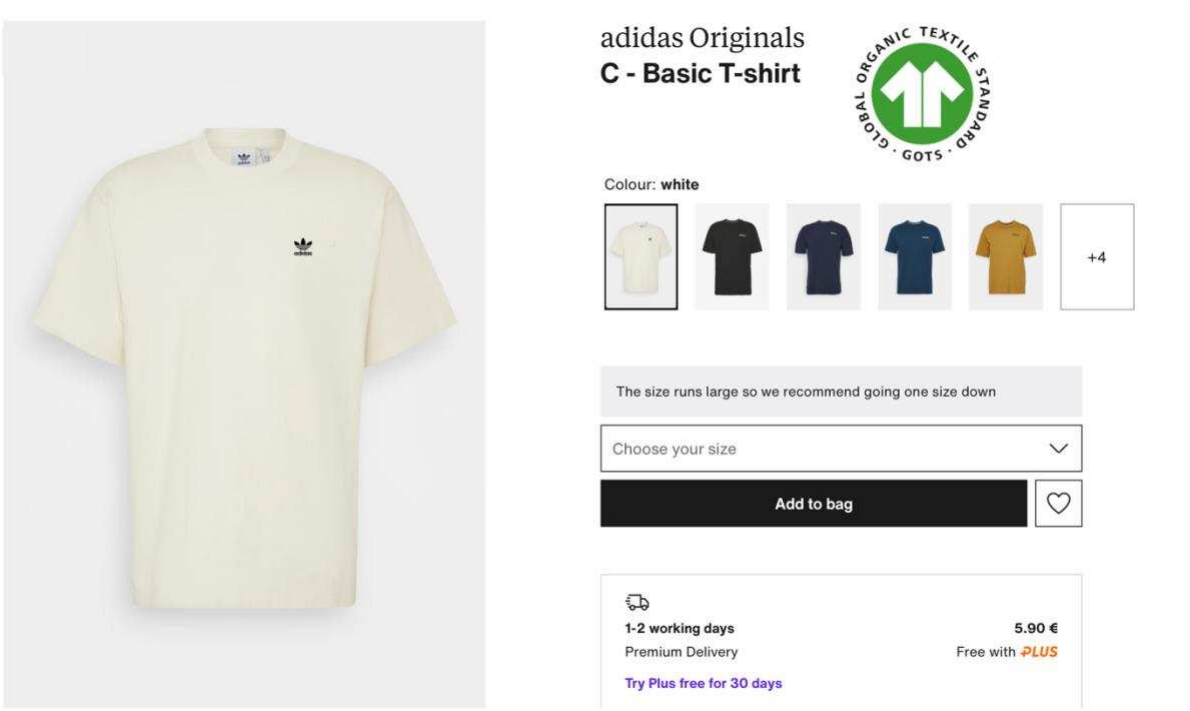

Figure 6: Stimulus – Adidas with green label

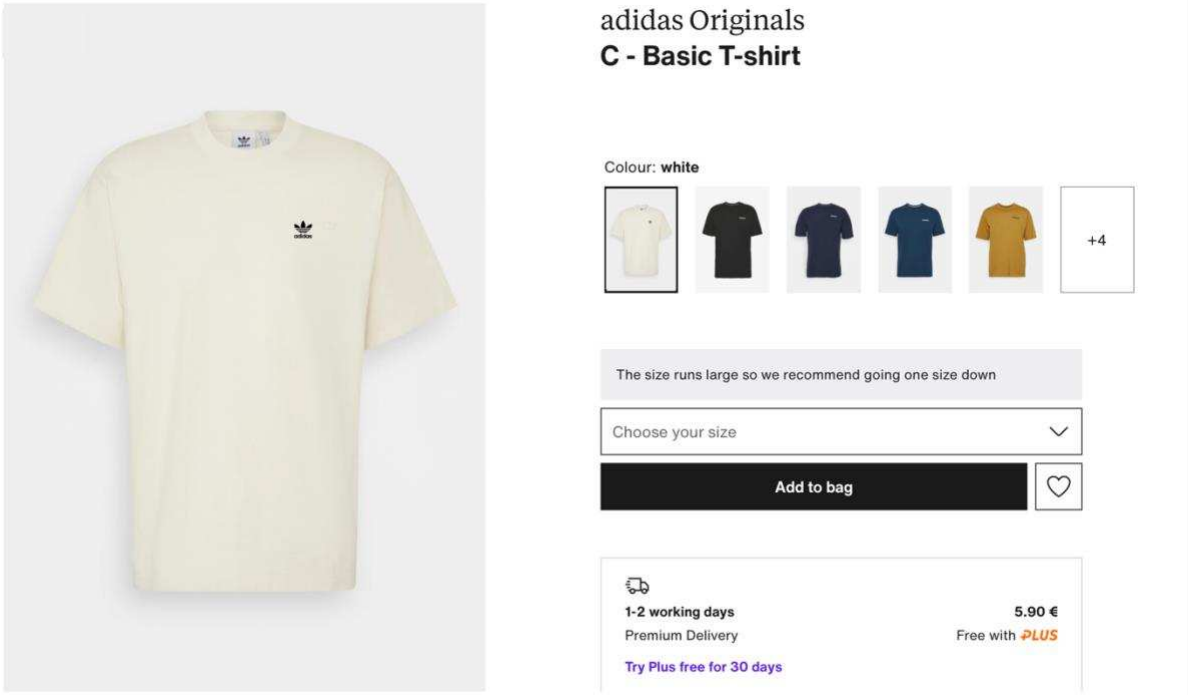

Figure 7: Stimulus – Adidas without green label

3.3.2.3 Measurement / Indicators

Following what was stated in the previous chapter, the beginning of the questionnaire tested the respondent's suitability for the study. After an introductory question, the respondent was presented with one of four stimuli and subsequent sections. All sections and stimuli were

randomized to ensure that the variables did not compromise the study's validity. All survey questions, except the introductory question concerning consumers' willingness to pay and label knowledge, utilized a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree."

To understand the perception of the presented brand and measure the image, the respondents were exposed to a five-item construct from Chen (2010). The construct was adopted from a five-point to a 7-point Likert scale from (1) strongly agree to (7) strongly disagree.

A four-item construct from Madden et al. (1992) was applied to understand the respondents' attitudes toward the behavior. The construct was adopted from a 5-point semantic differential scale to a 7-point Likert scale from (1) very good to (7) very bad, (1) very pleasant to (7) very unpleasant, (1) very harmful to (7) very beneficial, (1) very useful to (7) very useless, and (1) very enjoyable to (7) very unenjoyable.

A four-item construct from Özer & Yilmaz (2020) was applied for the subjective norms. The construct was adopted from a five-point to a 7-point Likert scale.

A four-item construct by Madden et al. (1992) is presented to assess the respondents' perceived behavioral control. A 7-point Likert scale was used to measure this variable.

A direct two-item approach is used by Breidert et al. (2006) to assess consumers' willingness to pay.

Framework	**Measure**	**Items**	**Scale**	**Reference**	**Cronbach's α**
IV	Brand Image	5	7-Point Likert Scale*	(Chen, 2010)	0.744
Moderator	Green Labeling	Stimuli	Na	Na	na
Mediator	Attitude toward the behavior	4	7-Point Likert Scale*	(Madden et al., 1992)	0.83
Mediator	Subjective norms	4	7-Point Likert Scale*	(Özer & Yilmaz, 2020)	0.87
Mediator	Perceived behavioral control	4	7-Point Likert Scale*	(Madden et al., 1992)	0.82
DV	Willingness to pay	2	Numeric question	(Breidert et al., 2006)	na

Table 1: Operational Model

3.3.2.4 Data Analysis

SPSS was used to evaluate the quantitative data gathered. The primary purpose of this study is to verify the proposed hypotheses and evaluate the statistical significance of the variable interactions. Descriptives and Frequencies were used on demographics and the introductory question concerning online shopping frequency.

Cronbach's Alpha was first used to determine the degree of reliability of each construct. The values were classified based on the guidelines presented by George and Mallery (2003).

To investigate the relationship between brand image (IV) and customers' willingness to pay (DV), the (Multi-)Linear Regression and Mann-Whitney U tests were used. A Linear Regression was undertaken to evaluate whether the presence of green labeling moderates the relationship between brand image and willingness to pay. The Hayes (2013) PROCESS model 4 was used to determine whether the Theory of Planned Behavior determinants have mediation effects on the relationship between brand image and willingness to pay. Hayes (2013)'s PROCESS model 5 was utilized for the whole model test.

CHAPTER 4: RESULTS AND DISCUSSION

This chapter is dedicated to the analysis of the results of the main study. Following the preparation of the dataset and the description of the study, the chapter comes with the testing of hypotheses and the complete model. The study of the results began with preparing the dataset, which included outliers' analysis, manipulation checks, and reliability analysis, followed by the characterization of the sample and the testing of the hypotheses and the full model.

4.1 Data Preparation

The process of cleaning the data included how to handle missing data, an outlier analysis, a manipulation check, and the creation of variables.

4.1.1 Missing Data

The survey was closed on the 25th of November 2022 with 277 responses. Out of the 277 respondents, 261 finished the questionnaire, yielding a response rate of 93,88 %. The data cleaning process included filtering for duplicated IP addresses, resulting in 29 responses being eliminated from the analysis. Five recipients that did not purchase fashion items in the last year, hence were also excluded. Such missing data is referred to as missing data by design. Sixteen respondents who did not answer all survey questions and were subsequently excluded from the analysis.

4.1.2 Outlier Analysis

After the data preparation process, it is inevitable to analyze the data for statistical outliers. According to Malhotra et al. (2017), this is a case in the dataset that has abnormal values compared to the others for the same measure. These cases should be removed from the dataset to avoid statistical errors, which can be accomplished by using the Mahalanobis Distance analysis. In this dataset, 3 cases were identified by the test with a p-value lower than 0.0001. Those cases were excluded from further analysis.

4.1.3 Manipulation Check

After data preparation and the outlier analysis, the next step was to check if the respondents were able to pass the manipulation question. This included identifying whether the stimulus they were exposed to includes a green label and if they could identify the presented brand.

For the stimulus of Adidas with a green label, 3 participants failed to identify the presence of a green label. For the stimulus of Adidas without a green label, 9 participants failed the manipulation check regarding the presence of a green label. For Patagonia with a green label, 3 participants failed to identify the presence of a label, while 1 participant failed to identify the presented brand. Six participants wrongly identified the stimulus of Patagonia without a green label as with a green label. Those 22 cases were eliminated from the dataset. A Mann-Whitney U Test was performed to check whether the stimuli were sufficiently manipulated, with a significant outcome (Appendix 8). Hence the stimuli were sufficiently manipulated.

4.1.4 Variable Creation

After the process of cleaning the data, the respondents were grouped according to each of the four stimuli they were exposed to. Therefore, the new categorical variable "GRP" was created with the values 1 → "Adidas (with label)"; 2 → "Adidas (without label)"; 3 → "Patagonia (with label)"; 4 → "Patagonia (without label)". Additionally, new variables were computed for the items of Brand Image and Willingness to Pay since they were originally divided by each stimulus. The objective of these new variables was to have information about all the stimuli. Furthermore, the items of the different constructs were computed into the new variables to create means for each construct for brand image, willingness to pay, attitude, subjective norm, perceived behavioral control, and brand knowledge. Additionally, an interaction variable for brand image and label existence was created.

4.1.5 Reliability Analysis

A Cronbach's alpha test was performed to ensure the reliability and consistency of the variables utilized in this study. Even though all constructs were collected from previously tested literature, it is still necessary to ensure the data's viability. The test was conducted for the three determinants of the Theory of planned behavior, namely attitude, subjective norm, and perceived behavioral control. As per stimulus, the test was performed for brand image.

Because the perceived behavioral control questions had negative and positive factors, the negative variables were recoded to ensure that the results were consistent. All constructs analyzed exceeded Cronbach's alpha of 0,7, which is the cutoff value. The perceived behavioral control construct had the lowest Cronbach's Alpha, with 0,701, only slightly reliable enough for consideration. Though even if one item was deleted from the construct, Cronbach's alpha

would only increase by 0,2. Subsequently, it was decided not to delete an item from the construct. The Cronbach's alphas for each variable can be found in Table 2. (Appendix 5)

Construct	# of Items	Scale	Cronbach's Alpha	Quality
Attitude	5	7-Point Likert	0.907	Excellent
Subjective Norm	4	7-Point Likert	0.893	Good
Perceived behavioral control	4	7-Point Likert	0.701	Acceptable
Brand Image (Adidas with label)	5	7-Point Likert	0.855	Good
Brand Image (Adidas without label)	5	7-Point Likert	0.890	Good
Brand Image (Patagonia with label)	5	7-Point Likert	0.960	Excellent
Brand Image (Patagonia without label)	5	7-Point Likert	0.956	Excellent

Table 2: Measure the reliability of each construct

4.2 Sample Characterization

After cleaning the dataset from missing data, outliers, those cases which failed the manipulation check, and creating new variables, the descriptive statistics of the model were under research. The results are as follows: The sample consisted of 202 respondents after the data preparation process, the manipulation check, and the outlier analysis. 55.4% of the sample was between the ages of 25 and 34, 26.7% were between the ages of 18 and 24, and 11.9% were between the ages of 35 and 44, for a total of 94.1% of respondents under the age of 45. There were 100 male responses, 99 female respondents, and 3 respondents who choose not to disclose their binary status, yielding an extremely equal distribution of gender amongst the viable respondents. 58% of the study's participants were German, followed by those from the Netherlands (7%), Austria (4.5%), and France (4.5%). Overall, 98% of respondents were from European nations. The majority of respondents (62,9%) hold a bachelor's degree, followed by those with a high school diploma or equivalent (18.3%) and those with a master's degree/MBA (17.9%). 49% of the sample is comprised of students, while 49% is employed. As a result of the large proportion of students in the sample, 47.5% of respondents have gross monthly incomes below €1,499 per month. Regarding online fashion purchases, 85.1% of the sample buy fashion online at least every three months on average. (Appendix 4) Non-probability sampling has rendered the sample unrepresentative of the population.

4.3 Inference Statistics

4.3.1 Understand multicollinearity (Interdependence)

The participants were exposed to one of the four stimuli at random. Since no respondent was exposed to several stimuli, the independence of observations is assured by design. Kolmogorov-Smirnov and Shapiro-Wilk analyses were conducted to determine if the data is normally distributed (Appendix 6). Upon analyzing the results, it was determined that the data is not normally distributed; hence, the normality assumption is violated. Notwithstanding this violation, every group has a size greater than 30; hence the Central Limit Theorem can be applied, and it was concluded viable to proceed with parametric tests for our statistical analysis.

4.3.2 Hypothesis testing

To better understand the links between the predictor and the outcome variable, different statistical tests were done to test the validity of the hypotheses. Given the conceptual framework's structure, most conducted tests were (Multi-) Linear Regressions, but we also used tests to compare means between the different stimuli (Mann-Whitney U-test). As the hypotheses attempt to investigate the impacts of moderation and mediation, the PROCESS Macro by Hayes (2013) is also utilized in this research in order to have the perspective of the direct and indirect effects of the predictors in the outcome variable.

4.3.2.1 Impact of brand image on consumers' willingness to pay

H1: Brand image has a positive impact on consumers' willingness to pay.

To understand the relationship between brand image and willingness to pay, a Linear Regression was conducted. All the assumptions of Linear Regression need to be verified before moving to the analysis. This includes that residuals are not correlated, the error is normally distributed, and it has zero mean. Moreover, there needs to be evidence of homoscedasticity and linearity.

Although the data is not normally distributed, as seen in the Kolmogorov-Smirnov and Shapiro-Wilk analyses (Appendix 6), the Central Limit Theorem (as N>30) can be applied. Evidence of normality can be found in the Normal P-P Plot of Regression Standardized Residual (Appendix

7). As observed in the scatter plot, the distribution of errors can be interpreted as normally distributed (Appendix 7); hence the assumption of normal distribution of errors holds, and evidence of homoscedasticity is given. The Durbin-Watson test for autocorrelation shows a value of 1.548, being in the acceptable range between 1.5 and 2.5 (Appendix 7).

The general model is statistically significant ($F(1, 200) = 189.385$, $p < .001$). The R-value is 0,697 and indicates a strong positive correlation between brand image and willingness to pay. The R^2 was 0,486, indicating 48,6% of the total variation of the dependent variable willingness to pay can be explained by the independent variable brand image.

The ANOVA table shows a p-value of <0,001, indicating that the model run was statistically significant. The following expression defines the equation of the model under study:

Willingness to pay = 14,562 + 3,435 Brand Image + e

H0: *Brand image does not have a positive impact on consumers' willingness to pay.* H0 can be rejected. As a result, **H1 can be verified.**

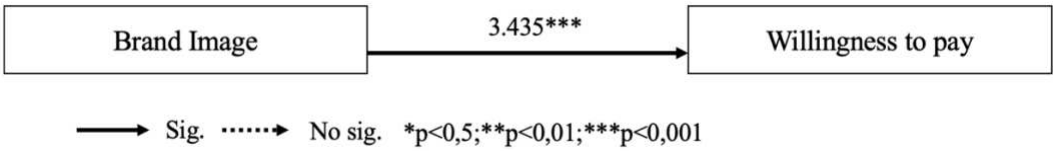

Figure 8: The impact of brand image on willingness to pay

After validating H1, the next step was to analyze H1a.

H1a: A perceived sustainable brand image has a stronger impact on consumers' willingness to pay than a non-perceived sustainable brand image.

To validate this hypothesis, an independent sample T-Test in the form of a Mann-Whitney U test was performed. A Mann-Whitney test is performed when there is a continuous level variable recorded for all observations in two groups, and we want to test whether the distribution of this variable differs between the two groups. However, we cannot assume normality in both groups.

The model is statistically significant ($U = 8685.5$, $z = 8.66$, $p < .001$). Adidas had a mean rank of 67,28 in WTP, and Patagonia's mean rank was 138,54. (Appendix 8)

H0: A perceived sustainable brand image does not have a stronger impact on consumers' willingness to pay than a non-perceived sustainable brand image. H0 can be rejected. As a result, **H1a can be verified**.

4.3.2.2 The effect of Green Labeling on the relationship between brand image and willingness to pay

> *H2: The existence of Green Labeling moderates the relationship between brand image and consumers' willingness to pay.*

A Multi-Linear Regression was conducted to determine if green labeling moderates the relationship between brand image and willingness to pay. Before proceeding with the analysis, all Multi-Linear Regression assumptions must be validated. This involves the residuals not being correlated, the error having a normal distribution, and a mean of zero. In addition, proof of homoscedasticity and linearity is required.
As evidenced by the Kolmogorov-Smirnov and Shapiro-Wilk tests (Appendix 6), the data is not normally distributed; yet, the Central Limit Theorem (as N>30) can be applied. Normality is demonstrated by the Normal P-P Plot of the Regression Standardized Residual (Appendix 9). As shown in the scatter plot, the error distribution can be regarded as normally distributed (Appendix 9); therefore, the assumption of normal error distribution holds, and proof of homoscedasticity is given. The Durbin-Watson autocorrelation test reveals a score of 1.649, which falls within the acceptable range of 1.5 to 2.5. (Appendix 9).

Statistically, the general model is significant (F (3, 198) = 74.10, p .001). The R-value of 0.727 reveals a significant linear trend between brand image, label presence, and willingness to pay. The R^2 value was 0.529, indicating that the predictor variables brand image and label existence can account for 52.9% of the total variance in the dependent variable, willingness to pay.

The p-value in the ANOVA table is less than 0.001, indicating that the model was statistically significant. The following expression defines the equation of the model under consideration:

*Willingness to pay =11,64 + 3,06 Brand Image + 2,45*Label + 0,14*Brand Image*Label + e*

Although the model is statistically significant, the interaction between brand image and the existence of labeling shows p = .778, thus not significant.

H0: The existence of Green Labeling moderates the relationship between brand image and consumers' willingness to pay. H0 cannot be rejected. In consequence, **H2 needs to be rejected**. The existence of green labeling does not moderate the relationship between brand image and willingness to pay. Though the willingness to pay for those respondents that have seen a label has a higher mean (34.50€) than from those that have not seen a label (29.66€) (Appendix 9).

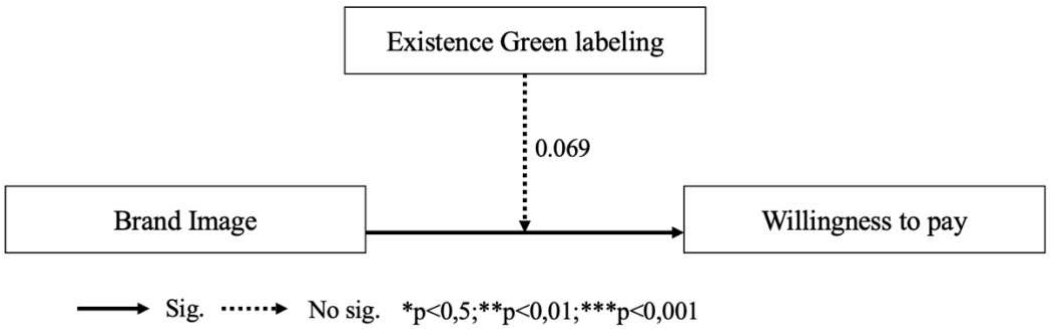

Figure 9: The effect of green labeling on the relationship between brand image and willingness to pay

4.3.3.3 The effect of the determinants of the Theory of planned behavior

We will test and perform three mediations, one for each element of the TPB

H3a: Attitude mediates the relationship between brand image and WTP.

To understand whether the determinant attitude mediates the relationship between brand image and willingness to pay, model 4 of the PROCESS analysis by Hayes (2013) was run. The resulting matrix can be found in Appendix 10. By analyzing the extracted data, it is possible to conclude that the overall model of mediating effect of attitude for the relationship between brand image and willingness to pay accounts for a portion of the variance in the dependent variable WTP (R2=0.4864; F (1,200) =189,3847; p=0.0000). By looking at the p-value of the direct effect, the model is statistically significant. When looking at the total indirect effect of the mediation b = .3399, SE = .1205, 95%-CI [.1219, .5914], it can be concluded that the indirect effect is significant since the 0 is not included in the bootstrap interval. Therefore, we can reject H0: Attitude does not mediate the relationship between brand image and WTP. (Appendix 10) Accordingly, **H3a can be verified**, but it is a partial mediation since both direct and indirect effects are significant.

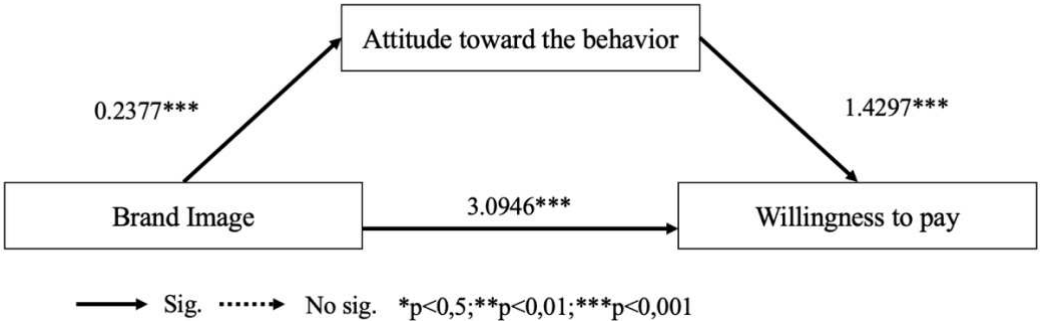

Figure 10: The mediating effect of Attitude toward the behavior on WTP

H3b: Subjective norms mediate the relationship between brand image and WTP.

To understand whether the subjective determinant norm mediates the relationship between brand image and willingness to pay, model 4 of the PROCESS analysis by Hayes (2013) was run. The resulting matrix can be found in Appendix 11. By analyzing the extracted data, it is possible to conclude that the overall model of mediating effect of subjective for the relationship between brand image and willingness to pay accounts for a portion of the variance in the dependent variable WTP (R2=0.4864; F(1,200)=189,3847; p=0.0000). By looking at the p-value of the direct effect, the model is statistically significant. When looking at the total indirect effect of the mediation b = .0564, SE = .0218, 95%-CI [.0182, .10<43], it can be concluded that the indirect effect is significant since the 0 is not included in the bootstrap interval. Therefore, we can reject H0: Subjective norm does not mediate the relationship between brand image and WTP. (Appendix 11) Accordingly, **H3b can be verified,** but it is a partial mediation since both direct and indirect effects are significant.

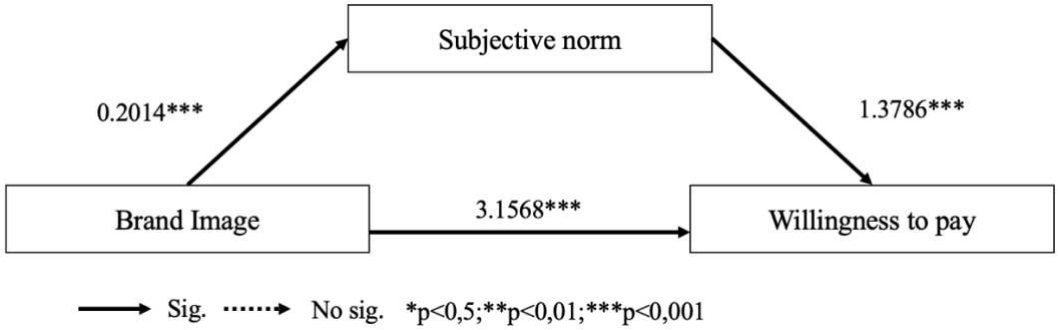

Figure 11: The mediating effect of Subjective norm on WTP

H3c: Perceived Behavioral Control mediates the relationship between brand image and WTP.

To understand whether the subjective determinant norm mediates the relationship between brand image and willingness to pay, model 4 of the PROCESS analysis by Hayes (2013) was run. The resulting matrix can be found in Appendix 12. By analyzing the extracted data, it is possible to conclude that the overall model of mediating effect of subjective for the relationship between brand image and willingness to pay accounts for a portion of the variance in the dependent variable WTP (R2=0.4864; F(1,200)=189,3847; p=0.0000). By looking at the p-value of the direct effect, the model is statistically significant. When looking at the indirect effect of the mediation b = .2071, SE = .0974, 95%-CI [.0472, .4237], it can be concluded that the indirect effect is significant since the 0 is not included in the bootstrap interval. Therefore, we can reject H0: Subjective norm does not mediate the relationship between brand image and WTP. (Appendix 12) Accordingly, **H3c can be verified**, but it is a partial mediation since both direct and indirect effects are significant

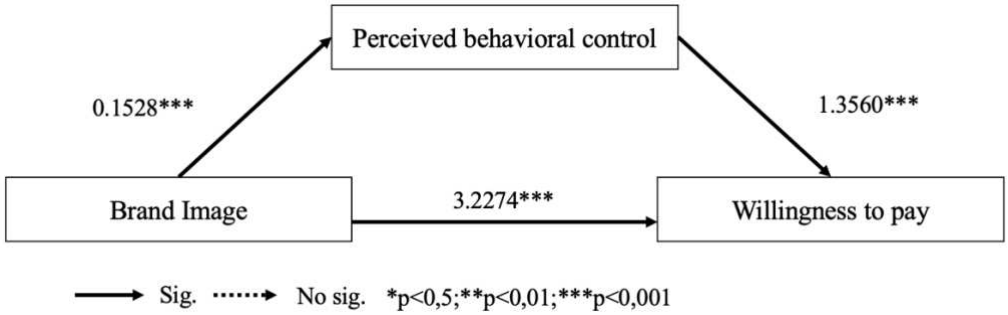

Figure 12: The mediating effect of Perceived behavioral control on WTP

4.3.3 Full Model Test

To test the full model under study, model 5 of the PROCESS analysis by Hayes (2013) was run. The model run shows statistical significance (F (6, 195) = 30.0291, p < .001). The R^2 was 0,5653, indicating 56,53% of the total variation of the dependent variable willingness to pay can be explained by the predictors (Appendix 13). The entire matrix of the PROCESS model can be found in Appendix 13, and the following table shows the outcomes of the full model test:

Effect on WTP	Coefficient	SE	t	p-value	BOOTLLCI	BOOTULCI
BI	2.5695	.9168	2.8027	.0056	.7614	4.3776
ATT	.6393	.7116	.8984	.3701	-.7641	2.0427
SN	.7005	.6621	1.0579	.2914	-.6054	2.0063
PBC	.7705	.6367	1.2103	.2276	-.4851	2.0261
Label	3.1120	.7549	4.1528	.0000	1.6341	4.5899
Label * BI	.1966	.5791	.3395	.7346	-.9456	1.3388

Table 3: Full model test

The full model test shows that the effects of brand image and the existence of labeling on willingness to pay are significant, as can be seen from table 3. As already discussed previously, the moderating effect of labeling on the relationship between brand image and willingness to pay is not given, since the p-value is 0.7346. The full model test also does not show a significant mediating effect for the determinants of the theory of planned behavior on the relationship between brand image and willingness to pay. The indirect effects of the theory of planned behavior in the full model test are not significant, as seen in the following table, the 0 is included in the Bootstrap interval:

Source	Effect	BootSE	BootLLCI	BOOTULCI
TPB Combined	.4108	.1292	.1746	.6753
ATT	.1520	.1600	-.1704	.4683
SN	.1441	.1276	-,1058	.4079
PBC	.1177	.0956	-,0512	.3292

Table 4: Indirect effects of the determinants of TPB

In the full model test, the total indirect effects of the determinants of the theory of planned behavior show a significant mediation together. This case is a good example that there are also relationships between predictors. These relationships can lead to "single effects" no longer becoming significant - e.g., due to multicollinearity or, more often, that with more predictors, the sample size is no longer sufficient. Thus, with a larger sample size, one might expect indirect effects to turn out to be significant. Therefore, there is no need to reject H3a/b/c.

That the moderation effect, as previously investigated, is not significant. This can also be concluded by looking at the following graph since the lines are not crossing each other.

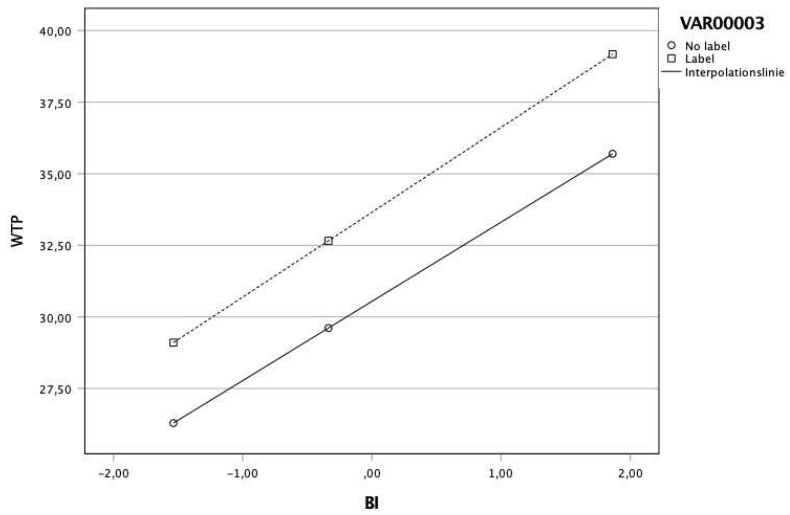

Figure 13: The effect of green labeling on the relationship between brand image and willingness to pay

CHAPTER 5: CONCLUSIONS AND LIMITATIONS

The following and final chapter summarizes the study's key findings and draws conclusions based on the collected data and evaluated prior research. Finally, this chapter discusses managerial and academic implications, limitations, and suggest areas for future research.

5.1 Main Findings & Conclusions

RQ1: What impact does a green brand image have on consumers' willingness to pay?

A green brand image has been found to have a significant positive effect on consumers' willingness to pay. As seen in the Linear Regression conducted the more sustainable the brand image, the higher the consumers' willingness to pay. It can be concluded that brand image is indeed a significant driver for a customer's willingness to pay. Hence, companies should focus on leveraging their brand image for the purpose of boosting the willingness to pay. Mainly due to the ever-growing range of products and services, especially in the digital environment, it is of immense importance for companies to differentiate themselves from competitors through a sustainable brand image. As stated by Bello & Holbrook (1995), higher brand equity, which includes brand image, may result in a higher willingness to pay for equal goods. Chen's (2010) suggestion that companies who invest more heavily in boosting their green brand equity is supported with this research. Since brand image is an essential predictor of consumer satisfaction, earlier research has postulated a positive link between brand image and customer satisfaction (Chang & Tu, 2005; Martenson, 2007). This study validates that customer satisfaction with brand image concerning sustainability is reflected in a higher willingness to pay. Companies that invest extensively in strengthening their green brand images may not only avoid the headache of environmental protests or fines, but also boost customer satisfaction with reference to environmental goals, sustainable expectations, and green demands. Previous research (Chang & Tu, 2005; Martenson, 2007) has postulated a positive relationship between brand image and customer satisfaction given that brand image is a strong determinant of consumer satisfaction. In this study we can see a strong connection between green brand image and WTP, which should be taken into managerial context accordingly. Anselmsson et al. (2014) study on price premiums (for food brands) found that brand image dimensions awareness, quality, CSR, home nation origin, social image, and uniqueness have a significant relationship with paying a premium and, subsequently, with the willingness to pay. For the dimensions of social image and CSR, evidence is found in this research for fashion in the online shopping

environment. A significant driver positively affecting sustainable brand image is the trust of consumers that the company's environmental concerns are credible. Businesses must thus build a sustainable brand image throughout all areas of the company. With this research it can be concluded that sustainability is a significant driver of the brand image and WTP, and that consumers focus may shift from brand image being about prestige and self-fulfillment to a stronger focus on environmental issues.

> *RQ2: How does the existence of green labeling impact the relationship between brand image and consumers' willingness to pay?*

One of the main focuses of this research was to investigate which effect the existence of green labeling in the digital environment has on the consumer, particularly what impact it has on the relationship between brand image and willingness to pay. There is no statistical proof, as was demonstrated earlier in the analysis of the results, that the presence of green labeling has a moderating influence on the relationship between brand image and the willingness to pay. Though this only means the interaction between brand image and the existence of green labeling does not influence the customers' willingness to pay. Nonetheless, it was shown that the existence of green labeling does, in fact, influence a consumer's willingness to pay for a product. Based on the analysis at hand, the presence of a green label increased respondents' willingness to pay by almost 5€ on average. Generalizing from these results, the presence of green labeling can be expected to increase the maximum willingness to pay of consumers for certain products and thus potential revenue for businesses. Therefore, companies should seriously consider the possibility of effectively communicating their environmental efforts through third-party certificates. As Thøgersen et al. (2012) stated, sustainability labels can directly influence purchasing behavior because they provide consumers with timely, effective, and efficient assistance in discovering sustainable product alternatives at the point of purchase. In particular the influence of the GOTS label on the consumer's willingness to pay in the context of fashion apparel online shopping was demonstrated in this study. The GOTS label resulted in a significantly higher willingness to pay. Managers should therefore increase their sustainability efforts so sustainability labels by third parties can reflect these, leading in a higher WTP. Since third-party labeling as seen by the GOTS-label boosts WTP on average, managers should focus on effectively communicating their efforts and try to find a label that suits their needs and is well trusted and suitable for their customers.

RQ3: How do attitude toward the behavior, subjective norm, and perceived behavioral behavior influence the relationship between brand image and consumers' willingness to pay?

Thirdly, this thesis was dedicated to exploring whether there are factors that mediate the relationship between the brand image and the willingness to pay. As seen in the results analysis chapter, all three determinants of the theory of planned behavior do have a mediating effect on willingness to pay. Though there are significant direct and indirect effects, these are partial mediations. According to Ramayah et al. (2010), attitude comprises the perceived consequences of activity, and according to Kochen and Reiling (2000), attitude is the most significant predictor of behavioral intention. A positive correlation between attitude and behavioral intention in the context of green products has been found across various cultures (Mostafa, 2007). Evidence for these findings is validated with this thesis, as seen in the partial mediation. Another significant mediator in the relationship between brand image and willingness to pay is subjective norm. As found in the literature review, consumers with favorable subjective norms on a particular behavior are more likely to have favorable behavioral intentions (Han et al., 2010; Taylor S & Todd P, 1995). Research has shown subjective norms as a critical factor in determining environmentally conscious consumption (Khare, 2015; Moser, 2015; Tsarenko et al., 2013). In these investigations, a correlation between subjective norms and intention has been discovered, e.g., when customers perceive that their "significant others" encourage environmentally friendly purchases, they are more inclined to engage in these actions. A validation for this research can be found in this thesis; namely customer's whose social environment is more inclined to online purchases have been found to have increased WTP. Companies should therefore focus on consumers with a high level of subjective norm concerning the purchase of their product and leverage these factors to reach a higher willingness to pay and to achieve an optimal pricing strategy. For example, one may think about marketing group-based purchasing strategies.

The third and last mediating relationship, which was analyzed in this study, was for perceived behavioral control on the relationship between brand image and willingness to pay. Again, the direct and indirect effects were significant, resulting in a partial mediation. Numerous studies have demonstrated that a person's purpose or conduct is positively influenced by their confidence in their ability to perform the behavior (Baker et al., 2007; Cheng et al., 2006; Conner & Abraham, 2001; Taylor S & Todd P, 1995). This study also validates this proposal.

Therefore, marketers should focus on consumers which are in control of their actions, as proven in this study, as also try to convince customers of the ease of purchase.

5.2 Managerial Implications

This research assists managers in understanding the relationship between a sustainable brand image and consumers' willingness to pay, considering mediating factors and the impact of the existence of green labeling. Generally, managers should concentrate on establishing a more sustainable brand image and pricing their products according to the willingness to pay. Additionally, they should focus on adequately labeling their products, as a greater propensity to pay can be anticipated from rightful selection of green labels. Therefore, it is indispensable to meet the standards of third-party labels, like, e.g., the GOTS label in the context of fashion apparel. Since these efforts go hand in hand with creating a more sustainable brand image, companies benefit in multiple ways. With the growing concerns about environmental issues and higher demand and need for sustainable products, it is of utmost importance to strategically position brands and products accordingly. Managers should be aware of the shift from growth in revenue through cost reduction to growth in revenue by boosting sustainability, leading to a higher WTP and, subsequently to revenue growth.

Concerning the Theory of planned behavior managers should target their efforts to those customers with a favorable attitude toward the behavior and subjective norm, and a high perceived behavioral control.

5.3 Academic Implications

This research contributes to the topics of green marketing, green brand equity and green labeling in digital retail. It comes as an approach to close the literature gap concerning the use of green labels and their effect on the relationship between brand image and willingness to pay. Since this study only marks a first approach, it gives implications on how to research this topic in the subsequent chapter further. Furthermore, the Theory of planned behavior is originally used to explain intent. This research shows that it can be used as a mediating factor concerning consumers' willingness to pay.

5.4 Limitations and Further Research

Since this thesis is being carried out as part of a master's thesis dissertation, it is essential to be aware of all the constraints that are associated with it involving financial and time commitments.

The collected sample cannot be considered representative of the entire population because it was obtained by a method known as convenience sampling, which resulted in a random distribution of demographics. Therefore, the sample cannot be regarded representative, and the study results must be interpreted in light of the characteristics of the sample. The research obtained a total of 202 responses that were full and accurate. When conducting future research regarding this topic, it would be beneficial to employ a bigger sample size that is demographically distributed in a representative manner, which could allow further generalization to a broader customer base.

Furthermore, research should be conducted on other product categories, also beyond the fashion industry, and with more than two brands to achieve a broader picture concerning the effects of different levels of sustainability in the brand images. Additionally, for the Theory of planned behavior, further research may be of interest to investigate, e.g., perceived behavioral control based on behavioral paths in the digital environment to optimize for the level of behavioral control.

For subjective norms, further research should be leveraged how to utilize subjective norm beyond the immediate customer to increase/optimize WTP and further brand equity by considering these factors.

Notably only one well-known label has been tested in this study. Further research should be dedicated to investigating the effects of different labels on consumer's willingness to pay and how labels can help reduce costs e.g., related to information asymmetries. Potential areas of research include investigating the mode of display (e.g., color, sizing, position), investigating the content or focus of the label (e.g., focus on material, location of production), as well as different sources (e.g., primary, or secondary).

To optimize supply and demand without knowledge asymmetries and for the sake of the planet, it may be advantageous for firms and consumers to align their efforts to transition toward trustworthy, sustainable products, that are adequately produces, priced, and labelled.

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APPENDICES

Appendix 1: Pre-Survey

Block 1: Introduction

Q1 Dear Participant,

thank you for taking the time to complete my questionnaire. Please answer as honestly as possible. All answers will be kept anonymous and confidential, which means your answers cannot be linked to your identity. Please respond immediately without interruptions or distractions, and please pay attention to all questions you are asked. This survey will take approximately 2 minutes to complete.
I am a final year student of the Master in International Management (M.Sc.) at Católica Lisbon, School of Business and Economics. This questionnaire was developed as part of my Master's thesis.
I would highly appreciate your participation and responses to this survey. Thank you in advance.

Yours sincerely,

Lukas Leggen

P.S. If you have any questions or comments, please feel free to contact me at the following email address: s-lleggen@ucp.pt

Block 2: Control Question

Q2 Have you purchased fashion via an online retailer in the past year?
- o No (1)
- o Yes (2)

End survey if "Male" is selected
End survey if "Prefer not to say" is selected

Block 3: Label Identification

Q2 Which of the following labels are familiar to you in the context of fashion and apparel? (Choose all that apply)
- o Image: GOTS label (1)
- o Image: FSC label (2)
- o Image: Fairtrade label (3)
- o Image: Blue Angel label (4)
- o Image: EU Ecolabel (5)
- o other: (6) _____

Block 4: Label Trust

To what extent do you agree with the following statement? I perceive the following label as trustworthy (1= strongly disagree; 7=strongly agree) (n/a, if label not familiar)

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	n/a (8)
GOTS label (1)								
FSC label (2)								

Fairtrade label (3)								
Blue angel label (4)								
EU-Ecolabel (6)								
other: (7)								

Block 5: Brand Identification

Q5 To what extent do you agree with the following statement? I perceive the following brand as sustainable(1= strongly disagree; 7=strongly agree) (n/a, if brand not familiar)

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	n/a (8)
Nike (1)								
Adidas (2)								
Patagonia (3)								
Zara (4)								
H&M (5)								
Veja (6)								
Levi's (7)								
The North Face (8)								
Carharrtt (9)								
Reebok (10)								
Calvin Klein (11)								
other brand, you'd like to mention: (12)								

Block 6: Product Identification

Q6 When shopping fashion online, which products do you most commonly purchase? (Choose all that apply)

- o T-Shirts
- o Jackets
- o Hoodies & Pullover
- o Sportswear
- o Underwear
- o Jeans
- o Trousers
- o Swimwear
- o Shoes & Sneakers
- o Accessories (Purses, Backpacks, Watches, etc.)
- o other: _____

Block 7: Demographics

Q7 How old are you?

- o Under 18
- o 18-24 years old
- o 25-34 years old
- o 35-44 years old
- o 45-54 years old
- o 55-64 years old
- o 65+ years old
- o
- o Prefer not to say

Q8 How do you describe yourself?

- o Male
- o Female
- o Non-binary / third gender
- o Prefer to self-describe _____ _____

Q9 What country are you from? (DROPDOWN)

Q10 What is the highest level of school you have completed?

- o Less than high school degree
- o High school graduate or equivalent
- o Bachelor's degree
- o Master's degree/ MBA
- o PHD/ Post-Doctoral degree

Q11 What is your current occupation?

- o Student
- o Employed
- o Unemployed
- o Retired

Q12 What is your monthly gross income?
No Income

- o Less than 500€
- o 500€ - 999€
- o 1000€ - 1499€
- o 1500€ - 1999€
- o 2000€ - 2499€
- o 2500€ - 2999€
- o 3000€ - 3499€
- o 3500€ - 4000 €
- o More than 4000€
- o Prefer not to say

Appendix 2: Pre-Survey – Results

Control Question

Have you purchased fashion via an online retailer in the past year?

	N	%
No	4	7.0%
Yes	53	93.0%

Label Familiarity

Statistics

To what extent do you agree with the following statement? I perceive the following label as trustworthy (1= strongly disagree; 7=strongly agree) (n/a, if label not familiar)

		GOTS	FSC	Fairtrade	Blue Angel	EU Ecolabel	Other
N	Valid	42	18	36	28	17	0
	Missing	15	39	21	29	40	57

Label Trust

Descriptive Statistics

To what extent do you agree with the following statement? I perceive the following label as trustworthy (1= strongly disagree; 7=strongly agree) (n/a, if label not familiar)

	N	Minimum	Maximum	Mean	Std. Deviation
GOTS	43	4	7	6.51	.703
FSC	19	4	7	6.05	.911
Fairtrade	37	4	7	5.89	.966
Blue Angel	32	4	7	6.28	.888
EU-Ecolabel	16	4	7	6.06	.929
other:	2	7	7	7.00	.000

Brand Image

Descriptive Statistics

To what extent do you agree with the following statement? I perceive the following brand as sustainable(1= strongly disagree; 7=strongly agree) (n/a, if brand not familiar)

	N	Minimum	Maximum	Mean	Std. Deviation
Nike	49	2	6	3.92	.812
Adidas	49	2	6	4.04	.815
Patagonia	49	6	7	6.94	.242
Zara	49	1	5	2.43	1.021
H&M	49	1	4	2.22	.985
Veja	46	4	7	6.50	.723
Levi's	49	4	6	5.35	.597
The North Face	49	4	7	5.59	.643
Carharrtt	48	3	6	5.17	.724
Reebok	49	2	5	4.33	.747
Calvin Klein	49	3	6	4.45	.765
other brand, you'd like to mention:	0				
Valid N (listwise)	0				

Product Identification:

Statistics

When shopping fashion online, which products do you most commonly purchase? (Choose all that apply)

		T-Shirts	Jackets	Hoodies & Pullover	Sportswear
N	Valid	41	24	35	17
	Missing	16	33	22	40

		Underwear	Jeans	Trousers	Swimwear
N	Valid	15	24	8	9
	Missing	42	33	49	48

		Shoes & Sneakers	Accessories (Purses, Backpacks, Watches, etc.)	other:	other: - Text
N	Valid	36	37	1	57
	Missing	21	20	56	0

Appendix 3: Main survey

Block 1: Introduction

Dear Participant,

thank you for taking the time to complete my questionnaire. Please answer as honestly as possible. All answers will be kept anonymous and confidential, which means your answers cannot be linked to your identity. Please respond immediately without interruptions or distractions and please pay attention to all questions you are asked. This survey will take approximately 5 minutes to complete.

I am a final year student of the Master in International Management (M.Sc.) at Católica Lisbon, School of Business and Economics. This questionnaire was developed as part of my Master's thesis.

I would highly appreciate your participation and responses to this survey. Thank you in advance.

Yours sincerely,
Lukas Leggen

P.S. If you have any questions or comments, please feel free to contact me at the following email address: s-lleggen@ucp.pt

Block 2: Control Question

Control Question: Have you purchased any fashion items via an online retailer in the past year?

- o No (1)
- o Yes (2)

Skip To: End of Survey If Have you purchased any fashion items via an online retailer in the past year? = No

Block 3: Introduction Question

Q3 On average, how often do you buy fashion online?

- Every week. (1)
- 1-2 times a month. (2)
- Every month. (3)
- Every three month. (4)
- Every six month. (5)
- Annually. (6)
- Never. (7)

Skip To: End of Survey If On average, how often do you buy fashion online? = Never.

Block 4: Attitude toward the behavior

For me buying fashion online during the next two weeks would be:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
very bad								very good
very unpleasant								very pleasant
very harmful								very beneficial
very useless								very useful
very unenjoyable								very enjoyable

Block 5: Subjective norm

Please indicate your level of agreement with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly Agree (7)
Most people who are important to me think that buying fashion online is a good idea. (1)							
Most of my friends are buying							

fashion online. (2)							
My friends and social environment give importance to buying fashion online. (3)							
I think most people who are important to me are inclined to buy fashion online. (4)							

Block 6: Perceived behavioral control

For me to buy fashion online in the next two weeks would be:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
very difficult								very easy

If I wanted to, I could easily buy fashion online in the next two weeks:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
strongly disagree								strongly agree

How much control do you have over buying fashion online in the next two weeks?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
absolutely no control								complete control

The number of events outside my control which could prevent me from buying a fashion online in the next two weeks are:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
very few								numerous

Block 7: Label Presentation

Please make yourself familiar with the following online shopping situation. Take some time to look at the product and information provided. The next questions are related to this shopping situation.

Only one of the four stimuli is presented to each respondent.

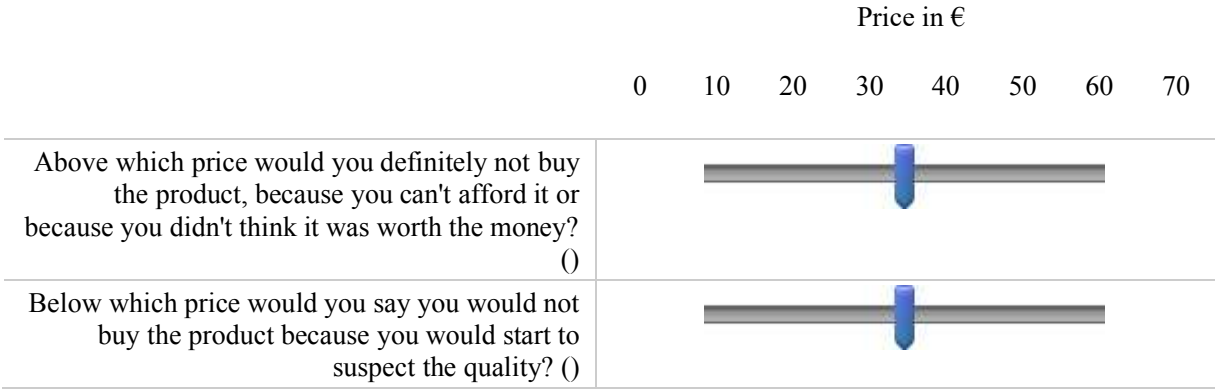
Block 8: Brand Image

Please indicate your level of agreement with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The presented brand is regarded as the best benchmark of environmental commitments. (1)							
The presented brand is professional about environmental reputation. (2)							
The presented brand is successful about environmental performance. (3)							
The presented brand is well-established about environmental concerns. (4)							
The presented brand is trustworthy about environmental promises. (5)							

Block 9: Willingness to pay

Please consider the product you saw previously, and answer the following questions.



Block 10: Manipulation Check

Did the online-shopping situation displayed to you include a green-label (eco-label)?

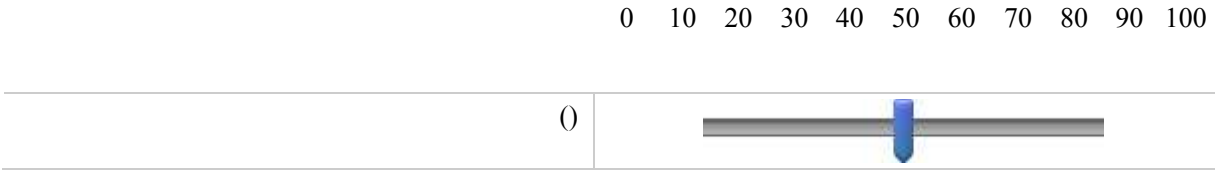
- No (1)
- Yes (2)

Which brand was presented to you?

- Adidas (1)
- Patagonia (2)

Block 11: Label Knowledge

On a scale from 0 to 100, please state how much you know about green labels/ eco labels in fashion. Consider that 0 means you don't know anything about it, and 100 means you know everything.



Block 12: Demographics

How old are you?

- Under 18
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65+ years old

How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe _____
- Prefer not to say

What country are you from? (DROPDOWN)

What is the highest level of school you have completed?

- Less than high school degree
- High school graduate or equivalent
- Bachelor's degree
- Master's degree/ MBA
- PHD/ Post-Doctoral degree

What is your current occupation?

- Student
- Employed
- Unemployed
- Retired

What is your monthly gross income?

- No Income
- Less than 500€
- 500€ - 999€
- 1000€ - 1499€
- 1500€ - 1999€
- 2000€ - 2499€
- 2500€ - 2999€
- 3000€ - 3499€
- 3500€ - 4000 €
- More than 4000€
- Prefer not to say

Appendix 4: Sample Characterization

How old are you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24 years old	54	26,3	26,3	26,3
	25-34 years old	113	55,1	55,1	81,5
	35-44 years old	24	11,7	11,7	93,2
	45-54 years old	5	2,4	2,4	95,6
	55-64 years old	8	3,9	3,9	99,5
	65+ years old	1	,5	,5	100,0
	Total	205	100,0	100,0	

How do you describe yourself? - Selected Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	101	49,3	49,3	49,3
	Female	101	49,3	49,3	98,5
	Prefer not to say	3	1,5	1,5	100,0
	Total	205	100,0	100,0	

List of Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Austria	9	4,4	4,4	4,4
	Colombia	2	1,0	1,0	5,4
	Denmark	3	1,5	1,5	6,9
	Estonia	1	,5	,5	7,4
	Finland	2	1,0	1,0	8,4
	France	9	4,4	4,4	12,8
	Germany	119	58,0	58,6	71,4
	Greece	6	2,9	3,0	74,4
	Honduras	1	,5	,5	74,9
	Hungary	2	1,0	1,0	75,9
	Italy	2	1,0	1,0	76,8
	Netherlands	14	6,8	6,9	83,7
	Norway	2	1,0	1,0	84,7
	Poland	2	1,0	1,0	85,7
	Portugal	6	2,9	3,0	88,7

	Spain	8	3,9	3,9	92,6
	Sweden	1	,5	,5	93,1
	Switzerland	3	1,5	1,5	94,6
	Turkey	4	2,0	2,0	96,6
	United Kingdom of Great Britain and Northern Ireland	6	2,9	3,0	99,5
	United States of America	1	,5	,5	100,0
	Total	203	99,0	100,0	
Missing	System	2	1,0		
Total		205	100,0		

What is the highest level of school you have completed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school graduate or equivalent	38	18,5	18,6	18,6
	Bachelor's degree	128	62,4	62,7	81,4
	Master's degree/ MBA	37	18,0	18,1	99,5
	PHD/ Post-Doctoral degree	1	,5	,5	100,0
	Total	204	99,5	100,0	
Missing	System	1	,5		
Total		205	100,0		

What is your current occupation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	99	48,3	48,3	48,3
	Employed	102	49,8	49,8	98,0
	Unemployed	1	,5	,5	98,5
	Retired	3	1,5	1,5	100,0
	Total	205	100,0	100,0	

What is your monthly gross income?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Income	17	8,3	8,3	8,3
	Less than 500€	5	2,4	2,4	10,7
	500€ - 999€	52	25,4	25,4	36,1
	1000€ - 1499€	23	11,2	11,2	47,3
	1500€ - 1999€	14	6,8	6,8	54,1
	2000€ - 2499€	10	4,9	4,9	59,0
	2500€ - 2999€	8	3,9	3,9	62,9
	3000€ - 3499€	12	5,9	5,9	68,8
	3500€ - 4000 €	25	12,2	12,2	81,0
	More than 4000€	37	18,0	18,0	99,0
	Prefer not to say	2	1,0	1,0	100,0
	Total	205	100,0	100,0	

Appendix 5: Measure Reliability

Measure Reliability: Brand Image

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,970	,975	5

Measure Reliability: Attitude toward the behavior

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.907	.910	5

Measure Reliability: Subjective Norm

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.893	.894	4

Measure Reliability: Perceived behavioral con.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.701	.721	4

Item-Total Statistics

PBC	Cronbach's Alpha if Item Deleted
For me to buy fashion online in the next two weeks would be: - very difficult:very easy	.545
If I wanted to, I could easily buy fashion online in the next two weeks: - strongly disagree:strongly agree	.565
How much control do you have over buying fashion online in the next two weeks? - absolutely no control:complete control	.721
The number of events outside my control which could prevent me from buying a fashion online in the next two weeks are: - very few:numerous	.702

Measure Reliability: Brand Image (Adidas with label)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.855	.857	5

Measure Reliability: Brand Image (Adidas without label)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.890	.894	5

Measure Reliability: Brand Image (Patagonia with label)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.960	.965	5

Measure Reliability: Brand Image (Patagonia without label)

Reliability Statistics

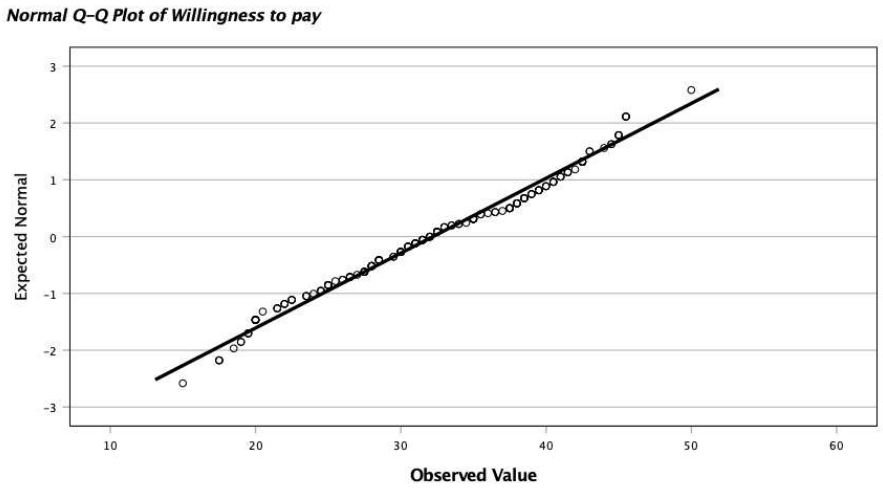
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.956	.961	5

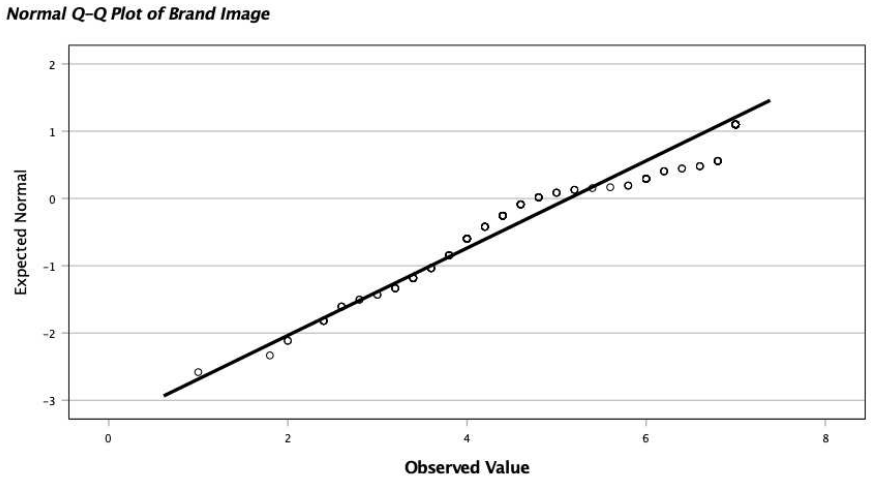
Appendix 6: Test for normality

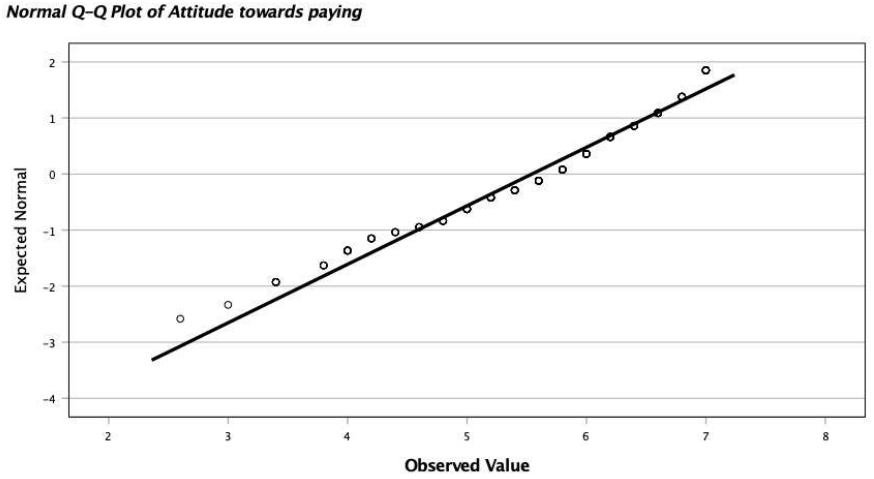
Tests of Normality

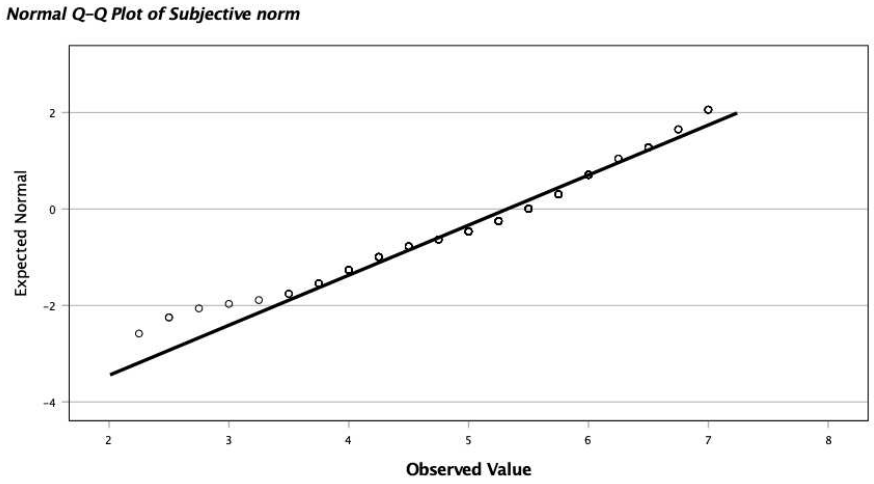
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Willingness to pay	,079	202	,004	,979	202	,005
Brand Image	,167	202	<,001	,897	202	<,001
Attitude towards paying	,114	202	<,001	,956	202	<,001
Subjective norm	,133	202	<,001	,959	202	<,001
Perceived behavioral control	,154	202	<,001	,873	202	<,001

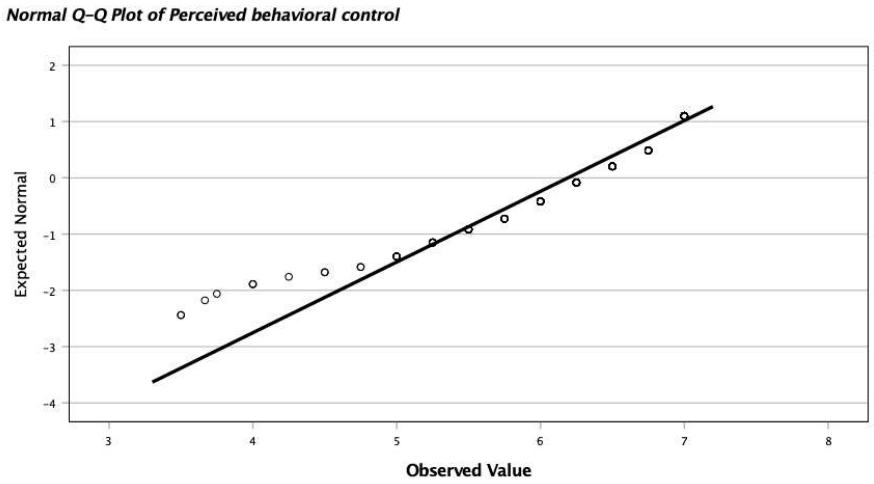
a. Lilliefors Significance Correction











Appendix 7: Linear Regression H1

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Brand Image[b]	.	Enter

a. Dependent Variable: Willingness to pay

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,697[a]	,486	,484	5,45093	1,548

a. Predictors: (Constant), Brand Image
b. Dependent Variable: Willingness to pay

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5627,110	1	5627,110	189,385	<,001[b]
	Residual	5942,520	200	29,713		
	Total	11569,630	201			

a. Dependent Variable: Willingness to pay
b. Predictors: (Constant), Brand Image

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
		B	Std. Error	Beta			Lower Bound
1	(Constant)	14,562	1,338		10,885	<,001	11,924
	Brand Image	3,435	,250	,697	13,762	<,001	2,942

Coefficients

Model		95.0% Confidence Interval for B
		Upper Bound
1	(Constant)	17,200
	Brand Image	3,927

Casewise Diagnostics[a]

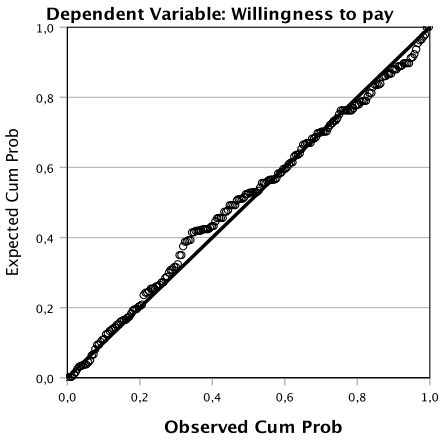
Case Number	Std. Residual	Willingness to pay	Predicted Value	Residual
55	3,074	37,50	20,7442	16,75578
107	3,729	50,00	29,6739	20,32607
159	-3,448	15,00	33,7953	-18,79533

a. Dependent Variable: Willingness to pay

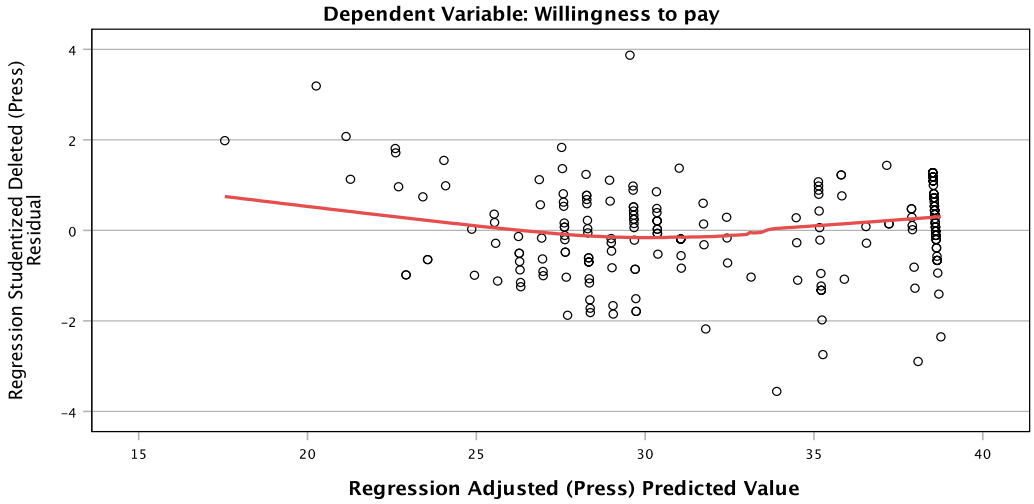
Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	17,9966	38,6036	32,2005	5,29108	202
Std. Predicted Value	-2,684	1,210	,000	1,000	202
Standard Error of Predicted Value	,384	1,101	,531	,112	202
Adjusted Predicted Value	17,5498	38,7598	32,1926	5,30262	202
Residual	-18,79533	20,32607	,00000	5,43735	202
Std. Residual	-3,448	3,729	,000	,998	202
Stud. Residual	-3,457	3,740	,001	1,003	202
Deleted Residual	-18,89742	20,45051	,00793	5,49833	202
Stud. Deleted Residual	-3,557	3,869	,000	1,012	202
Mahal. Distance	,002	7,207	,995	,926	202
Cook's Distance	,000	,141	,006	,014	202
Centered Leverage Value	,000	,036	,005	,005	202

Normal P-P Plot of Regression Standardized Residual



Scatterplot



Appedix 8: H1a Independent-Samples Mann-Whitney U Test

Hypothesis Test Summary

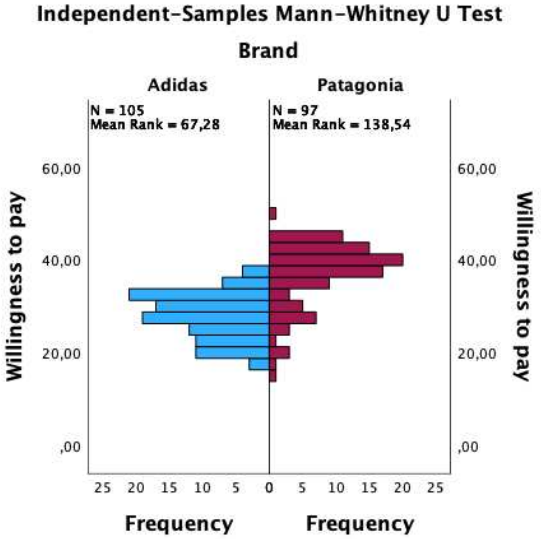
	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Willingness to pay is the same across categories of Brand.	Independent-Samples Mann-Whitney U Test	,000	Reject the null hypothesis.
2	The distribution of Brand Image is the same across categories of Brand.	Independent-Samples Mann-Whitney U Test	,000	Reject the null hypothesis.

a. The significance level is .050.
b. Asymptotic significance is displayed.

Willingness to pay across brand

Independent-Samples Mann-Whitney U Test Summary

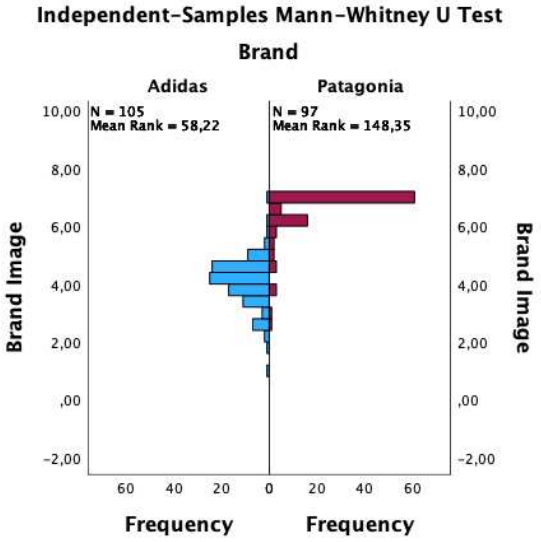
Total N	202
Mann-Whitney U	8685,500
Wilcoxon W	13438,500
Test Statistic	8685,500
Standard Error	414,891
Standardized Test Statistic	8,660
Asymptotic Sig.(2-sided test)	,000



Brand image across brand

Independent-Samples Mann-Whitney U Test Summary

Total N	202
Mann-Whitney U	9636,500
Wilcoxon W	14389,500
Test Statistic	9636,500
Standard Error	410,645
Standardized Test Statistic	11,066
Asymptotic Sig.(2-sided test)	,000



*Willingness to pay Brand Image * Label*

Label		Willingness to pay	Brand Image
No label	Mean	29,6562	4,8646
	N	96	96
	Std. Deviation	7,41453	1,64426
Label	Mean	34,5047	5,3811
	N	106	106
	Std. Deviation	7,01206	1,40327
Total	Mean	32,2005	5,1356
	N	202	202
	Std. Deviation	7,58685	1,54057

*Willingness to pay Brand Image * Brand*

Brand		Willingness to pay	Brand Image
Adidas	Mean	27,8667	3,9505
	N	105	105
	Std. Deviation	5,13485	,86726
Patagonia	Mean	36,8918	6,4186
	N	97	97
	Std. Deviation	7,01235	,97728
Total	Mean	32,2005	5,1356
	N	202	202
	Std. Deviation	7,58685	1,54057

Appendix 9: Linear Regression H2; Independent Sample T Test

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Label, Brand Image	.	Enter
2	Brand*Label	.	Enter

a. Dependent Variable: Willingness to pay

b. All requested variables entered.

Model Summary[c]

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics			
					R^2 Change	F Change	df1	df2
1	,727[a]	,529	,524	5,23449	,529	111,626	2	199
2	,727[b]	,529	,522	5,24663	,000	,080	1	198

Model Summary[c]

Model	Change Statistics	
	Sig. F Change	Durbin-Watson
1	<,001	
2	,778	1,649

a. Predictors: (Constant), Label, Brand Image

b. Predictors: (Constant), Label, Brand Image, Brand*Label

c. Dependent Variable: Willingness to pay

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6117,062	2	3058,531	111,626	<,001[b]
	Residual	5452,568	199	27,400		
	Total	11569,630	201			
2	Regression	6119,259	3	2039,753	74,100	<,001[c]
	Residual	5450,371	198	27,527		
	Total	11569,630	201			

a. Dependent Variable: Willingness to pay

b. Predictors: (Constant), Label, Brand Image

c. Predictors: (Constant), Label, Brand Image, Brand*Label

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
		B	Std. Error	Beta			Lower Bound
1	(Constant)	10,625	1,587		6,696	<,001	7,496
	Brand Image	3,262	,243	,662	13,418	<,001	2,783
	Label	3,164	,748	,209	4,229	<,001	1,688
2	(Constant)	11,639	3,925		2,965	,003	3,898
	Brand Image	3,062	,750	,622	4,085	<,001	1,584
	Label	2,450	2,634	,162	,930	,353	-2,744
	Brand*Label	,138	,490	,069	,283	,778	-,828

Coefficients[a]

Model		95.0% Confidence Interval for B	Collinearity Statistics	
		Upper Bound	Tolerance	VIF
1	(Constant)	13,754		
	Brand Image	3,741	,972	1,029
	Label	4,639	,972	1,029
2	(Constant)	19,379		
	Brand Image	4,540	,103	9,737
	Label	7,644	,079	12,697
	Brand*Label	1,105	,040	24,759

a. Dependent Variable: Willingness to pay

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Brand*Label	,069[b]	,283	,778	,020	,040	24,759	,040

a. Dependent Variable: Willingness to pay

b. Predictors in the Model: (Constant), Label, Brand Image

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Brand Image	Label	Brand*Label
1	1	2,889	1,000	,01	,01	,01	
	2	,075	6,203	,01	,46	,70	
	3	,036	9,000	,99	,53	,28	
2	1	3,828	1,000	,00	,00	,00	,00
	2	,099	6,224	,04	,00	,01	,03
	3	,071	7,336	,01	,05	,04	,01
	4	,002	42,625	,95	,94	,95	,96

a. Dependent Variable: Willingness to pay

Casewise Diagnostics[a]

Case Number	Std. Residual	Willingness to pay	Predicted Value	Residual
55	3,364	37,50	19,8491	17,65095
107	3,578	50,00	31,2290	18,77095
110	-3,191	22,50	39,2418	-16,74184
159	-3,242	15,00	32,0097	-17,00971

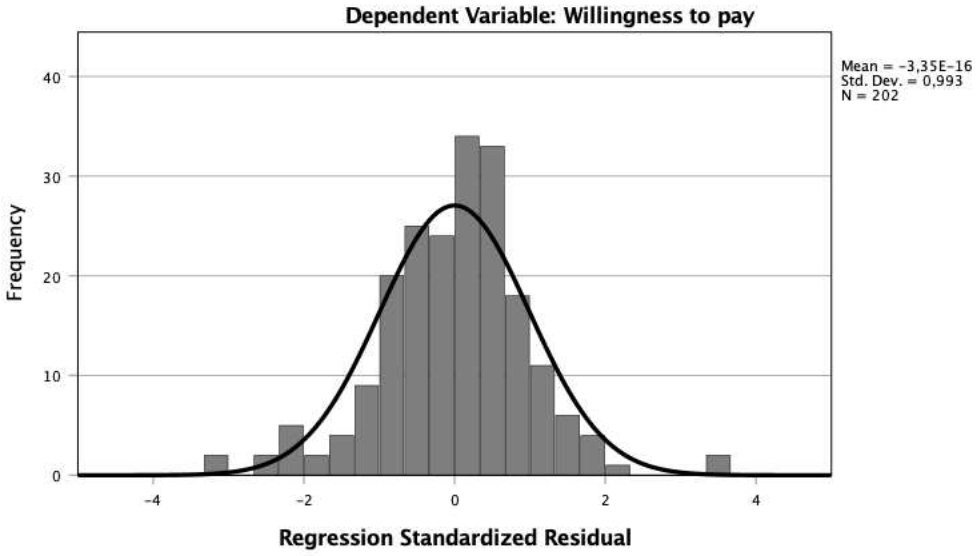
a. Dependent Variable: Willingness to pay

Residuals Statistics[a]

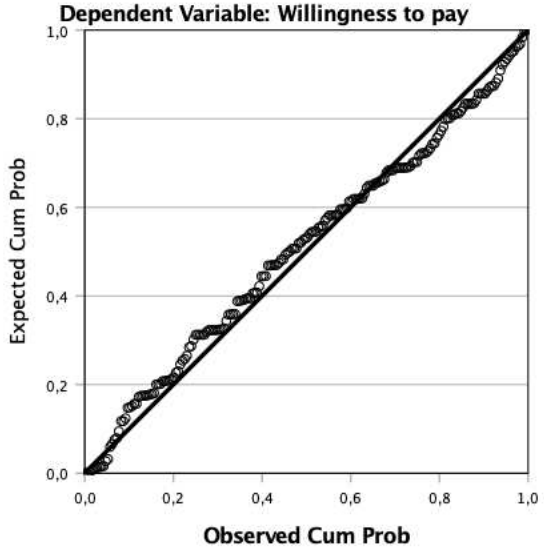
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	17,2889	39,9096	32,2005	5,51761	202
Std. Predicted Value	-2,703	1,397	,000	1,000	202
Standard Error of Predicted Value	,514	1,374	,724	,144	202
Adjusted Predicted Value	16,4636	40,2241	32,1821	5,54239	202
Residual	-17,00971	18,77095	,00000	5,20733	202
Std. Residual	-3,242	3,578	,000	,993	202
Stud. Residual	-3,263	3,603	,002	1,004	202
Deleted Residual	-17,22541	19,03921	,01838	5,32691	202
Stud. Deleted Residual	-3,345	3,718	,001	1,014	202
Mahal. Distance	,933	12,787	2,985	1,763	202
Cook's Distance	,000	,146	,006	,015	202
Centered Leverage Value	,005	,064	,015	,009	202

a. Dependent Variable: Willingness to pay

Histogram

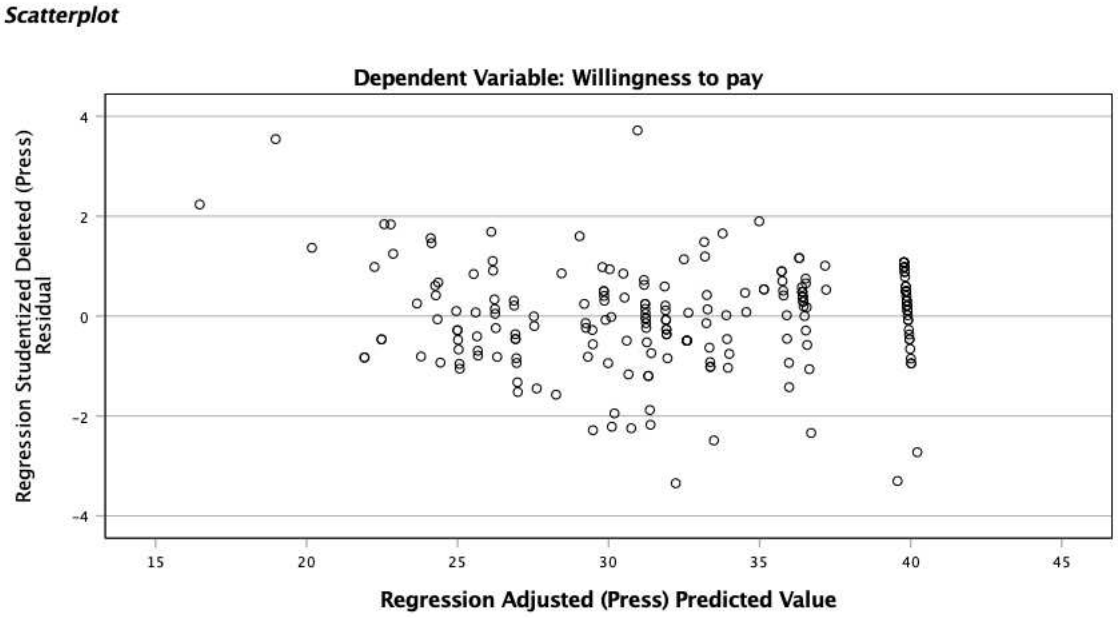


Normal P-P Plot of Regression Standardized Residual



Group Statistics

	Label	N	Mean	Std. Deviation	Std. Error Mean
Willingness to pay	No label	96	29.6563	7.41453	.75674
	Label	106	34.5047	7.01206	.68107



Appendix 10: PROCESS matrix H3a

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.1 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : WTP
    X  : BI
    M  : ATT

Sample
Size:  202

**************************************************************************
OUTCOME VARIABLE:
 ATT

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,3821      ,1460      ,7887    34,1889     1,0000   200,0000      ,0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    4,3216      ,2180    19,8274      ,0000     3,8918     4,7514
BI           ,2377      ,0407     5,8471      ,0000      ,1576      ,3179

Standardized coefficients
        coeff
BI      ,3821

**************************************************************************
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,7171      ,5142    28,2418   105,3319     2,0000   199,0000      ,0000

Model
```

```
              coeff         se          t          p       LLCI       ULCI
constant     8,3835     2,2462     3,7324      ,0002     3,9542    12,8129
BI           3,0946      ,2633    11,7536      ,0000     2,5754     3,6138
ATT          1,4297      ,4231     3,3787      ,0009      ,5953     2,2641

Standardized coefficients
         coeff
BI       ,6284
ATT      ,1806

************************ TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,6974      ,4864    29,7126   189,3847     1,0000   200,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    14,5621     1,3379    10,8847      ,0000    11,9240    17,2002
BI           3,4345      ,2496    13,7617      ,0000     2,9424     3,9266

Standardized coefficients
        coeff
BI      ,6974

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

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_cs
     3,4345      ,2496    13,7617      ,0000     2,9424     3,9266      ,6974

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_cs
     3,0946      ,2633    11,7536      ,0000     2,5754     3,6138      ,6284

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
ATT      ,3399      ,1205      ,1219      ,5914

Completely standardized indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
ATT      ,0690      ,0241      ,0250      ,1189

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

Appendix 11: PROCESS matrix H3b

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.1 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : WTP
    X  : BI
    M  : SN
```

```
Sample
Size:  202

**************************************************************************
OUTCOME VARIABLE:
 SN

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,3219      ,1037      ,8368    23,1272     1,0000   200,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     4,2874      ,2245    19,0963      ,0000     3,8447     4,7301
BI            ,2014      ,0419     4,8091      ,0000      ,1188      ,2840

Standardized coefficients
        coeff
BI      ,3219

**************************************************************************
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,7168      ,5139    28,2635   105,1740     2,0000   199,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     8,6515     2,1925     3,9460      ,0001     4,3280    12,9749
BI           3,1568      ,2571    12,2788      ,0000     2,6498     3,6638
SN           1,3786      ,4110     3,3547      ,0010      ,5682     2,1890

Standardized coefficients
        coeff
BI      ,6410
SN      ,1751

************************ TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,6974      ,4864    29,7126   189,3847     1,0000   200,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    14,5621     1,3379    10,8847      ,0000    11,9240    17,2002
BI           3,4345      ,2496    13,7617      ,0000     2,9424     3,9266

Standardized coefficients
        coeff
BI      ,6974

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

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_cs
     3,4345      ,2496    13,7617      ,0000     2,9424     3,9266      ,6974

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_cs
     3,1568      ,2571    12,2788      ,0000     2,6498     3,6638      ,6410

Indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
SN      ,2777      ,1093      ,0891      ,5204
```

```
Completely standardized indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
SN      ,0564      ,0218      ,0182      ,1043

********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

Appendix 12: PROCESS matrix H3c

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.1 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : WTP
    X  : BI
    M  : PBC

Sample
Size:  202

**************************************************************************
OUTCOME VARIABLE:
 PBC

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,2957      ,0874      ,5810    19,1608     1,0000   200,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     5,4057      ,1871    28,8958      ,0000     5,0368     5,7746
BI            ,1528      ,0349     4,3773      ,0000      ,0839      ,2216

Standardized coefficients
        coeff
BI      ,2957

**************************************************************************
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,7105      ,5048    28,7883   101,4433     2,0000   199,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     7,2320     2,9957     2,4142      ,0167     1,3247    13,1394
BI           3,2274      ,2572    12,5502      ,0000     2,7203     3,7345
PBC          1,3560      ,4978     2,7242      ,0070      ,3744     2,3376

Standardized coefficients
         coeff
BI       ,6553
PBC      ,1423

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

```
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,6974      ,4864    29,7126   189,3847     1,0000   200,0000      ,0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    14,5621     1,3379    10,8847      ,0000    11,9240    17,2002
BI           3,4345      ,2496    13,7617      ,0000     2,9424     3,9266

Standardized coefficients
        coeff
BI      ,6974

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

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_cs
     3,4345      ,2496    13,7617      ,0000     2,9424     3,9266      ,6974

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_cs
     3,2274      ,2572    12,5502      ,0000     2,7203     3,7345      ,6553

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
PBC      ,2071      ,0974      ,0472      ,4237

Completely standardized indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
PBC      ,0421      ,0194      ,0099      ,0847

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

Appendix 13: PROCESS matrix Full Model

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.1 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 5
    Y  : WTP
    X  : BI
   M1  : ATT
   M2  : SN
   M3  : PBC
    W  : VAR00003

Sample
Size:  202

**************************************************************************
OUTCOME VARIABLE:
 ATT

Model Summary
```

```
          R       R-sq        MSE     F(HC3)        df1        df2          p
      ,3821      ,1460      ,7887    39,1759     1,0000   200,0000      ,0000

Model
              coeff    se(HC3)          t          p       LLCI       ULCI
constant     5,5426      ,0628    88,3244      ,0000     5,4188     5,6663
BI            ,2377      ,0380     6,2591      ,0000      ,1628      ,3126

**************************************************************************
OUTCOME VARIABLE:
 SN

Model Summary
          R       R-sq        MSE     F(HC3)        df1        df2          p
      ,3219      ,1037      ,8368    23,8399     1,0000   200,0000      ,0000

Model
              coeff    se(HC3)          t          p       LLCI       ULCI
constant     5,3218      ,0647    82,2917      ,0000     5,1943     5,4493
BI            ,2014      ,0413     4,8826      ,0000      ,1201      ,2828

**************************************************************************
OUTCOME VARIABLE:
 PBC

Model Summary
          R       R-sq        MSE     F(HC3)        df1        df2          p
      ,2957      ,0874      ,5810    18,6151     1,0000   200,0000      ,0000

Model
              coeff    se(HC3)          t          p       LLCI       ULCI
constant     6,1902      ,0539   114,8433      ,0000     6,0839     6,2965
BI            ,1528      ,0354     4,3145      ,0000      ,0829      ,2226

**************************************************************************
OUTCOME VARIABLE:
 WTP

Model Summary
          R       R-sq        MSE     F(HC3)        df1        df2          p
      ,7518      ,5653    25,7938    30,0291     6,0000   195,0000      ,0000

Model
              coeff    se(HC3)          t          p       LLCI       ULCI
constant    15,3894     3,8828     3,9634      ,0001     7,7316    23,0471
BI           2,5695      ,9168     2,8027      ,0056      ,7614     4,3776
ATT           ,6393      ,7116      ,8984      ,3701     -,7641     2,0427
SN            ,7005      ,6621     1,0579      ,2914     -,6054     2,0063
PBC           ,7705      ,6367     1,2103      ,2276     -,4851     2,0261
VAR00003     3,1120      ,7494     4,1528      ,0000     1,6341     4,5899
Int_1         ,1966      ,5791      ,3395      ,7346     -,9456     1,3388

Product terms key:
 Int_1    :        BI       x        VAR00003

Test(s) of X by M interaction:
         F(HC3)        df1        df2          p
M1*X     7,6108     1,0000   194,0000      ,0064
M2*X    20,5610     1,0000   194,0000      ,0000
M3*X    16,9180     1,0000   194,0000      ,0001

Test(s) of highest order unconditional interaction(s):
       R2-chng     F(HC3)        df1        df2          p
X*W      ,0004      ,1152     1,0000   195,0000      ,7346
----------
    Focal predict: BI       (X)
          Mod var: VAR00003 (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.
```

```
DATA LIST FREE/
   BI         VAR00003   WTP        .
BEGIN DATA.
    -1,5356     1,0000    26,2944
     -,3356     1,0000    29,6137
     1,8644     1,0000    35,6992
    -1,5356     2,0000    29,1044
     -,3356     2,0000    32,6597
     1,8644     2,0000    39,1777
END DATA.
GRAPH/SCATTERPLOT=
 BI       WITH     WTP      BY       VAR00003 .

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

Conditional direct effect(s) of X on Y:
   VAR00003     Effect    se(HC3)          t          p       LLCI       ULCI
     1,0000     2,7661      ,4099     6,7485      ,0000     1,9577     3,5745
     2,0000     2,9627      ,4078     7,2652      ,0000     2,1585     3,7670

Indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
TOTAL      ,4108      ,1292      ,1746      ,6753
ATT        ,1520      ,1600     -,1704      ,4683
SN         ,1411      ,1276     -,1058      ,4079
PBC        ,1177      ,0956     -,0512      ,3292

Completely standardized indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
TOTAL      ,0834      ,0256      ,0356      ,1347
ATT        ,0309      ,0327     -,0345      ,0966
SN         ,0286      ,0258     -,0219      ,0819
PBC        ,0239      ,0193     -,0107      ,0656

********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: A heteroscedasticity consistent standard error and covariance matrix estimator was used.

NOTE: The following variables were mean centered prior to analysis:
          BI

NOTE: Standardized coefficients not available for models with moderators.

------ END MATRIX -----
```