MASTERTHESIS

Online shopping and the absence of touch:
Finding the best strategy to improve the online shopping experience

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Pre-face

My name is Aimée Bakker and I am a master student Marketing & Communication at the University of Twente. After seven months of hard work I have finished my master thesis about multisensory marketing, in particular about the role of touch in the online shopping experience. Multisensory marketing investigates the relationship between sensory, affective and symbolic product properties and the contribution of different sensory modalities to the overall product experience. This thesis is written as part of my master graduation at the Faculty of Behavioural Sciences, study Marketing and Communication, at the University of Twente.

Together with my first supervisor, Anna Fenko, I came up with the idea of doing research on the online shopping phenomenon with a main focus on the absence of touch in this experience. I have learned a lot from doing this research all by myself and bringing the knowledge I have learned in my bachelor Communication Sciences and Master Marketing & Communication into practice. Looking back, it was challenging to create the stimuli used in the research and finding a large amount of participants. Luckily, the research was fun to execute and it therefore motivated me to work even harder to deliver a thesis of good quality.

I would like to thank my first supervisor Anna Fenko for the fine guidance and support during this process. She was always happy to answer any questions I had about my research and provide me with useful feedback. Furthermore, I would like to thank the second supervisor Joyce Karreman for co-reading and evaluating this thesis. In addition, I would like to thank Vincent Poot and Dennis de Raaf for helping me with the creation of the stimuli for the main study. Without them I could not have executed this research this way. Last, I would like to thank all the respondents. Without the cooperation of the respondents I would not have any data, analysis or master thesis.

I hope you enjoy reading my master thesis about the absence of touch in the online shopping experience.

Aimée Bakker

Enschede, 15-09-2015.

Abstract

It has been suggested that goods requiring multisensory input (touch) will be less likely to be purchased over the Internet (e.g. clothing). This study explores the efficiency of verbal and visual combinations that can be used to improve the online product experience. The research question is: "*In what way can verbal descriptions of tactile properties and additional visual information (pictures with zoom or videos) compensate for the absence of touch in the online shopping experience?"*

In this study an experimental approach was used to investigate the influence of product description, visual information and product quality on the online shopping experience, for consumers with a low and high need for touch. Eight different stimuli with combinations were created and participants were asked to evaluate the product as well as the product presentation. The eight conditions included a luxury brand or a fast fashion brand, a normal- or a tactile product description and a picture with zoom function or a video.

Results show that web shops should use a tactile product description in combination with video or zoom function when selling a luxury brand. However, when selling a fast fashion brand it is suggested to use a normal product description and a video. These combinations provide the richest online shopping experience. When considering the perceived comfort of the product and purchase intention of consumers, it is more useful to present a zoom function. These results can help to understand the online shopping experience of consumers with a high need for touch. Furthermore, marketers can use these results when designing new mobile shopping applications or interactive web shops. At last, the findings provide more insight into the multisensory marketing research area.

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Introduction

The number of consumers buying online and the amount of time being spent online has been on the rise for years. Nowadays, the online and offline world will become more intertwined with each other and the individual customer will be the central focus. In addition, the increase of online shopping puts pressure on the vitality of offline shopping areas. In a world that becomes increasingly digitized and where online developments are moving faster, knowledge of the direction and impact of these trends is crucial for retailers (Frankwatching, 2012). This is also relevant since it is expected that about 11 percent of all retail sales in 2015 will occur online. A significant development is that more and more manufacturers are embracing online shopping and acknowledge that their customers are mainly orienting for fashion products online (CBS, 2015). Therefore, it can be concluded that online shopping of clothing is very much popular and still on the rise. The context of this research is on garments and in particular on women's tops.

However, online shopping can also have a downside for some consumers. Phillips, Donoho, Keep, Mayberry, McCann, Shapiro and Smith (1997) found that one deterrence to consumers' use of the Internet for product purchase was the lack of a range of sensory experiences attendant to this medium. Intuitively, it has been suggested that goods requiring multisensory input in reaching product choice decisions will be less likely to be purchased over the Internet. When shopping online, consumers must rely entirely on visual stimuli. The problem occurs most in product categories where touch is particularly diagnostic, such as clothing. Some people have a higher need for touch than others. People high in the need for touch have a strong tendency of wanting to touch products before buying them.

Citrin, Stem, Spangenberg and Clark (2003) state that individuals with a higher need for tactile input in making product/brand choices will be less likely to purchase clothes on the Internet (given the absence of tactile cues in this shopping medium). Alternatives to physical touch are thus of great practical interest. Although verbal descriptions may help (e.g., inferring softness), such descriptions alone do not completely satisfy the need for autotelic touch (touching for fun). Given the relative lack of prior theoretical research examining the role of tactility in making product choices on the Internet, the primary research objective is to explore the efficiency of various strategies that can be used to improve the online product experience (of clothing). Next to that, the perception of product quality is investigated regarding the lack of touch when shopping online. Based on the information above the following research question can be conducted:

In what way can verbal descriptions of tactile properties and additional visual information (pictures with zoom or videos) compensate for the absence of touch in the online shopping experience?

The purpose of this study is to contribute to the knowledge about multisensory product marketing. In addition, the results of this study are relevant for certain marketing purposes. The results may contribute to the knowledge of retailers about consumer's need for touch and also about different strategies to compensate the lack of it in the online shopping experience. Practical implications of this study can help retailers attract more consumers that are high in the need for touch to buy products online. Retailers of luxury brands as well as fast fashion brands need to know which mechanisms (verbal descriptions of tactile properties and visual information) to emphasize online to maximize their sales.

1. Theoretical framework

1.1 Sensory marketing (*touch*)

Sensory marketing is marketing that engages the consumers' senses and affects their behaviour. The focus within this topic is on how sensory aspects of products (touch, taste, smell, sound and look of products) affect our emotions, memories, perceptions, preferences and choices (Krishna, 2010). Touch plays an important role in our evaluation and appreciation of different products. There has been a recent growth of interest in tactile branding and tactile marketing, since this topic is on the rise. What a product feels like can influence whether or not people will end up buying it. Millward Brown has confirmed the importance of touch when evaluating certain hand-held items by showing that 35% of consumers reported that the feel of a mobile phone was more important than its look (Spence & Gallace, 2011).

Touch is a sense that can be distinguished from the other senses for various reasons. Touch is the first sense to develop in infants and is therefore called a primary sense (Atkinson & Braddick, 1982). In addition, touch is a sense that can convey meaning and content that cannot easily be transmitted through language, which makes this sense unique. Spence and Gallace (2011) state that touch provides an important means of developing an emotional or affective connection with a product. When touching a product, a consumer can automatically feel that he has a certain bond with it.

Furthermore, touch is a valuable factor within the retail market. McCabe and Nowlis (2003) reported that consumers preferred to select those products from retailers who allowed their products to be touched, especially products for which tactile input is important for evaluation (e.g., clothing or portable electronics). A clever example of this is the clothing store The Gap. The Gap has been very successful in making the most of opportunities for tactile appraisal by their customers. In the store,

consumers see tables piled high with clothes, all positioned at an easy-to-touch height (Spence & Gallace, 2011). In this study, the main point of focus is also on a tactile category: clothing.

A common term used within sensory marketing focused on touch is “haptics”. The term haptics in marketing generally refers to the active seeking and perception by the hands. Peck (2010) states that products are touched for many reasons, not necessarily to ascertain material properties. Peck and Childers (2003) also demonstrated that touch-oriented individuals could access haptic information more easily and that these individuals might form richer mental product representations (due to haptic information) from memory. This last phenomenon is also called haptic imagery.

1.2 Haptic imagery

Imaging is a cognitive process in which sensory information is represented in working memory (MacInnis & Price, 1987). Imagery may operate as a mental recreation of experience involving multiple senses. Klatzky, Lederman, and Matula (1991) propose two general principles regarding the haptic imagery system. First, the function of haptic imagery should be similar to that of actual touch. This includes the possibility that clear haptic imagery may be a cue for the retrieval of associated information. Second, information conveyed by haptic imagery should correspond in content to information extracted by touch. For example, similar attributes to haptic attributes such as softness, texture and weight should be present in haptic imagery (Peck, Barger & Webb, 2012).

Furthermore, Peck, Barger and Webb (2012) found that imagining touching an object has a comparable effect on perceived ownership as physical touch, but only when someone´s eyes are closed. This is due to a difference in perception of physical control; touching or imagining touching an object with eyes closed results in greater feelings of physical control of the object compared to imagining touching with eyes open. The vividness of the haptic imagery is what determines the perception of physical control and feeling of ownership. In essence, closing the eyes and imagining touch is closer to actual touch due to the vividness of the imagined touch experience (Peck, Barger & Webb, 2012).

So, the more vivid the haptic imagery, the greater the perception of physical control and also the stronger the perception of ownership. The vividness of the imagined touch experience in this study is expressed in the different visual stimuli; pictures with zoom and videos of the product, but also in the tactile product description. When reading this description and zooming the picture or seeing the video, participants should have the feeling that they could imagine wearing and feeling the product.

1.3 How haptic information influences consumers

Touch can play an important role in consumer decision making processes and evaluations. However, in some situations where consumers buy products, there is no possibility to touch a product. When buying a product online, the consumer cannot touch a piece of clothing to feel its texture or to evaluate the quality of it. This could be a disadvantage for the company because, as mentioned above, the ability to touch a product could lead to greater feelings of psychological ownership and also a greater willingness to pay (Peck & Shu, 2009). This inability to provide a haptic experience is the cause of this study. Therefore, compensatory strategies are sought to improve the overall online product experience.

Also, tactile stimulation may play a significant role in shopping behaviour according to preliminary research on the significance of other senses (Citrin, Stem, Spangenberg, & Clark, 2003). For example: if a product differs in material properties (i.e. texture, temperature, weight and hardness), consumers will be more stimulated to touch a product before purchasing it (Peck, 2010). Touching a product can also affect the confidence of the consumer in a product and the attitude towards it, since this experience gives a pleasurable sensory feedback (Peck & Childers, 2003). When a consumer has a high need for touch, barriers to touch a product will decrease the confidence in product evaluations because haptic information will not be received. However, this is not the case for individuals with a low need for touch (Peck & Childers, 2003).

1.4 Need for touch

The role of haptic information differs among consumers and could be explained by the 'Need for Touch' (NFT): "a preference for the extraction and utilization of information obtained through the haptic system" (Peck & Childers, 2003, p. 431). NFT is a construct with two underlying factors: the instrumental factor and the autotelic factor. The instrumental factor refers to the aspects of pre-purchase touch that focuses on outcome-directed touch with an important purchase goal (Peck & Childers, 2003). In contrast, the autotelic factor focuses on the sensory aspects of touch and involves a hedonic-oriented response such as; seeking arousal, fun, sensory stimulation and enjoyment. This can be seen as touching a product for fun, with no specific goal related reason. Logically, some people are higher in their need for touch than other people. To investigate these individual differences in NFT, Peck and Childers (2003) have developed the NFT scale and conducted several studies to assess the scale's reliability and internal structure. The NFT scale is also used in this research, as NFT is a moderator in the study.

1.5 Strategies (verbal descriptions of tactile properties and additional visuals)

The main focus of this study is finding the best strategy to compensate for the absence of touch when shopping online. How can a company appeal to stimulate a potential customer's sense of touch? It turns out that there are already certain solutions (Spence & Gallace, 2011). One possibility involves the use of touch-related adjectives in advertising or naming a given product (or putting the emphasis on the tactile attributes of the products on the packaging itself). This solution often counts for beauty products, for example Nivea's Irresistibly Smooth and Light Touch body lotions were the softness is emphasized in the product's name.

The second approach is to use synesthetic advertising in order to stimulate a sense that cannot be stimulated directly, using more indirect means (e.g. "softness you can smell"). This advertising tries to stimulate tactile sensations by means of synesthetic associations, for example this advertising tries to equate sense A to sense B, e.g. touch to smell (Spence & Gallace, 2011). In this present study, the focus in the verbal product description is on specific tactile words. These words can be seen as certain tactile cues, which could possibly influence the whole online shopping experience of the consumer.

Furthermore, many designers have made frequent attempts to evoke the sense of touch by means of visual content, whenever relevant to the product that is advertised. Different kinds of products, including foods, drinks, clothing and creams all seem well suited to being accompanied by images that are specifically selected to evoke tactile sensations in the mind of the potential buyers (Spence & Gallace, 2011). When advertising the tactile attributes on products, it is important to consider how best to get them across using the available textual and visual modes of communication. The key point here is that the inability to directly stimulate the consumer's skin does not mean that advertising cannot reach out to touch the consumer using their other senses (Spence & Gallace, 2011).

When applying this information to internet shopping, it is essential to emphasize the intrinsic qualities of the product. Spence and Gallace (2011) state that the intrinsic qualities of a product, such as its colour, smell or texture can often be more important in determining its perceived quality than product extrinsic cues such as name, price and store image. Nowadays, there are some promising devices that allow a person to haptically explore three-dimensional virtual objects, but at the moment such devices are rarely found in the everyday home. Therefore, different kinds of communication strategies need to be established to meet the need for touch when shopping online (e.g. visual information and verbal descriptions of tactile properties). These strategies are further explained below.

1.5.1 Visual versus verbal information

Information presented in visual and/or verbal form is a fundamental element of the consumer information environment, especially in a non-personal marketing context such as advertising or non-store retailing (Kim & Lennon, 2008). In internet shopping, product information is most often presented as a combination of both visual and verbal forms. Fenko, Otten and Schifferstein (2010) state that people describe their product experiences using adjectives that can be divided into three groups: sensory descriptors (e.g., hard, red, noisy); symbolic descriptors (e.g., interesting, expensive, modern); and affective descriptors (e.g., pleasant, beautiful). All product experiences rely on information from sensory modalities, therefore it is relevant to have a verbal product description that is focused on certain tactile cues.

Furthermore, human language in general partly operates through metaphors. Metaphors can structure people's thoughts, govern their activities, and enable their reasoning from the familiar to the unfamiliar (Rein & Schön, 1977). Metaphors often refer to sensory phenomena. For example: good ideas are described as 'brilliant,' pleasant dreams as 'sweet,' important topics as 'hot,' and bright colours as 'loud'. The sense of touch has also been related to the field of emotions. Therefore, the verbal product description is focused on consumer's emotions. Fenko, Otten and Schifferstein (2010) formulated certain sensory descriptions, which are used in the present research and can be seen in Figure 1. Fenko, Otten and Schifferstein (2010) concluded that most tactile adjectives (rough, heavy, moist, warm, flexible) have also high importance ratings for the visual modality. This agrees to Williams' (1976) suggestion that touch is the main source domain and vision is the main target domain for the metaphorical transfer of meaning in sensory adjectives. Using this information, the following hypothesis is formulated:

Hypothesis 1: A tactile product description leads to a more positive product attitude and a richer shopping experience than a normal, non-tactile product description.

Sensory descriptions		
Tactile words	**Visual words**	**Symbolic words**
Warm/cold	Colourful	Luxurious
Rough/smooth	Clean	Complex
Strong/weak	Shiny	Modern
Heavy/light	Beautiful	Interesting
Flexible/inflexible	Breakable	
Moist/dry	Conspicuous	

Figure 1. General sensory descriptions used in product experience

Product information is also visually present in advertisements. Mitchell and Olson (1981) found that the visually oriented advertisement was more effective in generating a positive attitude towards the brand and more effective in communicating attributes of the product advertised than the verbally oriented advertisements. They concluded that visual information led to more changes in beliefs about the product and thus created more positive attitudes and purchase intentions than verbal information.

An essential distinction between verbal and visual stimuli is that visual stimuli evoke imagery information processing, whereas verbal stimuli evoke discursive information processing (Kim & Lennon, 2008). Imagery information processing evoked by visual stimuli represents sensory information in working memory. This sometimes includes multi – sensory dimensions, whereas discursive processing by verbal stimuli tends to be detached from inner sensory experience (MacInnis & Price, 1987).

This imagery information processing is also known as dynamic imagery. Dynamic imagery is the brain's ability to generate representations of moving objects, facilitating the simulation of transformations, rotations, and reorganizations of imagined information (Clark & Paivio, 1991). In other words, the viewer perceives the image to have a sense of movement. By allowing a shopper to interact with a product and examine the product on screen, dynamic product imagery (DPI) can

provide online shoppers with detailed product information and an entertaining shopping experience (Kim & Forstyhe, 2010). DPI comprises video, animation or other rich media content, providing interactive product images on screen (e.g., turning the product around and zooming) to online shoppers.

DPI interactivity, where consumers are able to manipulate (i.e., rotate, zoom and move) the product image on the screen and try some functions of the product, may provide consumers with a great sense of control. With increased user control and consumer involvement, online retailers can increase functionality and entertainment value of online shopping (Kim & Forsythe, 2010). Thus, greater dynamic imagery that consumers themselves perceive from static visuals should result in greater consumer engagement. Furthermore, Cian, Krishna and Elder (2014) expected that engagement with dynamic imagery will lead to greater positive attitudes toward the brand.

Use of zooming technology allows internet shoppers to see small details and thus provides more information about products. Therefore, zooming technology may be more effective than large static pictures in influencing consumer purchase decision making. However, these effects have not been validated yet (Kim & Lennon, 2008). Since consumers are more interactive when they can zoom the product themselves than when watching a video, the following hypothesis is formulated:

Hypothesis 2: The zooming function as main visual leads to a more positive product attitude, purchase intention and richness of the overall online shopping experience than the video presentation.

Additionally, Kim and Lennon's (2008) results demonstrated that verbal information can also have a significant effect on purchase intention. Concrete verbal descriptions of style information and construction details of apparel items may have helped consumers interpret the picture of the item and thus may have stimulated imagery processing. Internet retailers pay a great deal of attention to visual product presentation as compared to verbal product presentation. But, as research of Kim and Lennon (2008) pointed out, verbal descriptions are also important and therefore a combination of both is used in this study.

Next to the online verbal and visual information about the product, the perceived quality of the product is also a relevant factor for consumers. As mentioned before, Spence and Gallace (2011) stated that the intrinsic qualities of a product, such as its colour, smell or texture are often important in determining its perceived quality. Since the texture of online products cannot be felt by consumers, the perceived quality of the product may differ between consumers with a low need for

touch and consumers with a high need for touch. The perceived quality of online products is therefore also a main point of focus in this study and is discussed in the next paragraph of this study.

1.6 Perception of quality

Wheatley, Chiu and Goldman (1981) stated that tactile input can also play a role in consumers' perception of product quality, such that touching a product during evaluation can be efficient for consumers to assess intrinsic cues (attributes that are part of the physical product itself). Intrinsic cues have a greater impact on quality perceptions than extrinsic cues (e.g., price, brand name) if they are more diagnostic in nature. An explanation for this is that more information is available to consumers who touch a product, resulting in more positive evaluations. Grohmann, Spangenberg and Sprott (2007) state that consumers who are unable to touch retailers' offerings find it more difficult to discriminate between products of varying quality, especially when tactile input is important for evaluation.

In addition, Grohmann, Spangenberg and Sprott (2007) showed that the tactile input, especially from products high in quality, had a positive effect on the evaluation of products that differed in the material properties of texture and softness. However, it is not evident that this also accounts for the quality of products provided on the internet where touching the product is impossible. Therefore it is relevant to further investigate this topic. In this study, the differences in product quality are measured on the basis of luxury brands and fast fashion brands.

1.6.1. Luxury brands

Luxury brands tend to be well-known global brands. A critical issue for marketers of luxury goods is how to use the Internet and translate this use into economic value (Porter, 2001). A general definition of luxury brand is hard to describe. It includes a promise of performance in return for the trust placed in it. Luxury brands acquire a concrete and absolute quality through the product or service provided. Nyeck and Roux (1997) describe luxury brands as a sensory world of an ". . . indissoluble interplay of ethics (rejection of the economical approach) and aesthetics (creates fantasy and emotion) . . . which communicates and shares an emotion with the customer, which takes place through the distribution network, the design, merchandising, advertising and quality of customer service in boutiques".

The challenge for luxury brands is to convey the characteristics of intangibility and inaccessibility online. In the mind of the consumer, luxury brands include high levels of confidence which can play an important role for multi-channel retailers in attracting customers to their sites. However, the internet has a broadly perceived low trust factor (Cheskin, 2000). This also applies to the point of

product quality. It creates a paradoxical situation in which a product offered at a lower price than others would be more attractive to consumers. At the same time, this product is less attractive because of its suspected inferior quality (Teo, 2002). Scitovszky (1944) states that the quality of a product is often judged by the price of this product. Luxury brands may have an online advantage since they have the reputation that their clothing already feels good and therefore indicates a high quality. On the other hand, it might also be possible that consumers are more selective when they buy luxury products online.

1.6.2 Fast fashion brands

The opposite of luxury brands are fast fashion brands. The term "fast fashion" expresses that designs move from the catwalk in fashion week quickly to the streets in order to capture current fashion trends. Tokatli (2007) states that fast fashion retailers have rapidly increasing numbers of stores worldwide so that they can reach more and more customers around the globe. Second, there is the need to connect customers' demand with the upstream operations of design, procurement, production and distribution. This means that fast fashion brands also largely operate online and place a great emphasis on online sales. Third, Tokatli (2007) states that fast fashion requires short development cycles, rapid prototyping, small batches and variety so that customers are offered the latest designs in limited quantities that ensure a sort of exclusivity.

Examples of different fast fashion brands are: the Spanish Zara, the Swedish Hennes & Mauritz (H&M), the US-based Gap and the Italian Benetton. Also the Spanish Mango, the American Forever 21 and the British Topshop focus their energies on judging tens of thousands of new designs every year, making smart selections, turning them into marketable products with remarkable speed and sending them to their stores almost immediately (Reinach, 2005). The speed of design, production and distribution not only leads to being extremely flexible, but possibly also to a deficiency of quality. However, when shopping fast fashion products online, consumers cannot see minor imperfections in the clothing. This could be an online benefit for the fast fashion brands.

Differences in perceived product quality online is a factor that is investigated in this present study. The fact that consumers cannot see these imperfections online and the consumers' knowledge that fast fashion brands are relatively inexpensive products also lead to the following hypothesis:

Hypothesis 3: A high product quality (luxury brand) leads to a more positive product attitude, perceived comfort and purchase intention than a low product quality (fast fashion brand).

1.7 Consumer differences

As mentioned in paragraph 1.4 the role of haptic information differs among consumers and therefore some consumers are higher in their need for touch than others. Some consumers have the strong need to first touch products before buying them, not only for instrumental reasons but also for autotelic reasons. In this study it is expected that need for touch moderates the effect of product description, visuals and product quality. The focus is mainly on the consumers with a high need for touch. Consumers that are high in their need for touch would like to know exactly how a product shown online would feel and look on them, therefore need for touch might influence the product attitude of consumers by using tactile cues in product descriptions. These tactile texts might help consumers that are in their need for touch by imagining how a product would feel.

Furthermore, Kim and Forsythe (2010) claimed that dynamic product imagery, where consumers are able to manipulate (i.e., rotate, zoom and move) the product image on the screen, may provide consumers with a great sense of control. It is expected that consumers with a low need for touch are already satisfied with only watching a video of the product moving, whereas consumers with a high need for touch would probably like to be interactive with the product (zoom). Also, it is expected that the zoom function is especially liked by consumers who are selective in their choices, because this way they can check clothing for minor imperfections. It is stated before that consumers who are considering to buy luxury brands are selective in their decision making when they have a high need for touch (Teo, 2002). The zoom function can therefore help these consumers that are high in their need for touch.

Furthermore, it is of interest to investigate the differences in need for touch regarding product quality. Since luxury brands have the reputation that their clothing already feels good, it is expected that consumers with a high need for touch would prefer this item over a fast fashion branded item. In addition, it is challenging for consumers to accurately judge the quality of fast fashion product online. Some consumers will have more internal problems with the fact that they cannot exactly predict the quality of the product than others, regarding their differences in their need for touch. Based on the information above, the following hypothesis can be formulated:

Hypothesis 4: NFT moderates the effects of verbal and visual cues and the type of brand on consumers' product experience (attitude, richness and comfort) and on purchase intention.

2. Method section pre-test

This study is designed to investigate different strategies that can be used to improve the online product experience. The dependent variable in this research is the overall online product experience, which can be divided into four factors: product attitude, purchase intention, richness of the experience and comfort of wearing. There are also three independent variables, which are product quality (fast fashion brand versus luxury brand), product description (normal text and tactile text) and visuals (images with zoom and videos). Product description and moving visuals are the different strategies that have the possibility in this research to compensate the lack of touch. In specific, the focus is on finding the *best* strategy to compensate the lack of touch within the online shopping experience. For example investigating different combinations with product descriptions. In addition, the moderators in this study are the level of need for touch and the attitude of the consumers towards online shopping. A visual overview of these concepts is given in the conceptual model below, see Figure 2.

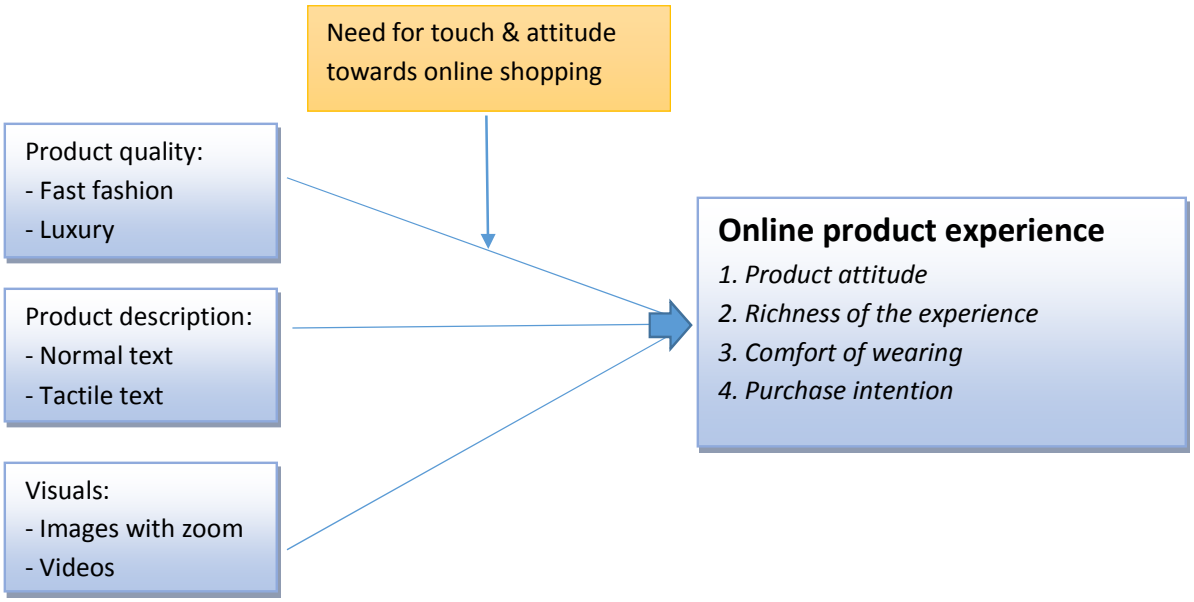

Figure 2. Conceptual model

2.1 Pre-test

In this part of the report the pre-test of this study is explained. The goal of the pre-test was to obtain the stimulus material containing the intended attributes for the manipulations in the main experiment of this study. First, the process of the pre-test is explained. Subsequently, the essential components of the pre-test such as the description of the participants, the research sample, the process and the data analysis are described. Furthermore, the main constructs used in the pre-test

are clarified. The purpose of this paragraph is to clarify *how* this preliminary research was conducted, taken into account the procedure of the study.

The main construct measured in this pre-test is brand familiarity. This construct is thoroughly defined in part 2.1.3 of this report. The participants in the pre-test first had the task to read a product description of a sweater and after that categorize certain marked words into two different groups: tactile words or visual words. In the second part the participants were tested on brand familiarity and brand knowledge. They had to indicate whether a brand was a luxury brand or a fast fashion brand. With this information derived from the pre-test, eight conditions for the main study could be composed. The stimuli in the first part of the pre-test were seven visual words and six tactile words. The stimuli in the second part of the pre-test were five logos of luxury brands and five logos of fast fashion brands. The word categorization was tested via a "pick-and-group" question. Participants had to click on the word and drop the word in the correct group (tactile or visual). A more detailed explanation of this procedure is given in part 2.1.2.

The brand categorization was tested by the use of a five point Likert scale on brand familiarity. A visual overview from the stimuli used in the first part of the pre-test can be seen in Figure 3 and the overview from the second part of the pre-test in Figure 4.

Tactile words	Visual words
Soft cotton	Classic, oversized
Flexible	Subtle, visible layers
Soft and plush feel	Striking
Strong texture	Vibrant colours
Comfort	Pastel shades
Good fit	Elegance
	Head-turning look

Figure 3. Tactile and visual words used for the word categorization in the pre-test (part one)

Luxury brand	Fast fashion brands
Michael Kors	Zara
Hugo Boss	H&M
Armani Jeans	Mango
DKNY	Bershka
Tommy Hilfiger	New Yorker

Figure 4. Luxury brands and fast-fashion brands used in the pre-test (part two)

2.1.1 Research sample and participants

Naturally, online shopping is an activity for both men and women. However, in this research the focus had to be on one subject group since this was more convenient in creating the main stimuli for the online questionnaire. Due to this fact, the population of this research is women between 18-65 years, because women of all ages are consumers of clothing. It is expected however, that not many women above the age of 65 will use the internet for online shopping. This is the reason why the age limitation of the subject group is 65 years.

To take a representative sample of this population, convenience sampling was used in this research to recruit the participants. Through convenience sampling, the researcher selects a group of people that are easily available (Nieswiadomy, on-Speksnijder Sizes & Long, 2009). In this study, participants were sought in the personal surroundings: neighbours, friends, colleagues and fellow students. Via convenience sampling all different kinds of women were reached. The information resulting from the pre-test gives an overall picture of the target group.

The pre-test was executed by twenty-five participants. Their age ranged from nineteen to fifty-two years (M = 25.50) and most participants had an education level of WO (40%). WO means that the participants are following or have followed a scientific education. In addition, 72% of the participants stated that they were single. These twenty-five women have categorized words into tactile and visual words and after that categorized logos of brands into luxury brands and fast fashion brands. Table 1 shows the general data of the twenty-five participants that have participated in the pre-test. In the first table the age of the participants is presented and in the second table the descriptive statistics are displayed about the education level and marital status of the participants.

Table 1.1

Descriptive statistics of Participants in the Pre-test (N = 25)

Age

	Minimum	Maximum	Mean	SD
Age participants pre-test	19	52	25.50	9.06

Table 1.2.1

Descriptive statistics of Participants in the Pre-test (N = 25)

Education level of participants in the Pre-test

Education level	Frequency	Percentage
VMBO	1	4.0%
HAVO	2	8.0%
VWO	3	12.0%
MBO	3	12.0%
HBO	6	24.0%
WO	10	40.0%
Other	0	0.0%
Total	25	100%

Table 1.2.2

Descriptive statistics of Participants that participated in the Pre-test (N = 25)

Marital status of participants in the Pre-test

Marital status	Frequency	Percentage
Single	18	72.0%
Cohabiting without children	2	8.0%
Cohabiting with children	1	4.0%
Married without children	0	0.0%
Married with children	4	16.0%
Total	25	100%

2.1.2 Procedure

At first, the participants of this study were invited to participate. On the first page of the online questionnaire they were informed about the task of the pre-test and by going to the next page they agreed with the informed consent. The informed consent provides information for the participants about the fact that their answers are handled confidentially and anonymous. This information page and informed consent can be found in appendix A.

The words and the brands were evaluated in separate parts of the session. All participants first saw the question where they had to categorize the words. After that, participants were randomly assigned to a different sequence of the luxury- and fast fashion brands shown in the pre-test. The ten brands were shown in a random order. It was essential that this distribution was done randomly, so that the possibility for biases was minimized.

In the first part of the pre-test, participants had to read a product description of a sweater. This product description contained some visual words and some tactile words (based on Figure 1). These words were written in a bold font so that they would stand out from the rest of the text. After reading the product description, participants could click on the marked word and drag it into a group where they thought that the word would belong to. They could choose between a tactile words group and a visual words group. The point of this question was to see whether participants could distinguish tactile words from visual words.

In the second part of the pre-test the participants had to answer questions about the brand logos that were shown. First they read a short introduction about their task. In the introduction, the definition of fast fashion brands was given. After that, participants were asked to look closely at the logo of the brand before answering the questions. All these questions were about the knowledge of the brand that was shown and had to check whether participants could distinguish a fast fashion brand from a luxury brand. The participants could take as long as they would like to fill in this small online questionnaire. Afterwards, they were thanked for their participation.

2.1.3 Variables

There were two independent variables studied in the pre-test. These variables are the product description and the knowledge about brands. As mentioned before, the goal of the pre-test was to find out if people could distinguish tactile words from visuals words and luxury brands from fast fashion brands. Also, it was tested which luxury brand was the most likeable and which fast fashion brand was the most likeable. The outcome of this pre-test led to the intended attributes for the eight manipulations in the main experiment. This way it was evident which tactile words to use in the

product description for the main study and which luxury- and fast fashion brand logo to show with this product description. The complete product description can be found in appendix B. To measure the independent variables three different constructs were used. These three constructs were the dependent variables in the pre-test and are discussed below.

The three main dependent variables in the pre-test were brand knowledge, brand luxury and affective attitude towards a brand. Brand knowledge and brand luxury were used to test if participants could distinguish luxury brands from fast fashion brands, but also to see if participants recognized the brand and were familiar with it. The construct affective attitude towards a brand was used to test which luxury brand and which fast fashion brand participants liked the most. Naturally, it also tests which luxury brand and fast fashion brand they liked the least. The three constructs were later on combined in one complete scale: brand familiarity.

Brand knowledge

To measure brand knowledge, an existing marketing scale by Miller and Mills (2012) was used. The scale is supposed to examine brand luxury in the fashion market by testing what participants now about brands. The scale has two parts, one with items about brand knowledge and one with items about brand luxury. This last one is further explained below. This existing scale was reliable ($\alpha = .93$) and therefore appropriate to use in this pre-test. An example of an item that was used in the pre-test is "[Brand shown] is a symbol of prestige" (*1 = strongly disagree, 5 = strongly agree).* In the pre-test the items were slightly adjusted to fit the right conditions for each brand.

Brand luxury

The dependent variable brand luxury was appropriate for measuring the likeability of luxury brands. The scale used to measure this was also an existing scale from Miller and Mills (2012). This scale measures the degree to which someone is interested in luxury products. An example of an item is "I am interested in products from luxury brands" (*1 = strongly disagree, 5 = strongly agree).* The existing scale was also found to be reliable ($\alpha = .86$). It was therefore a reliable scale to use in the pre-test of this research.

Attitude towards a brand

To measure the attitude of participants towards a brand another existing scale was used. This scale was also used by Bian and Forsythe (2012). They combined different items in the scale and used it to measure self-expression attitude and self-presentation attitude toward luxury brands. Furthermore, it was used to measure someone's affective attitude towards luxury brands. Bian and Forsythe (2012) merged the self-expression and self-presentation attitude toward luxury brand as social-function attitudes. The scale was found reliable ($\alpha = .89$) and therefore usable in this pre-test. An example of

an item that was used is “This luxury brand would give me pleasure” (*1 = strongly disagree, 5 = strongly agree).* In the pre-test the items were slightly adjusted to fit the right conditions for each brand.

2.1.4 Instrument of the pre-test

In the previous paragraph the main dependent and independent variables that were used in the pre-test are described. The instrument of the pre-test was a questionnaire, which can be found in appendix C. A questionnaire was suitable for this pre-test, because it can distinguish subtle differences in the evaluations of the participants.

By performing a pre-test, the right tactile words and the most liked luxury- and fast fashion brand could be used for the eight manipulation conditions in the main study. On the first page of the questionnaire the participants read the information page about the pre-test and they had to confirm the informed consent.

The first three questions in the pre-test questionnaire were about the participant’s demographics, such as: age, highest completed education level and marital status. In addition, they read the following text: “Please look at the picture below and then read the corresponding product description. The description includes a number of visual words and tactile words (words that are about touch and feel)”. After that, participants were given a task explanation: “Divide the bold words over the two categories below (visual words box and tactile words box). What words do you think are visual and are therefore dealing with the appearance of the product? And what words do you think are tactile and therefore have to deal with the feel and touch of the product? You can drag the words into the correct column”.

In the second part of the questionnaire people read the following sentence: “Part 2 of the questionnaire is about categorizing well-known clothing brands. Some brands are luxury brands, others are so-called "fast fashion brands." Fast fashion brands are common brands, which directly follow the new trends in fashion and often have numerous collections in stores. First, look closely at the brand logo and after that answer the questions below. Please mark the answer that best describes your opinion”.

The eight items were about brand familiarity which consists of brand knowledge, brand luxury and attitude towards the brand. Examples of items used in this scale are: “I am familiar with this brand”, “This brand gives me pleasure” and “This brand is a fast-fashion brand” (*1 = strongly disagree, 5 = strongly agree).* The item “I am not interested in products from this brand” is an item that is reversely asked to the participants. This way, participants had to carefully read the question and not

give the same answer to each item. The reversely asked item had to prevent biases from occurring. All the other items used in the pre-test can be found in appendix C.

Prior to any other analysis done in the pre-test, a reliability check was necessary to ensure that the items form a reliable scale. The Cronbach's alpha was measured for each luxury brand and each fast fashion brand. This describes whether all the items in the construct are measuring the same factor. As mentioned before, participants had to evaluate each luxury brand and fashion brand by the scale brand familiarity, so there are ten different outcomes. The Cronbach's alphas for luxury brand (L) and each fast fashion brand (FF) are displayed in Table 2.

Table 2

The Reliability of the Questionnaire used in the Pre-test. Cronbach's Alpha is presented for each Construct (N = 25)

Construct name		Cronbach's alpha	Number of Items	Items deleted
Michael Kors	(L)	0.808	7	1
Hugo Boss	(L)	0.818	7	1
Armani Jeans	(L)	0.889	7	1
DKNY	(L)	0.900	7	1
Tommy Hilfiger	(L)	0.818	7	1
Mango	(FF)	0.717	7	1
H&M	(FF)	0.747	7	1
Bershka	(FF)	0.770	7	1
Zara	(FF)	0.692	7	1
New Yorker	(FF)	0.781	7	1

Table 2 shows that all the constructs used in this pre-test are reliable. However, one item was deleted in every construct because participants had to choose whether the brand was a fast fashion brand or a luxury brand. Each construct contained two items: "This brand is a fast fashion brand" and "This brand is a luxury brand" (*1 = strongly disagree, 5 = strongly agree).* Logically, a brand cannot be both a luxury and fast fashion brand. Therefore the luxury item was deleted in the questions for the fast fashion brands and the fast fashion item was deleted in the questions for the luxury brands. If the item was not deleted, the alpha would be slightly lower than it is with the item deleted.

2.1.5 Results

In this paragraph the results of the pre-test are presented. As mentioned before, the pre-test of the present study was necessary to investigate which words in the product description are rated as tactile and which words as visual, but also to find out which luxury brand and which fast fashion brand is most liked by the participants. Evidently, this also indicated which of the brands participants liked the least. The differences in liking for the brands was measured via the repeated measures ANOVA, which compares several means when these means come from the same participants. In this case, the same participants were all in the one single condition of the pre-test. The repeated measures ANOVA shows whether the luxury brands and fast fashion brands are significantly different from each other. First, the results for part 1 of the pre-test (the word categorization) is shown in Table 3. Furthermore, Table 4 shows the main results of the brands that participants liked the most and the least.

Table 3

Results of the Word Categorization (Part 1 of the Pre-test)

Frequency of Participants that rate a word Visual or Tactile (N=25)

Words	Frequency tactile	Frequency visual	Missing
Classic, oversized	0	25	0
Soft cotton	24	1	0
Flexible fabric	21	4	0
Subtle visible layers	2	23	0
Soft and plush feel	24	1	0
Strong texture	18	7	0
Striking	2	21	0
Comfort	21	4	0
Fit	7	16	2
Vibrant colours	2	22	1
Pastels	1	24	0
Elegance	5	19	1
Head-turning look	4	20	1

Table 3 shows that the following words are marked as tactile: soft cotton, flexible fabric, soft and plush feel, strong texture and comfort. The other words were mostly marked as visual words. The five tactile words are the words that are used in the product description for the main study.

Table 4

Mean Scores of the Participants' Familiarity and Liking of Luxury Brands (N = 25)

Luxury brand	Mean	SD
Michael Kors	29.52	4.98
Hugo Boss	28.16	4.94
Armani Jeans	25.72	5.41
DKNY	27.64	5.01
Tommy Hilfiger	26.92	5.06

Table 4 shows that the participants least liked the luxury brand Armani Jeans and most liked Michael Kors as a luxury brand. Participants had to evaluate the luxury brands based on a five point Likert scale, so the scores can vary between ten and fifty points. A repeated measures ANOVA was performed on the familiarity and liking scores for five different luxury brands. Mauchly's test of sphericity indicated that the assumption of sphericity had not been violated ($\chi^2(9) = 10.14$, $p = .341$). The results show that there was a significant difference between the luxury brands regarding brand liking and brand familiarity, (F (4, 96) = 3.75, $p < .01$).

Furthermore, Bonferroni post hoc tests (pairwise comparisons) revealed that the brand Michael Kors (M = 29.52, SD = 4.98) is found to be significantly more familiar and likeable than the brand Armani Jeans (M = 25.72, SD = 5.41), $p < .05$. There were no further significant differences between the other luxury brands. Figure 5 shows a visual overview of the mean scores on brand familiarity and liking of the brand. It also indicates which luxury brand was used for the main study.

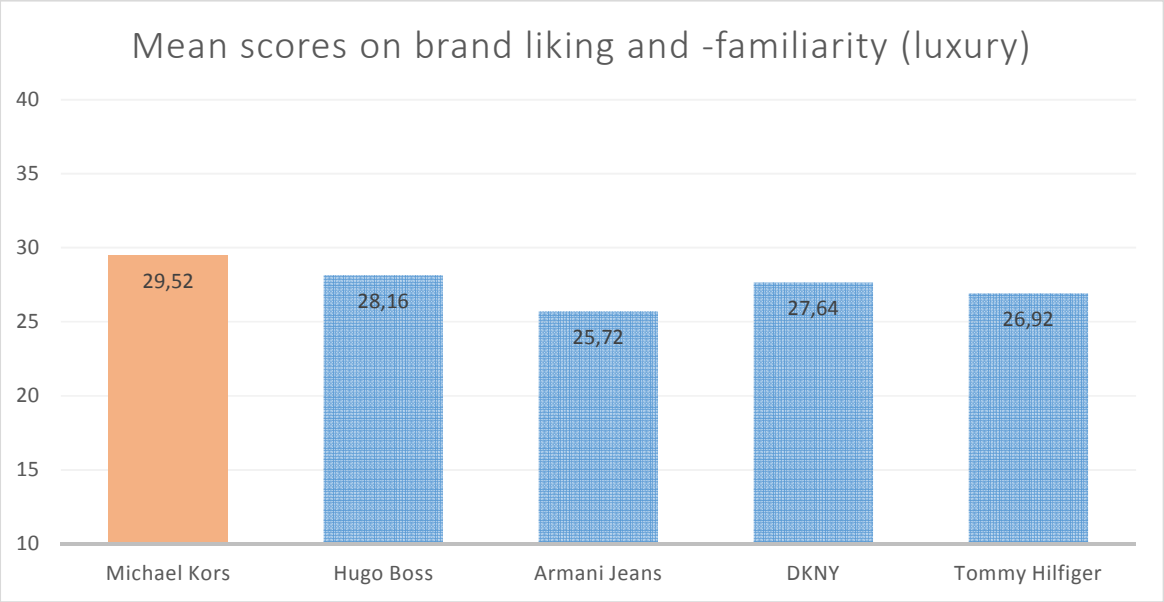

Figure 5. Mean scores on brand familiarity and liking (luxury). Note = Michael Kors and Armani Jeans are significantly different (p = .022)

Another repeated measures ANOVA was performed to see which fast fashion brand was the most liked and the least liked. Table 5 shows all the mean scores of the likeability of the fast fashion brands.

Table 5

Mean Scores of the Participants' Familiarity and Linking of Fast Fashion Brands (N = 25)

Fast Fashion brand	Mean	SD
Zara	29.68	3.56
H&M	29.32	3.91
Mango	29.16	3.30
Bershka	25.52	4.95
New Yorker	20.68	5.71

Table 5 shows that the participants least liked New Yorker and most liked Zara as a fast fashion brand. Similar to the luxury brands, participants had to evaluate the fast fashion brands based on a five point Likert scale, so the scores vary between ten and fifty points. A repeated measures ANOVA was performed on the familiarity and liking scores for five different fast fashion brands.

Mauchly's test of sphericity indicated that the assumption of sphericity had been violated ($\chi^2(9) = 26.73$, $p < .05$), therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\varepsilon = .63$). The results show that brand familiarity and brand liking was significantly affected by the different fast fashion brands $F(4, 96) = 28.31$, $p < .001$).

Bonferroni post hoc tests (pairwise comparisons) revealed that the brands Zara (M = 29.68, SD = 3.56) and H&M (M = 29.32, SD = 3.91) are found to be significantly more familiar and likeable than the brands Bershka (M = 25.52, SD = 4.95) p < .001 and New Yorker (M = 20.68, SD = 5.71) p < .001. Mango is also significantly more liked (M = 29.16, SD = 3.30) than Bershka (M = 25.52, SD = 4.95) p < .002 and New Yorker (M = 20.68, SD = 5.71) p < .001. However, there was no significant difference in liking and familiarity found between Zara (M = 29.68, SD = 3.56) and H&M (M = 29.32, SD = 3.91) or Mango (M = 29.16, SD = 3.30). Figure 6 shows a visual overview of the mean scores on brand familiarity and liking of the fast fashion brand. It also indicates which fast fashion brand was used for the main study.

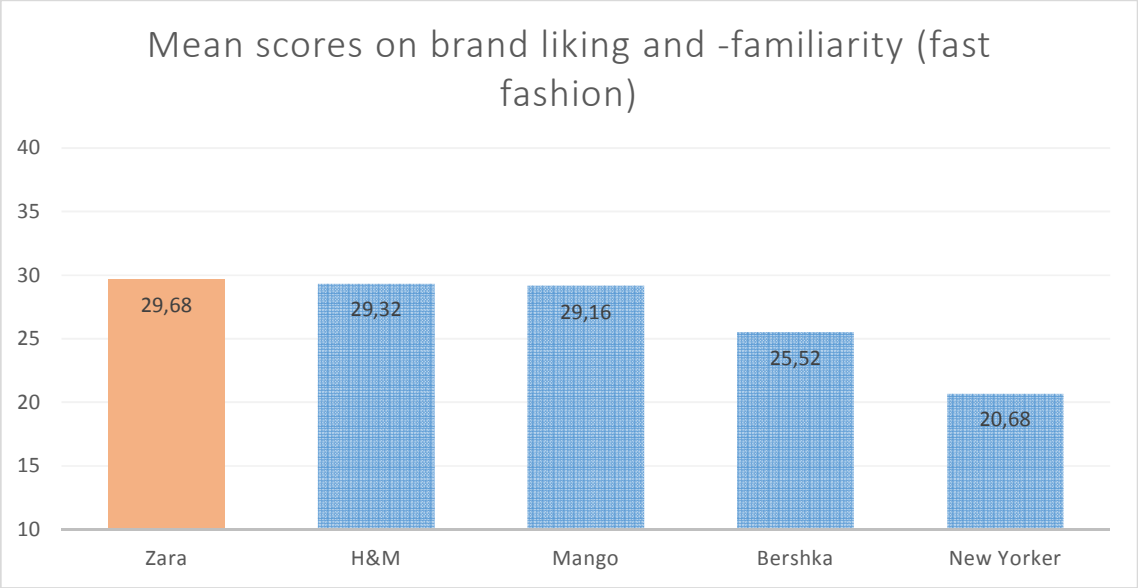

Figure 6. Mean scores on brand familiarity and liking (fast fashion). Note: Zara and New Yorker are significantly different (p < .01)

2.1.6 Conclusion pre-test

From the information in the paragraph above, it can be concluded which luxury brand and which fast fashion brand is used in the main study. Participants most liked the luxury brand Michael Kors; they thought this was the brand that was the most likeable and they were also most familiar with this brand. In addition, they thought that Zara was the most likeable fast fashion brand. Participants were also largely familiar with this brand. Although Zara did not differ significantly from H&M or Mango, when looking at the exact means of the brands it can be concluded that Zara is the most liked fast fashion brand. The differences in scores on familiarity and liking were both significant for the luxury brands as well for the fast fashion brands. A complete description of manipulation stimuli that was conducted from this pre-test is presented in paragraph 3.2 and 3.3 of this report.

3. Method section main study

In this part of the report the main study of this research is explained. First, a description of the research sample and the participants are presented. Subsequently, the second part of this paragraph is about the design of the main study. After that, the most important variables in the main study are described. In addition, a clear overview of the instrument used in this research is discussed, as well as the procedure. The purpose of this paragraph is to clarify *how* this research was conducted, taken into account all the steps taken to get to the results of this study.

3.1 Research sample and participants

Similarly to the group of participants in the pre-test, the focus in the main study of this research was also on one specific subject group (women). The population of this research was women between 18-65 years, since women of all ages are consumers of clothing. It is expected however, that not many women above the age of 65 will use the internet for online shopping. This is the reason why the age limitation in the main study is 65 years.

To take a representative sample of this population, a combination of convenience sampling and snowball sampling was used to recruit the participants. Through convenience sampling, the researcher selects a group of people that are easily available (Nieswiadomy, on-Speksnijder Sizes & Long, 2009). In this study, participants were recruited in the personal surroundings: neighbours, friends, colleagues and fellow students. In addition, snowball sampling was used as a technique where participants were asked to recruit among their acquaintances for future participants. The sample group therefore appears to grow like a rolling snowball in order to get more participants.

In the main study 212 women in total participated. The participants' age ranged between 18 and 64 years (M = 29.26). It was essential that the participants did not differ much from each other when they were randomly assigned to one of the four conditions. With a small amount of participants it would be likely that some would disrupt the distribution within a group. When the amount of participants is higher, regression to the mean will occur. Fortunately, 212 women have participated and therefore the chance of any biases was reduced. However, because of the random selection some conditions include more participants than others. All other demographic data about the participants and the distribution of participants over the eight conditions are discussed in the next paragraph.

3.1.1 Distribution of participants' characteristics

First a small analysis was done to indicate whether characteristics among the complete sample were somewhat evenly distributed among the experimental conditions. If not, this could probably have an effect on the results in the ANCOVA analysis. Table 6 shows the distribution of the participants and it also includes the average age and standard deviation of the participants in the main study.

Table 6

Distribution of sample characteristics between the eight conditions

Number of Participants and their Age (mean)

		Zoom			*Video*		
		Mean (age)	SD	N	Mean (age)	SD	N
Luxury brand	Normal text	28.66	11.97	33	26.64	7.38	23
	Tactile text	30.69	13.59	39	24.88	8.68	25
Fast fashion brand	Normal text	31.76	13.99	25	28.74	11.19	23
	Tactile text	30.23	10.20	26	32.28	13.40	18

As revealed in table 6 the average age of the participants is the highest in the fast fashion-tactile-video condition. The lowest average age of the participants is found in the luxury-tactile-video condition. There is a difference in age between these conditions. Furthermore, the condition where participants saw a luxury brand combined with the video presentation has a higher average age of the participants than for example the condition where participants saw a fast fashion brand combined with the zoom presentation. However, there is a bigger difference in number of participants divided over the eight conditions.

In addition, when looking at the number of participants in each condition it can be concluded that much more participants saw the condition with the luxury brand and the zoom presentation (both normal and tactile description) than the condition with the fast fashion brand and video presentation (both normal and tactile description). The distribution of these characteristics is for this reason not equal for all eight conditions. There was a considerable difference between certain conditions regarding the number of participants (e.g. 39 participants in the luxury-tactile-zoom condition and 18 participants in the fast fashion-tactile-video condition). Therefore, it could be that the brand and the product presentations are assessed differently by the condition with the most participants and the condition with the least participants. These differences are further discussed later on in this report.

Table 7 also shows a distribution of sample characteristics among the eight conditions. Table 7.1 shows the distribution of participants' education level, in Table 7.2 the distribution of their marital status and Table 7.3 shows if participants already had experience with shopping clothing online.

Table 7.1

Distribution of sample characteristics between the eight conditions

Education level of the Participants (%)

		Normal text		**Tactile text**	
		Zoom	*Video*	*Zoom*	*Video*
		%	*%*	*%*	*%*
Luxury	VMBO	9.1	0.0	0.0	0.0
	HAVO	3.0	13.0	15.4	4.0
	VWO	18.2	26.1	23.1	20.0
	MBO	9.1	17.4	15.4	4.0
	HBO	36.4	21.7	33.3	24.0
	WO	21.2	21.7	12.8	36.0
	Other	3.0	0.0	0.0	12.0
Fast fashion	VMBO	8.0	0.0	7.7	5.6
	HAVO	4.0	17.4	7.7	0.0
	VWO	12.0	4.3	3.8	5.6
	MBO	20.0	17.4	23.1	11.1
	HBO	24.0	26.1	30.8	16.7
	WO	24.0	30.4	19.2	50.0
	Other	8.0	4.3	7.7	11.1

As shown in table 7.1 most participants had WO or HBO as education level. In some conditions this percentage was higher than in other conditions, for example in the condition where participants saw the fast fashion brand, the tactile product description and the video presentation. In addition, a few participants have filled in "other" as education level. Examples of other education levels given by the participants were: Ibo, Duitse abitur, Gymnasium, Praktijkonderwijs, Mavo or LHNO. In total, 11 participants had a different type of education level than the provided standard answer possibilities.

Table 7.2

Distribution of sample characteristics between the eight conditions

Marital status of the Participants (%)

		Normal text		**Tactile text**	
		Zoom	*Video*	*Zoom*	*Video*
		%	*%*	%	%
Luxury	Single	57.5	65.3	56.4	56.0
	Cohabiting without children	15.2	13.0	17.9	36.0
	Cohabiting with children	6.1	4.3	7.7	0.0
	Married without children	0.0	0.0	2.6	0.0
	Married with children	21.2	17.4	15.4	8.0
Fast fashion	Single	64.0	74.0	34.6	66.6
	Cohabiting without children	8.0	0.0	30.8	11.1
	Cohabiting with children	4.0	4.3	15.4	5.6
	Married without children	4.0	4.3	0.0	5.6
	Married with children	20.0	17.4	15.4*	11.1

* 1 Participant of the fast fashion-tactile-zoom condition did not fill in this question

Table 7.2 shows that most participants in this study were single, which is true for each of the eight conditions. After singles, cohabiting participants without children and married participants with children are most present in this study. In addition, only a few participants were married and did not have children. Singles often have a different spending pattern than married participants with children, however these participants were somehow equally divided over the eight conditions. Table 7.3 gives more insight in the experience of participants with online shopping, e.g. clothing in particular.

Table 7.3

Distribution of sample characteristics between the eight conditions

Number of Garments bought online in the last 3 Months(%)

		Normal text		Tactile text	
		Zoom	*Video*	*Zoom*	*Video*
		%	*%*	*%*	*%*
Luxury	None	24.2	17.4	28.2	36.0
	Less than five	60.6	56.5	48.7	40.0
	Between five and ten	9.1	26.1	15.4	16.0
	Between ten and fifteen	6.1	0.0	7.7	8.0
	More than fifteen	0.0	0.0	0.0	0.0
Fast fashion	None	24.0	52.2	23.2	50.0
	Less than five	52.0	21.7	50.0	33.3
	Between five and ten	12.0	21.7	19.2	16.7
	Between ten and fifteen	8.0	0.0	3.8	0.0
	More than fifteen	0.0*	4.4	3.8	0.0

* 1 Participant of the fast fashion-normal-zoom condition did not fill in this question

Table 7.3 indicates that from the group of participants that have shopped online in the last three months, most participants bought less than five pieces of garment. After that, participants bought between five and ten pieces of garment online in the last three months. However, there is also a large part that did not shop online at all in this period of time. Effects of the distribution of participants among the eight conditions are further explained in the discussion paragraph of this report.

3.2 Design

The design used in this study was a between-subjects-design. This design measures the effect as the difference between treatments (Dooley, 2009). In this design each participant is assigned to only one level of each factor. The participants were randomly assigned to each condition. This had to control the possible influence of the day and time on the results. Random assessment also had to prevent unexpected age, education and marital status differences between the groups.

This study was using the following between-subjects-design: 2 (*product quality:* luxury brands vs. fast fashion brands) x 2 (*product description*: normal product description vs. tactile product description) x 2 (*visuals*: images with zoom vs. videos). In the study, two moderators are presented. The moderator

NFT is present in all stimuli and is also the most relevant moderator. In addition, attitude towards online shopping is used as a moderator to check for individual preferences of the participants.

The manipulations used in this study are eight conditions, divided into four conditions with fast fashion brands and four conditions with luxury brands. In addition, participants had the possibility to read either a normal product description or a tactile product description. The participants also were randomly assigned to the conditions were they saw different product presentations: a picture of the product that they could zoom or they saw a video of the product. This between-subjects-design tends to find the best combination strategy to improve the overall online product experience.

3.3 Independent and dependent variables main study

Based on the findings of the pre-test eight manipulation stimuli were created for the main study. Figure 7 gives a visual impression of these eight conditions. Furthermore, the combination of stimuli that participants saw in the questionnaire can be seen in appendix D.

Product quality	Product description	Visuals
Luxury brand	Normal description	Zoom
Luxury brand	Normal description	Video
Luxury brand	Tactile description	Zoom
Luxury brand	Tactile description	Video
Fast fashion brand	Normal description	Zoom
Fast fashion brand	Normal description	Video
Fast fashion brand	Tactile description	Zoom
Fast fashion brand	Tactile description	Video

Figure 7. Eight conditions used in the main study

These eight conditions represent the independent variables in this research: product quality, product description and visuals. The pre-test showed which brands and which description to use in the main study. For the zoom function an existing script, similar to a zoom function in other web shops was used. Furthermore, the video used in the questionnaire was copied from the web shop “Asos” and

displayed in YouTube. Some examples of stimuli used in the main study are shown in Figure 8 and Figure 9.

MICHAEL KORS

This lovely summer top is made from the best soft polyester, originating from Italy. The fabric of the top is very flexible and has a breezy feel. The top has been carefully produced, therefore it is soft and comfortable to your skin. Although it is a flowy top, it has a strong texture that feels great against the skin. The pink coloured top has a nice casual cut that is suitable for everyone. This top is available in several vibrant colours like ice blue and coral orange, but also in pastel shades like lilac and pale yellow. With this beauty you are guaranteed with the correct dose of elegance. Wear the top on a nice white trousers with high heels for a head-turning look.

Figure 8. Example of the condition: Luxury brand – Tactile product description – Picture with zoom*

* The zoom function can be seen at: www.n3rds.nl/vincent/index.html

ZARA

- Semi-transparent chiffon
- Differentiated zoom
- Lace inserts on the shoulders
- Normal fit
- Machine washable
- 100% Polyester

This model is wearing size 36 EU

Figure 9. Example of the condition: Fast fashion brand – Normal product description – Video*

* The video can be seen at: https://www.youtube.com/watch?v=Gb_QPKC4QWw

The goal of the main study was to find out which combination of product description and visuals is best when compensating for the absence of touch in the online shopping experience. This was tested by the use of four constructs, which are the dependent variables in this study. These constructs are discussed in the paragraph below.

3.3.1 Dependent variables

The four dependent variables in this research are product attitude, richness of the experience, comfort of wearing and purchase intention. These constructs contained a few items that were useful for the questionnaire of the main study. Furthermore, questions about need for touch and attitude towards online shopping were present as moderators. An extensive description of the items used in the questionnaire of the main study is given in the next paragraph 'instrument main study'.

It is essential that the items of the constructs are presented carefully, keeping in mind the reliability and validity of the questionnaire. Reliable measures of self-report are defined by their consistency. A reliable questionnaire produces consistent results every time it is executed. In addition, a questionnaire is valid if what it measures is what it had originally planned to measure.

Product attitude

The product attitude scale consists of various bi-polar adjectives presumed to measure the subjects' overall evaluation of the product. Depending upon the mix of items used, the scale has some similarity to measures of purchase intention as well as product quality (Bruner, Hensel & James, 2001). The first scale that was used to measure the construct product attitude was the scale of Peracchio and Meyers-Levy (1994). The scale is called 'attitude towards the product' and also tests the overall evaluation of the product by a consumer. An example of an item used in the main study is "Unappealing product vs. Appealing product" (*1 = extremely negative, 7 = extremely positive).* This existing scale of Peracchio and Meyers-Levy (1994) was found to be reliable (α = .89) and is therefore a useful scale for this research.

Furthermore, the second scale that was used to measure product attitude was the quality (product) scale. The scale is composed of eight, seven point semantic differentials used to measure a person's attitude regarding the quality of a particular product. Alfa of .91 was reported for the scale by Buchanan, Simmons and Bickert (1999) which makes it usable for the main study. An example of an item used in the questionnaire is: "A lot of attention to details – Very little attention to details" (*1 = extremely negative, 7 = extremely positive).*

Richness of the experience

The richness of the experience construct was measured by the use of three different scales: visualizing ease, visual imaging and vividness. Shiv and Fedorikhin (1999) created a three item, seven-point semantic differential scale that is intended to assess the ease with which a stimulus has evoked visual images. The scale is used to see if the presentation mode of the product made a difference in the ease with which subjects could see themselves wearing the product. An example of an item used in the questionnaire is: "It is easy to visualize myself wearing the top" (1= *strongly disagree*, 5= *strongly agree*). An alpha of .81 was reported for this scale (Shiv & Fedorikhin, 1999), which makes it a reliable and useful scale to use in the main study.

Furthermore, the visual imaging scale of Singh, Lessig, Kim, Gupta and Hocutt (2000) was used to measure the richness of the experience. The scale is composed of four statements that are intended to measure the extent to which an ad has stimulated a person to form mental images of what was being described and shown. Their scale was reported as reliable (α= .94). An example of an item used in the main study is: "This product presentation helps me to imagine how this top would feel" (1= *strongly disagree*, 5= *strongly agree*).

The last scale used to measure the richness of the experience is vividness, an original scale created by Krishnamurthy and Sujan (1999). The scale is composed of four adjectives that measure the strength with which an advertisement has evoked imagery. Alpha of .87 was reported for their scale, which makes it a reliable scale. However, in the main study this scale is adjusted to measure the strength with which the product presentation has evoked imagery instead of an advertisement. An example of an item that was used: "The simulated online shopping experience was lively and vivid" (1= *strongly disagree*, 5= *strongly agree).*

Comfort of wearing

The scale used to measure the comfort of the product shown to the participants is a part of the product attitude scale that has been mentioned before, the scale created by Peracchio and Meyers-Levy (1994). An example of an item that is used in the main study is: "This product looks comfortable to wear" (1= *strongly disagree*, 5= *strongly agree).* Also, the scale of Peracchio and Meyers-Levy (1994) was found to be reliable (α = .89).

Purchase intention

To measure the construct purchase intention, four items of an existing scale were used (Bruner, Hensel & James, 2001). The original scale consists of eight items, but in the main study a combination of four items was used. The scale measures the indication of a consumer to buy a specific good or use a service and also the likelihood that a consumer will buy a product he or she is knowledgeable

of. The main point of focus is on the willingness of a consumer to buy a certain product. The eight items of the original purchase intention scale form a reliable scale (α= .90). An example of an item used in the main study is: "I would consider buying this product, based on the way it is presented" (1= *strongly disagree*, 5= *strongly agree*).

Moderators

An existing scale of need for touch was used in this study. The NFT scale was developed and empirically assessed in four studies and demonstrated a high reliability: Cronbach's Alphas measured from .87 to .95 (Peck & Childers, 2003). An example of an item within this scale is: "When walking through stores, I cannot help touching all kinds of products" (*1 = strongly disagree, 5 = strongly agree).* Another moderator in this study is the attitude towards online shopping.

In total, four items were used to measure the participant's attitude towards online shopping. Logically, some consumers are more positive about this experience than others and for that reason it is relevant to check for differences in these attitudes. Certain items from an already existing scale were used to measure this construct, the attitude towards online shopping scale by Taylor and Todd (1995). An example of an item is "I like buying products online" (*1 = strongly disagree, 5 = strongly agree).* The 17 items from the original scale were found to be reliable (α = .78) and were therefore useful in this study.

3.4 Instrument main study

In the previous paragraph the independent and dependent variables that were used in the main study were described. The instrument of the main study was a questionnaire, which can be found in appendix D. The complete introduction was presented to the participants via the information on the first page of the questionnaire. This information described the task of the participant in detail. As mentioned before, this information page can be found in appendix A.

The questionnaire contains thirteen main questions; most of them are divided into a couple of items. The first question concludes twenty items that had to measure the construct product attitude. Examples of these items are: "dull/exciting", "bad quality/good quality" and "Unappealing/Appealing" ((*1 = extremely negative, 7 = extremely positive).* The next question was about perceived comfort of the top and this part contained three items that had to measure this construct. Two examples of items within this construct are: "This top is comfortable to wear" and "This fabric does not feel pleasant to my skin" (*1 = strongly disagree, 5 = strongly agree).* As is evident from this last item, this one is reversely asked to the participants. By presenting reversely asked questions to participant, possible biases were prevented from occurring. This was done, so

that participants had to carefully read the question and would not give the same answer to each item.

The third question contains four items that had to measure the construct purchase intention, one of them was reversely asked. Examples of items used are: “The probability that I would buy this top is high” and “When I would see this top in a store, I would definitely not buy it” (*1 = strongly disagree, 5 = strongly agree).* Before each question the participants were asked to mark the box that best describes how they think about the top. Also, it is mentioned that participants could see the video or zooming presentation again when going back to the introduction page.

The following three questions all had to measure the construct richness of the experience. This construct consist of eleven items about visualizing ease, visual imagining and vividness. Examples of respectively each of these subjects are: “It is easy to visualize myself wearing this top”, “This product presentation does not help me imagine how this top would feel” and “The simulated online shopping experience was concrete” (*1 = strongly disagree, 5 = strongly agree).*

After that, the two moderators attitude towards online shopping and need for touch were presented to the participants. First, participants read a text that mentioned that the following questions were not about the top anymore, but were certain general questions about personal preferences. There were four items that had to measure the attitude towards online shopping, an example of this: “Online shopping makes my life more attractive” (*1 = strongly disagree, 5 = strongly agree).* In addition, there were six items that had to measure participants’ need for touch. An example of an item is: “I like to touch products, even though I do not have any intention of buying them” (*1 = strongly disagree, 5 = strongly agree).*

The last five questions in the questionnaire were about the demographic data of the participants. Questions such as “What is your age?”, “What is your education level?”, “What is your marital status”, “How often do you buy products online?” and ‘”How many of these products were garments?” were asked to the participants. Prior to any other analysis done in the main study, a reliability check was necessary to ensure that the items together form a reliable scale. The Cronbach’s alpha was measured for each of the four constructs and also for the two moderators. The Cronbach’s alpha describes whether all the items in the construct are measuring the same thing and can therefore be perceived as one complete scale. Table 8 shows the Cronbach’s alpha of the six dependent constructs used in the main study.

Table 8

The Reliability of the Questionnaire. Cronbach's Alpha is presented for each Construct (N = 212)

Construct name	Cronbach's alpha	Number of Items	Items deleted
Product attitude	0.895	20	0
Richness of the experience	0.808	11	0
Comfort of wearing	0.788	3	0
Purchase intention	0.889	4	0
Online shopping attitude	0.848	4	0
Need for touch	0.736	6	0

All constructs are found to be reliable, therefore it can be concluded that the separate items in the various constructs form a reliable scale.

3.5 Procedure main study

At first, people were invited to participate in this study. They were informed about the task of the study and were told that they were part of a multi-sensory marketing study in which their opinion concerning a top presented online was required. So the participants had no idea of the underlying purposes of this study. After that, the participants had to sign the informed consent. They could do this by clicking on an arrow in the web page. The informed consent provides information for the participants that their answers are handled confidentially and anonymous.

As mentioned before, there were eight conditions in the main study. Each person was uniformly at random assigned to one of the eight stimuli conditions. The questionnaire started with the participant looking at a top from Michael Kors or Zara, it depends on the condition which brand the participants saw. Also, they either saw a picture of the top that they could zoom in or they saw a video of a model wearing the top on the runway. A link to this video can be found in appendix D. Depending on the condition the participants were assigned to, they read either a normal product description or a tactile product description. The normal product description only contained short, technical words about the product. The tactile product description was more extensive in text than the normal description, it contained several tactile cues.

In the explanation participants were told that they could take as long as they would like to fill in the questionnaire. By participating in this research people had a chance to win a Fashion Cheque of twenty euro. After that, participants could begin to fill out the questionnaire. It contained items that measured the four dependent variables; product attitude, purchase intention, richness of the

experience and comfort of wearing. Before completing this questionnaire, the participants were told that they should assess the top, description and the way the top is presented as a complete shopping experience. Finally, at the end of the questionnaire the participants were thanked for their participation.

4. Results main study

Within this research the main goal was to investigate which combination of visuals and description is the best strategy to compensate for the lack of touch in the online shopping experience. The intention was to see what influence a product presentation (zoom and video), product description (normal and tactile) and a brand (luxury and fast fashion) would have on consumers' product attitude, purchase intention, perceived comfort of wearing and the richness of their experience. In this paragraph the results of the main study are presented. The most relevant results of this research are discussed here, these results are important to answer the research question in this main study. The research question is: "*In what way can tactile verbal descriptions and moving visuals (pictures with zoom or videos) compensate for the absence of touch in the online shopping experience?"* To answer this question a few analyses were done. The descriptive statistics of the four dependent variables and an analysis of variance (ANCOVA) were executed. At last, some supporting plots of possible interaction effects are presented in this paragraph. The mean scores of participants can be found in appendix F.

4.1 Product attitude

A covariance analysis (ANCOVA) was performed in this study with brand, text and visuals as independent factors and product attitude, comfort of wearing, richness of the experience and purchase intention as dependent factors. Initially, the differences between the eight conditions were measured based on the attitude towards the product. In this case, it was measured how the participants in the different conditions assessed the product based on the attitude towards it.

A covariance analysis (ANCOVA) was conducted to investigate the effects of the brand (luxury and fast fashion), the product description (normal and tactile) and the visuals (zoom and video) on the perceived product attitude. The covariables were need for touch and attitude towards online shopping. The main effect of the brand on product attitude was not significant, $F(1, 200) = 3.12$, $p = .079$, however this was almost the case. This means that there was no significant difference between a luxury brand and a fast fashion brand regarding the perceived product attitude. This also accounts for the main effect of product description, $F(1, 200) = .889$, $p = .347$ and for the main effect of the visuals, $F(1, 200) = .706$, $p = .402$. Furthermore, there was no significant effect of brand, description

and visuals after controlling for the covariate need for touch, $F(1, 200) = .036$, $p = .850$ and for the covariate attitude towards online shopping $F(1, 200) = 2.69$, $p = .103$.

Since there was no significant effect found, the most relevant covariate need for touch was split up into two groups: participants with a low need for touch and participants with a high need for touch. Analyses showed that scores of participants low in the need for touch variated between 1 and 3.71. Scores of participants high in the need for touch variated between 3.71 and 5. More in-depth analyses showed mean scores of the participants in the eight conditions (after controlling for need for touch) on product attitude. These mean scores can be seen in Figure 10. Participants could rate the item based on a 7-point Likert scale.

After controlling for need for touch the second covariance analysis showed that the main effect of brand on the product attitude was significant, $F(1, 94) = 5.34$, $p < .05$. This indicates that participants that were low in the need for touch had a significantly more positive attitude about the luxury brand (M = 4.93, SD = 0.71) than about the fast fashion brand (M = 4.62, SD = 0.59). However, there was no significant main effect found for the product description, $F(1, 94) = .269$, $p = .61$ and for the visuals, $F(1, 94) = 3.68$, $p = .06$. This means that participants were not significantly more positive about the product when the product description was tactile (M= 4.82 SD = 0.68) than when it was normal (M= 4.77, SD = 0.47). This also accounts for the visuals, participants did not have a significantly more positive attitude about the product shown as a video (M = 4.89, SD = 0.68) than as a picture with zoom (M = 4.72. SD = 0.67).

These results indicate that only the difference in brand is of influence on the attitude towards the product for the participants low in their need for touch. There was also no significant interaction effect found regarding product attitude. The mean scores for all eight conditions are visually presented in Figure 10 and appendix E gives a visual overview of the (possible) interaction results.

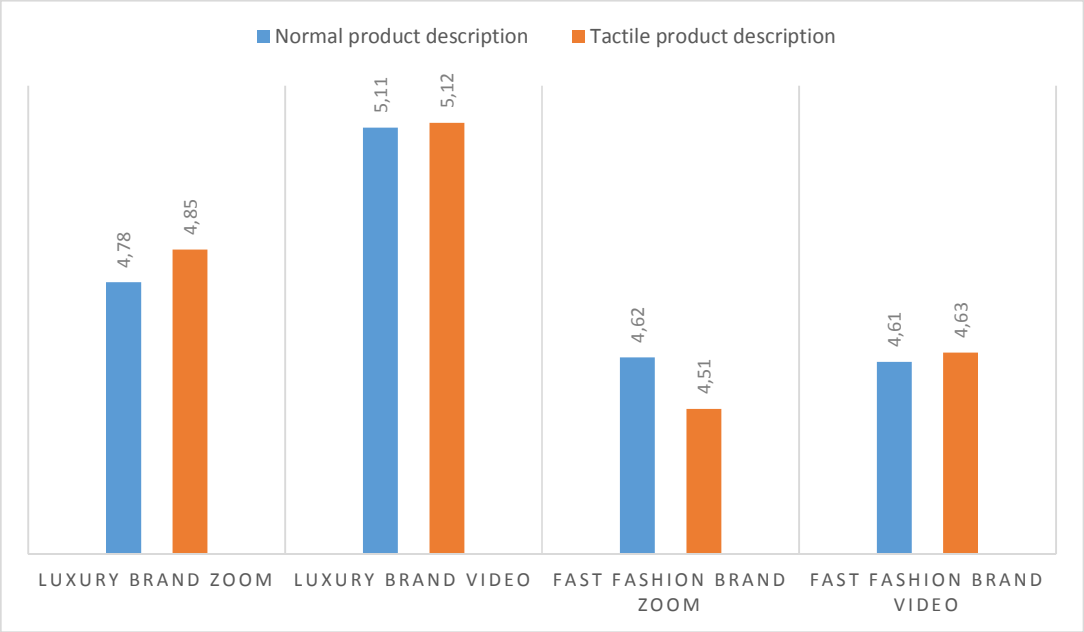

Figure 10. Total Mean scores of Participants with a low NFT on product attitude

As mentioned earlier, the participants with a low need for touch were separated in the analysis from participants with a high need for touch. Figure 11 shows the mean scores of the participants with a high need for touch on product attitude.

After controlling for need for touch the covariance analysis showed that the main effect of brand on the product attitude was not significant, $F(1, 95) = .085$, $p = .772$. This means that there was no significant difference between a luxury brand and a fast fashion brand regarding the perceived product attitude for participants with a high need for touch. This also accounts for the main effect of product description, $F(1, 95) = 1.66$, $p = .201$ and for the main effect of the visuals, $F(1, 95) = .109$, $p = .891$.

However, an interaction effect was found between the brand and the visuals for participants with a high need for touch, $F(1, 95) = 6.39$, $p < .05$. Therefore when participants saw the luxury brand combined with the zoom function they had a more positive attitude towards the product (M= 5.13, SD = 0.72) than when they saw the luxury brand combined with the video (M = 4.76, SD = 0.82). This interaction effect also accounts for the fast fashion brand, however in this situation the video (M = 5.05, SD = 0.52) was more liked regarding the attitude of the participant towards the product than the zoom function (M = 4.73, SD = 0.75). It can be concluded that the zoom function leads to a more positive attitude about the luxury brand, but the video leads to a more positive attitude about the fast fashion brand.

The mean scores for all eight conditions are visually presented in Figure 11 and appendix E gives a visual overview of the (possible) interaction results.

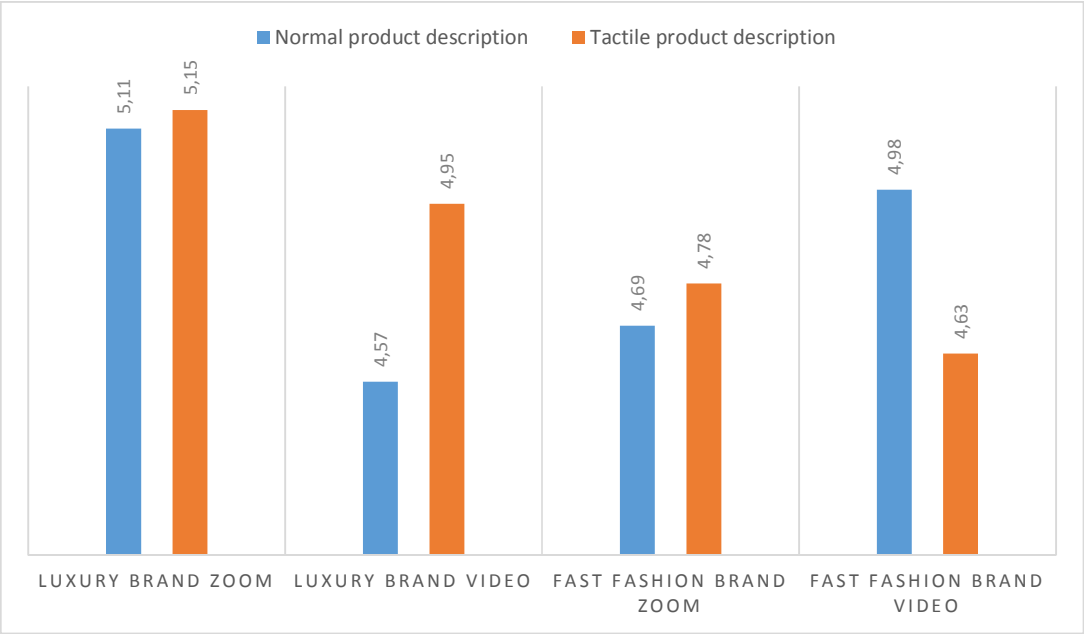

Figure 11. Total Mean scores of Participants with a high NFT on product attitude

4.2 Comfort of wearing

Another covariance analysis (ANCOVA) was conducted to investigate the effects of the brand (luxury and fast fashion), the product description (normal and tactile) and the visuals (zoom and video) on the perceived comfort of wearing. The covariables were need for touch and attitude towards online shopping. The main effect of the brand on product attitude was not significant after controlling for the covariate need for touch, $F(1, 200) = .122$, $p = .728$. Also, no significant main effect were found after controlling for need for touch on product description ($F(1, 200) = 2.83$, $p = .094$) and visuals ($F(1, 200) = .459$, $p = .499$). However, there was a significant main effect after controlling for the covariate attitude towards online shopping $F(1, 200) = 11.63$, $p < .05$. It means that a positive attitude towards online shopping is significantly related to the perceived comfort.

Since comfort of wearing is especially important for the construct need for touch, a second covariance analyses was done where the need for touch construct was split into two groups: participants with a low need for touch and participants with a high need for touch. After controlling for this covariance, it is evident that there was a significant main effect of need for touch on the perceived comfort of wearing, $F(1, 95) = 6.04$, $p < .05$. This indicates that the fact that participants have a low or high need for touch is of significant influence on the perceived comfort of the top.

Mean scores of participants with a low need for touch and high need for touch can be seen respectively in Figure 12 and Figure 13.

As is apparent from Figure 12, participants with a low need for touch are having the most sense of comfort when seeing a luxury brand, with a normal product description and zooming function (M = 4.08, SD = 0.65). They are having the least sense of comfort when seeing a fast fashion brand, with a tactile product description and a zooming function (M = 3.64, SD = 0.56). The main differences are evident from the brand used in the conditions, however these differences are not significant. Furthermore, analyses showed that the tactile product description was more interesting in combination with a video in the luxury condition (M = 3.81, SD = 0.64) as well as the fast fashion condition (M = 3.88, SD = 0.52) and the normal product description was more relevant in zoom conditions with the luxury brand (M = 3.67, SD = 0.53) and the fast fashion brand (M = 4.08, SD = 0.65).

After a covariance analyses for the group of participants with a high need for touch, a main effect was found for the attitude towards online shopping, $F(1, 95) = 1.28$, $p < .05$. This means that participants with a high need for touch and a positive attitude towards online shopping have a greater perceived comfort of wearing the top. In addition, a main effect of product description was found to be significant for the perceived comfort, $F(1, 95) = 9.86$, $p < .05$. A tactile product description was more effective in creating a sense of comfort for both the luxury condition (M = 4.03, SD = 0.70) and the fast fashion condition (M = 4.25, SD = 0.51), than a normal product description for the luxury (M = 3.79, SD = 0.64) and fast fashion condition (M = 3.70, SD = 0.84). Mean scores for the participants high in their need for touch can be seen in Figure 13. No further interaction effects were found for the construct comfort of wearing.

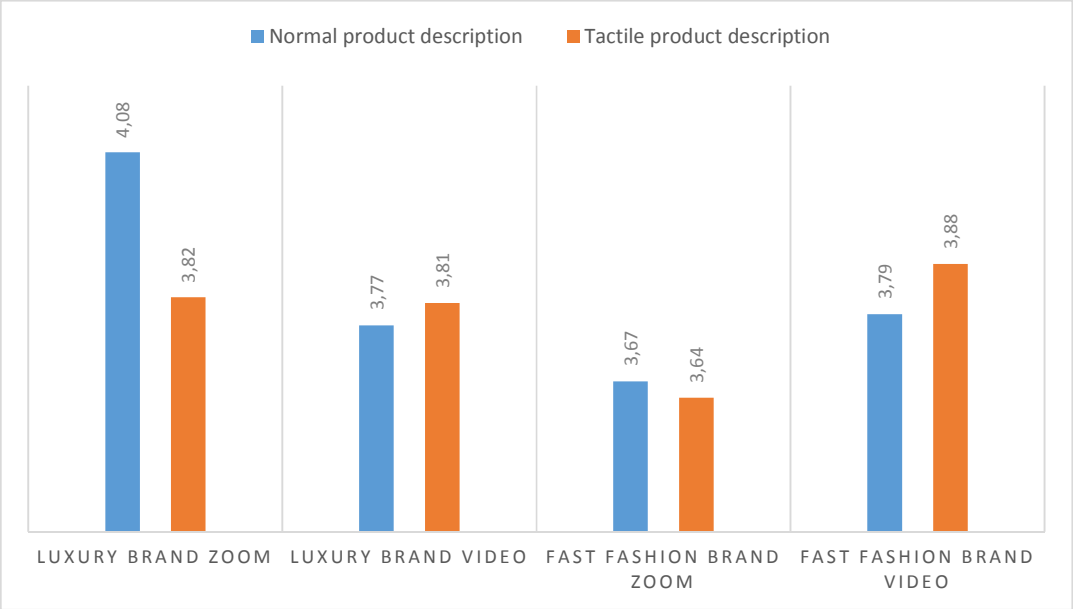

Figure 12. Total Mean scores of Participants with a low NFT on Perceived Comfort of Wearing

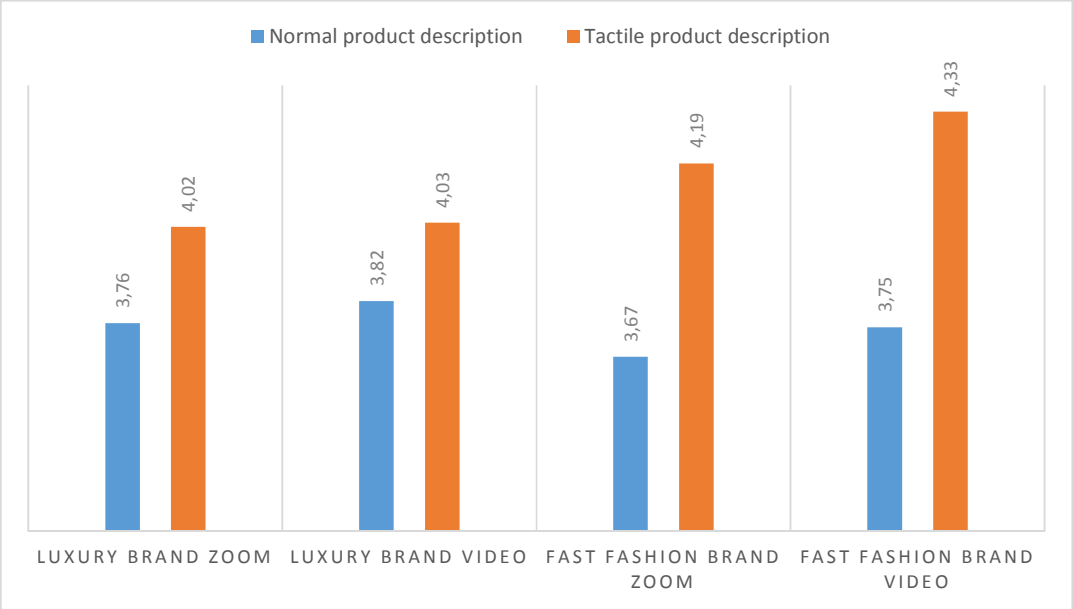

Figure 13. Total Mean scores of Participants with a high NFT on Perceived Comfort of Wearing

Figure 13 also shows that the tactile product description is more efficient for the fast fashion brand, for as well the zoom function (M= 4.33, SD = 0.58) as the video (M = 4.19, SD = 0.48) than for the luxury brand zoom function (M = 4.02, SD = 0.62) and video (M = 4.03, SD = 0.80).

4.3 Richness of the experience

A fourth covariance analysis (ANCOVA) was performed in this study with brand, text and visuals as independent factors and richness of the experience as dependent factor. The differences between the eight conditions were measured based on richness of the complete experience.

A covariance analysis (ANCOVA) was conducted to investigate the effects of the brand (luxury and fast fashion), the product description (normal and tactile) and the visuals (zoom and video) on the richness of the online shopping experience. The covariables were need for touch and attitude towards online shopping. The main effect of the brand on product attitude was not significant, $F(1, 198) = .005$, $p = .943$. This means that there was no significant difference between a luxury brand and a fast fashion brand regarding the richness of the experience. This also accounts for the main effect of product description, $F(1, 198) = .272$, $p = .603$ and for the main effect of the visuals, $F(1, 198) = 1.50$, $p = .223$. Furthermore, there was no significant effect of brand, description and visuals after controlling for the covariate need for touch, $F(1, 198) = .182$, $p = .670$. However, there was a significant effect after controlling for the covariate attitude towards online shopping, $F(1, 198) = 19.30$, $p < .05$. This indicates that participants with a positive attitude towards online shopping had a higher richness of the complete online shopping experience.

Since there was no significant effect found besides the covariate attitude towards online shopping, the most relevant covariate need for touch was split up into two groups: participants with a low need for touch and participants with a high need for touch. Analyses showed that scores of participants low in the need for touch variated between 0 and 3.71. Scores of participants high in the need for touch variated between 3.71 and 5. More in-depth analyses showed mean scores of the participants in the eight conditions (after controlling for need for touch) on richness of the experience. Mean scores of participants with a low need for touch on the richness of the experience can be found in Figure 14.

After controlling for need for touch the second covariance analysis showed that the main effect of brand on the product attitude was not significant, $F(1, 94) = .011$, $p = .985$. This indicates that participants that were low in the need for touch did not have a significantly richer experience with the luxury brand (M = 3.49, SD = 0.75) than with the fast fashion brand (M = 3.47, SD = 0.66). In addition, no significant main effect was found for the product description, $F(1, 94) = .100$, $p = .752$ and for the visuals, $F(1, 94) = .003$, $p = .959$. This means that participants did not have a significantly richer experience when the product description was tactile (M= 3.50, SD = 0.90) than when it was normal (M= 3.46, SD = 0.11). This also accounts for the visuals, participants did not have a significantly richer experience with the product shown in a video (M = 3.48, SD = 0.93) than as a

picture with zoom (M = 3.48, SD = 0.10). As mentioned before, there was a significant effect of the attitude towards online shopping on the richness of the experience, $F(1, 198) = 19.30$, $p < .05$.

These results indicate that only the attitude towards online shopping is of influence on the richness of experience for participants with a low need for touch. Also, no significant interaction effect was found regarding richness of the experience for participants with a low need for touch. Figure 14 gives a visual overview of the mean scores on richness of the experience.

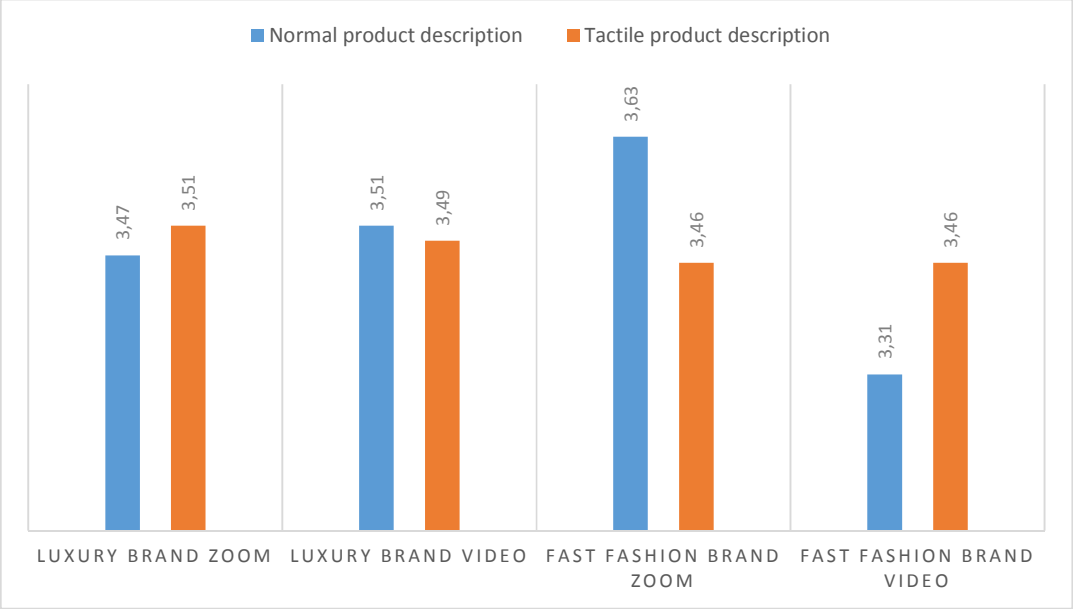

Figure 14. Total Mean scores of Participants with a low NFT on Richness of the Experience

As mentioned earlier, the participants with a low need for touch were separated in the analysis from participants with a high need for touch. Figure 15 shows the mean scores of the participants with a high need for touch on the richness of the complete shopping experience.

After controlling for need for touch the covariance analysis showed that the main effect of brand on the product attitude was not significant, $F(1, 95) = .927$, $p = .338$. This means that there was no significant difference between a luxury brand and a fast fashion brand regarding the perceived richness of the experience for participants with a high need for touch. This also accounts for the main effect of product description, $F(1, 95) = .534$ $p = .467$ and for the main effect of the visuals, $F(1, 95) = .138$, $p = .711$. However, an interaction effect was found between the brand, the product description and the visual for participants with a high need for touch, $F(1, 95) = 4.52$, $p < .05$. This indicates that a certain combination of the three independent variables induce a richer online shopping experience than others. As mentioned earlier, this only applies to participants with a high need for touch.

The combination that induces the richest shopping experience was where participants saw a fast fashion brand, combined with a normal product description and a video (M = 4.02, SD = 0.39). The combination that induced the least rich shopping experience was where participants saw a fast fashion brand, combined with a normal product description and a zoom function (M = 3.53, SD = 0.54). When inspecting the luxury brand and the fast fashion brand separately it is evident that the best combination for the luxury brand is with a tactile product description and a video (M = 3.79, SD = 0.43) and for the fast fashion brand the normal product description and a video (M = 4.02, SD = 0.39). It can be concluded that the fast fashion brand combined with a normal product description and the video leads to the richest shopping experience.

The mean scores for all eight conditions are visually presented in Figure 15 and appendix E gives a visual overview of the (possible) interaction results.

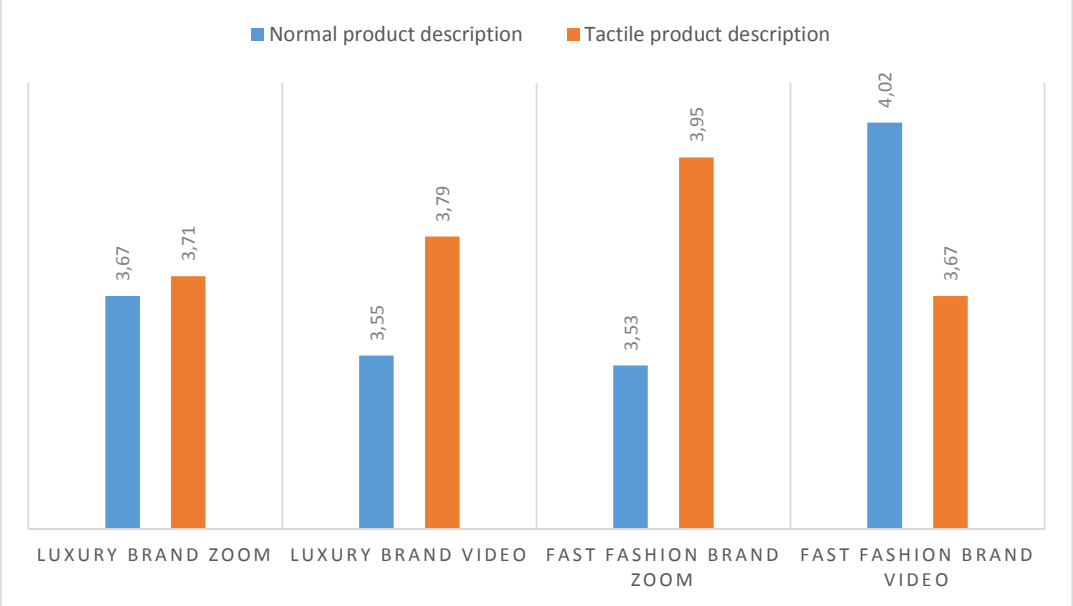

Figure 15. Total Mean scores of Participants with a high NFT on Richness of the Experience

4.4 Purchase intention

Another between subjects ANCOVA was performed. The differences between the eight conditions were measured based on the purchase intention of participants; whether or not they would consider buying this top in the future. Mean scores of participants with a low need for touch can be seen in Figure 16.

A covariance analysis (ANCOVA) was conducted to investigate the effects of the brand (luxury and fast fashion), the product description (normal and tactile) and the visuals (zoom and video) on the purchase intention of the participants. The covariables were need for touch and attitude towards online shopping. The analyses show that there are no significant main effects of the brand on purchase intention, $F(1, 200) = .322$, $p = .571$. This indicates that a luxury brand (M = 2.80, SD = 0.87) did not significantly lead to a higher purchase intention than the fast fashion brand (M = 3.03, SD = 0.91). There are also no main effects found of the product description, $F(1, 200) = .882$, $p = .347$ and visuals, $F(1, 200) = .263$, $p = .608$ on purchase intention. This means that the normal product description (M = 2.64, SD = 0.86) and tactile product description (M = 2.99, SD = 0.85) did not differ significantly regarding purchase intention. Furthermore, there was no significant effect of brand, description and visuals after controlling for the covariate need for touch, $F(1, 200) = .841$, $p = .360$.

However, in contrary to the covariate need for touch there was a significant main effect found for the covariate attitude towards online shopping $F(1, 200) = 6.26$, $p < .05$. This means that participants who have a positive attitude towards online shopping, have a high intention to buy the top shown in the questionnaire.

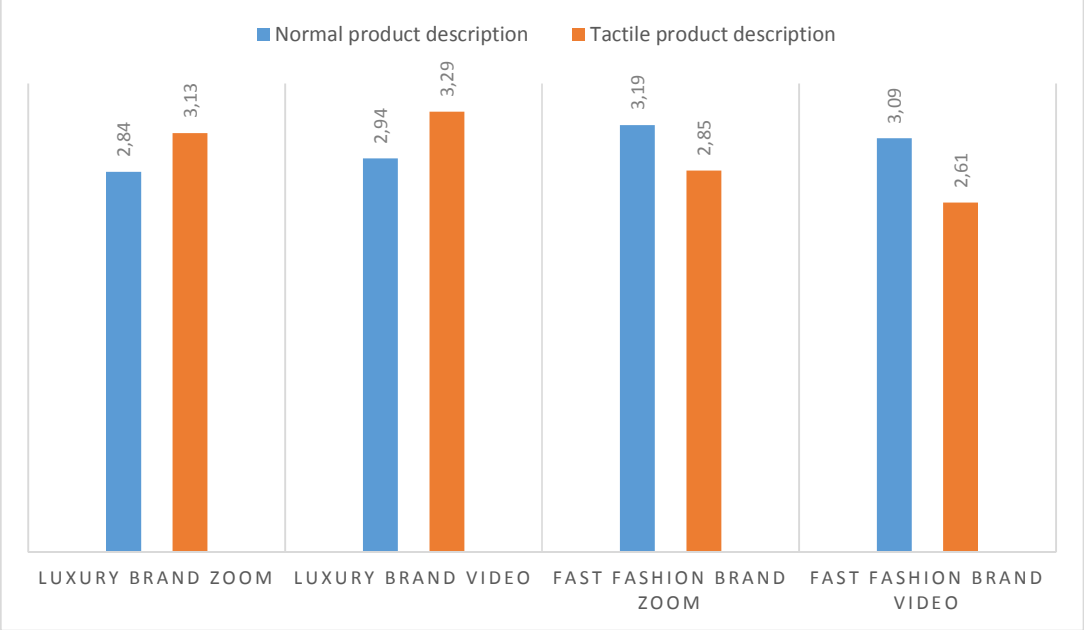

Figure 16. Total Mean scores of Participants with a low NFT on Purchase Intention

In addition to the main effect of the attitude towards online shopping, an interaction effect between the brand and the product description occurred to be significant for participants with a high need for touch, $F(1, 200) = 4.27$, $p < .05$. This interaction effect indicates that participants who saw the luxury brand in combination with a normal product description (M = 2.71, SD = 0.13) had a significantly lower purchase intention than participants who saw the tactile product description (M = 3.10, SD = 0.12). However, this does not apply to the fast fashion brand. When participants saw the fast fashion brand in combination with a normal product description (M = 3.05, SD = 0.13), they had a higher purchase intention than the participants who saw the product in combination with a tactile product description (M = 2.90, SD = 0.14). The mean scores of this interaction effect and a plot of this interaction effect can be seen in appendix E.

Since there was no significant effect found for the covariate need for touch, the participants were split up into two groups: participants with a low need for touch and participants with a high need for touch. More in-depth analyses showed mean scores of the participants in the eight conditions (after controlling for need for touch) on purchase intention. After controlling for need for touch the second covariance analysis showed that there were no significant effects of the brand on purchase intention, $F(1, 95) = .279$, $p = .598$. Furthermore, there were no significant effects found for the product description, $F(1, 95) = .001$, $p = .976$ or visuals, $F(1, 95) = .030$, $p = .863$ for the participants with a low need for touch.

However, it was apparent that the significant effects for attitude towards online shopping ($F(1, 200) = 6.26$, $p < .05$) and the significant interaction effect ($F(1, 200) = 4.27$, $p < .05$) as mentioned before only applied to the participants with a high need for touch. Mean scores of the participants with a high need for touch can be found in Figure 17. Figure 17 provides a visual overview of the mean scores of participants with a high need for touch on purchase intention.

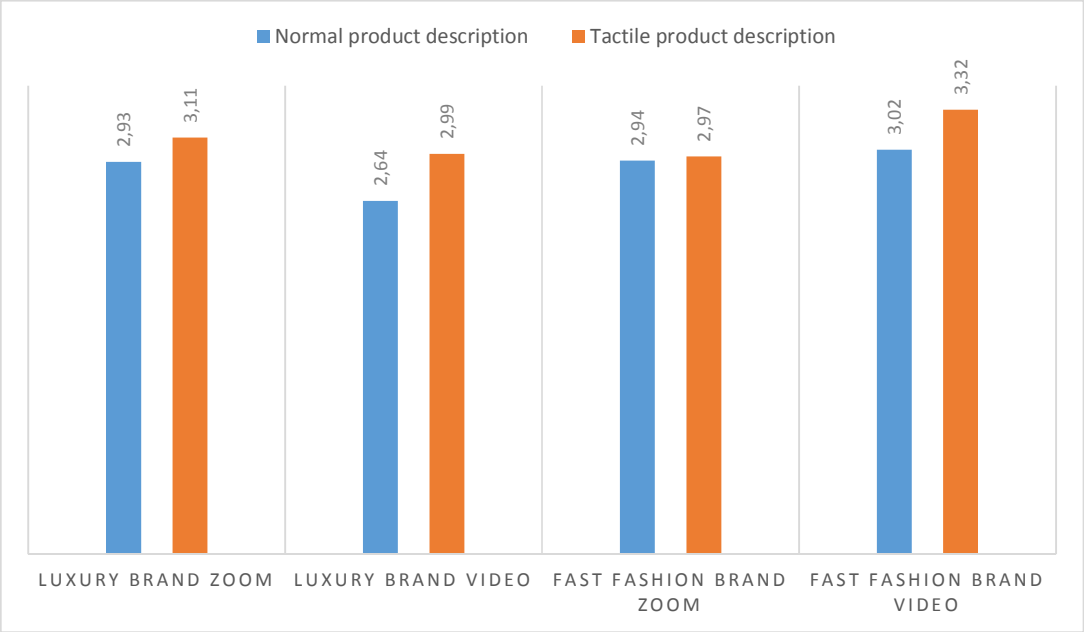

Figure 17. Total Mean scores of Participants with a high NFT on Purchase Intention

5. Discussion

In this paragraph an interpretation is presented of the results obtained from this research. Therefore, the results are related to the hypotheses that are mentioned earlier in the theoretical framework. Besides, limitations of this research and suggestions for further research are also presented in this part. At last, practical implications are given for retailers to attract more consumers that are high in the need for touch to buy products online. Furthermore, these practical implications could also be relevant for retailers of luxury brands as well as fast fashion brands. They could use the outcomes of this research to emphasize certain mechanisms online (product descriptions and visuals) to maximize their sales.

5.1 Hypotheses

In the present study, it was investigated in what way tactile products descriptions and moving visuals can compensate for the absence of touch in the online shopping experience. In particular, this study focuses on the influence of these variables on product attitude, purchase intention, comfort of wearing and richness of the experience. In this paragraph the hypotheses of this study are either accepted or rejected.

As mentioned before, a main effect of the attitude towards online shopping was found for almost all constructs. Furthermore, the luxury brand significantly influenced participants with a low need for

touch in their product attitude. There was also a main effect of product description for participants with a high need for touch on their perceived comfort of wearing.

Three interaction effects were found, the first interaction effect was found for participants with a high need for touch regarding visuals and the product attitude. The zoom function led to a more positive attitude in combination with a luxury brand, but the video led to a more positive attitude about the fast fashion brand. The second interaction effect was also found for participants with a high need for touch between a luxury brand and a tactile product description regarding purchase intention. The third interaction effect was found between the brand, the product description and the visuals regarding the richness of the experience, this effect is further explained in this paragraph. The interaction plots can be found in appendix E.

***"Hypothesis 1**: A tactile product description leads to a more positive product attitude and a richer shopping experience than a normal, non-tactile product description."*

Concerning the overall findings, hypothesis 1 cannot be confirmed statistically since no significant differences were found for product description and product attitude or richness of the experience. However, the mean scores are in line with the first hypothesis. The ANCOVA analysis showed that for the dependent variable product attitude, the mean scores of the tactile product description (M = 4.89) in general were higher than the mean scores of the normal product description (M = 4.81). This indicates that the tactile product description should lead to a more positive attitude about the product than the normal product description. Furthermore, the mean scores of the tactile product description (M = 3.49) were also higher than the normal product description (M = 3.46) regarding the dependent variable richness of the experience. This indicates that the tactile product description should lead to a richer online shopping experience than the normal product description.

This result might be explained by the fact that consumers have a positive reaction on emotions in texts. These findings are also supported by Fenko, Otten and Schifferstein (2010) who concluded that most tactile adjectives (rough, heavy, moist, warm, flexible) in descriptions have high importance ratings for consumers since all product experiences rely on information from sensory modalities. Furthermore, as mentioned in the theoretical framework the senses of touch in a product description are related to the field of emotions and feelings. This may explain why participants react more positively on the tactile product description than on the normal product description.

"Hypothesis 2: *The zooming function as main visual leads to a more positive product attitude, purchase intention and richness of the overall online shopping experience than the video presentation."*

The ANCOVA analysis indicated that hypothesis 2 cannot be confirmed statistically, since there were no significant main effects of visuals on product attitude, purchase intention and richness of the experience. However, the general mean scores were partially in line with the second hypothesis. Participants who saw the product with zooming function (M = 4.82) did not have a more positive product attitude than participants who saw the video product presentation (M = 4.89). Also for the dependent variable richness of the experience participants did not have a richer experience when zooming the product (M = 3.44) than when watching the video presentation (M = 3.53). In contrary to the dependent variables product attitude and richness of the experience, an effect was found that was in line with the second hypothesis based on the purchase intention of the participants. It is evident that participants who saw the product with zooming function (M = 3.00) did have a slightly higher intention of buying the product than participants who saw the video product presentation (M = 2.89). As mentioned before, these results were not confirmed statistically.

As is apparent from the theoretical framework dynamic imagery, where consumers are able to manipulate (i.e., rotate, zoom and move) the product image on the screen and try some functions of the product, may provide consumers with a great sense of control. Cian, Krishna and Elder (2014) expected that engagement with dynamic imagery will lead to greater positive attitudes toward the brand. The findings of this present study are not in line with these expectations, since it was evident that there were no main effects found for the preference of a zooming function over a video based on product attitude and richness of the experience. However, the findings of this study based on purchase intention are consistent with results from Kim and Lennon (2008). They found that zooming technology effective influencing consumer purchase decision making. Indeed, the participants in this study had a higher purchase intention when seeing the zooming function than when seeing the video presentation. This might be explained by the fact that the use of zooming technology allows internet shoppers to see small details of products and thus provides more information about products.

"Hypothesis 3*: A high product quality (luxury brand) leads to a more positive product attitude, perceived comfort and purchase intention than a low product quality (fast fashion brand)."*

Based on the overall findings, the ANCOVA analyses showed that hypothesis 3 cannot be confirmed statistically. However, the general mean scores are for the most part consistent with this hypothesis. The results show that a high product quality did lead to a more positive attitude of participants for

the luxury brand (M = 4.94) than for the fast fashion brand (M = 4.74). In addition, there was indeed a difference between the perceived comfort of wearing regarding the product quality. Results indicate that participants saw the luxury product as slightly more comfortable (M = 3.88) than the fast fashion product (M = 3.83). However, regarding the purchase intention of the participants it appears that participants had a higher intention of buying the fast fashion brand (M = 2.97) than the luxury brand (M = 2.93). However, all three outcomes are not confirmed statistically.

The fact that the results are in line with the hypothesis could be explained by research of Cheskin (2000) who states that luxury brands include high levels of confidence in the mind of the consumer. Furthermore, luxury brands have an online advantage since they have the reputation that their clothing already feels good and therefore indicates a high quality. This is consistent with results of this present study, since the product attitude and perceived comfort of wearing were both higher for participants who had to assess the luxury brand than for participants who had to assess the fast fashion brand.

However, this does not apply to the dependent variable purchase intention. Despite of the fact that product quality is often judged by intrinsic cues (e.g. fabric), it seems that most consumers see the price of the product as the most crucial factor in deciding whether or not to buy a product. Participants knew that Michael Kors products are a lot more expensive than Zara products, which is why they probably prefer the Zara top over the Michael Kors top when it comes to the intention of actually buying the product. This effect is in line with the paradoxical situation that is also described in the theoretical framework. On the one hand, when a product is offered at a lower price than others it would also be more attractive to consumers. At the same time however, this product is less attractive because of its suspected inferior quality (Teo, 2002). Furthermore, Scitovszky (1944) also states that the quality of a product is still often judged by the price of this product. Therefore, the mean scores on product attitude and perceived comfort of wearing are in line with the hypothesis, but the mean scores on purchase intention are not.

Hypothesis 4: NFT moderates the effects of verbal and visual cues and the type of brand on consumers' product experience (attitude, richness and comfort) and on purchase intention.

The role of need for touch is explained on the basis of the most relevant effects of product description, visuals and product quality on the four dependent variables. Results show that participants with a low need for touch did not have great difficulties with the absence of touch in the online shopping experience. No significant main differences were found for participants with a low need for touch regarding purchase intention, richness of the experience and perceived comfort of wearing. Only one significant main effect was found on their product attitude. The ANCOVA analysis

showed that participants low in their need for touch had a more positive attitude about the luxury brand (M = 4.93) than about the fast fashion brand (M = 4.62). So when participants with a low need for touch thought that the top was a Michael Kors product, they liked it more than when they thought it was a Zara product. However, this had no effect on the actual purchase intention of these participants.

Other results that cannot statistically confirm the statement, but are consistent with the expectations is that participants who are low in their need for touch also had a lower purchase intention for the fast fashion brand Zara (M = 2.91) than participants high in their need for touch (M = 3.03). This finding could possibly be explained by the fact that for people who are low in their need for touch it does not matter whether they can touch a product before buying it or not. This does not affect their choice of a luxury brand or a fast fashion brand. Another explanation might be that the distribution of participants was not equal in this study. For example: 92 participants saw a fast fashion brand in contrast to 118 participants that saw a luxury brand. This may have caused some biases in the results.

Product description

In contrary to the results of participants with a low need for touch, some relevant significant effects were found for participants with a high need for touch. Based on the overall findings for product description, the ANCOVA analysis showed that a tactile product description (M = 3.04) was more effective in creating a sense of comfort than a normal product description (M = 2.80). This effect was present with both the luxury brand and the fast fashion brand.

The results on the other dependent variables could statistically not confirm the hypothesis, however the main scores are in line with the statement. It seems that a tactile product description could also lead to a more positive attitude and a richer experience (M = 5.00 and M = 3.79) than a normal product description (M = 4.84 and M = 3.67). Once again, these last results were not significant. The influence of a tactile product description on the perceived comfort of the top was predicted in the theoretical framework. It was expected that people that are high in their need for touch would like to touch certain products before buying it (not just an autotelic function, but also an instrumental function). A tactile product description helps them to imagine how the top feels and if the top is comfortable, which is a result that is in line with Fenko, Otten and Schifferstein's (2010) research since they state that tactile adjectives have high importance ratings for consumers.

Furthermore, a significant interaction effect occurred between the product description and the product quality regarding the purchase intention of participants with a high need for touch. Participants who saw the luxury brand in combination with a normal product description (M = 2.71)

had a significantly lower purchase intention than participants who saw the tactile product description (M = 3.10). However when participants saw the fast fashion brand in combination with a normal product description (M = 3.05), they had a higher purchase intention than the participants who saw the product in combination with a tactile product description (M = 2.90). It can be concluded that a tactile product description leads to a higher purchase intention when showing a luxury brand and a normal product description leads to a higher purchase intention when showing a fast fashion brand.

Visuals

The ANCOVA analysis showed that there was no significant main effect of only the zoom function or only the video on the product experience of the participants with a high need for touch. However the results are in line with the expectation. Participants indeed had a more positive attitude in the zoom function (M = 4.93) than in the video presentation (M = 4.88). Furthermore, the purchase intention was higher for participants who saw the zoom function (M = 2.98) than for participants who saw the video presentation (M = 2.81).

However, there was an interesting significant interaction effect found between the product quality and the visual used in the questionnaire. It was expected that consumers who are high in their need for touch would like to be interactive with a product and therefore would like the zoom function better than the video. This expectation is statistically confirmed, in combination with the luxury brand. When participants saw the luxury brand combined with the zoom function (M = 5.13) they had a more positive attitude towards the product than when they saw the luxury brand combined with the video (M = 4.76). This interaction effect also applies to the fast fashion brand, however in this situation the video (M = 5.05) was more liked regarding the attitude of the participant towards the product than the zoom function (M = 4.73). It can therefore be concluded that the zoom function leads to a more positive attitude about the luxury brand, but the video leads to a more positive attitude about the fast fashion brand. This results is consistent with Kim and Lennon's (2008) research outcome: zooming technology is effective in influencing consumer purchase decision making, more than a video could influence this.

Product quality

The ANCOVA analysis showed that there was no significant main effect of only the luxury brand or only the fast fashion brand on the product experience of the participants with a high need for touch. However, some mean scores do provide some insight into the role of need for touch on the four different dependent variables. It seems that participants with a high need for touch had a more positive attitude about the luxury brand than about the fast fashion brand, however this does not apply to the purchase intention of those participants. The purchase intention is higher for the fast

fashion brand than for the luxury brand. This effect is already explained earlier by Teo's (2002) paradoxical situation. On the one hand, when a product is offered at a lower price than others it would also be more attractive to consumers. At the same time however, this product is less attractive because of its suspected inferior quality. So when it comes to the actually buying of the product, consumers still see price as the most important factor in decision making.

However, a significant interaction effect was found were the product quality has a central role. This effect occurred for participants with a high need for touch regarding the richness of the complete shopping experience. In combination with the visuals and the product description it is significantly confirmed that a certain combination of these three independent variables induce a richer online shopping experience than others. Nonetheless, this does not automatically lead to a higher purchase intention of the participants.

The combination that induces the richest shopping experience was where participants saw a fast fashion brand, combined with a normal product description and a video (M = 4.02). When inspecting the luxury brand and the fast fashion brand separately it is evident that the best combination for the luxury brand is with a tactile product description and a video (M = 3.79) or with the zoom function (M = 3.71). The visual does not lead to a big difference in the richness of the experience. The best combination for the fast fashion brand is with a normal product description and a video (M = 4.02). It can be concluded that this combination leads to the richest shopping experience for participants with a high need for touch.

These results are for the most part consistent with the statement from Kim and Forstyhe (2010) who claim that by allowing a shopper to interact with a product and examine the product on screen, dynamic product imagery (DPI) can provide online shoppers with detailed product information and an entertaining shopping experience. DPI comprises video, animation or other rich media content, providing interactive product images on screen to online shoppers. This might explain why the video provided a rich shopping experience, but it does not explain the relation to the product description and the product quality (brand). These significant results show which combination leads to the richest experience for the consumer. Once again, this does not mean that it also leads to a higher intention of actually buying the product.

Attitude towards online shopping

At last, there was another moderator in this study: the attitude towards online shopping. Significant main effects were found between the attitude towards online shopping and perceived comfort of wearing, richness of the experience and purchase intention.

Regarding the perceived comfort of wearing, the results indicate that there is a main effect of the covariate attitude towards online shopping. Participants with a positive attitude towards online shopping, had a higher sense of comfort when judging the top. However, this effect was only significant for participants with a low need for touch. This effect can be explained by the fact that consumers with a low need for touch do not see any barriers for shopping online and therefore do not see a problem in not being able to touch the product first.

Furthermore, there was also a significant main effect of attitude towards online shopping regarding the richness of the experience. Participants with a positive attitude towards online shopping, had also a higher purchase intention than participants with a negative attitude towards online shopping. Logically, participants who are positive about the online shopping phenomenon would rather but clothing online than participants who are negative about it. The last effect only applies to participants high in their need for touch, which makes it interesting to further elaborate the relationship between the concepts need for touch and attitude towards online shopping. Results show that there is no significant relation found between positive attitude towards online shopping and a positive attitude towards the product shown in the questionnaire for consumers with a high need for touch.

5.2 Limitations

The present study had some strengths, but also some weaknesses and limitations. These are listed below.

- The first limitation concerns the distribution of sample characteristics over the eight conditions. People who participated in the pre-test had a mean age of 25.5 years and most of them had a WO education level (40%). Furthermore, 71% of these participants were single. However, when comparing these statistics to the main study some different results are evident from the descriptive analyses. For example in the luxury, tactile description and zoom condition the mean age of the participants was 30.7 years. However in the luxury, tactile and video condition the mean age of the participants was 24.9 years. These participants also mostly had a HBO education. It could possibly be that there is a difference in assessing the product in the questionnaire between the age levels.

Furthermore, there was no equal distribution of participants over the conditions. In the luxury, tactile and zoom condition there were 39 participants. In the luxury, tactile and video condition there were 25 participants and in the fast fashion, tactile and video condition there were only 18 participants. This could have influenced the results in a negative way. This uneven distribution is therefore a limitation of this present research.

- A second limitation is related to the use of the manipulations in this study. In this present research some important external factors of assessing brands were not taken into account. For example: the price of a luxury brand or a fast fashion brand. Most people know that a Michael Kors product is expensive and even though participants were told that they had to evaluate the product as if they could afford it, this may have possibly influenced participants' attitude and purchase intention towards the product.

- The third limitation of this research is the way that the questions were asked in the questionnaire. Some questions were not completely understandable for the participants and therefore they did not interpret the questions in the right way. Some feedback of participants showed that some items of the product attitude construct were almost identical and they could not tell the difference. This may have influenced some of the results on participants' product attitude.

- The last limitation is that only women could participate in this research. Therefore the results are solely based on a women's view. The results could possibly be different for men. They might have a different view on the experience when shopping online. Also, they probably have other levels of need for touch than women. As is known from literature, women are often more likely than men to want to touch products before buying it. Therefore, results are only based on women's perceptions. However, this limitation can also be seen as an opportunity for further research and is therefore discussed in the next paragraph.

5.3 Suggestions for further research

Based on the limitations of the current study, the following ideas for further research can be given. A first suggestion is to consider the aspect of age and education level of participants. In the present study, the results state that age differences might have affected the perception of consumers concerning the evaluation of the online shopping experience and the product. It could be interesting to investigate whether there is a connection between the age of participants and their preferences of brands and shopping experiences. Further research can determine if some sort of correlation exists between the education level of participants and their shopping experiences.

In addition, another idea for improvement of the pre-test is to make a fine selection of different brands. In the present study, brands selected on personal knowledge were used in the pre-test. In the future it could be useful to let participants recall luxury brands or fast fashion brands themselves. This way they might have a closer relationship or affection to the brand used in the main study. In addition to that, it has to be made clearer to participants that they should not focus on prices of brands. The imagining part of the study has to be done more effectively so that participants will not

be biased by focusing on external aspects of product liking, such as price. Furthermore, an optimization of questions in the product attitude construct are useful to create a better understanding for participants.

In addition, another suggestion can be made concerning the structure of the study. For example: more participants in the pre-test and also in the main study. In the present study 25 people participated in the pre-test and 212 people participated in the main study. Getting more participants leads to a better reliability and validity and can therefore gain more desired effects.

Also, as mentioned earlier in the discussion paragraph of this study it might be interesting to investigate if a positive attitude towards online shopping may have a negative correlation with need for touch. How is need for touch exactly related to attitudes towards online shopping? Maybe participants that are high in their need for touch automatically have a more negative attitude towards online shopping.

The last suggestion is that this research can also be conducted among men. The present research was solely focused on women. It might also be of interest to investigate whether the same results will appear among men. For example, this research could be conducted among different shopping categories (e.g. furniture or electronics) to see the extent to which men are high in their need for touch and how this differs from women's need for touch.

5.4 Practical implications

Practical implications regarding this present research are presented below. These practical implications are designed for retailers of online web stores selling clothes and who want to reach consumers that are high in their need for touch, for example debijenkorf.nl or wehkamp.nl. This research can be used by retailers of online web stores to learn about the effects of product quality, verbal product descriptions that include tactile cues and also about the effect of haptic visual cues on consumers. As stated before, the best compensation strategy is different for luxury brands and fast fashion brands. It also depends on which factors the online web shops and retailers find more important to emphasize. Of course it is relevant that consumers have a positive attitude about the product, but it is more important that consumers actually buy the product. Therefore, results on richness of the experience combined with the results on purchase intention might be of interest for the companies.

The best strategy for the luxury brand is combining it with a tactile product description and a video or a zoom function. When selling fast fashion brand, the best strategy to use includes a normal product description and a video. It is therefore suggested that product videos can be a good substitute for

real products when they are not available for consumers to touch. Videos appear to have more positive effects than static images with zoom, however as mentioned earlier this depends on the main point of focus (purchase intention or richness of the experience).

Shopping via internet and apps on our smartphones is getting more popular each day and embraced by our society. Some consumers however still prefer retail stores over online stores, because they would like to touch a product and try it on before buying it. Marketers can take the findings of this research into account when designing new mobile shopping applications or when designing interactive web shops. Retail owners can also use this research to learn about differences regarding preferences for certain luxury or fast fashion brands and to learn more about consumers' need for touch. Furthermore, marketers and retail owners can focus on specific types of shopping environments, now that they know the needs of consumers with a high need for touch. This can be used during design processes of web stores that mainly focus on female consumers, since this research was solely conducted among women. Furthermore, the information in this research can also be used for multisensory marketing issues and multisensory research.

6. Conclusion

The purpose of this study was to investigate verbal descriptions of tactile properties and additional visual information regarding the online shopping experience. In addition, the study had a main point of focus on consumers' need for touch and investigated the role of product quality. The study was conducted based on the following research question:

"*In what way can verbal descriptions of tactile properties and additional visual information (pictures with zoom or videos) compensate for the absence of touch in the online shopping experience?*"

This research question was answered via an online experiment, using the four hypotheses answered in paragraph 5.1. The Need for Touch scale was also used during the online experiment to investigate the influence of this factor in the online shopping experience. After the 2 x 3 online experiment and the ANCOVA analyses, it is suggested that web shops should use a tactile product description in combination with video when selling a luxury brand. However, when selling a fast fashion brand it is suggested to use a normal product description and a video. This combination has the most effect on the richness of the online shopping experience. When considering the perceived comfort of product and purchase intention, it could be useful to also provide consumers with a zoom function.

It can also be concluded that participants with a high need for touch had a significantly more positive attitude towards the luxury brand than the fast fashion brand, had a higher purchase intention than participants with a low need for touch and also had a richer shopping experience than participants with a low need for touch. These results are applicable to both autotelic and instrumental dimensions of need for touch, since both forms were used in the questionnaire.

These results can help to understand the online shopping experience of consumers with a high need for touch and it can also be used in the development of clothing web shops. Furthermore, these results can be used for retail owners to learn about differences regarding preferences for luxury- and fast fashion brands and to learn about the role of consumers' need for touch. Multi-sensory marketing and the subject of this study are a relatively new research area. Future research could investigate the role of need for touch more intensively and could also use more different visuals (e.g. 3D-simulation) to see if these results will appear consistently.

References

Atkinson, J., & Braddick, O. (1982). Sensory and perceptual capacities of the neonate. In P. Stratton (Ed.), *Psychobiology of the human new-born,* 191–220. London: John Wiley.

Bian, Q., & Forsythe, S. (2012). Purchase intention for luxury brands: A cross cultural comparison. *Journal of Business Research*, *65*(10), 1443-1451.

Bruner, G.C., Hensel, P.J., & James, K.E. (2001). *Marketing scales handbook Volume IV: Consumer behavior*. Cincinnati, Ohio: South Western Educational Publishing.

Buchanan, L., Simmons, C.J., & Bickert, B.A. (1999). Brand equity dilution: retailers display and context brand effects. *Journal of Marketing Research, 36*(8), 345-355.

Centraal Bureau voor de Statistiek (2015). Consulted at 06-04-2015, from http://www.cbs.nl/nl-NL/menu/themas/handel-horeca/publicaties/artikelen/archief/2015/detailhandelverkopen-groeien-weer-na-vijf-jaar-krimp.htm.

Cheskin Research Group (2000). Trust in the wired Americas. *Redwood Shores*, 10.

Cian, L., Krishna, A., & Elder, R.S. (2014). This logo moves me: Dynamic imagery from static images. *Journal of Marketing Research, 51*(2), 184-197.

Citrin, A.V., Stem, D.E., Spangenberg, E.R., & Clark, M.J. (2003). Consumer need for tactile input: An internet retailing challenge. *Journal of Business research*, *56*(11), 915-922.

Clark, J., & Paivio, A. (1991), Dual Coding Theory and Education. *Educational Psychology Review, 3*(3), 149–210.

Dooley, D. (2009). *Social research methods.* Essex: Pearson Education Limited.

Fenko, A., Otten, J.J., & Schifferstein, H.N. (2010). Describing product experience in different languages: The role of sensory modalities. *Journal of Pragmatics*, *42*(12), 3314-3327.

Frankwatching.com (2012). Consulted at 06-04-2015, from http://www.frankwatching.com/archive/2012/12/19/de-evolutie-van-online-winkelen-in-nederland-6-uitdagingen-voor-retailers/

Grohmann, B., Spangenberg, E.R., & Sprott, D.E. (2007). The influence of tactile input on the evaluation of retail product offerings. *Journal of Retailing, 83*, 237–245.

Kim, J., & Forsythe, S. (2010). Adoption of dynamic product imagery for online shopping: Does age matter? *The International Review of Retail, Distribution And Consumer Research, 20*(4), 449-467. doi: 10.1080/09593969.2010.504011

Kim, M., & Lennon, S. (2008). The effects of visual and verbal information on attitudes and purchase intentions in internet shopping. *Psychology & Marketing*, *25*(2), 146-178. doi: 10.1002/mar.20204

Klatzky, R.L., Lederman, S.J., & Matula, D.E. (1991). Imagined haptic exploration in judgments of object properties. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 17*(2), 314-322.

Krishna, A. (2010). *Sensory marketing: research on the sensuality of products*. New York: Routledge.

Krishnamurthy, P., & Sujan, M. (1999). Retrospection versus anticipation: the role of the ad under retrospective and anticipatory self-referencing. *Journal of Consumer Research, 26*, 55-69.

MacInnis, D., & Price, L. (1987). The role of imagery in information processing: Review and extension. *Journal of Consumer Research, 13*, 473–491.

McCabe, D.B., & Nowlis, S.M. (2003). The effect of examining actual products or product descriptions on consumer preference. *Journal of Consumer Psychology, 13,* 431-439.

Miller, K.W., & Mills, M.K. (2012). Contributing clarity by examining brand luxury in the fashion market. *Journal of Business Research*, *65*(10), 1471-1479.

Mitchell, A.A., & Olsen, J.C. (1981). Are product attribute beliefs the only mediator of advertising effects on brand attitudes? *Journal of Marketing Research*, *18,* 318-332.

Nyeck, S., & Roux, E. (1997). WWW as a communication tool for luxury brands: Compared perceptions of consumers and managers. In Eds. van Raij, W.F., Woodside, A.G. & Strazieri, A. *Proceedings of the Second International Research Seminar on Marketing Communications and Consumer Behavior*, 296-316.

Nieswiadomy, R.M., ter Maten-Speksnijder, A., & de Lange, J. (2009) *Verpleegkundige onderzoeksmethoden.* Amsterdam: Pearson Education Benelux B.V.

Peck, J. (2010). Does touch matter? Insights from haptic research in marketing. In: Krishna, A. (Ed.), *Sensory Marketing: Research into the sensuality of products,* 17-31. London: Routledge.

Peck, J., Barger, V.A., & Webb, A. (2012). In search of a surrogate for touch: The effect of haptic imagery on perceived ownership. *Journal of Consumer Psychology, Forthcoming*.

Peck, J., & Childers, T.L. (2003). Individual differences in haptic information processing: The "need for touch" scale. *Journal of Consumer research, 30,* 430-442.

Peck, J., & Shu, S.B. (2009). The effect of mere touch on perceived ownership. *Journal of consumer research, 36*. doi: 10.1086/598614

Peracchio, L.A., & Meyers-Levy, J. (1994). How ambiguous cropped objects in ad photos can affect product evaluations. *Journal of Consumer research, 21,* 190-204.

Phillips, F., Donoho, A., Keep, W.W., Mayberry, W., McCann, J.M., Shapiro, K., & Smith, D. (1997). Electronically connecting retailers and customers: interim summary of an expert roundtable. In: Peterson RA, editor. *Electronic marketing and the consumer*, 101 – 22. Thousand Oaks, CA: Sage Publications.

Porter, M.E. (2001). Strategy and the Internet. *Harvard Business Review,* 66.

Rein, M., & Schön, D. (1977). *Problem setting in policy research*. In: Weiss, Carol (Ed.), *Using Social Research in Public Policy Making*, 235 – 251. Lexington: Lexington Books.

Reinach, S.S. (2005). China and Italy: Fast fashion versus prêt a porter – towards a new culture of Fashion. *Fashion Theory, 9*(1), 43–56.

Scitovszky, T. (1944). Some consequences of the habit of judging quality by price. *The Review of Economic Studies*, *12*(2), 100-105.

Shiv, B., & Fedorikhin, A. (1999). Heart and Mind in conflict: The interplay of affect and cognition in Consumer Decision Making. *Journal of Consumer Research, 26*(12), 278-292.

Singh, S.N., Lessig, V.P., Kim, D., Gupta, R., & Hocutt, M. (2000). Does your ad have too many pictures? *Journal for Artistic Research, 40,* 11-27.

Spence, C., & Gallace, A. (2011). Multisensory design: Reaching out to touch the consumer. *Psychology & Marketing*, *28*(3), 267-308. doi: 10.1002/mar

Taylor, S., & Todd, P.A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research, 6*(2), 144–176.

Teo, T.S. (2002). Attitudes toward online shopping and the Internet. *Behaviour & Information Technology*, *21*(4), 259-271.

Tokatli, N. (2007). Global sourcing: insights from the global clothing industry—the case of Zara, a fast fashion retailer. *Journal of Economic Geography*. doi: 10.1093/jeg/lbm035

Wheatley, J.J., Chiu, J.S.Y., & Goldman, A. (1981). Physical Quality, Price and Perceptions of Product Quality: Implications for Retailers. *Journal of Retailing, 57*, 100–116.

Williams, J. (1976). Synaesthetic adjectives: a possible law of semantic change. *Language, 52*, 461–478.

Appendices

Appendix A – Information page and informed consent pre-test

Enschede, datum … - … - 2015

Informatie "Categoriseren van fashion merken en woorden"

Geachte mevrouw,

Ik ben een masterstudente Marketing & Communicatie aan de Universiteit Twente. Graag nodig ik u uit om door middel van het invullen van deze online vragenlijst aan mijn vooronderzoek deel te nemen. Het betreft een klein onderzoek naar het categoriseren van woorden en van kledingmerken. U kunt alleen deelnemen als u een vrouw bent van 18 jaar of ouder. Het invullen van de vragenlijst zal slechts tien minuten van uw tijd in beslag nemen.

Het invullen van de vragenlijst is op vrijwillige basis en geheel anoniem. De ingevulde gegevens worden vertrouwelijk behandeld. U kunt op elk moment stoppen met het onderzoek. Indien u niet meer wenst deel te nemen, worden uw gegevens verwijderd. Bij vragen over de vragenlijst, mailt u gerust naar: a.bakker-7@student.utwente.nl

Alvast hartelijk dank voor uw deelname!

Met vriendelijke groet,
Aimée Bakker

Naam onderzoeker:	Aimée Bakker	Telefoonnummer: 06-15001655
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E-mail:	aimeebakker@home.nl	

Faculteit gedragswetenschappen Universiteit Twente

Appendix B – Product description pre-test

Deze **klassieke, oversized** trui is een mengsel van de beste 82% Merino wol uit Italië en **zacht katoen**. De stof is **flexibel** geweven in meerdere **zichtbare lagen**. De truien worden door meerdere kammen geproduceerd, wat een **zacht en pluche** gevoel geeft. De **sterke textuur** voelt heerlijk tegen uw huid en voorkomt dat de trui gaat pluizen. De **opvallende** bootkraag is op een speciale manier gebreid voor extra **comfort**. Daarnaast heeft deze casual trui een goede **pasvorm**. De trui is te verkrijgen in de volgende **levendige kleuren**: Sunset Coral, True Blue en Silver Heather, maar ook in de **pasteltinten** lila en lichtroze. Met deze beauty ben jij verzekerd van de juiste dosis **elegantie**. Draag deze trui met een nette broek en hoge hakken voor **een head-turning look.**

Appendix C – Questionnaire pre-test

Geachte mevrouw,

Ik ben een masterstudente Marketing & Communicatie aan de Universiteit Twente. Graag nodig ik u uit om door middel van het invullen van deze online vragenlijst aan mijn vooronderzoek deel te nemen. Het betreft een klein onderzoek naar het categoriseren van woorden en van kledingmerken. U kunt alleen deelnemen als u een vrouw bent van 18 jaar of ouder. Het invullen van de vragenlijst zal slechts tien minuten van uw tijd in beslag nemen.

Het invullen van de vragenlijst is op vrijwillige basis en geheel anoniem. De ingevulde gegevens worden vertrouwelijk behandeld. U kunt op elk moment stoppen met het onderzoek. Indien u niet meer wenst deel te nemen, worden uw gegevens verwijderd. Bij vragen over de vragenlijst, mailt u gerust naar: a.bakker-7@student.utwente.nl

Alvast hartelijk dank voor uw deelname!

Met vriendelijke groet,

Aimée Bakker

Master Marketing & Communicatie
Universiteit Twente

Wat is uw leeftijd

Wat is uw hoogst afgeronde opleidingsniveau?

- VMBO
- HAVO
- VWO
- MBO
- HBO
- WO
- Anders, namelijk:

Wat is uw burgerlijke staat?

- ○ Alleenstaand
- ○ Samenwonend zonder kinderen
- ○ Samenwonend met kinderen
- ○ Getrouwd zonder kinderen
- ○ Getrouwd met kinderen

Welkom bij deel 1 van deze vragenlijst.

Kijk eerst naar de afbeelding hieronder en lees vervolgens de bijbehorende productomschrijving. De tekst bevat een aantal visuele woorden en een aantal tastbare woorden (woorden die gaan over aanraking en gevoel).

Productomschrijving:

Deze **klassieke, oversized** trui is een mengsel van de beste 82% Merino wol uit Italië en **zacht katoen**. De stof is **flexibel** geweven in meerdere **zichtbare lagen**. De truien worden door meerdere kammen geproduceerd, wat een **zacht en pluche** gevoel geeft. De **sterke textuur** voelt heerlijk tegen uw huid en voorkomt dat de trui gaat pluizen. De **opvallende** bootkraag is op een speciale manier gebreid voor extra **comfort**. Daarnaast heeft deze casual trui een goede **pasvorm**. De trui is te verkrijgen in de volgende **levendige kleuren**: Sunset Coral, True Blue en Silver Heather, maar ook in de **pasteltinten** lila en lichtroze. Met deze beauty ben jij verzekerd van de juiste dosis **elegantie**. Draag deze trui met een nette broek en hoge hakken voor **een head-turning look.**

Verdeel de dikgedrukte woorden over de twee onderstaande categorieën.

Welke woorden zijn volgens u visueel en hebben dus te maken met het uiterlijk van het product? En welke woorden zijn volgens u tastbaar en hebben te maken met het gevoel en aanraking van het product? U kunt de woorden slepen naar de juiste kolom.

Items

- Klassieke, oversized
- Zacht katoen
- Flexibel
- Zichtbare lagen
- Zacht en pluche
- Sterke textuur
- Opvallende
- Comfort
- Pasvorm
- Levendige kleuren
- Pasteltinten
- Elegantie
- Head-turning look

Box 1: Tastbare woorden (woorden over gevoel en aanraking)

Box 2: Visuele woorden (woorden over het uiterlijk van het product)

Welkom bij deel 2 van deze vragenlijst.
Participanten zagen deze merken in willekeurige volgorde en moesten vervolgens de vragen beantwoorden onder elk merk.

Deel 2 van de vragenlijst gaat over het categoriseren van bekende kledingmerken. Sommige merken zijn luxe merken, andere zijn de zogenoemde "fast fashion merken". Fast fashion merken zijn de gewonere merken, die direct de trends volgen en vaak nieuwe collecties in de winkels hebben liggen. Kijk eerst goed naar het logo van het kledingmerk en beantwoordt vervolgens de vragen. Kruis telkens het antwoord aan dat het beste uw mening weergeeft.

	Helemaal mee oneens	Mee oneens	Niet oneens/niet eens	Mee eens	Helemaal mee eens
Ik ben bekend met dit merk	○	○	○	○	○
Dit merk is geen symbool van prestige	○	○	○	○	○
Dit merk is een luxe merk	○	○	○	○	○
Dit merk is een fast fashion merk	○	○	○	○	○
Dit merk geeft mij plezier	○	○	○	○	○
Als ik zou gaan winkelen, dan zou ik dit merk overwegen te kopen	○	○	○	○	○
Ik ben niet geïnteresseerd in producten van dit merk	○	○	○	○	○
Ik zou in de toekomst producten van dit merk willen aanschaffen	○	○	○	○	○

Appendix D – Questionnaire main study

Condition 1: Luxury – Normal product description – Zoom function

Tijdens dit onderzoek krijgt u een foto te zien waarbij u het product kunt **inzoomen.** Stelt u zich dan voor dat u online een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top. Hieronder ziet u een foto waar de top wordt getoond. **Deze foto kunt u inzoomen als u er met de muis overheen gaat.** Daaronder staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

MICHAEL KORS

(Tijdens de online vragenlijst konden mensen deze top inzoomen): www.n3rds.nl/vincent/index.html

Product omschrijving:
- Semi doorzichtige chiffon
- Gedifferentieerde zoom
- Kanten inzetstukken aan de schouders
- Normale fit
- Machine wasbaar
- 100% polyester

Dit model draagt maat EU 36

Condition 2: Luxury – Tactile product description – zoom function

Tijdens dit onderzoek krijgt u een foto te zien waarbij u het product kunt inzoomen. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top. Hieronder ziet u een foto waar de top wordt getoond. **Deze foto kunt u inzoomen als u er met de muis overheen gaat.**

Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

MICHAEL KORS

www.n3rds.nl/vincent/index.html
Product omschrijving:

Deze mooie zomertop is gemaakt van het beste zachte polyester, afkomstig uit Italië. De stof is erg flexibel en voelt luchtig aan. De top is zorgvuldig geproduceerd waardoor het zacht en comfortabel aanvoelt. Ondanks dat het een luchtige top is, heeft het een sterke textuur wat heerlijk tegen uw huid voelt en hierdoor niet zal pluizen. De roze kleurige top heeft een mooi vallende pasvorm wat voor iedereen geschikt is. Deze top is verkrijgbaar in meerdere levendige kleuren zoals ijsblauw en koraal oranje, maar ook in pasteltinten lila en lichtgeel. Met deze beauty ben jij gegarandeerd van de juiste dosis elegantie. Draag de top op een mooie witte broek met hoge hakken voor een head-turning look.
Dit model draagt maat EU 36.

Condition 3: Luxury – Normal product description – Video

Tijdens dit onderzoek krijgt u een geluidloze video te zien van een product. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top.

Hieronder ziet u een filmpje waarin de top wordt getoond. Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

MICHAEL KORS

https://www.youtube.com/watch?v=Gb_QPKC4QWw

Product omschrijving:
- Semi doorzichtige chiffon
- Gedifferentieerde zoom
- Kanten inzetstukken aan de schouders
- Normale fit
- Machine wasbaar
- 100% polyester

Dit model draagt maat EU 36

Condition 4: Luxury – Tactile product description – Video

Tijdens dit onderzoek krijgt u een geluidloze video te zien van een product. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top.

Hieronder ziet u een filmpje waarin de top wordt getoond. Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

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Product omschrijving:

Deze mooie zomertop is gemaakt van het beste zachte polyester, afkomstig uit Italië. De stof is erg flexibel en voelt luchtig aan. De top is zorgvuldig geproduceerd waardoor het zacht en comfortabel aanvoelt. Ondanks dat het een luchtige top is, heeft het een sterke textuur wat heerlijk tegen uw huid voelt en hierdoor niet zal pluizen. De roze kleurige top heeft een mooi vallende pasvorm wat voor iedereen geschikt is. Deze top is verkrijgbaar in meerdere levendige kleuren zoals ijsblauw en koraal oranje, maar ook in pasteltinten lila en lichtgeel. Met deze beauty ben jij gegarandeerd van de juiste dosis elegantie. Draag de top op een mooie witte broek met hoge hakken voor een head-turning look. Dit model draagt maat EU 36.

Condition 5: Fast fashion – Normal description – Zoom

Tijdens dit onderzoek krijgt u een foto te zien waarbij u het product kunt inzoomen. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top. Hieronder ziet u een foto waar de top wordt getoond. **Deze foto kunt u inzoomen als u er met de muis overheen gaat.**

Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

ZARA

www.n3rds.nl/vincent/index.html

Product omschrijving:
- Semi doorzichtige chiffon
- Gedifferentieerde zoom
- Kanten inzetstukken aan de schouders
- Normale fit
- Machine wasbaar
- 100% polyester

Dit model draagt maat EU 36

Condition 6: Fast fashion – Tactile description – Zoom

Tijdens dit onderzoek krijgt u een foto te zien waarbij u het product kunt inzoomen. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top. Hieronder ziet u een foto waar de top wordt getoond. **Deze foto kunt u inzoomen als u er met de muis overheen gaat.**

Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

ZARA

www.n3rds.nl/vincent/index.html
Product omschrijving:

Deze mooie zomertop is gemaakt van het beste zachte polyester, afkomstig uit Italië. De stof is erg flexibel en voelt luchtig aan. De top is zorgvuldig geproduceerd waardoor het zacht en comfortabel aanvoelt. Ondanks dat het een luchtige top is, heeft het een sterke textuur wat heerlijk tegen uw huid voelt en hierdoor niet zal pluizen. De roze kleurige top heeft een mooi vallende pasvorm wat voor iedereen geschikt is. Deze top is verkrijgbaar in meerdere levendige kleuren zoals ijsblauw en koraal oranje, maar ook in pasteltinten lila en lichtgeel. Met deze beauty ben jij gegarandeerd van de juiste dosis elegantie. Draag de top op een mooie witte broek met hoge hakken voor een head-turning look.
Dit model draagt maat EU 36.

Condition 7: Fast fashion – Normal description – Video

Tijdens dit onderzoek krijgt u een geluidloze video te zien van een product. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top.

Hieronder ziet u een filmpje waarin de top wordt getoond. Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

ZARA

https://www.youtube.com/watch?v=Gb_QPKC4QWw

Product omschrijving:
- Semi doorzichtige chiffon
- Gedifferentieerde zoom
- Kanten inzetstukken aan de schouders
- Normale fit
- Machine wasbaar
- 100% polyester

Dit model draagt maat EU 36

Condition 8: Fast fashion – Tactile description – Video

Tijdens dit onderzoek krijgt u een geluidloze video te zien van een product. Stelt u zich dan voor dat u **online** een product wil gaan kopen in de productcategorie die u te zien krijgt.

Voor dit onderzoek is het belangrijk dat u zich voorstelt dat u aan het online shoppen bent en op zoek bent naar een nieuwe, mouwloze top. U komt terecht op deze website en ziet een mouwloze top. Hieronder ziet u een filmpje waarin de top wordt getoond. Daarnaast staan de productomschrijving van de top en het logo van het bijbehorende merk. Kijk er goed naar en beantwoordt vervolgens de vragen.

ZARA

https://www.youtube.com/watch?v=Gb_QPKC4QWw

Product omschrijving:

Deze mooie zomertop is gemaakt van het beste zachte polyester, afkomstig uit Italië. De stof is erg flexibel en voelt luchtig aan. De top is zorgvuldig geproduceerd waardoor het zacht en comfortabel aanvoelt. Ondanks dat het een luchtige top is, heeft het een sterke textuur wat heerlijk tegen uw huid voelt en hierdoor niet zal pluizen. De roze kleurige top heeft een mooi vallende pasvorm wat voor iedereen geschikt is. Deze top is verkrijgbaar in meerdere levendige kleuren zoals ijsblauw en koraal oranje, maar ook in pasteltinten lila en lichtgeel. Met deze beauty ben jij gegarandeerd van de juiste dosis elegantie. Draag de top op een mooie witte broek met hoge hakken voor een head-turning look.
Dit model draagt maat EU 36.

Kruis hieronder aan welke begrippen het best aansluiten bij uw mening over de mouwloze top. De zeven bolletjes staan voor een schaalverdeling. U kunt uiteraard een pagina teruggaan om de foto/video van de top nogmaals te bekijken!

Middelmatig product	○ ○ ○ ○ ○ ○ ○	Uitzonderlijk product
Van zeer matige kwaliteit	○ ○ ○ ○ ○ ○ ○	Van zeer hoge kwaliteit
Waardevol	○ ○ ○ ○ ○ ○ ○	Niet waardevol
Saai	○ ○ ○ ○ ○ ○ ○	Opwindend
Onaantrekkelijk product	○ ○ ○ ○ ○ ○ ○	Aantrekkelijk product
Bijzonder	○ ○ ○ ○ ○ ○ ○	Alledaags
Slecht gemaakt	○ ○ ○ ○ ○ ○ ○	Goed gemaakt
Slechtere kwaliteit dan gemiddeld product	○ ○ ○ ○ ○ ○ ○	Betere kwaliteit dan gemiddeld product
Niet duurzaam	○ ○ ○ ○ ○ ○ ○	Zeer duurzaam
Slechte stof	○ ○ ○ ○ ○ ○ ○	Uitstekende stof
Hard	○ ○ ○ ○ ○ ○ ○	Zacht
Weinig aandacht voor details	○ ○ ○ ○ ○ ○ ○	Veel aandacht voor details
Schattig	○ ○ ○ ○ ○ ○ ○	Stoer
Vervelend	○ ○ ○ ○ ○ ○ ○	Aangenaam
Serieus	○ ○ ○ ○ ○ ○ ○	Levendig
Zwaar	○ ○ ○ ○ ○ ○ ○	Licht
Rommelig	○ ○ ○ ○ ○ ○ ○	Netjes
Niet interessant	○ ○ ○ ○ ○ ○ ○	Heel interessant
Flexibel	○ ○ ○ ○ ○ ○ ○	Stijf

Kijk goed naar de foto/video en kruis hieronder het antwoord aan dat het beste uw mening weergeeft. Lees de stellingen goed door. U kunt uiteraard een pagina teruggaan om de video van de top nogmaals te bekijken!

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
Deze top is comfortabel om te dragen.	○	○	○	○	○
Deze top voelt fijn aan mijn huid.	○	○	○	○	○
De stof van deze top voelt niet prettig aan.	○	○	○	○	○

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
Deze top zou ik graag willen aanpassen.	○	○	○	○	○
Als ik deze top in een fysieke winkel zou zien hangen, dan zou ik het niet willen aanpassen.	○	○	○	○	○
Ik zou online actief op zoek gaan naar deze top om het aan te schaffen.	○	○	○	○	○
De waarschijnlijkheid dat ik deze top zou kopen is hoog.	○	○	○	○	○

De volgende twee vragen gaan over ***de gehele manier waarop*** de top is gepresenteerd door de website. U kunt uiteraard een pagina teruggaan om de videopresentatie van de top nogmaals te bekijken! Kruis hieronder het antwoord aan dat het beste uw mening weergeeft.

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
Het is gemakkelijk om te visualiseren dat ik deze top draag.	○	○	○	○	○
Het is gemakkelijk om te visualiseren dat ik deze top zou kopen.	○	○	○	○	○
Het is gemakkelijk om voor te stellen hoe deze top aan zal voelen aan mijn huid.	○	○	○	○	○

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
Deze soort product presentatie helpt mij niet om voor te stellen hoe de top aanvoelt.	○	○	○	○	○
Door deze soort product presentatie kan ik goed zien van welke stof de top is gemaakt.	○	○	○	○	○
Deze soort product presentatie helpt mij met voor te stellen hoe de top mij zou staan.	○	○	○	○	○
Door deze soort product presentatie heb ik een beter beeld van de top.	○	○	○	○	○

Deze vraag gaat over de algehele ervaring die u had tijdens het online shoppen op deze website. Kruis hieronder het antwoord aan dat het beste uw mening weergeeft. U kunt uiteraard een pagina teruggaan om de videopresentatie van de top nogmaals te bekijken!

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
De nagebootste online shopping ervaring was concreet.	○	○	○	○	○
De nagebootste online shopping ervaring was levendig.	○	○	○	○	○
De nagebootste online shopping ervaring was duidelijk.	○	○	○	○	○
De nagebootste online shopping ervaring was niet goed in te beelden.	○	○	○	○	○

De volgende vragen gaan niet meer over het product en de product presentatie die u zojuist heeft gezien, maar zijn algemene stellingen. Kruis hieronder het antwoord aan dat het beste uw mening weergeeft.

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
Ik vind het leuk om producten online te kopen.	○	○	○	○	○
Online product kopen is niet interessant.	○	○	○	○	○
Online shoppen maakt mijn leven aantrekkelijker.	○	○	○	○	○
In de toekomst zou ik meer producten online willen aanschaffen.	○	○	○	○	○

Onderstaande vraag gaat over het willen **aanraken van producten** in het algemeen. Kruis hieronder het antwoord aan dat het beste uw mening weergeeft.

	Helemaal mee oneens	Mee oneens	Niet mee oneens / niet mee eens	Mee eens	Helemaal mee eens
Het aanraken van producten kan leuk zijn.	○	○	○	○	○
Ik heb meer vertrouwen in producten die ik kan aanraken alvorens ze aan te schaffen.	○	○	○	○	○
Als ik een product fysiek kan onderzoeken, voel ik me meer op mijn gemak om het te kopen.	○	○	○	○	○
Ik hecht niet veel waarde aan het aanraken van allerlei soorten producten als ik in een winkel rondneus.	○	○	○	○	○
Ik hou ervan om producten aan te raken, ook al heb ik niet de intentie om ze te kopen.	○	○	○	○	○
De enige manier om er zeker van te zijn dat een product het aanschaffen waard is, is door het echt aan te raken.	○	○	○	○	○

Ten slotte nog een paar vragen over uw persoonlijke gegevens!

Wat is uw leeftijd?

Wat is uw hoogst afgeronde opleidingsniveau?

- ○ VMBO
- ○ HAVO
- ○ VWO
- ○ MBO
- ○ HBO
- ○ WO
- ○ Anders, namelijk:

Wat is uw burgerlijke staat?

- ○ Alleenstaand
- ○ Samenwonend zonder kinderen
- ○ Samenwonend met kinderen
- ○ Getrouwd zonder kinderen
- ○ Getrouwd met kinderen

Hoeveel producten heeft u de afgelopen drie maand **online** aangeschaft?

- ○ Geen producten
- ○ Minder dan 5 producten
- ○ Tussen de 5 en 10 producten
- ○ Tussen de 10 en 15 producten
- ○ Meer dan 15 producten

Hoeveel producten hiervan waren *kledingproducten*?

- ○ Geen
- ○ Minder dan 5 kledingproducten
- ○ Tussen de 5 en 10 kledingproducten
- ○ Tussen de 10 en 15 kledingproducten
- ○ Meer dan 15 kledingproducten

Hartelijk bedankt voor uw deelname aan dit onderzoek!

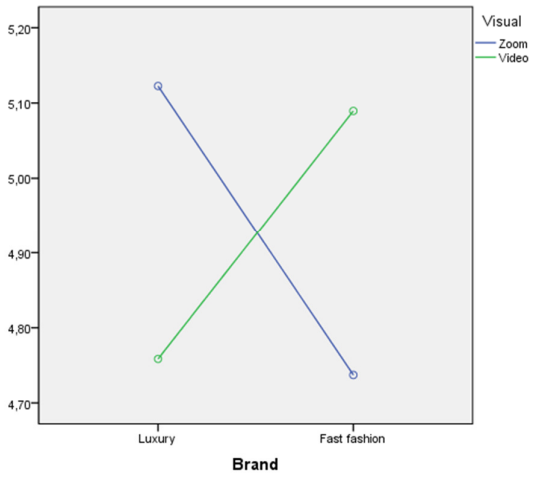
Mocht u kans willen maken op de fashion cheque, dan kunt u hieronder uw e-mailadres achterlaten. Druk op het pijltje om je antwoorden op te slaan en de vragenlijst af te sluiten.

Appendix E – Interaction effects

As mentioned in paragraph 4.1, the following figures show the possible interaction effects that occurred within between subjects ANCOVA analyses.

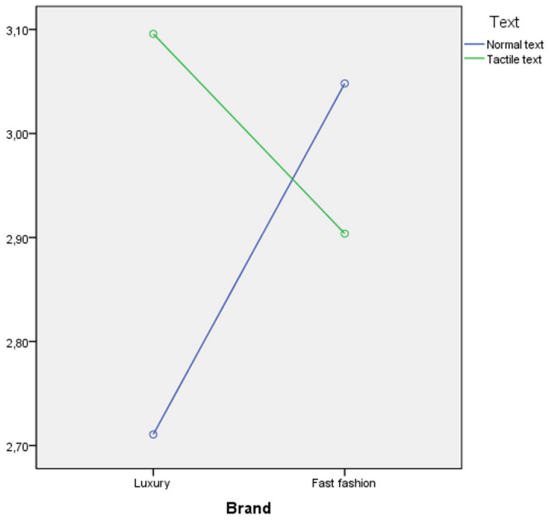
Product attitude

Based on product attitude for participants low in the need for touch, no interaction effect of brand, description and visuals was found. Only the brand as a manipulation significantly influenced the attitude of the consumer towards the top. However, for participants high in their need for touch an interaction effect was found between the brand and the visuals. It indicates that the luxury brand combined with the zoom function had a higher positive influence on product attitude than the luxury brand and the video. In addition, for the fast fashion brand it seems that the video was more liked than the fast fashion brand combined with the zoom function regarding the attitude towards the product.



Purchase intention

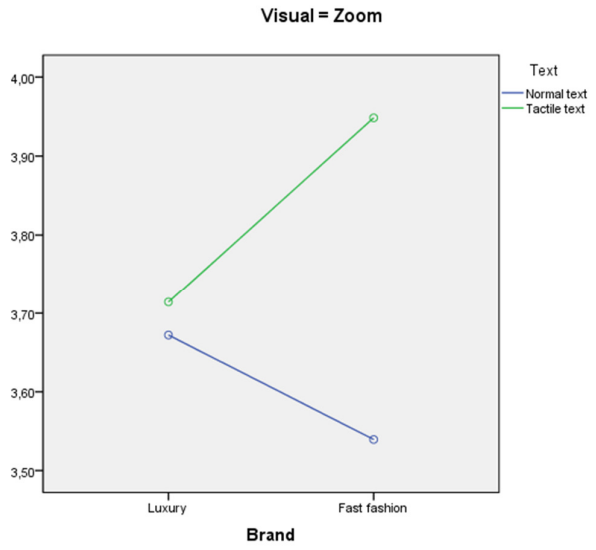
Based on the purchase intention of participants, an interaction effect was found between the brand and the product description. This effect indicates that participants who saw the luxury brand in combination with a normal product had a significantly lower purchase intention than participants who saw the tactile product description. However, this does not apply to the interaction effect for the fast fashion brand. When participants saw the fast fashion brand in combination with a normal product description they had a higher purchase intention than the participants who saw the product in combination with a tactile product description.



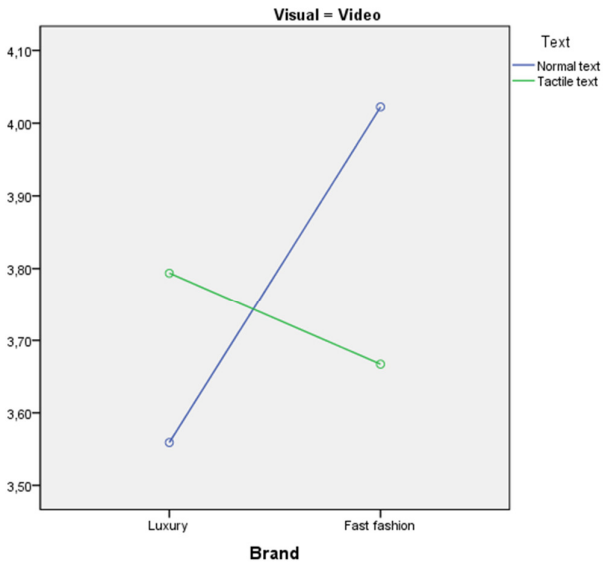
Richness of the experience

Based on the richness of the experience of participants, an interaction effect was found between the brand, the product description and the visuals. As can be seen in the figures, this effect mostly applies to the video version.

This indicates that a certain combination of the three independent variables induce a richer online shopping experience than others. As mentioned earlier, this only applies to participants with a high need for touch.



The combination that induces the richest shopping experience was where participants saw a fast fashion brand, combined with a normal product description and a video. The combination that induced the least rich shopping experience was where participants saw a fast fashion brand, combined with a normal product description and a zoom function. When inspecting the luxury brand and the fast fashion brand separately it is evident that the best combination for the luxury brand is with a tactile product description and a video and for the fast fashion the normal product description and a video.



Appendix F – Tables with mean scores

1. Product attitude

Table 9.1

Mean scores of Participants on Product Attitude

Participants in the category Low Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	4.78	0.69	16	5.11	0.88	9	4.90	0.69	25
	Tactile text	4.85	0.61	23	5.12	0.80	12	4.95	0.71	35
Total		4.82	0.63	39	5.11	0.80	21	4.93	0.71	60
Fast fashion	Normal text	4.62	0.56	8	4.60	0.49	11	4.61	0.50	19
	Tactile text	4.51	0.78	14	4.79	0.42	11	4.63	0.59	25
Total		4.55	0.70	22	4.70	0.45	22	4.62	0.59	44

Note: M= mean score on Product Attitude; SD = standard deviation

Table 9.2

Mean scores of Participants on Product Attitude

Participants in the category High Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	5.11	0.67	17	4.57	0.94	13	4.88	0.84	30
	Tactile text	5.15	0.78	14	4.95	0.62	13	5.05	0.71	27
Total		5.13	0.72	31	4.76	0.82	26	4.96	0.78	57
Fast fashion	Normal text	4.69	0.40	17	4.98	0.54	12	4.81	0.48	29
	Tactile text	4.78	1.09	12	5.18	0.48	7	4.93	0.91	19
Total		4.73	0.75	29	5.05	0.52	19	4.85	0.68	48

Note: M= mean score on Product Attitude; SD = standard deviation

2. Comfort of wearing

Table 10

Mean scores of Participants on Perceived Comfort of Wearing

Participants in the category Low Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	4.08	0.65	16	3.77	0.37	9	3.97	0.58	25
	Tactile text	3.82	0.80	24	3.81	0.64	12	3.81	0.75	36
Total luxury		3.93	0.75	40	3.79	0.68	21	3.88	0.68	61
Fast fashion	Normal text	3.67	0.53	8	3.79	0.64	11	3.74	0.58	19
	Tactile text	3.64	0.56	14	3.88	0.52	11	3.75	0.55	25
Total fast fashion		3.65	0.54	22	3.83	0.57	22	3.74	0.56	44

Note: M= mean score on Perceived Comfort of Wearing; SD = standard deviation

Table 11

Mean scores of Participants on Perceived Comfort of Wearing

Participants in the category High Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	3.76	0.75	17	3.82	0.48	13	3.79	0.64	30
	Tactile text	4.02	0.62	14	4.03	0.80	13	4.03	0.70	27
Total luxury		3.88	0.70	31	3.92	0.66	26	3.90	0.67	57
Fast fashion	Normal text	3.67	0.72	17	3.75	1.03	12	3.70	0.84	29
	Tactile text	4.19	0.48	12	4.33	0.58	7	4.25	0.51	19
Total fast fashion		3.89	0.67	29	3.96	0.92	19	3.92	0.77	48

Note: M= mean score on Perceived Comfort of Wearing; SD = standard deviation

3. Richness of the experience

Table 12

Mean scores of Participants on Richness of the Experience

Participants in the category Low Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	3.47	0.72	16	3.51	0.75	9	3.49	0.71	25
	Tactile text	3.51	0.72	24	3.49	0.95	12	3.50	0.79	36
Total		3.50	0.79	40	3.50	0.85	21	3.49	0.75	61
Fast fashion	Normal text	3.63	0.43	8	3.31	0.71	11	3.44	0.61	19
	Tactile text	3.46	0.60	13	3.46	0.38	11	3.45	0.55	24
Total		3.52	0.54	21	3.38	0.56	22	3.47	0.66	43

Note: M= mean score on Richness of the Experience; SD = standard deviation

Table 13

Mean scores of Participants on Richness of the Experience

Participants in the category High Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	3.67	0.53	17	3.55	0.46	13	3.62	0.50	30
	Tactile text	3.71	0.52	14	3.79	0.43	13	3.75	0.47	27
Total		3.69	0.51	31	3.67	0.45	26	3.68	0.48	57
Fast fashion	Normal text	3.53	0.54	17	4.02	0.39	12	3.73	0.54	29
	Tactile text	3.95	0.51	12	3.67	1.12	7	3.85	0.77	19
Total		3.71	0.56	29	3.89	0.74	19	3.68	0.74	48

Note: M= mean score on Product Attitude; SD = standard deviation

4. Purchase intention

Table 14

Mean scores of Participants on Purchase Intention

Participants in the category Low Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	2.84	0.93	16	2.94	0.93	9	2.88	0.92	25
	Tactile text	3.13	0.89	24	3.29	1.16	12	3.18	0.97	36
Total luxury		3.01	0.91	40	3.14	1.05	21	3.06	0.95	61
Fast fashion	Normal text	3.19	0.81	8	3.09	0.91	11	3.13	0.85	19
	Tactile text	2.85	1.09	14	2.61	1.03	11	2.75	1.05	25
Total fast fashion		2.98	0.99	22	2.85	0.97	12	2.91	0.97	44

Note: M= mean score on Purchase Intention; SD = standard deviation

Table 15.1

Interaction effect of Brand and Product Description

	Normal description		*Tactile description*	
	Mean	SD	Mean	SD
Luxury brand	2.71	0.13	3.10	0.12
Fast fashion brand	3.05	0.13	2.90	0.14

Table 15.2

Mean scores of Participants on Purchase Intention

Participants in the category High Need for Touch

		Zoom			*Video*			*Total*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
Luxury	Normal text	2.93	0.72	17	2.27	0.92	13	2.64	0.86	30
	Tactile text	3.11	0.76	14	2.87	0.95	13	2.99	0.85	27
Total luxury		3.00	0.73	31	2.57	0.96	26	2.80	0.87	57
Fast fashion	Normal text	2.94	0.82	17	3.02	1.03	12	2.97	0.89	29
	Tactile text	2.97	1.07	12	3.32	0.70	7	3.11	0.94	19
Total fast fashion		2.96	0.91	29	3.13	0.91	19	3.03	0.91	48

Note: M= mean score on Purchase Intention; SD = standard deviation