



Does Packaging Influence the Consumer?

The Effect of Packaging Design on Consumers' Willingness to Pay and the Mediating Role of Brand Image

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ABSTRACT

Title: “Does Packaging Influence the Consumer? The Effect of Packaging Design on Consumers’ Willingness to Pay and the Mediating Role of Brand Image”

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Since self-service shopping was introduced in the 1950s and product variety is continuously growing, competition within the stores is steadily increasing. 90% of consumers decide whether to purchase products by only evaluating the packages’ front, highlighting the importance of packaging design and identifying packaging as one of the most relevant communication and marketing tools. This research aims to identify the impact packaging design has on the consumer. The interaction of visual and verbal packaging design elements is considered in order to indicate its influence on consumers’ willingness to pay and whether brand image mediates this relationship. An exploratory study is conducted through two online surveys. The first survey is run to define the stimuli used in the main survey. The main survey’s 2x2 research design assigned one of the four stimuli to each participant, displaying a hand wash product with either good or bad visual and verbal packaging elements, respectively. Results indicate that appealing packaging design is positively affecting consumers’ willingness to pay and their perceived brand image, representing a relevant finding for marketers in the FMCG industry. In addition, visual elements of packaging design have a stronger impact on brand image than verbal elements. In contrast, visual elements do not point out a significant effect on consumers’ willingness to pay compared to verbal packaging design elements.

Keywords

Packaging design, Willingness to pay, Brand image, Personal care industry

SUMÁRIO

Título: “A Embalagem Influencia o Consumidor? O Efeito do Design das Embalagens na Disposição de Pagar dos Consumidores e o Papel Mediador da Imagem de Marca”

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Desde que compras self-service foram introduzidas nos anos 50, e considerando o crescimento contínuo da variedade dos produtos, a concorrência nas lojas tem aumentado constantemente. 90% dos consumidores tomam uma decisão de compra sobre os produtos apenas avaliando as embalagens, enfatizando a importância do design e destacando o papel prominente da embalagem enquanto ferramenta de comunicação e marketing. Este estudo pretende identificar o impacto do design das embalagens no consumidor. A interação de elementos visuais e verbais no design é considerada a fim de indicar a sua influência na disposição de pagar dos consumidores e se a imagem de marca influi nesta relação. Foi realizado um estudo exploratório através de duas pesquisas online. Sendo a primeira para definir os estímulos utilizados no pesquisa principal. O modelo de investigação 2x2 da pesquisa principal atribuiu um dos quatro estímulos a cada participante, exibindo um produto de limpeza das mãos com elementos visuais e verbais bons e ruins na embalagem, respectivamente. Os resultados indicam que um design de embalagens atraente afeta positivamente a disposição de pagar dos consumidores e na imagem percebida da marca, uma descoberta importante para os comerciantes da indústria de bens de consumo. Além disso, os elementos visuais do design de embalagens têm um impacto mais forte na imagem de marca comparados aos elementos verbais. Por outro lado, os elementos visuais não acarretam um efeito significativo na disposição de pagar dos consumidores, em comparação com os elementos verbais do design de embalagens.

Palavras-chave

Design de embalagens, Disposição de pagar, Imagem de marca, Indústria de higiene pessoal

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GLOSSARY

&	and
WTP	Willingness to Pay
POS	Point of Sale
FMCG	Fast Moving Consumer Good
ANOVA	Analysis of Variance
PD	Packaging Design
PDE	Packaging Design Elements
BI	Brand Image
e.g.	for example
et al.	et alii/and others
H	Hypothesis

CHAPTER 1: INTRODUCTION

1.1 Background and Problem Statement

“What you see is what you get” is a standard quote that is often used when purchasing groceries, personal care items, clothes, or other products. Ninety percent of consumers decide whether to buy a product just by evaluating the front of a package, without talking the product off the shelf once. Based on that information, Clement (2007) transformed that quote into “what you see is what you choose.”

Since the 1950s, self-service shopping is increasing, which has led to a more competitive environment within stores. In 1973, Pilditch, one of the first researchers studying packaging, described packaging as the silent salesman on the shelf (Clement, 2007). The role of packaging has continued to increase in importance as it can be used as a sales promotion tool, in addition to advertising and other in- and out of store promotions (Kuvykaite, Dovaliene, & Navickiene, 2009; Salem, 2018; Zekiri & Hasani, 2015).

Given that up to 50,000 products can be located in grocery stores and with an average 30-minute stay inside the store, brand communication needs to be as efficient and effective as possible (Mathisen, 2011; Sundar & Noseworthy, 2014). According to Sundar and Noseworthy (2014), consumers take approximately five to seven seconds to assess a package on the shelf and decide within three to seven seconds, whether they will purchase the product. Seventy percent of daily shoppers make buying decisions inside the store, and 85% purchase without even looking more closely at a second product from the same category (Clement, 2007). As a consequence of this shopping behavior, packaging became one of the most relevant marketing communication tools. It should catch and attract the consumers’ attention, and influence the purchase decision-making process (Rundh, 2005; Wang, 2013). Attractive and well-designed packaging is valuable as a differentiation tool, stimulating consumers’ buying behavior (Kuvykaite et al., 2009). According to Rettie and Brewer (2000), packaging is the largest communication vehicle since it approaches almost all potential consumers of one category, is present in the most essential moment of the selection process, and serves as information transmission for consumers with a high level of engagement. In terms of marketing, packaging functions as the communicator between brand and consumers and, as such, is able to influence them (Wang, 2013). Furthermore, it might lead to impulsive buying and can decrease other promotional costs (Abdullah, Kalam, & Akterujjaman, 2013; Olawepo & Ibojo, 2015; Salem, 2018).

Visual elements of packaging design are processed unconsciously and, thus, are able to influence the consumers' purchase decision in the low involvement category. In contrast, verbal packaging elements require the customer's intentional effort to be converted into mental images (Wang, 2013). When consumers are not familiar with certain products, visual packaging design elements are used to attract their attention and to build product expectations in the consumers' minds (Silayoi & Speece, 2007). Salem (2018) highlights the potential impact of packaging by noting that as 50% of the purchases made in a grocery store are not intended, the opportunity to influence consumers is significant.

Accordingly, this research aims to understand the impact that visual and verbal packaging design elements have on consumers' willingness to pay (WTP) and how a brand's image might act as a mediator on this relationship.

1.2 Problem Statement

The research's main scope is to understand how the two components of packaging design, the visual and the verbal elements, affect the consumers' WTP by analyzing the mediating effect that brand image has on this causal relationship. The problem statement for this research is defined as the following:

How does brand image impact the relationship between packaging design and consumers' WTP?

This problem can be described by the following research questions:

RQ 1: What effect does packaging design have on consumers' WTP?

RQ 2: What effect does packaging design have on brand image?

RQ 3: Do visual elements of packaging design have a stronger impact on the consumer than verbal elements of packaging design?

1.3 Relevance

Competition within supermarkets and drugstores is steadily increasing due to large assortments, crowded shelves, and a shortage of time spend inside the stores (Abdullah et al., 2013; Vazquez, Bruce, & Studd, 2003; Zekiri & Hasani, 2015). Furthermore, thousands of new products are introduced to grocery and drugstores each month, creating even more competition on the shelves (Rundh, 2016). Ninety percent of consumers decide on products by merely evaluating the package's front and visually examining the product (Kauppinen-Räsänen, Owusu, &

Bamfo, 2012), thereby highlighting the importance of initially capturing the consumer's attention.

As packaging has the ability to attract consumers' attention and to influence their perceptions as well as their buying behavior, brands have the opportunity to differentiate their products from competitive alternatives by investing in their packaging design (Rundh, 2016). Besides, product, price, place, and promotion, packaging is considered the fifth "P" in the marketing mix and is gaining more importance in order to create competitive advantage for companies (Singh & Pandey, 2018). For this reason, this study aims to shed new light on the relevance of packaging design, decreases the way packaging design is underestimated in the minds of some managers and provides companies with relevant and crucial reasons to include packaging design in their marketing strategies.

A considerable amount of research has been conducted on the visual elements of packaging (e.g. Cavallo & Piqueras-Fiszman, 2017; Clement, 2007; Wang, 2013), but rather little research has been made on both elements together. Researchers have studied the effect that packaging design has on the consumers' purchase intention or their purchase behavior rather than focusing on consumers' WTP (e.g. Ahmed, Vishnu, & Amin, 2014; Clement, 2007; Kobayashi & Benassi, 2015; Olawepo & Ibojo, 2015; Zekiri & Hasani, 2015). Furthermore, including brand image as a mediator within this study's conceptual model provides new insights and fills the existing research gap identified above.

1.4 Research Methods

Both primary and secondary data is used in order to answer the research questions. First, secondary data by means of academic papers is gathered to define and better understand the examined variables - packaging design, consumers' WTP, and brand image. Moreover, the conceptual model, as well as the development of hypotheses, are based on the existing literature. Primary data is collected through two surveys, whose constructs are derived from secondary data in order to ensure reliability. The first survey identifies the four stimuli used in the second survey. The second survey, the main survey, is based on a 2 x 2 research design, indicating the respondents' perceptions of brand image, WTP, and their attitudes towards the stimulus the respondent is assessed to.

The sample includes frequent consumers of personal care products and those who have bought hand wash within the last 12 months. The collected data is analyzed using parametric and non-

parametric tests. Moreover, Hayes' PROCESS model 4 is used in order to study the relationships between the variables.

1.5 Dissertation Outline

The dissertation is divided into five chapters. The first chapter presents a short introduction into the subject of packaging and defines the problem statement and the research questions, which form the basis of this research. The second chapter includes the literature review and the development of the hypotheses that guide this study. The variables are described and explained, and their relevance and importance in order to investigate how packaging design influences consumers' WTP are examined. The third chapter explains the methodology used to answer the developed hypotheses and presents all details of the questionnaires' constructs, the data collection, and how the gathered data is analyzed by means of statistical tests. Chapter 4 contains the results and hypotheses testing. The last chapter comprises the conclusion, the study's limitations, and recommendations for further research.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter summarizes, contrasts, and criticizes the existing literature regarding the investigated variables and their relationship. Consumers' WTP, packaging, and packaging design, as well as the visual and verbal elements of that design, and brand image are defined and explained in order to understand the background of this research. Finally, the hypotheses development and the conceptual model are presented.

2.1 Willingness to Pay

WTP, or the so-called reservation price, is the maximum price a consumer is willing to pay for a product (Wertenbroch & Skiera, 2002) or "the price at which a consumer is indifferent between buying or not buying the product" (Jedidi & Zhang, 2002, p. 1352). Consequently, knowledge about consumers' WTP is required to develop optimal pricing strategies and to identify future demand (Wertenbroch & Skiera, 2002). Jedidi and Jagpal (2009) developed various marginal questions, for instance, "How does pricing affect the demand for my new product?," "What price should I charge for my new product?," "What is the likely demand for my new product if I charge this price?" (p. 37), and noted that knowing the consumers' WTP for existing and new product offerings is key. Shaffer and Zhang (1995) stated that being aware of consumers' WTP helps market researchers to introduce customized pricing strategies such as bundling, promotions, and quantity discounts.

Insights into consumers' WTP allow product managers and researchers to recognize and analyze price changes or the implementation of a new product in the market on the basis of three demand effects: cannibalization, switching, and market expansion effects. The cannibalization and switching effects occur when consumers gain a larger surplus from newly introduced products than they do from a company or competitor's existing product offerings. The market expansion effect appears when non-category consumers receive a positive surplus from new product offerings (Jedidi & Jagpal, 2009).

Other WTP definitions have been used by different researchers. Kohli and Mahajan (1991) define the reservation price as the price at which a consumer is indifferent between purchasing the new product or adhering to the old one. Hauser and Urban (1986), for example, describe the WTP as the minimum price at which a consumer will no longer buy the product. Another definition in the literature refers to the existence of price limits. The first limit defines the price up to which a consumer will purchase the product. The second limit identifies the price at which the customer will not even consider the purchase. Finally, the third limit combines the two price

limits and sets a range between the two threshold prices within which the consumer is uncertain about the decision (Ariely, Loewenstein, & Prelec, 2003). Wang, Venkatesh and Chatterjee (2007) define three reservation prices dependent upon the probability of purchase. The floor reservation price is the highest price at which a consumer is willing to purchase. In this case, the buying probability is 100%. The indifference reservation price is the highest price at which a consumer is indifferent between purchasing or not. According to this, the buying probability lies at 50%. The third definition is the ceiling reservation price, at or above which a consumer will not pay for a particular product offering. The purchase probability is 0%, accordingly.

Measuring consumers' true WTP is a complex construct as various measurement methods cannot represent a consumer's 100% true WTP. Different approaches attempt to identify the actual WTP as accurately as possible (Voelckner, 2006). In this regard, two methods seek to measure consumer WTP in the market, either by analyzing real market transactions or survey data. The problem with actual market transaction data is that purchases are only made if the consumer is at least willing to pay the advertised price. Non-buyers have a WTP lower than the displayed price, which cannot be measured (Wertenbroch & Skiera, 2002). Moreover, data gathered through surveys is considered hypothetical. Research found that hypothetical data is usually stated significantly higher as no financial obligation is connected to the disclosure (Neill, Cummings, Ganderton, Harrison, & McGuckin, 1994; Wertenbroch & Skiera, 2002).

In addition, research has been conducted on the relationship between packaging design and consumers' WTP. Joutsela, Latvala and Roto (2017) state that WTP increases when consumers have positive experiences with a product's packaging. Specifically, packages that contain surprises and hedonic factors increase the WTP. Reimann, Zaichkowsky, Neuhaus, Bender, and Weber (2010) discovered that consumers of soft drinks are willing to pay more for aesthetic packaging, even if the brand is unknown to them. Research on consumers' WTP has also been conducted in the area of sustainability. Singh and Pandey (2018) define six determinates that influence a consumer's WTP for green packaging: functional, economic, symbolic, and biospheric value, among others. It appears that consumers valuing sustainability are willing to pay more for these product attributes (Van Loo et al., 2015).

2.2 Packaging and Packaging Design

Many researchers have described packaging, next to product, price, promotion and place, as the fifth P in the marketing mix (e.g., Kotler & Keller, 2016; Nawaz, Billoo, & Lakhan, 2012). As up to 70% of all purchase decisions are made at the point of sale (POS; Nielsen, 2016),

packaging is gaining more importance as an influencing factor. According to Salem (2018), packaging is the last communication tool between consumers and brands. However, Kotler and Keller (2016) disagree with Salem and define packaging as the consumer's first touchpoint with a brand or product. Kotler and Keller (2012) earlier defined packaging as the product's container, which, on the one hand, protects the product and, on the other hand, sells it. Similarly, Prendergast and Pitt (1996) assign packaging a protection function during transport and a marketing function while on the shelf. It may even function as a short in-store commercial (Kotler & Keller, 2012). Other purposes of packaging are to identify the brand, deliver information, and make transportation easier, among other things (Kotler & Keller, 2016). Researchers have agreed that well-designed packaging attracts consumers, communicates with them, and sells the product (Kotler & Keller, 2016; Silayoi & Speece, 2007). Furthermore, it makes the product conspicuous and helps it to be recognized (Connolly & Davison, 1996), highlights the product's uniqueness, and influences the perceived product quality (Silayoi & Speece, 2007). Underwood, Klein and Burke (2001) state that packaging with an appearance of high-quality leads to the perception of a high-quality product.

In order to create attractive and appealing packaging, packaging design plays an essential role in attracting the consumer, conveying the product's features and creating a positive overall appearance (Kotler & Keller, 2016). Research has shown that packaging has an impact on consumers' choices and their product preferences (Madzharov & Block, 2010; Silayoi & Speece, 2007). Based on the visual appearance of the product's front, almost 90% of consumers decide whether to purchase a product or not (Clement, 2007). Hence, the two components of packaging design, visual and verbal, are essential and can be used strategically to convince the consumer to purchase at the POS (Grossman & Wisenbult, 1999). During the process of developing attractive and engaging packaging, marketers and designers need to consider the consumers' needs and wants (Silayoi & Speece, 2007).

Researchers divide packaging design into different categories according to various packaging design elements. Smith and Taylor (2004) and Kotler (2002) define six packaging design elements, including form, size, color, and material, among others. Underwood (2003) divided packaging design into graphic (e.g., color and images) and structural (e.g., material and size) elements, while Silayoi and Speece (2007) designated a visual and an informational category, which includes the shape, size, graphic and color dimensions along with the product information and technology image. Rettie and Brewer (2000) analyzed the positioning of different elements and differentiated between visual and verbal elements. Salem (2018) also

divided packaging design into visual and verbal aspects. Visual elements are directly perceived and include graphics, color, size and shape. Verbal packaging design elements are linked to words and contain product information and language (Salem, 2018). This study focuses on the visual and verbal elements of packaging design.

2.2.1 Visual Packaging Design Elements

Visual elements have an impact on the consumers' emotions and are crucial in packaging design (Salem, 2018). Visual imagery can be used as a strategic differentiation method as it will attract consumers' attention and is, in contrast to words, a more vivid stimulus (Silayoi & Speece, 2007; Underwood et al., 2001).

Colors are an important dimension within the visual category as they influence consumers' emotions, behaviors, and attitudes towards the quality of a product (Akbari, 2014; Basera, Mutsikiwa, & Dhliwayo, 2013; Salem, 2018). In addition, colors are able to impart images and deep-rooted impressions about the product (Salem, 2018). Colors communicate various messages in different cultures and are also used as a method of differentiation and detection on the shelf (Salem, 2018).

Size and shape of the packaging are also part of the visual design. The shape of a product can influence a consumer's purchase without the necessity of evaluating the product's label (Salem, 2018). Men and women are attracted by different kind of shapes. Women prefer rather curvy shapes, while men are attracted by more angular shapes (Shimp, 1990). Unique and innovative packaging shapes are perceived as more attractive, can be better distinguished from competitors in the market, and might convey a sense of fun (Salem, 2018; Young, 2003). Size is also an important factor and should be evaluated carefully. Benedetti, Cesarotti, Giuiusa and Introna (2014) state that a package's size may differ from market to market and must match the targeted consumers' needs. Various packaging shapes and sizes may appeal to different consumers. Consumers typically use these dimensions to evaluate the volume of a product. Rather elongated packages are perceived to be larger and, therefore, contain more volume (Silayoi & Speece, 2007). Large packages usually attract consumers living in larger households as they tend to search for offers that provide cost-effectiveness (Prendergast & Marr, 1997). Accordingly, Silayoi and Speece (2007) state that voluminous elongated packages are perceived to be better value for money resulting in higher sales.

Graphics placed on packaging upgrade the product's visual appearance and are a method of making brands unique and recognizable on the shelf (Salem, 2018). Silayoi and Speece (2004)

define the function of graphics on packaging as gaining the customers' attention. Graphics help the consumer during the purchase decision process (Salem, 2018), as up to 43% of consumers link packaging's graphics to product quality (Wells, Farley, & Armstrong, 2007). As pictures communicate a product's function and usage (Pensasitorn, 2015), they are considered a powerful method to making a product stand out, conveying the product information and benefits, and making the product desirable (Meyers & Lubliner, 1998; Salem, 2018).

2.2.2 Verbal Packaging Design Elements

The verbal elements of packaging design have a great impact on consumers' cognitive processes (Salem, 2018). Rettie and Brewer (2000) state that verbal stimuli, positioned on the right side of a package, can be better recalled than when placed on the left side. In contrast, visual stimuli are better remembered when located on the left side of the packaging.

Product information is one of the crucial dimensions in the verbal element category. Packaging provides information about ingredients, country of origin, date of expiry and instructions for use (Ahmed et al., 2014; Salem, 2018). The product information facilitates the customer's decision making (Silayoi & Speece, 2007). Many brands try to increase the product information on their packaging, but reduced legibility and too much or inaccurate information may confuse the consumer (Mitchell & Papavassiliou, 1999; Silayoi & Speece, 2007). However, low involvement products, representing FMCGs, are products that are not examined and judged according to their brand or product information. Thus, this informational element is of little value. The product needs to trigger the consumers, otherwise, they will not consider nor pay attention to it (Silayoi & Speece, 2004, 2007; Vakratsas & Ambler, 1999). Ultimately, product information should help brands to avoid confusion and, furthermore, make them trustworthy (Silayoi & Speece, 2004).

Language is another element of verbal packaging design. Brands can decide to use either packaging that displays multiple languages or packaging designed specifically for different countries (Valentya, Lestari, Gotama, & Kumar, 2014). As consumers like to be addressed in their native language (De Run & Fah, 2006), brands using the local language on their products are perceived as more committed doing business in the targeted countries (Hollensen, 2011). Hollensen (2011) also points out that designers and marketers need to pay attention to using appropriate language on packaging as some words may have different meanings in other languages and cultures and could have a significant impact on consumers' purchase intention (Salem, 2018).

Accordingly, the following hypotheses were derived for the purpose of further analysis:

H1: Packaging design affects consumers' WTP.

H1.1: Good visual packaging design positively impacts consumers' WTP.

H1.2: Good verbal packaging design positively impacts consumers' WTP.

H1.3: Good visual packaging design has a greater impact on consumers' WTP than good verbal packaging design.

2.3 Brand Image

Kotler (1991) defines a brand as “a name, term, sign, symbol, or design, or combination of them, which is intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors” (p. 442). The brand identities are the different components of a brand that build *the brand*.

Due to increasing competition, high costs, and falling demands, companies need to develop and improve their marketing efficiency (Rundh, 2016; Salem, 2018). Keller (1993) states that knowing and understanding the brand's position and image that has been created in the consumer's head is crucial to better decide strategically and tactically.

Dobni and Zinkhan (1990) define brand image as the mental picture of a product or service in the consumer's mind. Brand image contains symbolic meanings that are linked to specific attributes of a product or service (Bibby, 2011; Padgett & Allen, 1997; Salinas & Pérez, 2009). Furthermore, brand image is described as the perceptions of a brand that reflect the consumers' associations with the brand (Keller, 1993). Brand image is most important when it becomes difficult to characterize products or services according to tangible quality features (Mudambi, Doyle, & Wong, 1997; Shankar, Azar, & Fuller, 2008). A favorable brand image results in a positive attitude towards the product, its attributes, and the brand in general as well as supports the consumer during the decision-making process (Bennett, Härtel, & McColl-Kennedy, 2005; Torres & Bijmolt, 2009). Therefore, brand image can also be defined as the product's soul (Chinomona, 2016). Keller (1993) divides brand image or the so-called brand associations into three different categories: attributes, benefits, and attitudes.

Brand attributes characterize the product and make consumers think about its content and how its purchase will influence and affect them. There are two categories of attributes: product-related and non-product-related attributes. Keller (1993) defines product-related characteristics as the physical components essential for a product's performance to meet consumers' needs and expectations. Non-product-related attributes are described as the external aspects related to

the product's purchase or consumption. Price information, product packaging, user, and usage imagery are the four types of non-product-related attributes (Keller, 1993). Keller (1993) states that price as a brand's attribute helps consumers form assumptions about the brand's value. In addition to price, the product's packaging, while not directly related to the product's performance, is still an important factor in building brand associations. User imagery is defined as the type of person who uses the product in terms of demographics, psychographics, and other factors. The associated usage imagery is linked to the kind of situation in which the product is used, such as the time, location, or type of activity (Keller, 1993). Both product- and non-product-related attributes can help to develop personality attributes and characteristics of a brand (Plummer, 1985).

Brand benefits are defined as the value a product offers to the consumer. They can be functional, experiential, and symbolic (Park, Jaworski, & MacInnis, 1986). The functional benefit is linked to product-related attributes such as the product meeting consumers' physiological or security needs (Maslow, 1970). Experiential benefits are defined as feelings that occur while using the product, thereby, satisfying experiential needs. Therefore, this attribute is referred to as a product-related attribute as well (Keller, 1993). Symbolic benefits describe the need for personal expression, approval, and self-esteem. In contrast to the other product benefits that form brand image, symbolic attributes are linked to the nonproduct-related characteristics (Keller, 1993). Consumers appreciate sophistication, exclusivity, and prestige (Solomon, 1983) and that is why symbolic benefits are essential for visible products (Keller, 1993).

Brand attitude is another category of brand image, according to Keller (1993). Consumers' overall evaluation of a brand are defined as the brand's attitude, being the basis of consumers' behavior (Keller, 1993; Wilkie, 1986). The expectancy value model by Fishbein & Ajzen (1975) defines brand attitudes as a function of consumers' expectations and beliefs about a product and consumers' evaluations of those expectations and beliefs. Consumers assess extrinsic signals and cues such as a product's appearance to determine the product's quality (Olson & Jacoby, 1972).

Considerable research on the relationship between packaging and brand image has been conducted in the tobacco and food industries (Germain, Wakefield, & Durkin, 2010; Vazquez et al., 2003; Wakefield, Germain, & Durkin, 2008). Wakefield et al. (2008) state that cigarette packages are mobile advertising opportunities as smokers display and use the packages in public. The design of the cigarette packaging is the most important method of communicating the brand image. Packaging also enhances POS advertising in-store (Wakefield et al., 2008).

Furthermore, food retailers use packaging design to improve their brand images (Vazquez et al., 2003). Keller (1993) explains that packaging has an influence on consumer's associations of a brand. Packaging can, therefore, be considered a key technique for communicating a product's benefits, which is the value consumers link to the product (Keller, 1993). Nevertheless, brands need to be careful because deceptive and non-socially responsible packaging designs may also negatively influence a brand's image (Agariya, Johari, Sharma, Chandraul, & Singh, 2012). A consumer's sensory brand experience, including the product's packaging, forms an image in their mind which effects brand loyalty, brand trust, and brand recognition (Montague, 1999).

Consequently, in line with the above statements, the following hypotheses were developed and examined in subsequent chapters:

H2: Packaging design impacts brand image.

H2.1: Good visual elements of packaging design positively influence brand image.

H2.2: Good verbal elements of packaging design positively influence brand image.

H2.3: Good visual elements of packaging design have a stronger impact on brand image than good verbal packaging design elements.

H3: Brand image positively impacts consumers' WTP.

H4: Brand image mediates the relationship between packaging design and consumers' WTP.

2.4 Conceptual Model

The following figure displays the conceptual model with its three investigated variables and from literature derived hypotheses:

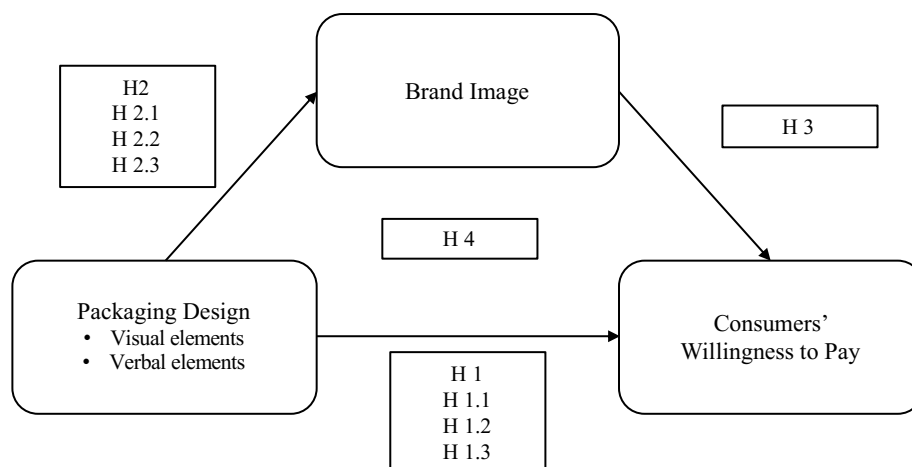


Figure 1. The Conceptual Model

CHAPTER 3: METHODOLOGY

The following chapter describes the methodology used in this dissertation to answer the research questions and defined hypotheses. The research approach is presented and explained, followed by information about the primary and secondary data collection. As primary data was collected in two online surveys, data collection, measurements, and data analysis for both surveys is explained in detail. Furthermore, the analysis of the stimuli survey is also presented in this chapter as it formed the basis for this research.

3.1 Research Approach

The objective of this study is to gain insights into the impact packaging has on the consumer. In order to achieve this goal, a literature review was prepared on topics such as the consumer's WTP, packaging design and its elements, and brand image. This led to the development of the conceptual framework presented in Chapter 2 as the basis for the empirical research that was conducted.

In terms of the approach, the three different methods that can be used for research purposes are exploratory, descriptive and causal (Burns, Veeck, & Bush, 2017). In this dissertation, exploratory and causal research methods were used. The exploratory method was applied to define terms and to understand the background information as well as to develop the hypotheses and the conceptual model. Furthermore, the causal or so-called explanatory method was used to measure the proposed variables and to test hypotheses so that relationships between the variables in the conceptual framework could be identified (Burns et al., 2017). The conclusions drawn from the analyses and results were made on the basis of the collected quantitative data.

3.2 Secondary Data

First, secondary data were used to gather information about the broad topic of packaging in terms of its design and relevance. The literature review is based on secondary data and helps to better understand the three variables in the conceptual model – packaging design, consumers' WTP and brand image. Articles and papers from top journals, such as *The Journal of Marketing* or *The Journal of Consumer Research*, were used and retrieved online. Furthermore, the constructs used in both surveys can be found in the already existing literature.

3.3 Primary Data

In this dissertation primary data were collected with the help of an online stimuli survey and an online main survey. Collecting data by means of online surveys involves several advantages and disadvantages. The advantages are the quick and easy collection of the data and the fact that costs can be held at a minimum (Bradley, 2013). However, online surveys may lead to deficiencies in respondent validation and sample representativeness. Moreover, the researcher has no control over the respondents and no opportunity to clarify questions during the survey (Bradley, 2013; Burns et al., 2017).

3.3.1 Online Stimuli Survey

In order to identify the stimuli to be used in the main online survey, an online stimuli survey was conducted beforehand.

3.3.1.1 Data Collection and Measurements

As a large amount of research on packaging design has already been conducted in the food and tobacco industries, this study concentrates on the personal care industry, specifically on the personal care product of hand wash.

The stimuli survey was performed from the 26th to the 28th of April 2020 and was completed by 87 respondents in total. The online questionnaire was shared mainly on WhatsApp and other social media platforms such as LinkedIn and Facebook.

The target population included everyone; no specific criteria had to be met. The sampling technique used was a non-probability method. This method is not based on randomness, meaning that not all members of the population have an equal chance of being selected for the sample. The non-probability sampling technique is a quicker and less expensive way to collect data compared to the probability sampling method. Furthermore, a convenience technique was chosen, which may lead to a non-representative population (Burns et al., 2017).

The questionnaire (see Appendix 1) was divided into five parts. First, all participants were asked how many sinks the household they are living in has and how often they use and purchase hand wash to gain an idea of the general usage and shopping frequency. In the following section, three out of 12 selected packages were randomly but evenly assigned to each participant. Each package was presented by itself and a set of 16 questions regarding the verbal and visual elements of the packaging design was evaluated. The construct used was developed by Salem (2018) and is measured by means of a 5-point Likert scale (1 = *I strongly disagree*, 2 = *I*

disagree, 3 = *no opinion*, 4 = *I agree*, 5 = *I strongly agree*). The third section of the survey contained an open question about the participants' association with a well-packaged product. In the fourth section, the participants were asked to rank seven different packaging elements in order to ascertain which component was perceived as most important. Finally, demographic questions concerning gender and age were presented.

A pilot test was conducted to ensure comprehension and the flow of the survey. The survey was tested by five respondents and their feedback was taken into consideration leading to some adjustments being made.

3.3.1.2 Data Analysis and Results

The stimuli survey was closed after three days with a total of 83 completed and four partly completed questionnaires, which nevertheless could be used for some parts of the analysis. As this stimuli survey can be defined as a pretest, a total of 20 to 25 respondents is needed per stimulus, according to Kothari (2004). Three evenly randomized packages were shown in each questionnaire, which led to requiring a minimum of 80 respondents. The data were analyzed using IBM's SPSS software and the stimuli were adapted with the help of Microsoft PowerPoint. Additionally, a radar chart was developed using Microsoft Excel.

Due to the selected distribution and the sampling technique, the majority, with more than 80%, of respondents were between the ages of 18 and 31 years. Within the sample, 56% were female and almost 40% were male. Examining usage and shopping frequency, it was evident that most of the respondents buy hand wash every three months (51.7%) and 25.3% even purchase it once a month. More than 40% of the sample use hand soap at home more than five times a day, which may have been influenced by COVID-19 and the increased amount of time spent at home. Another 38% of respondents stated to usually wash their hands at home three to four times a day. The respondents also indicated that 64.4% have two or three sinks, including kitchen and bathrooms, in the household they are living in.

A radar chart (see Appendix 2) was created to visualize the elements that respondents considered most and least important in packaging design. To construct the chart, the variables needed to be recoded, thus, the most important elements had the highest means. Color, with a mean of 5.33, is perceived as the most powerful element, which is followed by size with a mean of 4.71. The least important component is language with a mean of 1.94. More information about the participants' demographics, hand wash usage and shopping frequency along with the

importance of packaging design elements can be found in Appendix 2. Furthermore, respondents associate high quality, uniqueness, and a high price with well-packaged products.

The main online survey was designed to use a 2 (verbal good, verbal bad) by 2 (visual good, visual bad) experiment design using the stimuli determined by the respondents. In order to identify whether packaging was perceived as good or bad in terms of visual and verbal packaging design elements, respectively, means were compared (see Appendix 3). All variables were framed positive, meaning that no recoding was needed. As the scales ranged from *strongly disagree* (1) to *strongly agree* (7), packages with high means were considered good, while packages with low means were identified as bad. To compare means among the 12 packages, 24 new variables had to be computed in order to group the visual and verbal questions for each package, respectively. As the packages were randomized and the partly completed questionnaires were considered, all packages received 19 to 23 evaluations. Package 8 (“Meraki”) with a total mean of 3.9 (4.0 for visual and 3.8 for verbal elements) was ranked as the best packaging, resulting in being Stimulus 1 (visual good and verbal good). To identify Stimulus 2 (visual good and verbal bad) and Stimulus 3 (visual bad and verbal good), the means of the computed variables for visual and verbal elements of each packaging were examined more closely. As package 2 (“Brand”; 2.2 for visual and 2.3 for verbal elements) was rated the worst packaging, both its verbal and visual elements were used to design the two stimuli. Package 9 (“Love beauty and planet”) was rated best in terms of the visual packaging design with a mean of 4.2. Therefore, Stimulus 2 is a combination of package 9’s visual and package 2’s verbal elements. Stimulus 3 was designed by merging the visual elements of package 2 and the verbal elements of package 8 as it was rated best in terms of the verbal component with 3.8. With a total mean of 2.25 (2.2 for visual and 2.3 for verbal) package 2 was determined to be the worst packaging and, therefore, was considered to be Stimulus 4 (visual bad and verbal bad). The brand names were changed to disguise the brands and to prevent this influencing the respondents’ answers. Additionally, all package sizes were changed to 500 ml to enable a better comparison of the results at the end.

Figure 2 shows the determined stimuli that were used in the main online survey.



Figure 2. The Determined Stimuli Used in the Main Online Survey

3.3.2 Online Survey

After conducting the online stimuli survey and identifying the stimuli, an online survey using the four determined stimuli was carried out.

3.3.2.1 Data Collection

An online survey was conducted not only to understand the effect packaging has on consumers' WTP but to also understand whether and how the verbal and visual elements of packaging impact the brand's image.

The data collection took place between the 14th of May and 1st of June 2020 by means of an online questionnaire shared by email, WhatsApp, and other social media platforms such as LinkedIn, Instagram and Facebook. The platforms SurveySwap and SurveyCircle were also used to collect answers and to create a more diverse sample. To attract respondents and motivate them to participate two 15€ Amazon gift cards were raffled after the survey was closed.

The target population included everyone who frequently purchases personal care goods, such as shampoo, body and hand wash, lotions or deodorants and had bought hand wash in the last 12 months. This was tested with two control questions at the beginning of the questionnaire, which excluded the respondents who did not fulfill these conditions.

Data were collected through the non-probability sampling technique. As this survey was also conducted under certain time and money constraints, this method seemed reasonable. Within

the non-probability technique, the convenience and snowball sampling methods were used (Burns et al., 2017).

In order to ensure the survey's flow, a pilot test with five respondents was run. The participants' feedback was considered, and adjustments concerning its flow and comprehension were made.

In total, 284 responses were collected. However, 48 answers could not be included due to the respondents not meeting the required conditions, not passing the attention check, or being defined as statistical outliers. In the end, 236 responses were considered valid. The stimuli were randomly but evenly assigned to the respondents leading to a nearly even distribution of stimuli. Sixty-two respondents were exposed to Stimulus 1, which represented the most attractive packaging with good visual and verbal packaging design elements. Stimulus 2, containing good visual but bad verbal elements, was presented to 58 respondents and Stimulus 3, including bad visual and good verbal elements of packaging design, was seen by 57 participants. Stimulus 4, the least attractive packaging with bad elements in terms of both visual and verbal packaging design, was assigned to 59 respondents.

3.3.2.2 Construct Measurement

As previously described, this survey followed a 2 (visual good, visual bad) by 2 (verbal good, verbal bad) research design using the four stimuli that were developed with the help of a stimuli survey conducted some weeks before the main online survey.

The questionnaire for the main survey used constructs from the existing literature to ensure a certain degree of reliability and internal consistency. All items in the survey were measured by means of 7-point Likert scales, ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) (Burns et al., 2017).

The survey questionnaire consisted of seven sections (see Appendix 4). The first section contained the control questions in order to only include respondents who met the required conditions and criteria. Following this, the usage and purchase frequency of hand wash, as well as the number of sinks in the respondent's household, were queried. In the next section, one of the four evenly randomized stimuli was presented. A set of eight questions was used to indicate the respondents' attitudes towards the packaging design. The construct was a combination of three items developed by Becker, Rompay, Schifferstein and Galetzka (2011) and five items created by Magnier and Schoormans (2015). At the end of this section, an overall evaluation question was displayed, which was measured on a scale ranging from 0 (*bad*) to 100 (*good*), developed by Steenis, Van Herpen, Van Der Lans, Ligthart, and VanTrijp (2017). The fourth

section included an eight-item construct mixed from Salinas and Pérez's (2009) eight-item construct and Iglesias, Markovic, Singh and Sierra's (2019) six-item construct to identify the product's brand image. One question was included in this section to check on the participant's attention. Purchase intention and consumers' WTP were queried in the fifth section of the questionnaire. A four-item construct by Barber, Kuo, Bishop and Goodman (2012) was used to indicate the respondent's intention to purchase. The used 7-point Likert scale needed to be adapted as it was coded inversely, ranging from agree to disagree. Additionally, two questions developed by Breidert, Hahsler and Reutterer (2006) were used to identify the WTP. A scale ranging from 0 to 30 Euros was applied to the construct's first question and a scale ranging from 0 to 10 Euros to the second question. The scales were developed by the author of this dissertation and were presented in the survey in order to guide the respondents. Moreover, two manipulation questions were developed in order to test whether the manipulation of stimuli was successful. Finally, demographic questions about the respondents' gender and age were asked. Furthermore, questions concerning nationality, marital status, occupation and yearly income were also presented. All constructs used in this survey are summarized in Table 1.

Table 1. Operational Model

Construct	Scale	Number of Items	Literature
Attitude towards Packaging	7-point Likert	8	Becker et al. (2011) Magnier & Schoormans (2015)
Overall Evaluation of Product	Interval Scale	1	Steenis et al. (2017)
Brand Image	7-point Likert	8	Salinas & Pérez (2009) Iglesias et al. (2019)
Purchase Intention	7-point Likert	4	Barber et al. (2012)
Willingness to Pay	Interval Scale	2	Breidert et al. (2006)

3.3.2.3 Data Analysis

All the collected quantitative data were analyzed using IBM's SPSS. The analysis's objective was to test the hypotheses and whether they were supported and validated by the collected data. A significance level of 5% and a 95% confidence interval were defined for all the statistical tests run.

First of all, the sample was characterized by analyzing the descriptive statistics, frequencies, and performing cross-tabulations. Cronbach's alpha was calculated and checked to test the reliability of each construct. Values above 0.7 are acceptable, above 0.8 are good, and higher

than 0.9 are excellent, according to Gliem and Gliem (2003). A Mann-Whitney U test was conducted to check whether the manipulation of the stimuli was successful. The hypotheses were tested by means of parametric tests, such as independent sample's t-tests and linear regressions, and non-parametric tests, such as the Kruskal-Wallis H test and Mann-Whitney U test. Correlation analyses were run to identify relationships, their direction, and effect sizes. Furthermore, three mediation analyses were conducted using the Hayes' PROCESS macro. The first two mediations considered the elements of packaging design individually. Following this, a third mediation considering both visual and verbal elements was run (Figure 3). Finally, a moderation analysis using the PROCESS macro was run to identify whether gender moderated the relationship between packaging design and the consumers' WTP. In addition, an independent sample's t-test was conducted to test whether women were willing to pay more for an attractive packaging design than men.

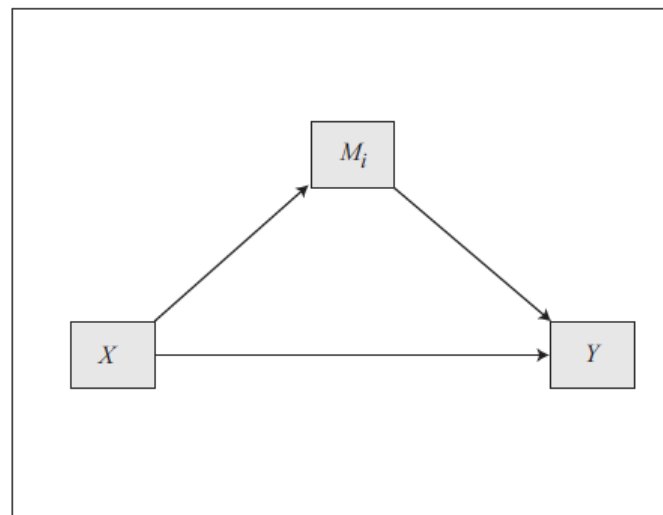


Figure 3. Hayes' PROCESS Model 4

CHAPTER 4: RESULTS AND DISCUSSION

The following chapter presents the analysis and results of the collected quantitative data by means of the above described main survey. First, the sample is characterized, followed by the measure reliability section and the manipulation check. Moreover, the hypotheses are tested by means of various statistical tests such as correlation analyses, non-parametric tests, or t-tests. Finally, a mediation analysis is conducted to test the conceptual model.

4.1 Sample Characterization

The questionnaire was closed with a total of 284 answers. After cleaning the data by means of the Mahalanobis distance test to identify significant outliers, two answers were deleted. Furthermore, 46 answers were excluded as they did not meet the sample criteria or failed the attention check. Finally, a total of 236 answers can be considered valid.

The table below shows the demographics of the sample, grouped according to the stimuli to which the respondents were assigned. Even though all four stimuli were evenly distributed across the sample, a slight difference in the respondents' distribution number can be observed.

Table 2. Sample Characterization

		Stimuli 1 (visual good / verbal good)	Stimuli 2 (visual good / verbal bad)	Stimuli 3 (visual bad / verbal good)	Stimuli 4 (visual bad / verbal bad)	Total
Respondents	Number	62	58	57	59	236
Gender	Female	56.5%	55.2%	56.1%	54.2%	55.5%
	Male	43.5%	44.8%	43.9%	45.8%	44.5%
Age	under 18	-	3.4%	-	-	0.9%
	18 - 24 years	40.3%	37.9%	50.9%	39.0%	42.0%
	25 - 31 years	54.8%	53.4%	42.1%	42.4%	48.2%
	32 - 38 years	4.8%	5.2%	5.3%	13.6%	7.2%
	39 - 45 years	-	-	-	3.4%	0.8%
	46 - 52 years	-	-	1.8%	-	0.4%
	53 - 59 years	-	-	-	1.7%	0.4%
	60 and older	-	-	-	-	-
Nationality	Portuguese	4.8%	3.4%	7.0%	6.8%	5.5%
	German	46.8%	55.2%	56.1%	50.8%	52.2%
	Italian	8.1%	5.2%	5.3%	6.8%	6.3%
	French	4.8%	10.3%	3.5%	3.4%	5.5%
	Other	35.5%	25.9%	28.1%	32.2%	30.4%
Occupation	Student	67.7%	60.3%	57.9%	67.8%	63.4%
	Employed	30.6%	36.2%	42.1%	27.1%	34.0%
	Unemployed	1.6%	3.4%	-	1.7%	1.7%
	Other	-	-	-	3.4%	0.8%
Marital Status	Single	41.9%	62.1%	49.1%	61.0%	53.5%
	In a relationship	43.5%	29.3%	43.9%	28.8%	36.4%
	Married	12.9%	8.6%	7.0%	10.2%	9.7%
	Divorced	1.6%	-	-	-	0.4%
Income	Low (under 10,000 €)	37.1%	48.3%	40.4%	50.8%	44.1%
	Medium	61.3%	44.8%	54.4%	47.5%	52.0%
	High (above 70,000 €)	1.6%	6.9%	5.3%	1.7%	3.9%

Due to the chosen sampling and distribution technique, the majority of respondents were students (63.4%) between the ages of 18 and 31 years (90.2%) with a low to medium income per year (96.1%). The majority of respondents were from Germany (52.2%) and from several other countries (30.4%), mainly the Netherlands, the United States, and the United Kingdom. Moreover, the sample included more females (55.5%) than men (44.5%). Overall, it was identified that the groups assigned to the four stimuli were homogeneous, meaning they showed similar characteristics.

4.2 Measure Reliability

All constructs and items that were used in the main survey can be found in the existing literature, meaning that their reliability has been previously tested. Nevertheless, it was important to check the reliability and consistency of the constructs used among this sample. In order to do so, a Cronbach's alpha test was run for all the constructs used per stimulus (Table 3).

All variables were framed positive, meaning that no recoding was needed. The Cronbach's alphas for attitude, brand image, and purchase intention were above 0.8, indicating that the constructs were good and reliable, according to Gliem and Gliem (2003). The construct of WTP ranged from below 0.49 to 0.82, depending on which stimulus was exposed to the participant. Therefore, only one of the two questions ("Above which price would you definitely not buy the product because you can't afford it or because you didn't think it was worth the money?") was considered for further analyses. The constructs of consumers' WTP and brand image were also considered for the hypotheses testing.

Table 3. Cronbach's Alphas of the used Constructs

	Cronbach's Alpha	Number of Items
Stimulus 1		
Attitude	0.925	8
Brand Image	0.953	8
Purchase Intention	0.939	4
WTP	0.493	2
Stimulus 2		
Attitude	0.942	8
Brand Image	0.924	8
Purchase Intention	0.938	4
WTP	0.592	2
Stimulus 3		
Attitude	0.894	8
Brand Image	0.813	8
Purchase Intention	0.910	4
WTP	0.545	2
Stimulus 4		
Attitude	0.947	8
Brand Image	0.905	8
Purchase Intention	0.921	4
WTP	0.817	2

4.3 Manipulation Check

Before the hypotheses were tested, it was necessary to ensure that the manipulation of the stimuli was successful. First, the decision was made to group the variables and compare the good and bad visual packaging design elements (Stimuli 1 & 2 vs. Stimuli 3 & 4), and the good and bad verbal packaging design elements (Stimuli 1 & 3 vs. Stimuli 2 & 4), respectively. The four assumptions of parametric tests were checked to identify the appropriate statistical test. The assumption of normal distribution was met as all stimuli were exposed to above 30 participants and, therefore, the central limit theorem was able to be applied (Field, 2009). Moreover, the independence of observation assumption was met as well. The manipulation questions of this survey were scaled on a 7-point Likert scale, representing ordinal variables. Hence, the assumption of interval data was not met. Furthermore, the Levene's test for the visual elements of the stimuli was significant ($F = 6.64, p < .01$) as well as the Levene's test for the verbal elements ($F = 10.02, p < .01$), leading to the assumption of variance homogeneity not being met. Hence, the Mann-Whitney U test was performed to check whether the manipulation of the stimuli worked.

With regard to the visual elements of packaging design, it can be observed that the stimuli with good visual packaging were better perceived in terms of visual appeal ($M = 5.81, SD = 1.67$) than the stimuli with bad visual packaging elements ($M = 1.92, SD = 1.33$). The Mann-Whitney U test is significant, thereby, identifying the successful manipulation of the stimuli's visual packaging elements ($U = 909.50, z = -11.82, p < .001$). The Mann-Whitney U test for the verbal packaging design elements is also significant ($U = 1852.50, z = -9.94, p < .001$), thus, identifying a statistically significant difference in the appeal between good ($M = 5.29, SD = 2.03$) and bad verbal elements of packaging design ($M = 2.23, SD = 1.57$). Therefore, the manipulation of the verbal packaging design elements can also be considered successful.

4.4 Results from the Hypotheses Testing

Further analyses were conducted to test the hypotheses developed in Chapter 2. As all stimuli had participant numbers above 30, it can be assumed that the sample is fairly normally distributed, according to the central limit theorem (Field, 2009). A significance level of 5% is considered for all the statistical tests conducted.

4.4.1 Hypothesis 1 – The Influence of Packaging Design on Consumers' WTP

H1: Packaging design affects consumers' WTP.

In order to test whether packaging design has an impact on the consumers' WTP, a new variable *Category* was computed representing the particular stimulus to which each participant was exposed (1 = Stimulus 1, 2 = Stimulus 2, 3 = Stimulus 3, 4 = Stimulus 4).

The first hypothesis was tested using the Kruskal-Wallis H test. In order to identify the right statistical method, the four assumptions for conducting a parametric test were checked. It was identified that the assumptions of normal distribution, independence, and interval data were met. The fourth assumption, homogeneity of variances, was not supported according to the significant Levene's test ($F(3, 232) = 7.759, p < .001$), resulting in the use of the non-parametric equivalent of the one-way ANOVA, the Kruskal-Wallis H test.

According to the means of consumers' WTP, it can be observed that the good packaging results in a higher WTP than the bad packaging. The consumers are willing to pay more for Package 1 ($M = 9.02, SD = 3.52$), representing the best packaging with good verbal and visual elements of packaging design, than for Package 4 ($M = 3.84, SD = 2.17$), representing the worst packaging with bad verbal as well as visual elements. For Package 2 ($M = 5.24, SD = 2.03$), a packaging design with good visual and bad verbal elements, and Package 3 ($M = 5.18, SD = 3.34$) with bad visual and good verbal elements, consumers are willing to pay a middle price. The Kruskal-Wallis H test demonstrates a significant difference between the consumers' WTP for the four stimuli ($\chi^2(3) = 82.46, p < .001$), resulting in the assertion that packaging design has an impact on the consumers' WTP and, therefore, this result fully supports Hypothesis 1.

H1.1: Good visual packaging design positively impacts consumers' WTP.

First, a correlation analysis was performed to observe the relationship between the dummy variable *SI_S2* (1 = good visual elements [Stimuli 1 & 2], 0 = bad visual elements [Stimuli 3 & 4]) and the consumers' WTP, and whether the direction of this relation was positive or negative. A Pearson correlation was chosen as this correlation allows for metric variables. The analysis indicated a positive correlation and a correlation coefficient of 0.39 between the two variables ($r = .39, p < .001$). According to Cohen (1988), a correlation coefficient between 0.3 and 0.5 can be interpreted as a moderate effect.

Second, the statistically significant difference between the consumers' WTP for packagings with good visual design and packaging with bad visual design elements was identified by conducting a Mann-Whitney U test. This non-parametric test was chosen as the Levene's test

($F = 20.22, p < .001$) revealed that the parametric test assumption of homogeneity of variances was not met. A difference between the consumers' WTP can be observed by examining the means. The packagings with good visual elements ($M = 7.20, SD = 3.45$) emerges with a higher WTP than packagings with bad visual elements ($M = 4.50, SD = 2.87$). The Mann-Whitney U test supports this statement as the difference between the consumers' WTP for the two analyzed groups is statistically significant ($U = 3141.00, z = -7.29, p < .001$). Hence, Hypothesis 1.1 can be considered to be fully validated by the data.

H1.2: Good verbal packaging design positively impacts consumers' WTP.

In order to test H1.2, a correlation analysis was run. A new dummy variable PI_P3 had to be computed, as the verbal elements of packaging design were being analyzed (1 = good verbal packaging elements [Stimuli 1 & 3], 0 = bad verbal packaging elements [Stimuli 2 & 4]). In order to indicate the relationship between the consumers' WTP and the dummy variable, a Pearson correlation was chosen again. The test revealed a positive relation between the two variables ($r = .384, p < .001$). Considering Cohen's (1988) guidelines for interpreting correlation coefficients, a moderate effect is identified in this case.

As the Levene's test was significant ($F = 56.03, p < .001$) and resulted in the unmet assumption of variance homogeneity, the non-parametric counterpart of an independent sample t-test needed to be considered. A Mann-Whitney U test was run to identify the difference between the consumers' WTP, depending on whether the packaging contained good or bad verbal packaging design elements. Comparing the WTP means of the two groups, it can be observed that consumers are willing to pay more for products with good verbal packaging elements ($M = 7.20, SD = 3.93$) than for bad verbal packaging elements ($M = 4.53, SD = 2.21$). The Mann-Whitney U test is considered to be significant ($U = 4078.5, z = -5.50, p < .001$) and, thereby, strengthens Hypothesis 1.2.

H1.3: Good visual packaging design has a greater impact on consumers' WTP than good verbal packaging design.

An independent sample t-test was performed to test H1.3. The WTP means of Stimuli 2 and 3 were compared as they contained good visual or good verbal packaging design elements, respectively and did not violate the assumption of independence of observation. By examining the means, it can be observed that the packaging with good visual design elements ($M = 5.24, SD = 2.03$) obtains a slightly higher WTP than the packaging with a good design in terms of verbal packaging elements ($M = 5.18, SD = 3.34$). The Levene's test was not significant, which

means that the assumption of variance homogeneity was met ($F = .85, p > .05$). Nevertheless, the performed t-test is not significant ($t(113) = .13, p > .05$), leading to the fact that there is no statistically significant difference in consumers' WTP for the two groups analyzed. This results in Hypothesis 1.3 not being supported by the data and the finding that good visual packaging design does not have a greater impact on consumers' WTP than good verbal packaging design.

4.4.2 Hypothesis 2 – The Influence of Packaging Design on Brand Image

H2: Packaging design impacts brand image.

Hypothesis 2 implies that packaging design does have an impact on brand image. The variable Category computed for Hypothesis 1 and the computed brand image variable *BI*, representing the mean of the perceptions of the stimuli's brand image, were the variables used.

First, the assumptions needed to be checked to ascertain whether parametric tests could be conducted. The assumptions of normal distribution and independence were met. As the variable of brand image was scaled on a 7-point Likert scale, the data were considered ordinal and, therefore, did not meet the assumption of interval data. In order to test the assumption of homogeneity of variances, a Levene's test was carried out. The test presented a significant outcome, and, therefore, this assumption was as well not met ($F(3, 232) = 7.96, p < .001$). Given this information, the hypothesis needed to be checked using a non-parametric Kruskal-Wallis H test. Considering the brand image means, it can be observed that the packaging with good visual and verbal elements ($M = 5.53, SD = 1.16$) is perceived better in terms of its brand image than the packaging with bad packaging design elements ($M = 2.71, SD = 1.10$). The packaging containing good visual but bad verbal elements ($M = 4.20, SD = 1.15$) is rated better in terms of its brand image than the packaging with bad visual and good verbal packaging elements ($M = 3.18, SD = .73$). By means of the conducted Kruskal-Wallis H test, a significant difference between the brand images of the four packages is detected ($\chi^2(3) = 119.76, p < .001$). This supports Hypothesis 2 and affirms that packaging design has an impact on brand image.

H2.1: Good visual elements of packaging design positively influence brand image.

To test whether the good visual elements of packaging have a positive impact on brand image, a correlation analysis was conducted. The Kendall Tau correlation was chosen as the brand image variable is scaled ordinal. The correlation between the dummy P1_P2 and the BI variable represented a positive direction ($r = .54, p < .001$). As the correlation coefficient is above 0.5, a strong effect is present, according to Cohen's (1988) interpretation theory of correlation coefficients.

Considering the means, it can be identified that packages with good visual design ($M = 4.9$, $SD = 1.33$) are rated better in terms of their brand image than packages with bad visual design elements ($M = 2.9$, $SD = .96$). The conducted Levene's test, in order to identify whether the assumption of variance homogeneity was met, was significant ($F = 7.82$, $p < .01$). Therefore, the assumptions to conduct parametric tests were violated and the non-parametric Mann-Whitney U test was run to indicate the statistical difference between the perceived brand image depending on good or bad visual packaging elements, respectively. The result of the Mann-Whitney U test demonstrates a statistically significant difference between the perceived brand image of the two groups analyzed ($U = 1688.0$, $z = -10.06$, $p < .001$), and, consequently, is fully validating Hypothesis 2.1.

H2.2: Good verbal elements of packaging design positively influence brand image.

A Kendall Tau correlation analysis between the dummy P1_P3 and the BI variable was run to identify the relationship between the two variables. A positive correlation with a correlation coefficient of 0.23 was identified ($r = .23$, $p < .001$). As the correlation coefficient lays between 0.1 and 0.3, a small effect can be recognized, according to Cohen (1988).

It can be detected that the brand image of a packaging containing good verbal design elements is perceived better ($M = 4.04$, $SD = 1.53$) than that of a packaging with bad verbal design elements ($M = 3.45$, $SD = 1.35$). All four assumptions of parametric tests were met, which resulted in an independent t-test being performed in order to indicate any statistical difference in perceived brand images between the two groups analyzed. A significant difference between the brand image means is observed ($t(234) = 5.07$, $p < .001$), resulting in the validation of Hypothesis 2.2 and confirming that good verbal elements of packaging design positively influence the perceived brand's image.

H2.3: Good visual elements of packaging design have a stronger impact on brand image than good verbal packaging design elements.

A Mann-Whitney U test was performed to check H2.3. As the Levene's test was significant ($F = 13.94$, $p < .001$), the non-parametric equivalent of the independent sample t-test was chosen. To meet the assumption of independence of observations only Stimuli 2 and 3, representing good visual and good verbal elements of packaging design, respectively, were considered. The packaging that is considered good in terms of its visual packaging design ($M = 4.20$, $SD = 1.15$) received a better brand image rating than the packaging with a good verbal packaging design ($M = 3.18$, $SD = .73$). A statistically significant difference can be observed ($U = 734.00$, $z = -$

5.15, $p < .001$), indicating that good visual packaging design elements have a stronger impact on brand image than the good verbal elements of packaging design, hence, fully supporting Hypothesis 2.3.

4.4.3 Hypothesis 3 – The Influence of Brand Image on Consumers' WTP

H3: Brand image positively impacts consumers' WTP.

A linear regression was run to assess the relationship between brand image and the consumers' WTP and to predict the consumers' WTP based on the brand's image. First, the assumptions of a linear regression were checked. The assumption of a linear relationship between the dependent and independent variable was met, identified by the visual inspection of a scatterplot. The independence of observations was provided by analyzing the Durbin-Watson statistic, which in this case was 1.88. According to Field (2009), a Durbin-Watson value close to 2 identifies the independence of residuals. Furthermore, the assumption of homoscedasticity was met, as assessed by visual inspection of the scatterplot of standardized residuals versus standardized predicted values. The residuals were normally distributed as the histogram and normal probability plot show.

The correlation coefficient between the two variables is 0.59 ($p < .001$), indicating a strong positive relationship (Cohen, 1988). The R^2 value identifies that 35% of the proportion of variance in the dependent variable WTP can be explained by the independent variable brand image. The adjusted R^2 corrects the positive bias of R^2 and presents a value that would be expected in the population. In this case the adjusted R^2 is 0.34 (34%) and, moreover, indicates a strong size effect, according to Cohen (1988). The conducted ANOVA shows that the regression model is significant, identifying a statistically significant linear relationship between the consumers' WTP and brand image ($F(1, 234) = 123.09, p < .001$). The unstandardized regression equation can be defined as:

$$WTP = 0.613 + 1.336 \times \text{Brand Image}$$

This indicates that a rise of one unit in brand image increases the consumers' WTP by 1.34 Euros ($\beta = 1.34, t(234) = 11.10, p < .001$).

4.4.4 Hypothesis 4 – The Mediator Effect of Brand Image

H4: Brand image mediates the relationship between packaging design and consumers' WTP.

In order to test the mediation effect that brand image potentially has on the relationship between packaging design and consumers' WTP, three mediation analyses using Hayes' PROCESS analysis tool were performed. The first analyses were conducted with PROCESS Model 4 to focus on either the visual or the verbal packaging design elements, respectively. Afterward, the third mediation analysis was run in order to analyze the conceptual model, considering both visual and verbal packaging design elements.

The first mediation analysis (see Appendix 5) was conducted in order to identify whether the relationship between visual packaging elements and consumers' WTP is mediated by the perceived brand image (Figure 4, Table 4). The variables used were the consumers' WTP as the dependent variable (Y); the dummy coded variable S1_S2, representing the visual elements of packaging design (1 = good visual elements of packaging design, 0 = bad visual elements of packaging design) as the independent variable (X); and brand image as the moderator variable (M). A significant *total effect c* of visual packaging elements on the consumers' WTP is observed ($B = 2.7001, p < .001$). After adding the mediator variable to the model, it can be identified that visual elements significantly predict the mediator brand image (*path a*: $B = 1.9478, p < .001$), which, in turn, operates as a statistically significant predictor of consumers' WTP (*path b*: $B = 1.3012, p < .001$). Therefore, a significant indirect effect of the visual packaging design elements on the consumers' WTP is present. The bootstrapping confidence interval did not straddle zero, indicating significance ($B = a*b = 2.5345$). As *c'* is not significant, it can be assumed that the relationship between visual elements of packaging design and the customers' WTP is fully mediated by brand image ($B = .1656, p > .05$).

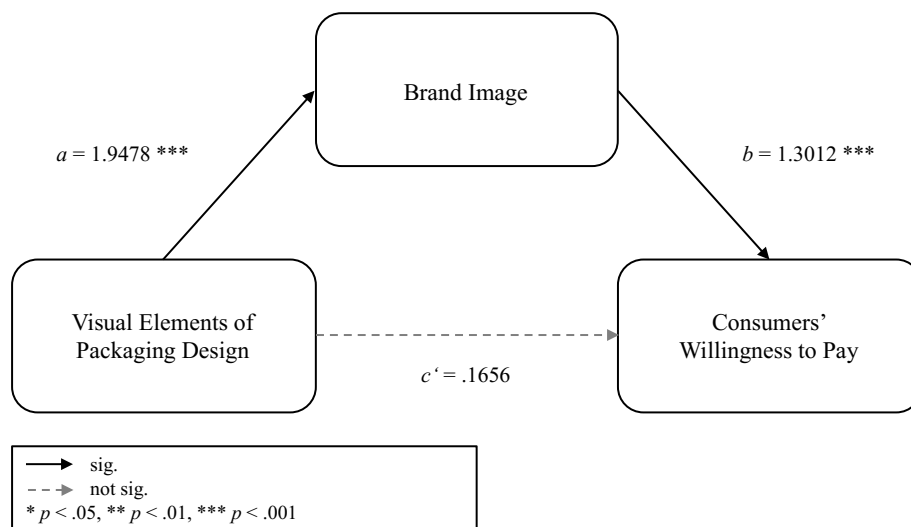


Figure 4. Statistical Model for Mediator Analysis 1

Table 4. Statistics for Mediator Analysis 1

Path		B	SE	t-value	95% CI	
a	Direct effect of visual PDE on BI	1.9478	.1514	12.8671***	1.6495	2.2460
b	Direct effect of BI on WTP	1.3012	.1577	8.2510***	.9905	1.6120
c'	Direct effect of visual PDE on WTP	.1656	.4772	.3471	-.7745	1.1058
c	Total effect of visual PDE on WTP = ab+c'	2.7001	.4142	6.5184***	1.8840	3.5163
ab	Indirect effect of visual PDE on WTP through BI	2.5345	.3788	-	1.8382	3.3086

* $p < .05$, ** $p < .01$, *** $p < .001$

The second mediation analysis that was run (see Appendix 6) indicates the mediation of brand image on the relationship between verbal packaging design elements and the consumers' WTP (Figure 5, Table 5). The dummy variable used as the independent variable represents the verbal elements of packaging design (1 = good verbal elements, 0 = bad verbal elements of packaging design). A statistically significant total effect c of verbal packaging elements on the consumers' WTP can be observed ($B = 2.6465, p < .001$). Moreover, a significant indirect effect is identified as the bootstrapping confidence interval did not pass zero ($B = 1.1219$). This indirect effect is composed of the sum of the significant $path a$ ($B = .9525, p < .001$) and b ($B = 1.1778, p < .001$), representing the prediction of verbal packaging design elements on brand image, which then predicts the consumers' WTP. As the direct effect c' ($B = 1.5246, p < .001$) can be considered to be significant, a partial mediation of brand image is noted in this model.

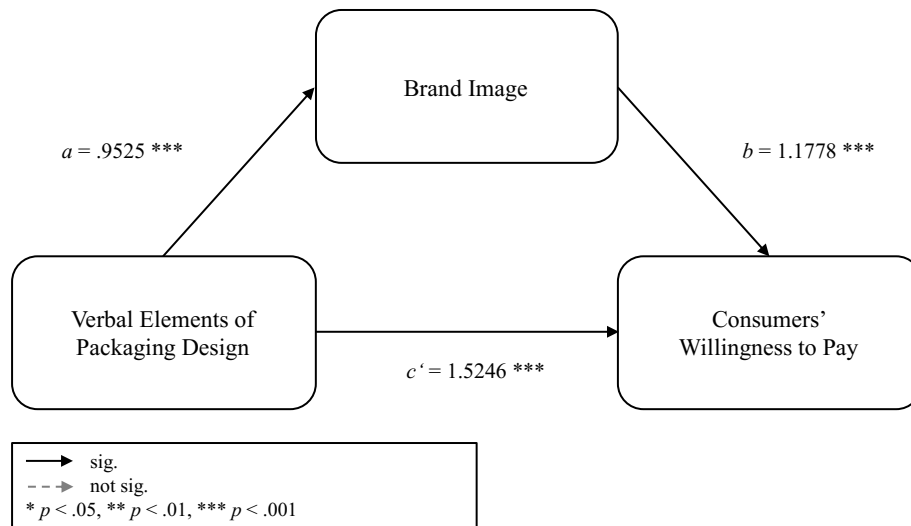


Figure 5. Statistical Model for Mediator Analysis 2

Table 5. Statistics for Mediator Analysis 2

Path		B	SE	t-value	95% CI	
a	Direct effect of verbal PDE on BI	.9525	.1877	5.0737***	.5826	1.3223
b	Direct effect of BI on WTP	1.1778	.1228	9.5893***	.9358	1.4198
c'	Direct effect of verbal PDE on WTP	1.5246	.3716	4.1026***	.7924	2.2568
c	Total effect of verbal PDE on WTP = ab+c'	2.6465	.4157	6.3669***	1.8276	3.4654
ab	Indirect effect of verbal PDE on WTP through BI	1.1219	.2501	-	.6545	1.6352

* $p < .05$, ** $p < .01$, *** $p < .001$

The third analysis (see Appendix 7) was run to indicate the mediation effect of brand image on the relationship of packaging design and consumers' WTP focusing on both elements of packaging design (Figure 6, Table 6). In order to include the elements of packaging design and their specification of elements being good or bad, respectively, stimuli 2 and 3 were considered as the independent variable X. The dummy coded variable coded 1 for Stimulus 2 (visual good, verbal bad) and 0 for Stimulus 3 (visual bad, verbal good). The analysis observed that packaging design has a statistically significant effect on brand image (*path a*: $B = 1.0249$, $p < .001$). Brand image can be considered as a predictor of consumers' WTP, as the direct effect is significant (*path b*: $B = .5664$, $p < .05$). Hence, an indirect effect of packaging design on consumers' WTP through brand image can be identified ($B = .5805$). Moreover, the effect can be considered significant as the bootstrapping confidence interval did not straddle zero. As the direct effect c' indicates a non-significant effect, a fully mediation of brand image on the relationship between packaging design and consumers' WTP can be assumed.

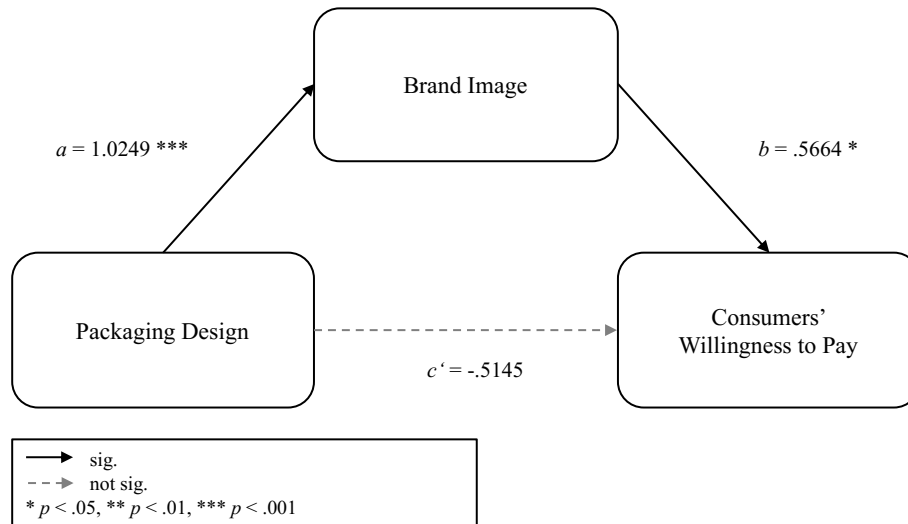


Figure 6. Statistical Model for Mediator Analysis 3

Table 6. Statistics for Mediator Analysis 3

Path	B	SE	t-value	95% CI
a Direct effect of PD on BI	1.0249	.1805	5.6791***	.6674 1.3825
b Direct effect of BI on WTP	.5664	.2636	2.1482*	.0440 1.0887
c' Direct effect of PD on WTP	-.5145	.5734	-.8973	-1.6507 .6217
c Total effect of PD on WTP = ab+c'	.0659	.5138	.1283	-.9520 1.0839
ab Indirect effect of PD on WTP through BI	.5805	.2842	-	.0879 1.1871

* $p < .05$, ** $p < .01$, *** $p < .001$

After analyzing the three mediation models by means of Hayes' PROCESS tool, it can be observed that the relationship between packaging design in general as well as when its elements are considered individually, and consumers' WTP is mediated by brand image, both fully and partially. Hence, hypothesis 4 can be considered as validated.

4.4.5 Further Analysis

Stevens and Shanahan (2017) state that women choose products that represent their desired identities. Riaz, Wasif, Nisar, Farwa and Rashid (2015) explain that women are influenced by design and prefer the purchase of products with an attractive packaging design. Therefore, a moderation analysis was conducted to identify whether gender moderates the relationship of packaging design and the consumers' WTP and whether women in this sample are willing to pay more for attractive packaging design than the men. A moderation analysis using Hayes' PROCESS model 1 was run. The independent variable *SIS4* represented the control group (Stimulus 1 with a good visual and verbal packaging design and Stimulus 4 with a bad visual and verbal packaging design). The model can be considered to be significant and explains 46.32% of the variance in the consumers' WTP ($R^2 = .4632$, $p < .001$). Nevertheless, the interaction between packaging design and gender is not significant, which indicates that gender does not moderate the relationship between the packaging design and the consumers' WTP ($B = -1.9837$, $p > .05$).

In addition, an independent sample's t-test was performed to test the WTP difference for an attractive packaging design between women and men. All assumptions for conducting a parametric test were met. Even though the t-test indicates no significant difference between the means ($t(60) = 1.80$, $p > .05$), a slight difference can be observed when taking the means into account. Women are willing to pay more for the product with the good packaging design ($M = 9.72$, $SD = 3.73$) than men ($M = 8.13$, $SD = 3.07$). The difference in consumers' WTP regarding the unattractive packaging design is also tested. Men are willing to pay more for the unattractive packaging design ($M = 4.05$, $SD = 2.38$) than woman ($M = 3.66$, $SD = 2.00$). Nevertheless, the difference between the two genders cannot be considered significant ($t(57) = -.69$, $p > .05$).

CHAPTER 5: CONCLUSIONS AND LIMITATIONS

This chapter summarizes the main findings of the conducted study, draws conclusions based on the secondary and primary data and answers the developed research questions. Moreover, managerial and academic implications are provided. Finally, limitations of the study are indicated and recommendations for further research are presented.

5.1 Main Findings and Conclusions

RQ1: What effect does packaging design have on consumers' WTP?

The first research question is aiming to identify the effect packaging design has on consumers' WTP and whether consumers value attractive packaging more than an unattractive packaging design. The relationship between packaging design and the consumers' WTP is positive, which indicates the positive effect packaging design has. The collected data shows that consumers exposed to attractive packaging are willing to pay more than participants assigned to the unattractive packaging design. The consumers' WTP was almost 2.5 times higher for the appealing packaging design than for the unappealing one. Marketers should use this result as food for thought as it suggests that investing in packaging design might lead to higher margins.

RQ2: What effect does packaging design have on brand image?

The second research question focuses on the effect that packaging design has on brand image. The data analysis identifies that attractive packaging is positively influencing the perception consumers have of a brand's image. With regard to the mediation effect that brand image has on the relationship between packaging design and consumers' WTP, it can be identified that a full mediation is present when visual elements were the focus. Brand image operates as a partial mediator when the verbal elements of packaging design were considered. The analysis of the conceptual model, which considered both visual and verbal elements of packaging design, identified a full mediation. Therefore, it can be assumed that brand image either fully or partially mediates the relationship between packaging design and consumers' WTP.

Brands must be aware that packaging functions as a communication tool between the brand and the consumer, hence, the packaging may convey messages that brands do not intend. This is particularly the case when the same packaging is used in different countries and cultures since elements of packaging design, such as colors, images or even brand names, may be interpreted negatively in different locations.

RQ3: Do visual elements of packaging design have a stronger impact on the consumer than verbal elements of packaging design?

The third and final research question aims to demonstrate whether visual elements have a stronger impact on the consumer than verbal elements. First, it can be stated that considerable research has been conducted with regard to the visual elements of packaging design, which highlights the importance of this element (e.g., Cavallo & Piqueras-Fiszman, 2017; Wang, 2013). Studies have shown that the majority of consumers decide whether to purchase merely by visually examining a product (e.g. Clement, 2007). Therefore, the assumption was made that visual design elements might have a stronger impact on the consumer than verbal ones. This was emphasized by the results of the stimuli survey in which the visual elements of packaging design were perceived to be more important than the verbal elements. Visual elements such as color, images and size are considered to be particularly important attributes of the packaging when purchasing personal care products.

Nevertheless, no significant difference between the consumers' WTP for packages with good visual or good verbal elements of packaging design, respectively, can be detected, which indicates that both elements have the same level of relevance in packaging design. Consumers are willing to pay a slightly higher amount of 0.06 Euros more for the packaging containing good visual packaging design elements. In terms of brand image, visual elements have a significant and stronger impact on the consumers' perceived brand image. The packaging containing good visual elements is perceived as more than one unit better than the packaging with good verbal packaging design elements.

Overall, both elements are evidently important and only the presence of good visual and verbal elements makes a package appealing and attractive to the consumer. The interaction of the two elements is crucial for effective packaging.

5.2 Managerial Implications

Within this thesis, the importance of packaging design is emphasized and should be considered to be an additional marketing tool in brands' marketing strategies. Marketers of existing brands and companies that seek to expand their product lines or to enhance their brand image as well as those who are planning to start a business in the personal care industry should take the results of this study into consideration. It is crucial to accept that tastes and perceptions differ among consumers and may also differ from one's own perception of what is appealing. For this reason, the target customers need to be clearly identified and the packaging needs to be designed to

attract those customers and meet their expectations of what constitutes attractive packaging. Nevertheless, marketers cannot simply rely on packaging. The packaging design is used to attract the consumers' attention but to satisfy customers and create loyalty towards the product and the brand, the product itself needs to meet the consumers' desires and needs.

Brands launching new products should focus on their packaging design by meeting the target consumers' expectations of attractive packaging to fully obtain their attention. This is necessary because new products are competing with all other products already on the shelves. In order to further attract the consumer, promotions inside and outside the stores can be used to make the product even more recognizable among all other competitive alternatives.

However, one of the most important recommendations for brands is to define and follow a brand corporate identity strategy in order to communicate the same message across all promotional activities across all products in a product line.

5.3 Academic Implications

Research on packaging design has primarily been conducted in the food and tobacco industries (Germain et al., 2010; Rundh, 2016; Wakefield et al., 2008) and mostly focused on the visual elements of packaging design (e.g., Cavallo & Piqueras-Fiszman, 2017; Clement, 2007; Wang, 2013). Analyzing the visual and verbal elements of packaging design in the personal care industry, especially in the hand wash category, has not yet been studied and, therefore, this study fills the research gap and provides new insights into the importance of packaging design for consumers.

Moreover, most researchers have specialized on the relationship between packaging design and the consumers' purchase intentions or their buying behaviors (e.g., Olawepo & Ibojo, 2015; Zekiri & Hasani, 2015), but little attention has been paid to the relationship between packaging design and consumers' WTP. In addition, including brand image as a mediator sheds a new light on the interaction of packaging design, consumers' WTP, and perceived brand image.

5.4 Limitations and Further Research

Several limitations need to be considered regarding the analysis and results within this thesis, even though new insights are revealed. The limitations occurred because time and money were limited.

Due to the used non-probability sample technique that was used, the sample cannot be considered to be representative. In addition, the even randomization of stimuli assessed to the

respondents further reduced the already small sample number. It is suggested that the study be repeated with a larger number of respondents to achieve a representative sample and, furthermore, to obtain more reliable results.

A further limitation might be the collection of the consumers' hypothetical WTP. In such cases, consumers do not have any financial commitment to purchase when stating their WTP. Researchers studied the phenomenon of hypothetical WTP and discovered that the hypothetical WTP is significantly higher than consumers' real WTP (Neill et al., 1994; Wertenbroch & Skiera, 2002). In order to indicate the consumers' real WTP, positioning real products on the shelves of grocery stores and drugstores is recommended. Different prices could be advertised in different time periods in order to indicate what consumers really are willing to pay. Not purchasing the product would demonstrate that the consumers' WTP is lower than the advertised price and that prices need to be adapted.

Another limitation that occurred was the different perceptions of attractive and appealing packaging designs among consumers. The perception of what is appealing, and personal design tastes vary among consumers, especially among consumers from different cultures. Moreover, "good" and "bad" were the two adjectives used in this study concerning the packaging design elements that can also be perceived differently among consumers. Consequently, it is suggested that the product's target customers should be identified, and the packaging designed according to their preferences and expectations in order to attract them.

A limitation that occurred in the last months of the study was COVID-19. Collecting data within a pandemic provides biased results. During the peak of the pandemic, hand wash was perceived as one of the most crucial and essential products to prevent an infection, next to masks, gloves and hand sanitizer. Moreover, there was a shortage of these products, leading to the assumption that no focus was placed on the package's design but rather on the ingredients and benefits of the product. As this study focuses on the hand wash category, the respondents may have been influenced by certain verbal elements such as a product information that described a product as "antibacterial."

In addition, the environment in which the purchase is made, and the consumers' feelings might influence the perceived brand image and WTP. Hence, these two variables could be added to the conceptual model for further research.

Packaging design as a general study subject contains considerable space for further research. In this regard, gender-targeted packaging design is a controversial subject that has gained attention

in recent years. Conducting a study focusing on either female- or male-targeted products in the personal care product category might provide interesting insights into the targeted consumers' minds in terms of brand image and WTP. Another further research approach might be to identify the relationship between packaging design and customer satisfaction and loyalty. In this case, a field study could be run in order to test consumer satisfaction with the product and its packaging and the degree of loyalty after a certain amount of usage.

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APPENDICES

Appendix 1 - Stimuli Survey Questionnaire

Dear participant,

First of all, I want to thank you for participating in my survey. This survey helps me to gather relevant data for my master thesis.

Your answers will be anonymous and will be used for academic research purposes only. Please note that there are no right or wrong answers.

If you have any questions, feel free to contact me: sophievarnbueler@gmail.com.

Thank you again for participating,
Sophie

Block: Usage and Shopping Frequency

Q2 How many sinks does the household you are living in have? (incl. all bathrooms and kitchen)

- ☐ One sink (1)
- ☐ Two sinks (2)
- ☐ Three sinks (3)
- ☐ Four sinks (4)
- ☐ More than four sinks (5)

Q3 How often do you usually use hand wash at home on a daily basis?

- ☐ 1 - 2 times (1)
- ☐ 3 - 4 times (2)
- ☐ 5 times (3)
- ☐ More than 5 times (4)
- ☐ I don't wash my hands at home. (5)

Q4 How often do you usually buy hand wash in a year?

- ☐ Once a month (1)
 - ☐ Once every three month (2)
 - ☐ Once every six month (3)
 - ☐ Once a year (4)
 - ☐ I don't buy hand wash. (5)
-

Block: Packaging – Three packages are randomly assigned to each participant



Packaging 1



Packaging 2



Packaging 3



Packaging 4



Packaging 5



Packaging 6



Packaging 7



Packaging 8



Packaging 9



Packaging 10



Packaging 11



Packaging 12

Q15 Please indicate your level of agreement on the following statements regarding the presented product.

	I strongly disagree (1)	I disagree (2)	No opinion (3)	I agree (4)	I strongly agree (5)
Color in packaging attracts my attention.	☐	☐	☐	☐	☐
Color in packaging is easy to remember.	☐	☐	☐	☐	☐
The shape of packaging draws my attention.	☐	☐	☐	☐	☐
The shape of packaging is comfortable to use.	☐	☐	☐	☐	☐
The size of packaging meets my needs.	☐	☐	☐	☐	☐
The size of packaging encourages me to buy it.	☐	☐	☐	☐	☐
Images on packaging make it recognizable.	☐	☐	☐	☐	☐
Font on packaging attracts my attention.	☐	☐	☐	☐	☐

Q12 Please indicate your level of agreement on the following statements regarding the presented product.

	I strongly disagree (1)	I disagree (2)	No opinion (3)	I agree (4)	I strongly agree (5)
Brand name on packaging draws my attention.	☐	☐	☐	☐	☐
Brand name on packaging is unique compared to other brands.	☐	☐	☐	☐	☐
Brand name on packaging is easy to remember.	☐	☐	☐	☐	☐
Product information on packaging is described clearly.	☐	☐	☐	☐	☐
Product information on packaging affects trust for the product.	☐	☐	☐	☐	☐
Storage information on packaging is easy to follow.	☐	☐	☐	☐	☐
I react more favorably to product packaging imprinted in my language.	☐	☐	☐	☐	☐
Product information on packaging (such as: name of the firm, address, production and expiry date) is described clearly.	☐	☐	☐	☐	☐

Block: Packaging and Association

Q11 What do you associate with a well packaged product? Name at least two associations.

Block: Ranking of Packaging Elements

Q12 Please rank the following packaging attributes according to your personal importance when buying personal care products. (Drag & Drop)

- _____ Color (1)
- _____ Graphics and images (2)
- _____ Language (3)
- _____ Brand (4)
- _____ Product information (5)
- _____ Size (6)
- _____ Shape (7)

Block: Demographics

Q13 What is your gender?

- ☐ Female (1)
- ☐ Male (2)
- ☐ Other (3)
- ☐ I don't want to answer. (4)

Q14 How old are you?

- ☐ under 18 years (1)
- ☐ 18 - 24 years old (2)
- ☐ 25 - 31 years old (3)
- ☐ 32 - 38 years old (4)
- ☐ 39 - 45 years old (5)
- ☐ 46 - 52 years old (6)
- ☐ 53 - 59 years old (7)
- ☐ 60 years old or older (8)

Appendix 2 - Analysis Stimuli Survey

Demographics

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	33	37,9	39,8	39,8
	Female	49	56,3	59,0	98,8
	I don't want to answer	1	1,1	1,2	100,0
	Total (valid)	83	95,4	100,0	
	Missing	4	4,6		
	Total	87	100,0		
Age	under 18 years	1	1,1	1,2	1,2
	18 - 24 years old	33	37,9	39,8	41,0
	25 - 31 years old	37	42,5	44,6	85,5
	32 - 38 years old	10	11,5	12,0	97,6
	53 - 59 years old	1	1,1	1,2	98,8
	60 years and older	1	1,1	1,2	100,0
	Total (valid)	83	95,4	100,0	
	Missing	4	4,6		
	Total	87	100,0		

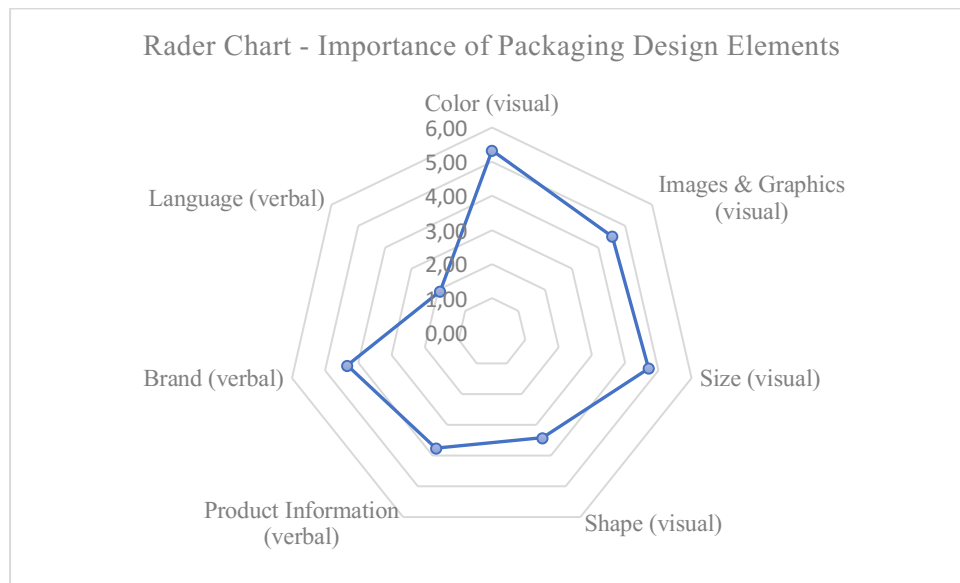
Number of Sinks in the Household & Purchase Frequency and Usage

	N	Mean	Std. Deviation	Varianz
Numer of Sinks	87	3,25	1,13	1,28
Purchase Frequency	87	2,06	0,89	0,80
Usage	87	2,97	0,97	0,94

		Frequency	Percent	Cumulative Percent
Number of Sinks	Two sinks	28	32,2	32,2
	Three sinks	28	32,2	64,4
	Four sinks	12	13,8	78,2
	More than four sinks	19	21,8	100,0
	Total	87	100,0	
Purchase Frequency	Once a month	22	25,3	25,3
	Once every three month	45	51,7	77,0
	Once every six month	16	18,4	95,4
	Once a year	1	1,1	96,6
	I don't buy hand wash	3	3,4	100,0
	Total	87	100,0	
Usage	1 - 2 times	3	3,4	3,4
	3 - 4 times	33	37,9	41,4
	5 times	15	17,2	58,6
	More than 5 times	36	41,4	100,0
	Total	87	100,0	

Importance of Packaging Design Elements

	N	Mean	Std. Deviation	Variance	Minimum	Maximum
Color (visual)	83	5,33	1,35	1,83	2	7
Images & Graphics (visual)	83	4,51	1,42	2,03	1	7
Size (visual)	83	4,71	1,29	1,67	1	6
Shape (visual)	83	3,42	1,90	3,62	1	7
Product Information (verbal)	83	3,76	2,12	4,50	1	7
Brand (verbal)	83	4,34	2,00	4,01	1	7
Language (verbal)	83	1,94	1,82	3,32	1	7



Appendix 3 - Stimuli Determination

	N	Mean visual	Std. Deviation	Mean verbal	Std. Deviation	Mean total	Std. Deviation
Packaging 1	21	3,2	0,62	3,0	0,57	3,09	0,56
Packaging 2	22	2,2	0,80	2,3	0,61	2,26	0,65
Packaging 3	20	4,1	0,68	3,4	0,59	3,79	0,57
Packaging 4	22	2,4	0,88	2,5	0,85	2,46	0,77
Packaging 5	22	4,1	0,67	3,4	0,76	3,73	0,64
Packaging 6	23	3,1	0,74	3,0	0,74	3,08	0,68
Packaging 7	20	2,9	0,70	2,8	0,73	2,84	0,66
Packaging 8	20	4,0	0,65	3,8	0,57	3,88	0,55
Packaging 9	22	4,2	0,62	3,5	0,77	3,85	0,67
Packaging 10	23	4,1	0,73	3,6	0,74	3,84	0,6
Packaging 11	20	4,0	0,84	3,7	0,99	3,86	0,87
Packaging 12	19	2,9	0,72	3,0	0,52	2,96	0,55

■ used for Stimuli 1
■ used for Stimuli 2
■ used for Stimuli 3
■ used for Stimuli 4

Appendix 4 - Online Survey Questionnaire

Dear participant,

First of all, I want to thank you for participating in my survey. This survey helps me to gather relevant data for my master thesis in the area of consumer-packaged goods.

Your answers will be anonymous and will be used for academic research purposes only. Please note that there are no right or wrong answers. The survey approximately takes 5 minutes.

If you have any questions, feel free to contact me: sophievarnbueler@gmail.com.

Thank you again for participating,

Sophie

Block: Control Questions

Q8 Do you purchase personal care products such as shampoo, body wash or deodorants regularly?

- ☐ Yes (1)
- ☐ No (2)

Q9 Did you purchase hand wash in the last twelve months?

- ☐ Yes (1)
- ☐ No (2)

Block: Usage and Shopping Frequency

Q3 How many sinks does the household you are living in have? (incl. all bathrooms and kitchen)

- ☐ One sink (1)
- ☐ Two sinks (2)
- ☐ Three sinks (3)
- ☐ Four sinks (4)
- ☐ More than four sinks (5)

Q5 How often do you usually use hand wash at home on a daily basis?

- ☐ 1 - 2 times (1)
- ☐ 3 - 4 times (2)
- ☐ 5 times (3)
- ☐ More than 5 times (4)
- ☐ I don't wash my hands at home. (5)

Q7 How often do you usually buy hand wash in a year?

- ☐ Once a month (1)
- ☐ Once every three months (2)
- ☐ Once every six months (3)
- ☐ Once a year (4)
- ☐ I don't buy hand wash. (5)

Block: Stimuli & attitude towards the product



Stimulus 1



Stimulus 2



Stimulus 3



Stimulus 4

Q12/Q18/Q15/Q21 Please indicate your level of agreement on the following statements regarding the presented product.

	I strongly disagree (1)	I disagree (2)	I somewhat disagree (3)	No opinion (4)	I somewhat agree (5)	I agree (6)	I strongly agree (7)
This is a superior product.	☐	☐	☐	☐	☐	☐	☐
This is an eye-catching product.	☐	☐	☐	☐	☐	☐	☐
This is a high-quality product.	☐	☐	☐	☐	☐	☐	☐
This package of hand wash is one that I would enjoy.	☐	☐	☐	☐	☐	☐	☐
This package of hand wash would make me want to use it.	☐	☐	☐	☐	☐	☐	☐
This package of hand wash is one that I would feel relaxed about using.	☐	☐	☐	☐	☐	☐	☐
This package of hand wash would make me feel good.	☐	☐	☐	☐	☐	☐	☐
This package of hand wash would give me pleasure.	☐	☐	☐	☐	☐	☐	☐

Q13/Q19/Q16/Q22 Please drag the bar to indicate your level of rating.

	Bad	Good
What is your overall evaluation of this product?		

Block: Brand Image

Q14 Please think of the previously presented product and indicate your level of agreement on the following statements.

	I strongly disagree (1)	I disagree (2)	I somewhat disagree (3)	No opinion (4)	I somewhat agree (5)	I agree (6)	I strongly agree (7)
The product's brand is nice.	☐	☐	☐	☐	☐	☐	☐
The product's brand has a personality that distinguishes itself from competitors.	☐	☐	☐	☐	☐	☐	☐
The product's brand does not disappoint its customers.	☐	☐	☐	☐	☐	☐	☐
The product's brand is one of the best brands in the sector.	☐	☐	☐	☐	☐	☐	☐
The product's brand is very consolidated in the market.	☐	☐	☐	☐	☐	☐	☐
There is a reason to buy this brand instead of others.	☐	☐	☐	☐	☐	☐	☐
This brand is interesting.	☐	☐	☐	☐	☐	☐	☐
Please choose "I strongly agree".	☐	☐	☐	☐	☐	☐	☐
I have a clear impression of the type of people who consume this brand.	☐	☐	☐	☐	☐	☐	☐

Block: Purchase Intention & WTP

Q37 Please indicate your level of agreement on the following statements.

	I strongly disagree (1)	I disagree (2)	I somewhat disagree (3)	No opinion (4)	I somewhat agree (5)	I agree (6)	I strongly agree (7)
I would consider purchasing this product.	☐	☐	☐	☐	☐	☐	☐
I am interested in testing this product.	☐	☐	☐	☐	☐	☐	☐
I intend to try this product.	☐	☐	☐	☐	☐	☐	☐
I plan on buying this product.	☐	☐	☐	☐	☐	☐	☐

Q38 Above which price would you definitely not buy the product, because you can't afford it or because you didn't think it was worth the money?

Euros

0 5 10 15 20 25 30

Please indicate.	
------------------	--

Q39 Below which price would you say you would not buy the product because you would start to suspect the quality?

Euros

0 1 2 3 4 5 6 7 8 9 10

Please indicate.	
------------------	--

Block: Manipulation Check Stimulus 1 – 4



Q13/Q25/Q27/Q29 Please indicate your level of agreement. (1 = I strongly disagree to 7 = I strongly agree)

1 2 3 4 5 6 7

The product is visually appealing to me.	
The product is verbally appealing to me.	

Block: Demographics

Q32 What is your gender?

- ☐ Female (1)
- ☐ Male (2)
- ☐ Other (3)
- ☐ I don't want to answer. (4)

Q34 How old are you?

- ☐ under 18 years (1)
- ☐ 18 - 24 years old (2)
- ☐ 25 - 31 years old (3)
- ☐ 32 - 38 years old (4)
- ☐ 39 - 45 years old (5)
- ☐ 46 - 52 years old (6)
- ☐ 53 - 59 years old (7)
- ☐ 60 years old or older (8)

Q33 What is your nationality?

- ☐ Portuguese (1)
- ☐ German (2)
- ☐ Italian (3)
- ☐ French (4)
- ☐ Other. Please indicate (5) _____

Q34 What is your occupation?

- ☐ Student (1)
- ☐ Employed (2)
- ☐ Unemployed (3)
- ☐ Retired (4)
- ☐ Other (5)

Q35 What is your marital status?

- ☐ Single (1)
- ☐ In a relationship (2)
- ☐ Married (3)
- ☐ Divorced (4)
- ☐ Widowed (6)

Q36 Only for statistical purposes, what is your approximate net income per year?

- ☐ Less than 10.000 Euros (1)
- ☐ 10.001 - 40.000 Euros (2)
- ☐ 40.001 - 70.000 Euros (3)
- ☐ 70.001 - 100.000 Euros (4)
- ☐ Above 100.000 Euros (5)

Block: 15 Euro Amazon Voucher

Q40 If you are interested in winning a 15 Euro Amazon voucher, insert your email address below. In case you do not want to participate leave the space empty and click the button to complete the survey.

Appendix 5 - Output Hayes' PROCESS H4 - Visual Elements of Packaging Design

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

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

Model : 4
Y : WTP_high
X : S1_S2
M : BI

Sample
Size: 236

OUTCOME VARIABLE:
BI

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.6437	.4144	1.3516	165.5628	1.0000	234.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	2.9418	.1079	27.2536	.0000	2.7291	3.1545
S1_S2	1.9478	.1514	12.8671	.0000	1.6495	2.2460

Standardized coefficients
coeff
S1_S2 1.2849

OUTCOME VARIABLE:
WTP_high

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.5874	.3450	7.8661	61.3736	2.0000	233.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	.6677	.5320	1.2550	.2107	-.3805	1.7159
S1_S2	.1656	.4772	.3471	.7288	-.7745	1.1058
BI	1.3012	.1577	8.2510	.0000	.9905	1.6120

Standardized coefficients
coeff
S1_S2 .0480
BI .5716

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

OUTCOME VARIABLE:
WTP_high

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.3920	.1537	10.1210	42.4891	1.0000	234.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	4.4957	.2954	15.2200	.0000	3.9137	5.0776
S1_S2	2.7001	.4142	6.5184	.0000	1.8840	3.5163

Standardized coefficients

```

      coeff
S1_S2  .7825

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

Total effect of X on Y
      Effect      se      t      p      LLCI      ULCI      c_ps
      2.7001      .4142      6.5184      .0000      1.8840      3.5163      .7825

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI      c'_ps
      .1656      .4772      .3471      .7288      -.7745      1.1058      .0480

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
BI      2.5345      .3703      1.8381      3.3196

Partially standardized indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
BI      .7345      .1052      .5411      .9598

***** 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: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

----- END MATRIX -----

```

Appendix 6 - Output Hayes' PROCESS H4 - Verbal Elements of Packaging Design

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

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

Model : 4
Y : WTP_high
X : S1_S3
M : BI

Sample
Size: 236

OUTCOME VARIABLE:
BI

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.3148	.0991	2.0791	25.7429	1.0000	234.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	3.4519	.1333	25.8948	.0000	3.1893	3.7146
S1_S3	.9525	.1877	5.0737	.0000	.5826	1.3223

Standardized coefficients
coeff
S1_S3 .6283

OUTCOME VARIABLE:
WTP_high

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.6236	.3888	7.3400	74.1242	2.0000	233.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	.4684	.4924	.9512	.3425	-.5018	1.4386
S1_S3	1.5246	.3716	4.1026	.0001	.7924	2.2568
BI	1.1778	.1228	9.5893	.0000	.9358	1.4198

Standardized coefficients
coeff
S1_S3 .4418
BI .5174

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

OUTCOME VARIABLE:
WTP_high

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.3843	.1477	10.1929	40.5378	1.0000	234.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	4.5342	.2952	15.3618	.0000	3.9527	5.1157
S1_S3	2.6465	.4157	6.3669	.0000	1.8276	3.4654

Standardized coefficients

coeff
s1_s3 .7669

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

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps
2.6465	.4157	6.3669	.0000	1.8276	3.4654	.7669

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps
1.5246	.3716	4.1026	.0001	.7924	2.2568	.4418

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
BI	1.1219	.2501	.6545	1.6352

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

	Effect	BootSE	BootLLCI	BootULCI
BI	.3251	.0732	.1922	.4766

***** 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: Standardized coefficients for dichotomous or multicategorical X are in partially standardized form.

----- END MATRIX -----

Appendix 7 - Output Hayes' PROCESS H4 - Packaging Design

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

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

Model : 4
Y : WTP_high
X : S2S3
M : BI

Sample
Size: 115

OUTCOME VARIABLE:

BI

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4712	.2220	.9363	32.2523	1.0000	113.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.1798	.1282	24.8102	.0000	2.9259	3.4337
S2S3	1.0249	.1805	5.6791	.0000	.6674	1.3825

Standardized coefficients

	coeff
S2S3	.9384

OUTCOME VARIABLE:

WTP_high

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1993	.0397	7.3544	2.3158	2.0000	112.0000	.1034

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.3745	.9121	3.6999	.0003	1.5674	5.1816
S2S3	-.5145	.5734	-.8973	.3715	-1.6507	.6217
BI	.5664	.2636	2.1482	.0339	.0440	1.0887

Standardized coefficients

	coeff
S2S3	-.1876
BI	.2255

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

OUTCOME VARIABLE:

WTP_high

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0121	.0001	7.5896	.0165	1.0000	113.0000	.8981

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.1754	.3649	14.1832	.0000	4.4525	5.8984
S2S3	.0659	.5138	.1283	.8981	-.9520	1.0839

Standardized coefficients

	coeff
S2S3	.0240

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

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps
.0659	.5138	.1283	.8981	-.9520	1.0839	.0240

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps
-.5145	.5734	-.8973	.3715	-1.6507	.6217	-.1876

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
BI	.5805	.2842	.0879	1.1871

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

	Effect	BootSE	BootLLCI	BootULCI
BI	.2116	.1120	.0319	.4669

***** 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: Standardized coefficients for dichotomous or multicategorical X are in partially standardized form.

----- END MATRIX -----

Appendix 8 - Output Hayes' PROCESS - Moderation

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

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

Model : 1
Y : WTP_high
X : S1_S4
W : Gender

Sample
Size: 121

OUTCOME VARIABLE:
WTP_high

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6806	.4632	8.4551	33.6547	3.0000	117.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.2669	1.1705	2.7911	.0061	.9488	5.5850
S1_S4	8.0415	1.6277	4.9403	.0000	4.8178	11.2651
Gender	.3925	.7599	.5165	.6065	-1.1124	1.8973
Int_1	-1.9837	1.0640	-1.8644	.0648	-4.0909	.1235

Product terms key:

Int_1 : S1_S4 x Gender

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0159	3.4759	1.0000	117.0000	.0648

Focal predict: S1_S4 (X)
Mod var: Gender (W)

Conditional effects of the focal predictor at values of the moderator(s):

Gender	Effect	se	t	p	LLCI	ULCI
1.0000	6.0578	.7112	8.5178	.0000	4.6493	7.4663
2.0000	4.0741	.7914	5.1480	.0000	2.5068	5.6414

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

Level of confidence for all confidence intervals in output:
95.0000

----- END MATRIX -----