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Multi-sensory matters: How to Increase Online Purchase Intention for Experience Goods

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Multi-sensory matters:
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ABSTRACT

The present research study focuses on the effects of textual and visual website attributes on customers' purchasing intention for experience products that require a smell-sensory experience (i.e., fragrances). Additionally, we evaluated the possible mediating effect that perceived diagnosticity might have on purchase intention, which in turn allowed us to determine whether perceived diagnosticity varies when modifying website attributes. A pretest was conducted to determine the effectiveness of visual (darker vs. brighter background color) and textual (rational vs. emotional) attributes' manipulation. The main study was aimed at analyzing whether visual and textual attributes resulted in an increase in perceived diagnosticity, and, in turn, an increase in customer purchase intention. The latter study was designed as a 2 (rational vs. emotional textual appeal) x 2 (dark vs. bright background color) x 2 (angular vs. round background shape) factorial experiment including a control group.

Results provide evidence about the positive existing relationship between perceived diagnosticity and purchase intention. Findings also indicate that visual attributes do not necessarily have an effect on perceived diagnosticity, whereas textual attributes do. Based on the premise that perceived diagnosticity correlates positively with purchase intention, we can state that textual attributes lead to an increase in purchase intention. Explorative analysis' results also indicated that certain combinations of website attributes contribute to an increase in perceived diagnosticity, which in turn leads to an increase in purchase intention. More specifically, the combination of emotional appeal, bright background color and angular background shape led to the greatest perceived diagnosticity. The findings have important implications for the management of E-commerce and online retailers. Thus, the current paper is of interest as it suggests an optimal combination of website attributes that results in an increase in purchase intention.

Keywords: Purchase intention, perceived diagnosticity, perceived odor intensity, website attributes, visual website attributes, textual website attributes, experience products

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1. INTRODUCTION

Lately, the continous growth of the Internet and the appearance of new disruptive technologies have transformed the way customers behave. The number of opportunities for E-commerce companies have increased as online shopping has grown at an astonishing rate (Statista, 2019a). However, despite the huge popularity of online shopping, the Internet still presents some limitations that prevent buyers from purchasing online. Indeed, the E-commerce share uniquely comprised 16.1% of the total global retail sales in 2020 (Statista, 2019b). Thus, the increase in online shopping does not necessarily translate into having a similar increase in E-commerce sales. Despite online sales limitations, digital advertising expenses expected for 2021 are predicted to amount to a total sum of US$398,762 million with an annual increase of 12.2% Year over Year (YoY) (Statista, 2020c). The noteworthy difference between online sales and expenditures reinforces the idea that online shopping presents some obstacles that prevent customers from purchasing online. Consequently, it would result in interest contributing to the field by assisting online retailers to increase customers' purchase intention.

Some recent studies identified variables that prevent customers from engaging in online shopping. Findings from these studies have shown that factors preventing customers from shopping online differ and are difficult to classify (Doolin et al., 2005). Despite the difficulties to determine the factors affecting online customer behavior, previous researchers claimed a negative effect between perceived risk and online purchase intention (Bhatnagar & Ghose, 2004; Forsythe & Shi, 2003; Lim, 2003; Lin, 2008). This negative relationship is partly explained by consumers' inability to obtain product information (e.g. touch, feel) and thus, not being able to assess products (Pfeffer & Salancik, 1987 cited in Jifeng et al., 2012). Case in point, when touching a product, customers become more confident in the evaluation of the product which results in an increase in purchase intention (Peck & Wiggins, 2006). Thus, product uncertainty or risk is considered as a major barrier when purchasing products online (Ba & Zhang, 2003; Jifeng et al., 2012). In an E-commerce context, Kempf & Smith (1998) developed the "perceived diagnosticity" concept which entailed the effects of product risk in an online shopping experience.

Thus, perceived diagnosticity determines the importance of product understanding in evaluating the overall shopping experience.

At an attempt to increase the online shopping experience, research has focused on how online environment affects customers' buying behavior (Chang & Wang, 2008; Davis et al., 2008; Eroglu et al., 2001, 2003; Éthier et al., 2006). Online researchers consider that online sales can be increased if they have a better understanding of consumers' perceptions when purchasing online (Dai et al., 2014). Consequently, there is an increasing interest to determine which website design results in a better understanding of the product, and, thus, increase perceived diagnosticity and the likelihood for purchase intention. Indeed, a substantial number of studies have analyzed the different elements of a website design with the introduction of digital channels (Paz & Delgado, 2020). In fact, Childers et al. (2001) refers to the concept "webmosphere" which has been defined by Dailey (2004) as "the conscious designing of web environments to create positive effects (e.g., positive impressions, positive cognitions) in users in order to increase favorable consumer responses (e.g., views, browsing, etc.)."

Despite the marketing efforts to increase E-commerce conversions, we encounter that online customer behavior is often subject to the Research online, purchase offline (ROPO) effect (Cummins, 2018; Gallino & Moreno, 2014). ROPO refers to the situation in which customers search and seek information about products or sellers on the Internet, but proceed to finalize the purchase in a traditional form. The ROPO phenomenon represents a significant challenge for the E-commerce sector since it continuously invests in providing a better User Experience (UX) and User Interface (UI) to increase online purchases. Thus, E-commerce companies dedicate efforts to improve their webmosphere despite customers making the final purchase offline and thus, not bringing the expected profits for the channel. The ROPO effect reinforces the claim that online shopping must overcome some hurdles to increase online purchase intention, especially for the products that require a multisensory experience.

Building on the multisensory experience, online customers present different buying behaviors based on the product nature (i.e., search vs. experience products) (Dai et

al., 2014; Weathers et al., 2007). Experience products are characterized by the preference from customers to touch, smell and try them. Thus, since multisensory integration is essential for the product evaluation of experience goods (Lim et al., 2015), companies selling experience products are more vulnerable when placing them online. Despite the recent interest devoted to search products and their relationship with website attributes to increase online purchase intention, little research has been done with regard to experience products (Mahdavi et al, 2020). Sensorial product attributes such as smell and its relationship with purchase intention through website attributes have barely been studied. Indeed, buying fragrances online without having smelled the scent previously may lead to product uncertainty during the purchase decision process (Mahdavi et al, 2020). Thus, it becomes of popular interest to determine the relationship between smell-sensory products and website attributes.

In reaction to this lack of empirical analysis, the current paper aims to determine how textual and visual website attributes affect the customer purchase intention of experience products (i.e., fragrances) when buying online. The contribution of the study is to determine the set of textual and visual website attributes that enhance online purchase intention by communicating experience goods more effectively. Therefore, the study will contribute to the field by answering the following research question: To what extent do visual and textual website attributes impact online users' purchase intention for experience products? To answer the research question, we proceeded to determine the causality of website attributes on purchase intention for experience products by conducting an experimental design.

The remainder of the current paper proceeds by incorporating a literature review, in which we develop the main arguments for the hypothesis based on existing literature; continued by the methodology, consisting of the conducted pretest and main study and their results. Lastly, we conclude with a discussion of the main findings as well as with the limitations of the present study and suggestions for future research.

2. LITERATURE REVIEW

2.1 Introduction to purchase intention

According to Pavlou (2003), online purchase intention refers to the state in which consumers are eager and plan to make an online transaction. In an online context, consumers make use of online websites to retrieve information about products or services to complete a purchase. The importance of online purchase intention relies on the fact that it is a key indicator of the actual online customer buying behavior. Thus, online purchase intention aligns with the customer's criteria assessment in terms of the quality of the website, information search and the evaluation of the product (Poddar et al., 2009; Hausman & Siekpe, 2009). Hence, purchase intention of online customers is the result of a variety of online cues (Ganguly et al., 2010).

Previous studies have determined important elements from online purchase intention. For example, website design, which refers to the way online cues are organized in the website interface, results in affecting online purchase intention as it is key to attract customers and lead them towards the final purchase (Ganguly et al., 2010; Richard, 2005; Vijayasarathy, 2004). This relationship between website design and purchase intention exists to overcome customer perceived product risk which is considered as a precursor to purchase intention. Indeed, past empirical studies demonstrate how customer purchase intention increases when decreasing customer perceived product risk (Forsythe & Shi, 2003; Aghekyan-Simonian et al., 2012). The limitations of purchasing experience products online results in customer purchase intention being lower than when shopping offline.

To sum up, website design and perceived product risk both contribute to the online purchase intention complex response. Being able to understand the relative importance of both elements is essential for online retailers to increase online conversions.

2.2 Product risk & perceived diagnosticity

According to Bhatnagar & Ghose (2004), product risk has the most significant effect on online customers' purchase intention. Consequently, overcoming product risk which is associated with purchasing online is a prime concern for experience

products with attributes that cannot be tested online (e.g., perfumes which cannot convey their main attribute: the scent) (Iconaru, 2012; Kacen et al., 2013).

Product risk is considered a forerunner that influences consumers' online purchase intention (Lim, 2003). To understand what product risk entails, it is essential to first define what perceived risk is and what it implies in an online context. Perceived risk can be conceptualized as the associated consumer's uncertainty when facing a purchasing decision (Cox & Rich, 1964). In an online context, perceived risk would refer to the subjective expectation of a loss when considering a particular online transaction (Forsythe & Shi, 2003). Previous researchers have defined product risk as the loss experienced by customers whenever the product did not perform as they expected (Horton, 1976). Consequently, product risk arises as a result from a poor product decision in which buyers fail to correctly judge the quality of a product online (Forsythe & Shi, 2003). Hence, product risk refers to the inability to determine product quality, leading customers to not being able to determine product performance.

However, it is worth noting that in the E-commerce context, online retailers might consider using rather the "perceived diagnosticity" concept as it represents a broader concept. Such a notion was developed by Kempf & Smith (1998) which has been defined as "which represents the extent to which consumers believe that particular shopping experiences are helpful to evaluate products" by (Jiang & Benbasat, 2004). Therefore, the perceived diagnosticity concept reflects the ability that a website interface has to convey product information to customers, which further improves their understanding and evaluation of the product quality and performance online (Jiang & Benbasat, 2004).

Based on traditional shopping, a multisensory experience is required to convey consumer-relevant quality attributes (Forsythe & Shi, 2003) which increase perceived diagnosticity. Thus, limitation of determining product quality when selling online is due to the inability to have a multi-sensorial experience which limits customers' ability to inspect products physically (Bhatnagar et al., 2000). Therefore, we can claim that the likelihood of experiencing a lower perceived diagnosticity among online shoppers occurs whenever they attain a lower

understanding of the product as a result of being unable to assess quality attributes. In this context, product classification (search vs. experience products) plays an important role as online customers are more limited to having a multi-sensorial experience when being exposed to experience products. Experience attributes are limited to the actual usage of the product since they are products of a subjective customer experience (Wright & Lynch, 1995). When it comes to product qualities (e.g., smell, taste, performance), customers have a stronger need to try out the goods firsthand (Weathers et al., 2007). This suggests that perceived diagnosticity might differ among different product categories. Thus, greater perceived diagnosticity might occur when customers are able to assess product attributes, as is the case for experience products. Hence, we assume:

H_1: Perceived diagnosticity positively influences purchase intention for experience products.

2.3 Perceived odor intensity

To increase online purchase intention, online users must be able to create a mental imagery that allows them to have a better understanding of the product. Mental imagery represents multi-sensory dimensions (i.e., taste, smell, sight, touch and hearing) into visual stimuli. Such a concept is key in the online environment as experience products have the possibility to convey sensorial product attributes to the online users. The marketing purpose of mental imagery in the online environment is to provide an online shopping experience as close as possible to the in-store one. By doing so, marketers tend to increase the perceived diagnosticity associated with the inability to interact with the product. In the context of retailers selling fragrances online, product understanding and mental imagery translates into users being able to conceptualize the fragrance odor intensity.

According to Edwards (1992), fragrances have been classified into four different families/notes (i.e., fresh, floral, oriental and woody). The aforementioned classification demonstrates the large variety of odors when considering buying a fragrance. Additionally, intensity does also differ among the different fragrances within the same fragrance family. As an example, fragrances falling under the Floral notes can be perceived as bright or intense. Therefore, we believe that to deliver

effectively a coherent sensory message of fragrances, not only fragrance notes play an important role, but so does its perceived fragrance intensity. Hence, if online customers manage to perceive an odor intensity associated with the fragrance showcased online, this would result in having a better understanding of the product, which in turn would contribute to an increase in perceived diagnosticity and purchase intention. Consequently, online retailers would be able to adapt the online product presentation based on the characteristics of the fragrance that they are promoting, so users have a better understanding of the product.

2.4 Website design

As mentioned previously, website design plays a key role in assessing online experience products. Indeed, website design can increase users' satisfaction (Liu & Arnett, 2000; Zviran et al., 2006), enhance their trust by increasing perceived diagnosticity (Flavián et al., 2006; Schlosser et al., 2018), and further influence their attitude and purchase intention (Jarvenpaa & Todd, 2015; Lohse & Spiller, 1999). Thus, website design proves to be a key element when trying to increase online customer's purchase intention.

In relation to website design, product presentation helps retailers to convey the right load and relevant information contributing to the user's product learning process. Thus, as product information is an important factor when purchasing products online, retailers must bear in mind the relevance of information to present on their site. Presenting too much information on the Internet may result in consumers experiencing information overload (Lurie & Mason, 2007; Blanco et al, 2010). Thus, it is essential to uniquely show users the necessary and relevant kind of information. As an example, prior studies have determined that consumers' product learning often fails and that its effectiveness is overestimated and perceived as unrealistic (Jiang & Benbasat, 2007; Hoch, 2002). Concerning the aforementioned limitations with purchasing experience products online and the lack of research in the effectiveness of product presentation, it becomes beneficial to determine an optimal product presentation that streamlines consumers' experience product learning and further lead to greater purchase intention.

Online product presentation affects user's ability to process specific information and purchase decisions (Mu & Galletta, 2007; Park et al., 2005). Indeed, product presentation has a significant effect on information processing and decision making when the product is either presented visually or textually, or a combination of both (Schlosser, 2003; Hong et al., 2004; Kim & Lennon, 2008). Despite the recent managerial and research attention for determining the impact that online environment cues have on consumer purchase behavior (Chang & Chen, 2008; Chang & Wang, 2008; Davis et al., 2008; Eroglu et al., 2001, 2003; Éthier et al., 2006), little research has been completed on the analysis of product attributes communication.

In addition, limited research has actually established how other attributes such as products' odors can be conveyed on websites through visual and textual product presentations. Therefore, findings emphasizing on the latter websites' attributes (i.e., conveying products' odors) will further be discussed together with the present study's developed hypotheses supported by the literature.

2.5 Product presentation

When buying experience products online, consumers believe there is a much weaker correlation between the information accessible before usage and the advantages or results experienced subsequently (Wright & Lynch, 1995). The differentiation on the tangibility of product attributes between search and experience goods reflects how the type of information that consumers seek during the purchasing decision process differs depending on the nature of the goods (Weathers et al., 2007).

In regard to how the distinction between products can affect the online environment, the reality is that experience products are much more difficult to market in an online context because customers cannot have a true sense of their physical and sensory attributes (Weathers et al., 2007). Indeed, consumers' conclusions based on sensory information experienced on their own are likely to be more trustworthy than inferences based on assertions obtained from secondary sources (Micu & Coulter, 2012; Nelson, 1974; Wright & Lynch, 1995). As a result, presenting reliable sensory information regarding experience attributes is crucial in making online

purchasing decisions. In this context, product presentation plays a key role when promoting experience products online. Because purchasing experience products over the Internet is associated with some risks, there exists the need to improve the online product presentation to provide a sense of multi-sensorial experience to increase perceived diagnosticity and provide a good shopping experience.

Past researchers have found evidence on how consumers' expectations on experience products differ based on their product presentation (Desliza et al., 2003; Jaeger, 2006). According to Fenko et al. (2018), multi-sensory attributes linked to the packaging of food products do not only influence customers' food expectations, but also influence how they perceive the food experience (e.g., taste and flavour). Thus, we can claim that customers' expectations impact both customer judgments and its hedonic properties (Cardello & Sawyer, 1992; Tuorila et al., 1994). This link between product attributes presentation and product evaluation also demonstrates the existing relationship between product presentation and purchase intention. Indeed, former studies demonstrate how purchase behaviors differ based on how customers perceive information (Schlosser, 2003) which reinforces the claim that product presentation can impact attitudes and purchase intentions (Chau et al., 2000; Hong et al., 2004; Kim & Lennon, 2008). Additionally, Fenko et al., (2018) demonstrated how packaging design can impact flavor perceptions and thus, having an impact on consumers' product evaluation, purchase intention, and consumption decision when evaluating food's flavor.

The relation between product evaluation and purchase intention is partly explained by the trust perceived by consumers leading to different levels of product risk perception (Timmerman & Piqueras-Fiszman, 2019). Consequently, communicating incongruent information between the product and its website attributes can lead to a decrease in trust, a decrease in perceived diagnosticity; thus, a decrease in purchase intention. Additionally, if a product's textual attribute differs from its image, it can lead to psychological effects distinctions (Jarvenpaa & Dickson, 1998). Thus, a higher purchase intention can be associated with consumers' product evaluation being consistent with their expectations.

To determine the causality between website attributes and perceived diagnosticity, it becomes essential to identify the website attributes that we will analyze in the current paper. Several studies have examined the effects of different ways of displaying product information online (Kim & Lennon, 2008; Fortin & Dholakia, 2005; Jiang, & Benbasat, 2007; Li et al., 2016). According to Kim & Lennon (2008), product information can either be obtained by consumers visually or verbally, commonly presented as a combination. Indeed, when presenting multiple sensory characteristics of a product (e.g., visual and smell), conveying a congruent cross-modal product-related sensory expectation can positively affect the consumer's overall multisensory experience (Parise & Spence, 2012). Thus, the propensity to align sensory characteristics in one modality with those in another is known as cross-modal correspondences (Parise & Spence, 2012). An example would be the link between taste and shape as people tend to link pepper with angularity, whereas vanilla with round shapes (Hanson-Vaux et al., 2013). Going one step further, past studies have determined a relation between cross-modal correspondences and consumer behavior. As an example, they established multisensory congruency between smell (feminine vs. masculine) and touch (warm vs. cold) which led to an increase in product evaluation (Krishna et al., 2010). Based on this, we intend to determine a set of attributes that contribute to a better understanding of the product from the consumer's viewpoint.

Li et al. (2016) demonstrated that online visual-based product presentations have a greater effect in a high information load condition, whereas the textual-based ones are more advantageous in a low information load condition (Goodwin & Etgar, 1980). On the other hand, Kim & Lennon (2008) indicated that both visual and textual information significantly impact consumers' attitudes towards apparel, cognitively and affectively. Furthermore, Kim & Lennon (2008) suggest that textual product presentation has a significant effect on consumers' purchase intention, thus being textually superior to visual information.

On the other hand, visual information is proven to be processed simultaneously and less sequential than textual one meaning that visual information is often being processed faster (Holbrook & Moore, 1981). The aforementioned claim is also backed up by Dual Coding Theory which suggests that visual and textual

information is perceived, recognized, comprehended and remembered by the use of two mental systems: A verbal and an imagery code (Sadoski & Paivio, 2013). The theory indicates that visual information is easier to recall than textual information (Hong et al., 2004). Other researchers (Hong et al., 2004; Liu & Stout, 1987) also demonstrated how visual information is assumed to be superior to textual one due to its ability to enhance the sensory experience and processing of information. Additionally, when facilitating message recall and positive product attitudes among consumers, images alone or together with words are more effective than words alone (Liu & Stout, 1987).

As both visual and textual cues result in being important according to different researchers, both have been included in the present paper. Thus, the results from our study will also indicate either textual or visual website attributes have a larger impact on smell-sensory products.

Based on this, our paper intends to demonstrate whether the textual and visual attributes can affect consumer expectations for smell-sensory products in the same way as packaging does for taste-sensory products. And if so, to determine a change in perceived diagnosticity, and, thus, in purchase intention when modifying website attributes. Therefore, we propose the following hypotheses:

H_{2a}: Textual appeal positively influences perceived diagnosticity for experience products.
H_{2b}: Background color positively influences perceived diagnosticity for experience products.
H_{2c}: Background shape positively influences perceived diagnosticity for experience products.

2.5.1 Textual information

According to most previous studies, conveying textual product information can lead to a higher purchase intention (Machiels & Karnal, 2016). This phenomenon is explained by the fact that showing accurate content (Keeker, 1997), the right level of information (Kim & Stoel, 2004) and concise product information (Ho & Lee,

2002; Kim et al., 2008) do impact online users' perceptions, and, thus, their purchasing behavior.

Past research has distinguished between rational and emotional textual appeal (Liu & Stout, 1987). Rational appeal refers to factual information (i.e., objective description of product attributes or product's utilitarian benefits) while emotional appeal refers to subjective information that is more emotion-laden (i.e., associated with emotions, feelings, and status) (Blanco et al., 2010; Liu & Stout, 1987). Interestingly, previous research studies have shown that rational appeal is more appropriate with advertisements of experience goods and services (Zhang et al., 2014; Johar & Sirgy, 1991). On the contrary, researchers noticed that in fragrance advertisements, consumers' expectations exceed the actual product evaluation whenever the product description is abstract, whereas expectations are lower than the actual product evaluation whenever the description is more concrete or rational (Toncar & Fetscherin, 2012). Thus, the difference in findings between previous studies requires a further investigation within the fragrance category. Conveying smell experiences with words is considered challenging (Engen, 2012), and limited research has examined the effects of textual website attributes on consumer's purchase intention for fragrances when selling online. Thus, we believe it is worth investigating whether rational or emotional textual cues have a larger effect on purchase intention when shopping for fragrances online.

Other researchers (Liu & Stout, 1987; Drossos et al., 2007) claim that factual information evokes more supportive arguments and generates a greater positive behavior towards the product than the emotional appeal. Facing a context in which there are clear discrepancies between what researchers claim, it is important to point out that the effectiveness of both appeals depends on users' needs and motivations. In a situation in which customers require from a sensorial experience to increase the perceived diagnosticity, we believe that conveying a message that recreates emotions or feelings related to the smell of a particular fragrance can motivate purchase intentions to a greater extent than uniquely informing about factual information. Therefore, we propose the following hypothesis:

H_3: Emotional appeal (vs. rational) increases perceived diagnosticity and subsequently increases purchase intention for experience products.

2.5.2 Visual product information

Past researchers (Lurie & Manson, 2018) defined a framework that determines the impact that visual information has during the customer decision-making process. Lurie & Manson (2018) found out that visual tools might substitute the need that customers experience for touching products to a larger extent than textual information does. Based on this finding, visual product information has proved to be key when presenting products, especially for experience goods.

Whereas most of the previous literature has focused on traditional advertising, the current paper aims to determine the role that visual website attributes play on customer's purchase intention. For example, Deliza et al. (2013) determined how showing a picture on the packaging of a product can have an effect on consumers' sensory and hedonic expectations for experience products. Thus, visual attributes help customers to be better able to assess product evaluation.

However, it is of interest to determine how changing visual website attributes can impact customer's product evaluation and consequently perceived diagnosticity and purchase intention. To do so, we will be evaluating two visual attributes in particular: background color and background shape. The selection of the aforementioned visual attributes is partly due to previous research where shape and color conveyed taste expectations of food through packaging (Deliza et al., 2013; Fenko et al., 2016; Velasco et al., 2016; Stummerer & Hablesreiter, 2010). Furthermore, product evaluation differs across different background colors in physical stores (Schifferstein et al., 2017). In the current study, we aim to apply this theory in an online-context by implementing color and shape as a background image of the product visualization.

2.5.2.1 Background color

Prior studies have determined that visual information can influence the smell and taste of products (Morrot et al., 2001; Delwiche, 2012; Gottfried & Dolan, 2003)

with color being the factor with the greatest impact (Kauppinen-Räisänen & Luomala, 2010). In fact, color is the first visual element recognized by human brains (Klimchuk & Krasovec, 2013) which has proven to have an effect on the consumers' expected taste for food products (Stummerer & Hablesreiter, 2010). Furthermore, the color linked to a fragrance itself affects customer's perceived odor intensity, more specifically due to color's brightness level (Zellner & Whitten, 1999; Zellner & Kautz, 1990). Consistent with the latter finding, results revealed that darker colors are perceived as more intense compared to lighter ones in terms of smell (Kemp & Gilbert, 1997; Schifferstein & Tanudjaja, 2004). Such insights can help online retailers to understand how customers perceive their products.

According to Schifferstein & Tanudjaja (2004), using colors that people tend to associate with different odors can be used to communicate fragrances. Indeed, Zellner & Whitten (1999), developed the concept "appropriate color" to refer to the colors related with a specific odor. A clear example would be how the color orange would be appropriate for the smell of an orange. Additionally, appropriate colors can also refer to the colors that best represent an odor (Gilbert et al., 1996). Based on this, we can claim that certain colors enhance certain odors more than other colors do. Past research links fragrances with different colors and how they can impact the product's smell (Gottfried & Dolan, 2003; Dematte et al., 2006; Gilbert et al., 1996; Kim, 2013). However, limited research has emphasized on how to convey odor intensity through color-related visual website attributes. Thus, the present study assumes that colors' ability to impact perceived odor intensity through the appropriate colors can also be applied in an online context.

Website background color enhances important product attributes and influences consumer's choice of product (Mandel & Johnson, 2002). Case in point, Schifferstein et al. (2017) found out that product attractiveness varies depending on how consumers perceive products after being exposed to different background colors. For instance, the attractiveness ratings were highest when customers were presented a background with a similar hue to the product color (Schifferstein et al., 2017). We believe that these claims can be also adapted to an online context in which an increase in product attractiveness can be achieved by presenting the

optimal background color. Consequently, we will be showing a suitable color while modifying the darkness (vs. brightness) color level.

Applying the literature regarding colors attached to the product and/or packaging and the effect of colored product background to an online product presentation, closes a gap in the literature that has not been sufficiently explored. Bearing aforementioned color and product background literature in mind, we propose the following hypothesis:

H_4: The existence of modified background color's level of brightness (vs. no background color) increases the perceived diagnosticity and subsequently increases purchase intention for experience products

2.5.2.2 Background shape

Touch sensations (e.g., the firmness of the packaging or the shape of it) can influence consumer's product evaluation on the flavor of a food or drink (Krishna & Moorin, 2008). For example, yoghurt packaging with an angular (vs. round) shape is perceived as a more intense taste (Becker et al., 2011). Thus, the shape of a packaging has shown to affect consumers' associations and expectations of food products (Fenko et al., 2016; Velasco et al., 2016). As an example, the packaging shape and color of milk desserts succeed to form sensory expectations of its tastes (Ares & Deliza, 2010). The previous study indicates that these expectations could affect consumers' perceptions and acceptance of a product, leading to greater liking and willingness to pay. In a website's product presentation context, shape would refer to the visual element behind the product creative. Indeed, round, angular, and no background have been observed in different websites presenting beauty products (Kicks, n.d.; Fredrik & Louisa, n.d; Sephora, n.d). Thus, it can be highly valuable to retailers to determine the background shape that results in a higher purchase intention.

Comparing angular and rounded shapes, round shaped packaging and objects have been proven to have higher utilities in regard to expected liking. They also elicit highest preference amongst consumers and are considered as more pleasant (Ares & Deliza, 2010; Westerman et al., 2013; Moshe & Maital, 2006; Salgado-Montejo

et al., 2015). Moreover, a rounded brand logo can give consumers perceptions of more warmth and softness compared to angular shapes (Hess & Melnyk, 2016; Jiang et al., 2016). Interestingly, Becker et al. (2011) found evidence that angular shapes might impact perceptions of intense taste sensations. Thus, if angular shapes give an indication of strong and intense taste, it can be assumed that angular background shapes of perfumes will lead to stronger perceived odor intensity of smell. Moreover, as round shapes are proven to give perceptions of softness (Hess & Melnyk, 2016; Jiang et al., 2016), round background shape could be expected to elicit a mild fragrance intensity (i.e., less intense).

Bearing in mind the literature suggesting that angular shapes give a perception of intense taste, round shapes elicit perceptions of softness and packaging shape in general can increase customers' willingness to pay (Becker et al., 2011; Hess & Melnyk, 2016; Jiang et al., 2016; Ares & Deliza, 2010), the current study adapts the findings into website attributes (i.e., background shapes) and perceived odor intensity. In line with that, it can be expected that background shapes enable consumers to possess a greater product understanding as they are able to judge the fragrance intensity. Further, as previously supported by literature, increasing consumers' understanding of the product can increase consumers' purchase intention (Bhatnagar & Ghose, 2004). Thus, we posit:

H_5: The existence of modified background shape (vs. no background shape) increases perceived diagnosticity and subsequently increases purchase intention for experience products.

2.6 Conceptual model

Based on the presented theory and proposed hypotheses, a conceptual model (see Figure 1) is presented which intends to map the relationship between the relevant variables included in the current study. Hence, the framework assumes that textual and visual website attributes will affect consumers' purchase intention, which is positively correlated with perceived diagnosticity which acts as a mediating effect (i.e., higher perceived diagnosticity leads to higher purchase intention).

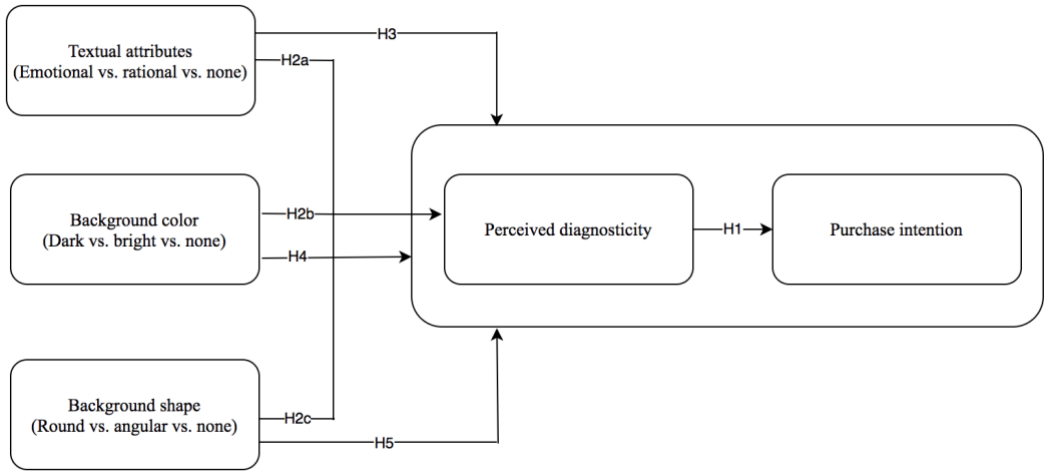

Figure 1: Conceptual model (own elaboration)

3. METHODOLOGY

In the present paper, we aim to determine whether modifying certain website attributes (i.e., visual and textual attributes) will have an effect on customer's online purchase intention as a consequence of a shift in their perceived diagnosticity for experience products. Consequently, we examined the causality of website attributes over purchase intention. Being causality the main purpose to study the relationship between independent (IV), mediating (M) and dependent variables (DV), it is necessary to define the variables to test. Thus, the DV is purchase intention, whereas the IVs are background color, background shape and textual appeal. Additionally, perceived diagnosticity is a mediating effect between website attributes and purchase intention. The present experimental design will be divided into two different parts: pretest & main study. The pretest aims to determine if participants perceive website attributes as the study intends to (e.g., participants perceive darker/brighter color and emotional/rational textual appeal according to what is shown), whereas the main study aims to determine how website attributes contribute to having a greater understanding of the product (i.e., perceived diagnosticity), and, thus, increases customer purchase intention.

3.1 Pretest

3.1.1 Design

A pretest was conducted to ensure the effectiveness of the background color and of the textual attributes' manipulations. The pretest intended to measure if respondents

perceived the website attributes equivalent to the study's intention and if there were significant differences between the attributes aimed to be modified in the main study. The color selected for the study corresponds to the odor linked with the product (Figure 2), which is reflected in the color of the fragrance itself (Appendix A).

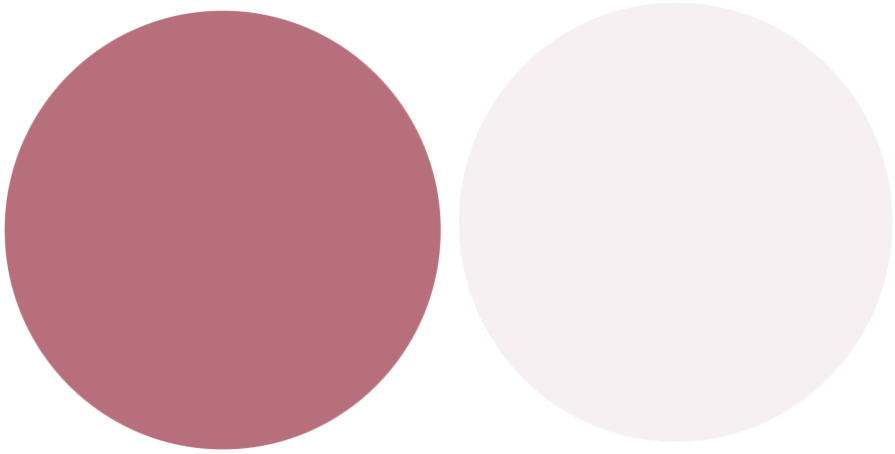

Figure 2: The different levels of brightness

In regard to the textual attributes, each participant was exposed to one of the four examples built (Figure 3). In order to increase ecological validity (Malhotra, 2010), the examples used in the survey were extracted from online websites (Guerlain, n.d.; Sephora, n.d.).

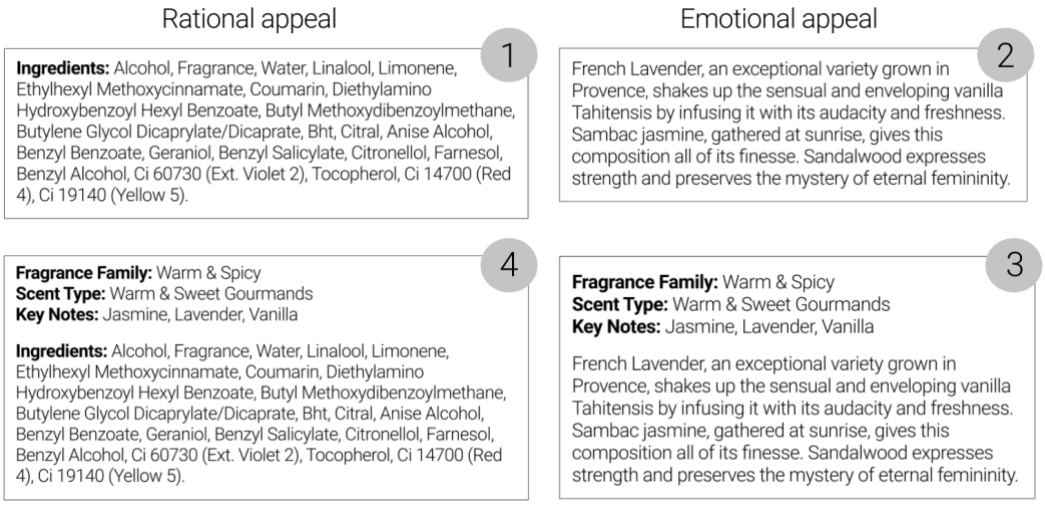

Figure 3: The different conditions in textual appeal

A between-subjects design was carried out in order to control for extraneous variables that could affect the internal validity of the pretest (e.g., participants that have been first exposed to the dark color condition may have evaluated the bright color condition even brighter). Additionally, the respondents were randomly assigned to one of the treatment conditions for color (darkness vs. brightness) and one of the treatment conditions for textual appeal. Hence, extraneous variables were represented equally in each of the experimental groups.

3.1.2 Sample

By publishing the survey in several Facebook groups as well as sending the survey to friends and acquaintances, the pretest study ended up with a convenience sample of 64 respondents. The ages of the respondents ranged from 20 to 50 years old, with an average of 25.56. In regard to gender, 57.8% of the participants were females vs. 42.2% of male participants.

3.1.3 Procedure

The evaluation of both background color and textual attributes took place in the form of a survey designed through Qualtrics (Appendix B). As for the background color manipulation, participants evaluated one out of the two color variations (Figure 2) representing the intended background color using a two-item construct (darker vs. brighter). Participants indicated to what extent they considered a specific color to have more darkness or brightness traits by using a semantic differential scale (i.e., 7-point rating scale locating endpoints associated with opposite labels which have a semantic meaning).

Similarly, respondents rated one of the four textual variations (Figure 3) by using a 7-point semantic differential scale. Participants were randomly presented with one of the treatment conditions. Additionally, definitions of emotional and rational appeal were provided prior to participants' evaluation.

3.1.4 Results

A two-sample t-test was conducted in SPSS to test for differences in mean between the two treatments carrying different levels of perceived brightness. Since the p-value (= <0.001/2 = < 0.0005) is less than α (= 0.05), there is enough statistical

evidence to claim that the two levels of color brightness were perceived significantly different among the respondents (Table 1). To confirm the direction of the claim, we can observe that the mean of the darker color is 4.7, while for the brighter one is 2.2 (measured at a 7-point scale with 1 being bright and 7 being dark).

Table 1: Results for Background color

Descriptive statistics

	N	Mean
Dark	34	4.706
Bright	30	2.233

Independent Samples t-test

T-test for Equality of Means	df	Sig. (2-tailed)
Equal variances assumed	62.00	< 0.001

Furthermore, we conducted a One-way ANOVA in SPSS to test whether there exist significant differences in mean for the four textual appeal conditions. Since the p-value (= <0.001) is less than α (= 0.05), there is enough statistical evidence to claim that at least one condition is different from the others (Table 2). To test if differences exist between each cluster, a post hoc comparison using the Tukey HSD test showed that condition 1 (i.e., which only consisted of the product's ingredients, see Figure 3) is significantly different from all treatment groups. Condition 2 (i.e., emotional text without fragrance family, scent type and key notes, see Figure 3) is significantly different from condition 1 and 4. Confirming the direction of the extent to whether the respondents perceived the test as emotional or rational, condition 1 is perceived as more rational (mean = 1.778) and condition 2 was perceived as more emotional (mean = 5.4). Additionally, these two conditions had the lowest variation (Table 2).

Table 2: Results for Textual appeal

Multiple comparisons: Post hoc Tukey HSD

Treatment conditions		Sig.
1 Rational (only ingredients)	2.00	0.000
	3.00	0.000
	4.00	0.001
2 Emotional	1.00	0.000
	3.00	0.989
	4.00	0.043
3 Emotional (mix)	1.00	0.000
	2.00	0.989
	4.00	0.103
4 Rational (mix)	1.00	0.001
	2.00	0.043
	3.00	0.103

ANOVA

	Sum of Squares	df	Sig.
Between Groups	138.917	3	0.000
Within Groups	150.833	60	
Total	289.750	63	

Descriptive Statistics

Treatment groups	N	Min.	Max.	Mean	Std. Deviation
Rational (only ingredients)	18	1.00	6.00	1.78	1.39560
Emotional	15	3.00	7.00	5.4	1.05560
Emotional (mix)	14	1.00	7.00	5.21	1.76193
Rational (mix)	17	1.00	6.00	3.88	1.96476

3.1.5 Conclusions

To settle the results from the pretest, the colors were significantly different in terms of perceived level of brightness. Hence, the proposed colors were selected for the main study representing bright and dark background color. In regard to the textual appeal, the main study proceeds to use condition 1 as the study's emotional appeal treatment and condition 2 as the rational appeal.

3.2 Main Study

As stated previously, the objective of the current paper is to determine the customer's online purchase intention when modifying some visual and textual website attributes. Consequently, the main study aims to reveal to what degree website attributes contribute to an increase in online purchase intention. To do so, a 2x2x2 factor analysis was executed as the objective is to measure the interaction between different IVs at different levels. The factors that were monitored along the experiment are: (1) background color (dark vs bright), (2) background shape (round vs angular) and (3) textual information (emotional vs rational appeal) (Table 3). Users' purchase intention is measured by the predisposition towards buying the product to which they are exposed. Additionally, the mediating effect that perceived diagnosticity may have on a customer's online purchase intention will be revealed.

Table 3:Attributes and attribute levels from the factor analysis

Attributes and levels	
Attributes	Levels
Background color (brightness)	Dark Bright
Background shape	Round Angular
Textual Appeal	Emotional Rational
Control group	No text, shape and color

The main study comprises a between-subject design allowing the researchers to have a larger control and monitorization of extraneous variables (Malhotra, 2010). By doing so, we were able to analyze the effects of the independent variables independently of the variance between participants.

3.2.1 Participants

To test the purchase intention of users when modifying website attributes for experience products online, a sample of 315 participants contributed to the present experimental design via an online survey. The sample size is consistent with the suggestions from Malhotra (2010), which recommends staying between the range of 200 and 300 participants. The number of participants was equally distributed between nine groups which consisted of eight treatment conditions and one control group (Appendix C).

The sample size aimed to be as accurate as possible to increase validity and reliability. Therefore, we selected a sample of online users aged over 18 and under 75 in order to target those who are considered as having enough buying power and being active on the Internet. Additionally, the sample size was mostly composed of females to reach the relevant audience that most commonly shops for female perfumes online. Since online knowledge is an important aspect of the feasibility of the study; participants were expected to surf the website and purchase products

online on a regular basis. In regard to the sampling technique, the study is based on a non-probability sampling, being more specific: convenience sampling. The sampling method mentioned has been selected due to the limited resources from the experimental design. Thus, participants were collected through Facebook and LinkedIn posts in addition to several Facebook groups.

3.2.2 Procedure & stimulus selection

A survey-based experiment was conducted in order to answer the developed hypotheses and the proposed research question. Although it would be ideal for the experiment to be observational due to the dependent variable being behavioral (Malhotra, 2010), the resources are limited. As aforementioned, the survey consisted of 8 different treatment groups in addition to a control group (Appendix C). The survey's 9 treatment conditions were randomly assigned to the respondents which contributed to the internal validity of the experiment. The treatment groups consisted of a combination of the attributes and factor levels (e.g., low level of brightness, round shape and emotional textual appeal. Figure 4). The control group condition consisted of a website design excluding background color and textual information (Figure 5).

Figure 4: Example of a treatment condition (Round, dark background and emotional appeal)

Figure 5: Example of a control group

The survey started off with some behavioral questions transitioning into presenting a scenario in which respondents intended to buy women perfume online and finalized with some demographic questions. The behavioral questions intended to grasp an idea of how predisposed participants were to buy online based on their previous behavior. Thus, questions such as "How often do you purchase products online?" were part of it. In this example, we provided five options in order to avoid errors of omission (e.g., once a month, 2-3 times per month, once a year, etc.).

Moving into the scenario part, respondents were presented with one of the treatment conditions. Then, they were asked to assess the degree of fragrance intensity that they perceived by using a continuous rating scale (Appendix D). Furthermore, participants were presented a series of statements in relation with perceived diagnosticity and purchase intention. Then, they were asked to rate to what extent they agreed or disagreed with the statement on a 7-point Likert scale (Appendix D). Additional questions in relation to purchase intention were asked to the participants with the aim to understand if there are external variables that may influence the consumer's attitude. In order to avoid biased answers, the question was posed as an open question. Please note that the additional open-ended question(s) were not intended to be measured but rather to give us valuable insights.

Lastly, demographic questions were asked when finalizing the survey (i.e., age and gender) to detect possible significant differences between groups, which was accompanied by a debriefing section. In the debriefing, we asked the participants to guess what they thought the study was about. Once they submitted their answers, the aim of the study research was revealed.

3.2.3 Measurement

To summarize, the following table collects the different variables as well as their measurement for a better understanding of the upcoming section.

Table 4: Variables & measurement

Variables	Scale items	Adapted from	Scale points
Purchase intention	"After browsing on the Internet, I intend to purchase this product"	Bruner, 2012	7
	"The next time I need to purchase a fragrance for women, I will consider purchasing this one"	Bruner, 2012	7
Product risk	"I have a good understanding of the product's smell"	Jiang & Benbasat (2007)	7
	"The product presentation was helpful in influencing my overall evaluation of the fragrance"	Jiang & Benbasat (2007)	7
	"The product presentation was helpful to familiarize myself with the fragrance"	Jiang & Benbasat (2007)	7
	"Purchasing this product is risky"	Bruner, 2012	7
	"The product presentation enabled me to judge the smell of the fragrance"	Jiang & Benbasat (2004), Kempf & Smith (1998)	7
	"The product presentation enabled me to judge the fragrance intensity"	Jiang & Benbasat (2004), Kempf & Smith (1998)	7
Perceived intensity	How intense do you perceive the smell of the fragrance to be?	Zellner & Kautz (1990), Zwllner & Whitten (1999)	100
Website attributes	Background color Background shape Textual appeal		

Dependent variables

As the aim was to test the effect of website attributes on purchase intention, purchase intention was treated as the study's main DV. The variable intended to be measured at an interval level scale that was combined by two seven-point scaled items from the online survey. The items being used were inspired by already established scale items for "purchase intention at the website" in the Marketing Scales Handbook (Bruner, 2012). The items intended to measure the respondents' likelihood of purchasing the perfume online. A Cronbach's Alpha test was conducted in order to ensure internal consistency reliability. The Cronbach's Alpha (= 0.743) turned out to be reliable (Table 5), as the alpha is higher than 0.6 (Malhotra, 2010).

Table 5: Reliability Statistics

Cronbach's Alpha	Nº of items
0.743	2

Independent variables

Textual appeal, background shape, and the background color were chosen as main independent variables due to the desire of evaluating its effect on purchase intention. The variables were measured on a nominal scale.

Mediating variables

As aforementioned, the current study aims to see if perceived diagnosticity appears as a mediating effect between website attributes and purchase intention. In order to determine the respondent's perceived diagnosticity, scale items inspired by Jiang & Benbasat (2004) were adopted into our study, who adjusted the concept of perceived diagnosticity to an E-commerce context. Consequently, we adapted and modified the scale items from Jiang & Benbasat (2004, 2007) and Kempf & Smith (1998), into four scale items. Additionally, how risky they perceived purchasing the product was inspired by the general risk scale from the Marketing Scales Handbook (Bruner, 2012). This resulted in six scale items representing the respondents perceived diagnosticity. The scale items were measured on a seven-point Likert scale, subsequently combined into one interval-scaled variable in SPSS (i.e., perceived diagnosticity). The items appeared as statements, where the respondents were asked to rate their agreement to the statement (being 1 = Strongly disagree, being 7 = Strongly agree). The Cronbach's alpha of the variables representing perceived diagnosticity (= 0.875) indicates a satisfactory internal consistency reliability (Table 6).

Table 6: Reliability Statistics

Cronbach's Alpha	Nº of items
0.875	6

4. DATA ANALYSIS

4.1 Data screening

Initially, descriptive analyses were conducted in order to get a holistic overview of the dataset. By doing so, missing data and logically inconsistent data were exposed and subsequently treated for (Malhotra, 2010). With an initial number of 512 respondents, the study was left with 315 respondents after excluding those that chose to leave the survey before being exposed to the treatment condition. Furthermore, the dataset was sorted based on the different treatment groups the respondents were exposed to. Hence, we created variables that would group the respondents based on the treatment condition, textual appeal, background color and background shape in later analyses. A cross-tabulation was performed to check if the data cleaning applied resulted with skewed data distribution among the different treatment conditions. Results showed a variation between 30 and 40 respondents in each condition with 5 to 9 males distributed across the groups (Table 7). Please note that "Total" shows the number of respondents where respondents' gender was specified and distributed across the different conditions, while "Frequency" entails all respondents including even those that did not indicate their age.

Table 7: Distribution of respondents across the treatment conditions

Conditions	Male	Female	Total	Frequency
1 Bright, Emotional, Round	7	21	28	30
2 Bright, Rational, Round	5	27	32	37
3 Bright, Rational, Angular	6	25	31	34
4 Bright, Emotional, Round	7	23	30	32
5 Dark, Emotional, Round	9	26	35	36
6 Dark, Rational, Round	5	27	32	34
7 Dark, Rational, Angular	8	30	38	40
8 Dark, Emotional, Angular	8	27	35	35
9 No text or Background (control group)	9	27	36	37
Total	64	233	297	315

4.2 Sample demographics

The sample was represented by 233 females, 64 males, and 18 participants who decided voluntarily to not answer the demographic questions. The age of the respondents ranged from 18 to 71 years, with an average of 31.36. Hence, we concluded that the 315 participants of the survey were eligible for the research study.

4.3 Factor analysis

A factor analysis was performed in order to see if the variables used for perceived diagnosticity are loaded under the same predicted factor (Malhotra, 2010). Based on the heuristic rule that indicates that one should retain as many factors that have an eigenvalue larger than 1. After running the factor analysis, the results ended up with a one-factor solution. In order for a factor analysis to be significant the variables need to be significantly correlated to one another (Janssens et al., 2008). Thus, Bartlett's test of sphericity and Kaiser-Meyer- Olkin (KMO) measure of sampling Adequacy was conducted. As p-value (= 0.001) is lower than 0.05, hence there exists a sufficient correlation between at least one variable (Janssens et al., 2008). A KMO value equal to 0.887 indicates an adequate sample data reading (Malhotra, 2010).

Table 8: KMO and Bartlett's Test

Kaiser-Meyer- Olkin Measure of Sampling Adequacy.		0.887
Bartlett's Test of Sphericity	df	15
	Sig.	< 0.001

Observing the Principal Component Analysis (PCA), it should be noted that the one-factor solution only explains 63.5% of the total variance. In addition, communalities show low value in "Purchasing this product is risky" (= 0.152) (Table 9). Hence, a factor analysis with a fixed number of two factors that were extracted was performed.

Table 9: Communalities

Scale items	Extraction
Judge intensity	0.655
Familiarize	0.783
Evaluation	0.786
Understanding	0.730
Judge smell	0.706
Risky	0.152

Due to the Rotated Component Matrix indicating that "Purchasing this product is risky" do not load on the same factor as the remaining variables (Table X). Thus, the latter variable was removed from the factor analysis (i.e., Risky). Consequently, the one-factor solution that aims to cover the variable "perceived diagnosticity" ends up with explaining 73.9% of the total variance.

Table 10: Rotated Component Matrix (Varimax rotation method)

Scale items	Component	
	1	2
Judge intensity	0.785	
Familiarize	0.878	
Evaluation	0.879	
Understanding	0.835	
Judge smell	0.866	
Risky		0.985

4.4 Relationship between perceived diagnosticity and purchase intention

H_1: Perceived diagnosticity positively influences purchase intention.

4.4.1 Procedure

A Pearson correlation coefficient was used as a test statistic in order to detect if there exists a positive relationship between perceived diagnosticity and purchase intention. As aforementioned, perceived diagnosticity is a new computed variable based on the mean of five scale items which were measured on a 7-point scale.

4.4.2 Results

Since the p-value (=0.000) is less than α (= 0.01) and the Pearson Correlation value equal to 0.452 (Table 11), there is enough statistical evidence to claim that there exists a significant positive relationship between perceived diagnosticity and purchase intention at a 0.01 significance level. Hence, greater understanding of the product (i.e., perceived diagnosticity) increases consumers' purchase intention.

Table 11:Pearson correlation matrix

Correlations

		Purchase intention	Perceived diagnosticity
Purchase intention	Pearson Correlation	1.00	0.452**
	Sig. (2-tailed)		0.000
	N	315	315
Perceived diagnosticity	Pearson Correlation	0.452**	1
	Sig. (2-tailed)	0.000	
	N	315	315

** Correlation is significant at the 0.01 level (2-tailed).

4.5 Relationship between website attributes and perceived diagnosticity

H_{2a}: Textual appeal positively influences perceived diagnosticity for experience products.

H_{2b}: Background color positively influences perceived diagnosticity for experience products.

H_{2c}: Background shape positively influences perceived diagnosticity for experience products.

4.5.1 Procedure

To test whether the study's proposed website attributes (i.e., textual appeal, background color and shape) contribute to increasing consumers' perceived diagnosticity, a regression analysis was conducted. The categorical variables (i.e., background color, background shape, and textual appeal) were initially coded as nominal variables (e.g., 1 = bright background color, 2 = dark background color, 3 = no background color). Hence, in order to perform a regression analysis with categorical variables, we transformed the website attributes into dummy variables (Malhotra, 2010). Furthermore, perceived diagnosticity was chosen as a DV and the website attributes as IVs. No background color, no background shape and no text were chosen as reference groups.

4.5.2 Results

Observing the effect of textual appeal on perceived diagnosticity, we observed that it significantly impacts perceived diagnosticity as the p-values (emotional = 0.005, rational = 0.016) is lower than α (= 0.05), with emotional appeal having the greatest effect (= 0.702) on the DV (Table 12). Additionally, the model's R Square equals 0.174, which implies that the textual appeal explains 17.4% of the respondents' perceived diagnosticity. Interestingly, rational appeal decreases perceived diagnosticity at a greater extent compared to no text describing the product. Hence, we fail to reject the hypothesis (H2a) as both types of textual appeal do not positively influence perceived diagnosticity for experience products.

Table 12: Regression - Textual appeal's impact on perceived diagnosticity

Regression (Textual appeal)			
	B	Std. Error	Sig.
(Constant)	3.038	0.218	0.000
Emotional appeal	0.702	0.246	0.005
Rational appeal	-0.59	0.244	0.016
R square = 0.174			

When testing for background color's level of brightness, bright background color has a positive impact on perceived diagnosticity (Table 13), which implies that respondents had a higher perceived diagnosticity whenever the background color was brighter. However, it is worth noting that the impact is not significant since p-value (= 0.725) (Table 10) is greater than α (= 0.05). Therefore, we can conclude that background color does not necessarily increase consumers' understanding of the product in and of itself. Hence, we fail to reject the hypothesis (H2b) as we do not have enough statistical evidence to claim that background color positively impacts perceived diagnosticity for experience products.

Table 13: Regression - Background color's impact on perceived diagnosticity

Regression (Background color)			
	B	Std. Error	Sig.
(Constant)	3.038	0.240	0.000
Bright background color	0.095	0.269	0.725
Dark background color	-0.039	0.270	0.884
R square = 0.002			

In terms of background shape, angular shape negatively impacts perceived diagnosticity, and, round shape positively impacts perceived diagnosticity (Table 14). However, both background shapes do not significantly affect perceived diagnosticity as both p-values (round =0.946, angular = 0.776) are greater than α (= 0.05) (Table 14). Hence, we do not reject the hypothesis (H2c) as we do not have enough statistical evidence to claim that background shape positively impacts perceived diagnosticity for experience products.

Table 14: Regression - Background shape's impact on perceived diagnosticity

Regression (Background shape)			
	B	Std. Error	Sig.
(Constant)	3.038	0.240	0.000
Round shape	0.077	0.270	0.776
Angular shape	-0.018	0.269	0.946
R square = 0.001			

4.6 The mediating effect between textual appeal and purchase intention

H_3: Emotional appeal (vs. rational) increases the perceived diagnosticity and subsequently increases purchase intention for experience products.

4.6.1 Procedure

The conceptual model of the study (Figure 1) features a mediating relationship. The mediating effect was tested through an analysis in the macro extension in PROCESS in SPSS. In accordance with the assumptions in our conceptual framework, the 4th statistical model was employed. Textual appeal was chosen as the independent variable (X). Additionally, due to the IV being nominal including three levels (i.e., emotional appeal, rational appeal, and no text), we needed to specify in the extension that our independent variable was multicategorical. Further, the mediating variable (M) was represented by perceived diagnosticity, and the dependent variable (Y) was represented by purchase intention. The two latter variables were treated as interval-scaled variables.

To prove that the relationship between textual appeal and purchase intention was mediated by perceived diagnosticity: (1) textual appeal (X) needs to significantly predict purchase intention (Y), (2) textual appeal (X) should significantly predict perceived diagnosticity (M), and (3) textual appeal (X) has only a significant effect on purchase intention (Y) when accounting for the effect of perceived diagnosticity (M). Lastly, when extracting perceived diagnosticity (M) from the model, textual appeal's (X) effect on purchase intention (Y) decreases and becomes nonsignificant. In order to determine the latter criterias, the p-values and the Bootstrap Confidence Intervals were evaluated. The p-value should be below 0.05. Additionally, the lower limit (LLCI) and the upper limit (ULCI) of a 95 % Bootstrap Confidence interval should not straddle zero.

Due to the so-called indicator coding in PROCESS, the macro extension automatically uses the level with the smallest code value in the variable as the reference group (Hayes, 2017). Thus, the textual appeal variable (X) was recoded with the aim to specify the control group (no text) as reference group (i.e., 1 = no text, 2 = emotional appeal, 3 = rational appeal).

4.6.2 Results

First, we aimed to detect the total effect of textual appeal on purchase intention through perceived diagnosticity. Table 15 shows that textual appeal has a significant effect on purchase intention as textual appeal yielded an F ratio (= 2.996) = 4.24, p-value (= 0.0152) < 0.05 and an R square of 0.0265.

Table 15: The total effect of textual appeal on purchase intention

R	R-square	F	df1	df2	p
0.1627	0.0265	4.2404	2	312	0.015

Furthermore, results from the output of the PROCESS analysis proved that textual appeal significantly predicts perceived diagnosticity (Table 16) as the F ratio of F (= 2.2996) is equal to 32.94 and p (= 0.000) is below 0.05. Additionally, we can observe that emotional appeal leads to greater perceived diagnosticity (= 0.702), while rational appeal (= -0.5896) leads to lower product understanding compared to both emotional appeal and no text. With p-value (= 0.000) < 0.05 (emotional = 0.0047, rational = 0.0163) and with a Bootstrap Confidence interval not straddling 0, the different levels significantly impact perceived diagnosticity.

Table 16: Textual appeal's effect on perceived diagnosticity

R	R-square	F	df1	df2	p
0.4176	0.1744	32.9496	2	312	0.000

	Coefficient	SE	p	LLCI	ULCI
Constant	3.0378	0.2179	0.000	2.6091	3.4665
Emotional appeal	0.702	0.2463	0.0047	0.2173	1.1867
Rational appeal	-0.5896	0.2441	0.0163	-1.0699	-0.1093

Looking at the indirect effect (Table 17), results revealed that the relationship between textual attributes and purchase intention is significantly indirectly impacted by perceived diagnosticity as both Bootstrap Confidence intervals do not straddle 0 (emotional = 0.0666 to 0.5527, rational = -0.5838 to -0.0202). Thus, perceived diagnosticity significantly mediates the effect of textual attributes on purchase intention.

Table 17: Relative indirect effects of X on Y

	Effect	BootSE	BootLLCI	BootULCI
Emotional appeal	0.2972	0.1227	0.0666	0.5527
Rational appeal	-0.2496	0.1239	-0.5038	-0.0202

Lastly, results reveal that perceived diagnosticity has a direct, significant effect on purchase intention as p-value (= 0.0000) is larger than 0.05 and zero does not fall between LLCI (= 0.3264) and ULCI (= 0.5202) (Table 18). Additionally, both variables are negatively correlated, which means that we can claim that greater perceived diagnosticity increases purchase intention.

Table 18: Perceived diagnosticity's direct effect on purchase intention

	Coefficient	SE	p	LLCI	ULCI
Perceived diagnosticity	0.4233	0.0493	0.000	0.3264	0.5202

To sum up, the mediation analysis proved that perceived diagnosticity appeared to mediate the effect of textual appeal (X) on purchase intention (Y), with emotional appeal giving the greatest impact. More specifically, the hypothesis (H3) is supported as the results reveal that emotional appeal positively impacts perceived diagnosticity which subsequently increases consumers' purchase intention.

4.7 The mediating effect between a background color's level of brightness and purchase intention

H_4: The existence of modified background color's level of brightness (vs. no background color) increases the perceived diagnosticity and subsequently increases purchase intention for experience products

4.7.1 Procedure

Since the aim is to test if perceived diagnosticity works as a mediator between a background color's level of brightness and purchase intention, our model assumes that adding bright or dark background color enables a greater understanding of the

fragrance intensity and smell compared to no color. Hence, we recoded the variable color background as follows: 1 = no color, 2 = bright background color, and 3 = dark background color, with no color chosen as the reference group.

4.7.2 Results

In order to establish what can be expected from the mediation analysis, descriptive statistics were conducted. Table 19 shows that the mean of perceived diagnosticity is quite close in each treatment group, with bright background color having the greater mean (= 3.13) in perceived diagnosticity compared to adding dark background color and no color (no color = 3.037, dark = 2.999). Furthermore, Table 19 shows a higher purchase intention among the respondents who were exposed to no background color (= 3.01) compared to background color (bright = 2.646, dark = 2.775) being present.

Table 19: Descriptives: color's impact on perceived diagnosticity and purchase intention

Descriptive statistics - Perceived diagnosticity

	N	Mean	Std. Deviation
No color	37	3.0378	1.5245
Bright color	140	3.1329	1.4445
Dark color	138	2.9986	1.4514

Descriptive statistics - Purchase intention

	N	Mean	Std. Deviation
No color	37	3.0135	1.3202
Bright color	140	2.6464	1.2996
Dark color	138	2.7754	1.2788

After an overview of the descriptive statistics, it can be expected that a mediation effect will most likely not be proven by following analysis. Looking at the total effect of color on purchase intention, as expected, color does not have significant effect on purchase intention as color yielded an F ratio of F (= 2.996) = 1.243 and p-value (= 0.29) < 0.05 (Table 20). As a result, we chose not to proceed with the mediation analysis, as the statistics do not fulfill at least one of the requirements stated earlier. Hence, we fail to reject the hypothesis (H5).

Table 20: The total effect of background color on purchase intention

R	R-square	F	df1	df2	p
0.0889	0.0079	1.243	2	312	0.29

4.8 The mediating effect between background shape and purchase intention

H_5: The existence of modified background shape (vs. no background shape) increases perceived diagnosticity and subsequently increases purchase intention for experience products.

4.8.1 Procedure

To test if perceived diagnosticity works as a mediator between a background shape and purchase intention, the model assumes that the existence of background shape enables a greater understanding of the fragrance intensity and smell compared to no background. Consistent with the procedure for the mediation analysis of background color and textual appeal, the variables were coded as follows: 1 = no shape, 2 = round and 3 = angular.

4.8.2 Results

Descriptive statistics do not indicate major differences (Table 21). There is no major variation in mean of perceived diagnosticity in each background shape treatment, with angular having the highest mean (= 3.115) in perceived diagnosticity compared to adding background shape (round = 3.02, angular = 3.038). Moreover, Table 21 shows a higher purchase intention among the respondents that were exposed to no background shape (= 3.014) compared to adding background shape (round = 2.775, angular = 2.643) being present. Hence, a mediation is not likely to exist.

Table 21: Descriptives: Shape's impact on perceived diagnosticity and purchase intention

Descriptive statistics - Perceived diagnosticity

	N	Mean	Std. Deviation
No shape	37	3.0378	1.5245
Round	142	3.0197	1.4630
Angular	136	3.1147	1.4341

Descriptive statistics - Purchase intention

	N	Mean	Std. Deviation
No shape	37	3.0135	1.3202
Round	142	2.7746	1.38837
Angular	136	2.6434	1.1768

Observing the total effect of background shape on purchase intention, shape does not have a significant effect on purchase intention as shape yields an F ratio (= 2.996) of 1.2554 and p-value (= 0.286) < 0.05 (Table 22). Similar to the mediation testing with background color (H4), a mediation analysis was chosen not to proceed with, as the statistics do not fulfill at least one of the requirements stated earlier. Hence, we fail to reject the hypothesis (H5).

Table 22: The total effect of background shape on purchase intention

R	R-square	F	df1	df2	p
0.0893	0.008	1.2554	2	312	0.2864

4.9 Explorative analysis

As an addition to the findings from the pretest and the main study, the analyzed data allowed us to provide some additional interesting insights. Such results might not directly contribute to the aim of the current paper, but be highly relevant for online retailers and e-commerce managers. Thus, we believe that it is worth highlighting some of the additional results.

4.9.1 Combination of website attributes

Since we could not support our hypotheses concerning the different websites attributes' positive effect on perceived diagnosticity, we aimed to test if the nine condition groups had a significant, positive impact on perceived diagnosticity and if there exists an optimal combination that contributes to increasing consumers' perceived diagnosticity and purchase intention. Figure 6 shows an overview of the means of perceived diagnosticity in the different treatment groups, with condition 4 (i.e., bright background color, angular background shape and emotional appeal) leading to the greatest understanding of the product among the participants. To test whether the differences in mean have a significant effect on perceived diagnosticity, a regression analysis was performed. Table 23 shows that almost all conditions had a significant effect on the perceived diagnosticity, including condition 4. Interestingly, condition 8 (i.e., bright background color, round background shape, and rational appeal) had the lowest mean in perceived diagnosticity compared to the other conditions including the control group (Figure 6). This indicates that with a "right" or "wrong" combination of textual appeal, background shape and color can significantly impact consumers' perceived diagnosticity.

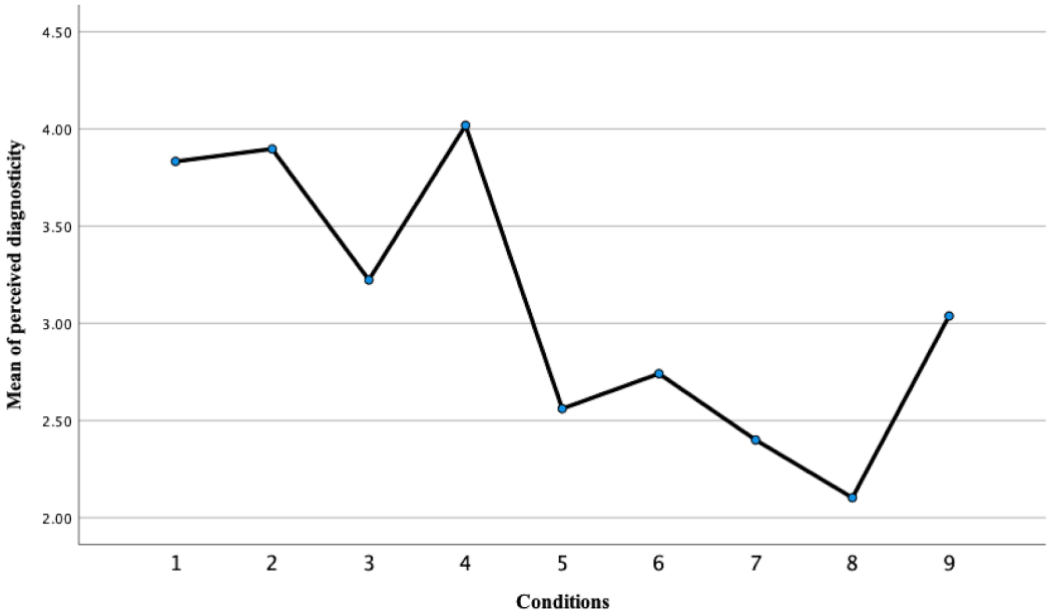

Figure 6: Means plot of perceived diagnosticity for the different conditions

Table 23: Regression - Website attributes combination's impact on perceived diagnosticity

	Regression (Condition)		
	B	Std. Error	Sig.
(Constant)	3.038	0.216	0.000
1 Dark / round / emotional	0.795	0.323	0.014
2 Bright / round / emotional	0.859	0.305	0.005
3 Dark / angular / emotional	0.186	0.312	0.552
4 Bright / angular / emotional	0.981	0.317	0.002
5 Bright / angular / rational	-0.477	0.307	0.122
6 Dark / angular / rational	-0.297	0.312	0.342
7 Dark / round / rational	-0.638	0.30	0.034
8 Bright / round / rational	-0.935	0.310	0.003

Furthermore, the same procedure was conducted for purchase intention to see if the different treatment groups differ in terms of resulting in greater purchase intention. Consistent with the perceived diagnosticity, condition 8 (i.e., bright background color, round background shape and rational appeal) has the most negative impact on purchase intention (Figure 7). In fact, all conditions except for condition 2 and the control group have a negative impact on purchase intention, with condition 2 having the highest mean in purchase intention among the respondents (Table 24). However, condition 8 has the only significant impact on purchase intention (Table 24).

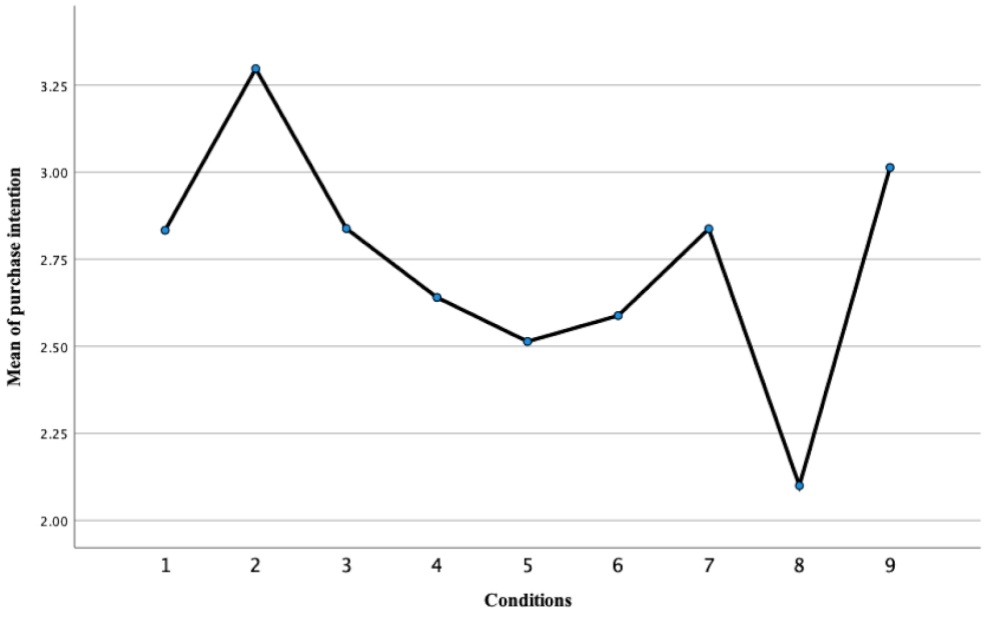

Figure 7: Means plot of purchase intention and the different conditions

Table 24: Regression - Website attributes combination's impact on purchase intention

	Regression (Condition)		
	B	Std. Error	Sig.
(Constant)	3.014	0.209	0.000
1 Dark / round / emotional	-0.180	0.312	0.564
2 Bright / round / emotional	0.284	0.295	0.337
3 Dark / angular / emotional	-0.175	0.302	0.562
4 Bright / angular / emotional	-0.373	0.306	0.225
5 Bright / angular / rational	-0.50	0.297	0.094
6 Dark / angular / rational	-0.425	0.302	0.16
7 Dark / round / rational	-0.176	0.290	0.544
8 Bright / round / rational	-0.914	0.299	0.002

4.9.2 Perceived intensity

An additional variable the study measured is perceived odor intensity. Respondents were asked to rate the fragrance intensity using a 100-point scale (Zellner & Kautz, 1990; Zellner & Whitten, 1999). Thus, 0 implies "no odor", 50 is considered as neither very weak nor very strong, and 100 represents the "strongest imaginable odor". The respondents were asked to rate how intense they perceived the perfume to be. Hence, the perceived odor intensity was measured on a continuous rating scale. In this way, we can measure how perceived intensity varies when modifying visual website attributes. Thus, we can prove if sensory attributes such as fragrance intensity can be conveyed through background color and shape.

4.9.2.1 Color's effect on perceived odor intensity

In order to test if the darker background color is perceived as more intense than the brighter one and/or no background color, a One-way ANOVA was conducted. The test aimed to detect if perceived odor intensity significantly differs between bright and dark background color. The variable "perceived odor intensity" was chosen as the dependent variable, while "color" was specified as the factor. Observing the different means in each color treatment, we can notice minor differences (Table 25). In fact, bright background color elicited the highest perceived odor intensity. However, we cannot claim that perceived odor intensity significantly differs among the different levels as p-value (= 0.215) is higher than α (= 0.05) (Table 26).

Table 25: Mean - perceived odor intensity (Color background)

Perceived intensity		
Color	N	Mean
Dark	138	54.2246
No color	37	54.4865
Bright	140	59.1071
Sig.		0.446

Table 26: One-way Anova - perceived odor intensity

ANOVA - Perceived intensity					
	Sum of Squares	df	Mean Square	F	Sig
Between Groups	1814.324	2	907.162	1.546	0.215
Within Groups	183114.672	312	586.906		
Total	184928.997	314			

4.9.2.2 Shape's effect on perceived odor intensity

In order to test if the fragrance with an angular background is perceived as more intense than a fragrance with a round background, a One-way ANOVA was carried out. The test aimed to detect if perceived odor intensity significantly differs between angular and round backgrounds. Similar to background color, there are no significant differences between the different shape conditions (Table 27). This can be confirmed with a p-value of 0.870. The mean is slightly higher when respondents were presented with a background shape (Table 28).

Table 27: ANOVA - Shape's effect on perceived odor intensity

ANOVA - Perceived intensity					
	Sum of Squares	df	Mean Square	F	Sig
Between Groups	165.258	2	82.629	0.14	0.87
Within Groups	84763.73	312	592.191		
Total	84928.99	314			

Table 28: Mean - perceived odor intensity (shape)

Perceived intensity		
Shape	N	Mean
No shape	37	54.4865
Round	142	56.5211
Angular	136	56.8529
Sig.		0.828

4.9.3 Differences between genders

Since the experience product selected for the main study was targeted to females, it became an interest to investigate whether there are any significant differences between the genders. Observing the means, males had a slightly higher mean in purchase intention than women (Table 29).

Table 29: Means in purchase intention and perceived diagnosticity across gender

	Gender	Mean
Purchase intention	Male	2.836
	Female	2.663
Perceived diagnosticity	Male	3.081
	Female	3.010

Furthermore, an Independent samples t-test was conducted to see if there existed significant differences between females and males when it comes to perceived diagnosticity and purchase intention. According to Table 30, there are no significant differences as p-value (purchase intention = 0.342, perceived diagnosticity = 0.729) is higher than 0.05.

Table 30: Independent samples t-test

	df	Sig. (2-tailed)
Purchase intention	295	0.342
Perceived diagnosticity	295	0.729

5. DISCUSSION

5.1 Conclusions

The purpose of our study was to investigate if modifications of website attributes could result in an increase in perceived diagnosticity for experience products (i.e., fragrances), which subsequently would increase consumers' purchase intention. Within this research purpose, we assumed that perceived diagnosticity worked as a mediating effect between website attributes and purchase intention.

First, we intended to measure if there existed a positive relationship between perceived diagnosticity and purchase intention. Accordingly, high value of perceived diagnosticity would lead to greater purchase intention and low perceived diagnosticity would lead to lower purchase intention. Consistent with previous research findings, perceived diagnosticity has a significant effect on online customers' purchase intention (Bhatnagar & Ghose, 2004). By increasing customer perceived diagnosticity, customer purchase intention increases (Forsythe & Shi, 2003; Aghekyan-Simonian, Forsythe, Suk Kwon & Chattaraman, 2012). Hence, the hypothesis (H1) is supported by significant results (Table 31).

When testing for the effect of website attributes on perceived diagnosticity, we received various results depending on the attribute chosen for the analysis. Interestingly, textual appeal was the only attribute that had a significant effect on perceived diagnosticity, which supports Kim & Lennon's (2008) claim of textual product presentation being superior to visual information. Additionally, results showed that rational appeal had lower value in perceived diagnosticity compared to no text which can be explained by the fact that the respondents may have experienced information overload (Lurie & Mason, 2007; Blanco et al, 2010). This can be supported by some respondents who may have encountered too much irrelevant information when reading through the ingredient list. However, it must be noted that visual product presentation was somehow introduced in all treatments with the picture of the fragrance being present. It should also be mentioned that the textual stimuli can be perceived as more informative than a background shape or a color.

As previously mentioned, color and shape did not alone have any significant impact on perceived diagnosticity. Hence, our study does not prove that all of the website attributes increase consumers' perceived diagnosticity significantly separately. More specifically, hypothesis 2a is supported, while 2b and 2c is not (Table 31). However, the nine different conditions were tested as dummy variables in the regression analysis, and we received significant results from several conditions, with condition 4 (i.e., angular shape, bright background color, and emotional appeal) leading to highest perceived diagnosticity compared to textual appeal when deducting the coefficient effects. This is consistent with Liu & Stout's (1987) research findings, in which images together with a description are more effective than a description alone.

Moreover, we assumed that perceived diagnosticity worked as a mediator between textual appeal and purchase intention with emotional appeal evoking increased perceived diagnosticity, which thereafter increases consumers' purchase intention. With emotional appeal having the greatest impact on perceived diagnosticity (= 0.702), we can back up the research stating that consumers' expectations exceed the actual product evaluation when the product description of a fragrance is being abstract (Toncar & Fetscherin, 2012). Additionally, our study proved significant findings supporting that perceived diagnosticity works as a mediation effect between emotional appeal and purchase intention which confirms that website design can increase consumers' perceived diagnosticity (Flavián et al., 2006; Schlosser et al., 2018) and thereafter impact the users' purchase intention (Jarvenpaa & Todd, 2015; Lohse & Spiller, 1999). Consequently, the hypothesis (H3) is supported (Table 31).

Lastly, we examined perceived diagnosticity as a mediating effect between the visual website attributes (i.e., shape and color) and purchase intention which is not significantly supported by our statistical results (Table 31). Observing the results, we can see that purchase intention had the highest mean when participants were part of the control group. This might be explained by the fact that at least 9 male subjects were randomly assigned to the control group (i.e., no text and background), where purchase intention for women perfume might not be correctly reflected through men.

Moving towards visual attributes' impact on perceived odor intensity, we did not have enough statistical evidence to claim differences in perceived odor intensity across the different levels of background shape and a background color's level of brightness. However, we observed some insignificant differences in mean, where in fact bright background color elicited highest perceived odor intensity. Latter results contradict our assumptions, as we expected that darker background color would lead to stronger perceived odor intensity. Though, the results could be explained by the fact that the color of the fragrance stands out in front of a bright background color. Thus, the fragrance color would be perceived as brighter in front of a dark background color. Based on latter findings, H4 and H5 are not supported (Table 31).

To answer our research question, we can conclude that a combination of visual and textual website attributes can significantly impact online user's purchase intention for experience products to a greater extent by increasing consumers' perceived diagnosticity. This supports that modifications and the implementation of website attributes actually affects online purchase intention (Ganguly et al., 2010, Richard, 2005, Vijayasarathy, 2004).

Table 31: Summary of results

Hypothesis	Variables	Results
H1	Product diagnosticity positively influences purchase intention.	Supported
H2a	Textual appeal positively influences perceived diagnosticity for experience products.	Supported
H2b	Background color positively influences perceived diagnosticity for experience products.	Not supported
H2c	Background shape positively influences perceived diagnosticity for experience products.	Not supported
H3	Emotional appeal (vs. rational) increases the product diagnosticity and subsequently increases purchase intention for experience products.	Supported
H4	The existence of modified background color's level of brightness (vs. no background color) increases the product diagnosticity and subsequently increases purchase intention for experience products	Not supported
H5	The existence of modified background shape (vs. no background shape) increases perceived diagnosticity and subsequently increases purchase intention for experience products.	Not supported

5.2 Managerial implications

The results of the current research study have important implications for the management of E-commerce and online retail. On the other hand, findings suggest that managers are able to increase purchase intention of experience products that require from a smell-sensory experience when increasing perceived diagnosticity. This positive correlation between perceived diagnosticity and purchase intention is complying with the statements from Bhatnagar & Ghose (2004). Hence, the importance of investing on a website design that contributes to customers having a better understanding of the product is essential. On the other hand, managers can use these results to improve their product presentation to better communicate the multi-sensory attributes and thus, contribute to consumers having a greater understanding of the product.

In relation to the website attributes, our results demonstrated the importance that textual attributes have on perceived diagnosticity and purchase intention. Therefore, E-commerce and online retailers might consider highlighting textual attributes in their website design and focus primarily on textual information. This claim on textual attributes being superior to visual ones is in accordance with the findings from Kim & Lennon (2008). An additional interesting insight that might help managers to increase perceived diagnosticity, is the fact that rational textual appeal results in a decrease in perceived diagnosticity. Thus, a common suggestion to E-commerce managers and online retailers is to not present rational textual information at first sight on their websites. Consequently, it might be of interest to design a website that allows users to choose whether they want to be exposed to rational information or not (e.g., showing ingredients in a separate tab). A clear example of this, it would be how Fredrik & Louisa (n.d.) present rational information in their website (Appendix E).

The insignificant results found for the relationship between visual attributes and purchase intention should be noted by the managers, as they might want to focus on other website attributes. Additionally, the fact that visual attributes do not correlate with perceived odor intensity might be interesting to bear in mind. However, despite visual attributes not having a direct effect on purchase intention,

it is worth mentioning that managers would benefit from an optimal product presentation that includes both textual and visual attributes. The findings of the current study determined optimal product presentations that contribute to an increase in customer purchase intention. More specifically, managers might be interested in using the combination that leads to the largest increase in purchase intention for the product used in the main study: brighter background color, angular background shape, and emotional textual appeal. Despite visual attributes not having an effect on perceived odor intensity, the fact that there is an optimal presentation highlights the importance of conveying a coherent messaging through website attributes. The aforementioned claim reinforces the findings from previous researchers (Parise & Spence, 2012) Thus, managers might be interested in adapting website attributes based on the characteristics of the product.

5.3 Limitations and further research

The current study has some limitations, which might deserve further research. As with most of the survey-based experiments, the current study uniquely looked at customer purchasing intention rather than at customer purchasing behavior. Previous studies have attempted to demonstrate the attitudinal inconsistency between customers' stated purchase intention and their actual behavior. According to Fife-Schaw, Sheeran & Norman (2007) findings, changing customers' intentions do not necessarily guarantee a change in their behavior. Thus, future research might use different data gathering approaches such as observational experiments to determine the actual effect on purchasing behavior.

The current study intended to have a better understanding of the effects that visual attributes have on products that require a smell-sensory experience such as fragrances. However, due to the limitations of the study itself (e.g., time and financial resources as well as external conditions such as Covid-19), the main study presents a series of additional limitations. Firstly, the fragrance used in the main study carries immediate perceived odor intensity that has not been controlled for and could be part of the reason for the discrepancy in results. It may be the case that the actual color of the perfume might stand out whenever it is presented with a bright background color, and, thus, it would be perceived as darker than when comparing it with the darker background color.

Building on the carried associations with the fragrance itself, we uniquely analyzed one out of the four types of fragrance families (Floral, Oriental, Fresh & Woody) according to the fragrance wheel from Michael Edwards (1992). By doing so, we were not able to control whether survey-participants had a lower purchase intention due to their personal preferences when it comes to fragrance families. Consequently, future research could benefit from analyzing fragrances falling within other fragrance families and also comparing fragrances within the family but with a different fragrance color to determine the possible effect that background color has on perceived odor intensity.

Secondly, it is worth noting that in order to recreate a controlled environment as realistic as possible, we included some elements (e.g., brand and price) in the product presentation that might have had a possible impact on the purchase intention from the survey-participants. Previous researchers have stated the existing positive relationship between brand and purchase intention (Chi et al., 2009) as well as the moderation effect that price has on purchase intention (Chang & Wildt, 1994). Indeed, several respondents to the main study stated that their purchase intention might have been influenced by the brand and/or the price of the fragrance presented. Therefore, the use of such a well-known company as Guérlain is, it might have biased the results obtained in terms of participants' purchase intention.

Additionally, the brand included in the study might be considered as an indicator of quality which together with the perceived price have a clear implication on purchase intention (Chang & Wildt, 1994). Therefore, it might be of interest to conduct a future study while controlling both brand and price attributes. Related to controlling the environment to make it as realistic as possible, it is worth bearing in mind that the research approach used in the current study presented many limitations to increase the ecological validity. At the same time, when including more elements into the web design, the control over the results might decrease as more variables are considered. Based on that, it would be interesting to conduct an experiment that showcases a more realistic website design (e.g., including reviews, showcasing the product on video, etc.).

The intention of the experiment was to imitate a real-world website environment, but also be able to control for the variables being tested. For further research, it could be interesting to merely test the effect of background color to increase the study's internal validity (Malhotra, 2010). In this way it is more likely to be able to measure to what extent color impacts for instance purchase intention and perceived odor intensity. Hence, color aspects such as color hue, saturation, and warm vs cold colors can also be measured. However, as previously mentioned, this will be at expense of an experiment's ecological validity as consumers often will be impacted by other factors in an actual website shopping scenario.

Thirdly, in relation with the sampling technique used in the current study, it is worth bearing in mind the limitations associated with non-probability sampling techniques. As Malhotra (2010) points-out, respondent self-selection is one of several potential origins of selection bias. Convenience samples are not considered as representative for any specific populations. As a result, one cannot generalize to any population from a convenience sample. Talking about the sample, the vast majority of respondents were female subjects as the product was made for them. Thus, it would be interesting to conduct a similar study for a male fragrance and with most of the sampled being male subjects.

Lastly, it might be worth mentioning that presenting no textual attributes resulted in a surprisingly higher perceived diagnosticity than presenting rational ones (i.e., better understanding of the product). This might be partly related to the weight that the control group represents in comparison with the rest of the 8 treatment groups (36 participants in the control group vs. 261 in the other eight treatment groups).

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7. APPENDICES

Appendix A

Appendix A: Fragrance used in the main study

Appendix B

Appendix B: Pre-test survey conducted through Qualtrics (Example of dark background color and rational appeal)

Dear participant,

Thank you for taking the time to be part of this online survey. Your answers will be used as a part of our Master Thesis in Strategic Marketing Management at BI Norwegian Business School.

In this particular study we are interested in both your perception of a specific color's level of brightness and your perception of a particular product description appearing as rational or emotional.

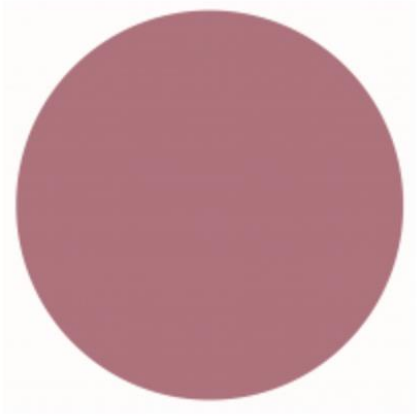
Please note that your answers are completely anonymous and exclusively used for research purposes. It will not be gathered personal information that is identifiable. Participating in this study is completely voluntary, and you have the right to withdraw anytime.

If any issues arise about the survey or the research study itself, do not doubt to contact us by sending an email either to Ragnhild Elin Pettersen Ulvestad (ragnhild.e.p.ulvestad@student.bi.no) or Ariadna Puiggené Robles (ariadna.p.robles@student.bi.no)

If you agree to voluntarily participate in this online survey, feel free to click the button below in order to start.

I consent that I voluntarily participate in this study ○

How bright/dark do you perceive this color to be?



Very bright Very dark

Read the following definitions carefully:

- Rational appeal refers to factual information (i.e., objective description of product attributes)
- Emotional appeal refers to subjective information that is more emotion-laden.

Based on the aforementioned definitions and the product description presented below, how rational/emotional do you perceive the product description to be?

Ingredients: Alcohol, Fragrance, Water, Linalool, Limonene, Ethylhexyl Methoxycinnamate, Coumarin, Diethylamino Hydroxybenzoyl Hexyl Benzoate, Butyl Methoxydibenzoylmethane, Butylene Glycol Dicaprylate/Dicaprate, Bht, Citral, Anise Alcohol, Benzyl Benzoate, Geraniol, Benzyl Salicylate, Citronellol, Farnesol, Benzyl Alcohol, Ci 60730 (Ext. Violet 2), Tocopherol, Ci 14700 (Red 4), Ci 19140 (Yellow 5).

Rational Emotional

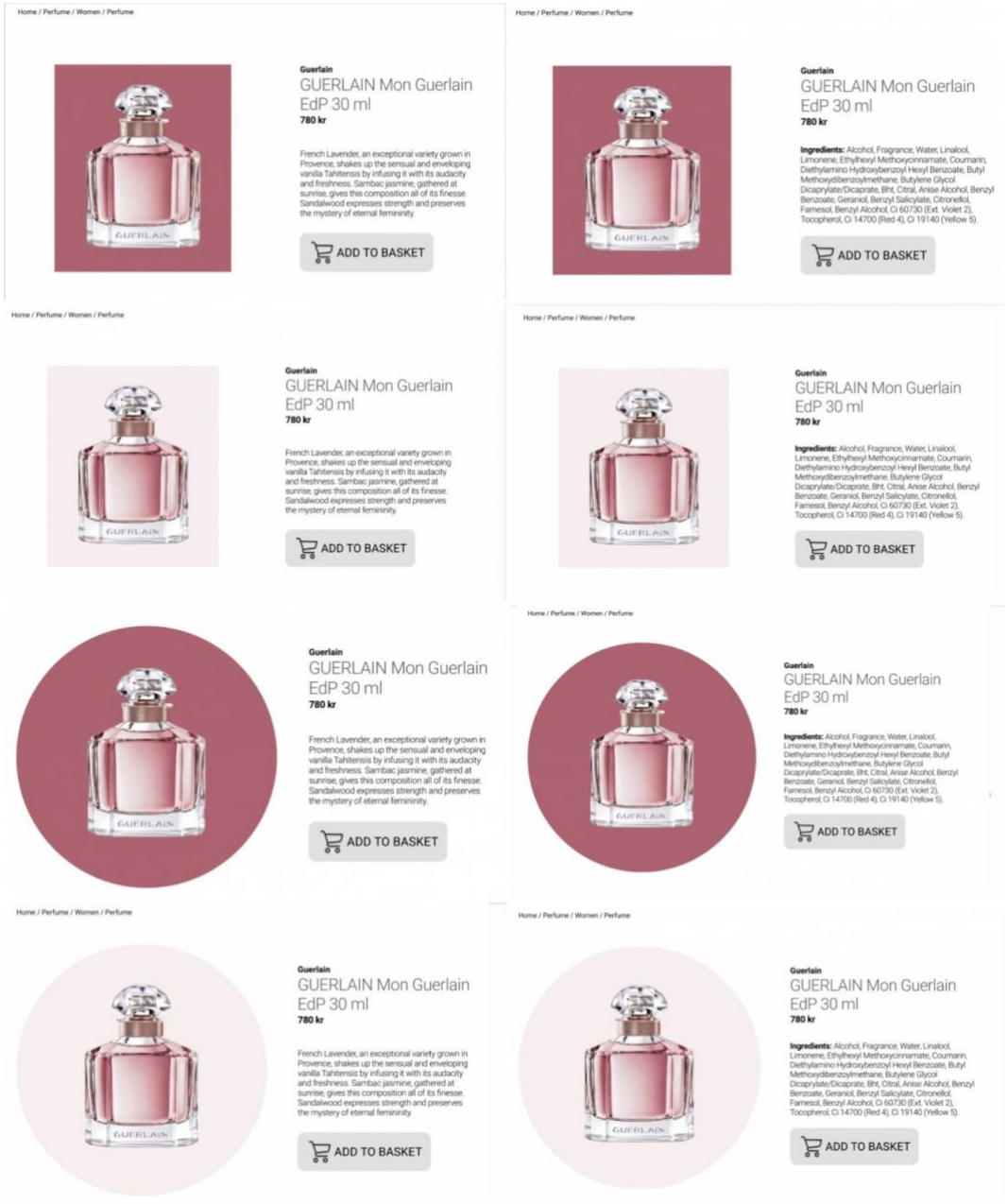
Age:

Gender:

- Male
- Female
- Other
- Prefer not to say

Appendix C

Appendix C: Treatment groups



Source: Own elaboration

Appendix D

Appendix D: Survey of the main study conducted through Qualtrics (example condition 7)

Dear participant,

Thank you for taking the time to be part of this online survey. Your answers will be used as a part of our Master Thesis in Strategic Marketing Management at BI Norwegian Business School conducted by Ragnhild Elin Pettersen Ulvestad and Ariadna Puiggené Robles. Please, note that you must be at least 18 years of age to participate in the survey. The procedure will take approximately 5 minutes.

Participating in this study is completely voluntary and all of your responses will be kept confidential. Your answers will be completely anonymous and exclusively used for research purposes. No personally identifiable information will be associated with your responses to any reports of these data. You have the right to withdraw anytime during the process of completing the survey.

If any issues arise about the survey or the research study itself, do not doubt to contact us by sending an email either to Ragnhild Elin Pettersen Ulvestad (ragnhild.e.p.ulvestad@student.bi.no) or Ariadna Puiggené Robles (ariadna.p.robles@student.bi.no)

If you agree to voluntarily participate in this online survey and confirm being over 18, feel free to click the button below in order to start.

I consent that I voluntarily participate in this study and I am over the age of 18

Have you purchased any products online during the past three months?

- Yes
- No
- I don't know

To what extent do you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I find website's product information useful when evaluating a product	○	○	○	○	○	○	○
I purchase products online on a regular basis	○	○	○	○	○	○	○
I don't consider purchasing products online risky	○	○	○	○	○	○	○

How often do you purchase products online?

- Weekly
- Monthly
- Less than once a month
- Less than once a year
- I don't purchase products online

Suppose that you are intending to buy a fragrance for ladies on the Internet and you end up in an online store that sells fragrances for women. Once you are in it, you decide to click on one of the products shown on the site which redirects you to a new site including the following product presentation:

How intense do you perceive the smell of the fragrance to be? (0 = no odor, 50 = neither very weak nor very strong, 100 = strongest fragrance odor)

0 10 20 30 40 50 60 70 80 90 100

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Purchasing this product is risky	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
After browsing on the Internet, I intend to purchase this product	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The product presentation enabled me to judge the smell of the fragrance	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The product presentation was helpful to familiarize with the fragrance	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have a good understanding of the product's smell	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The next time I need to purchase a fragrance for women, I will consider purchasing this one	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The product presentation was helpful in influencing my overall evaluation of the fragrance	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
There is a high chance that this product will fulfill my expectations	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The product presentation enabled me to judge the fragrance intensity	○	○	○	○	○	○	○

What might have influenced your willingness to purchase the fragrance?

What do you think is the purpose of this study?

Please enter your age:

Gender:

- Male
- Female
- Non-binary
- Prefer not to disclose
- Prefer to self-describe

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You made it to the end of the survey! The present research study aims to test to what extent visual and textual website attributes influence customer's online purchase intention for experience products. Thus, you have been exposed to one of the nine different treatment groups in which specific visual and textual attributes have been modified.

Thank you again for participating as a research participant in the present online survey. If you know of any friends or close contact people who are eligible to participate in this study, we request that you do not discuss it with them until they have had the opportunity to participate. Prior knowledge of questions asked during the study can invalidate the results. We greatly appreciate your cooperation.

Source: Own elaboration

Appendix E

Appendix E: Fredrik & Louisa example of how to present rational information