

Online reviews of experience goods: The effect on consumers' purchase intention towards beauty products

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Abstract

Purpose – Consumers' growing use of online reviews before making a purchase intention, raises questions about the importance of reviews and the factors that play a role in consumers' purchase decision. The aim of this research is to get more insights into the importance of reviews within the growing beauty industry. By examining the effect of online consumer reviews on the intention to purchase beauty products, this study aims to gain a better understanding in the dynamics between customers' knowledge of and involvement with beauty products, the type of review valence, the amount of reviews and the intention of consumers to buy beauty products.

Design/Methodology/Approach – An online, two (review volume: high and low) by three (review valence: positive, negative, mixed) between-subjects experiment was conducted, with two additional measures: customer involvement and customer expertise. Review volume was indicated with a sentence above the reviews that stated what the total number of reviews for this particular product was. The amount of reviews that was actually shown to participants was eight for all conditions. The reviews participants saw were positive, negative or mixed, depending on the experimental condition they were in. These reviews were not directly copied from existing mascara reviews, but were written based on these existing reviews. In addition, the attitude towards the product, the brand and the price of the product shown in the experiment have been measured. Via the convenience sampling and snowball sampling method, 201 participants who use beauty products have completed the experiment properly.

Findings – Review volume on its own does not have a significant influence on the intention to purchase beauty products. An interaction effect between review volume and review valence was found. This means that, in order for review volume to be significantly influencing purchase intention, the valence of the reviews needs to be taken into account. When it comes to review valence, the study shows that it does influence on purchase intention. Positive review valence leads to a higher purchase intention than negative and mixed review valence. Mixed reviews do not lead to a higher purchase intention than positive reviews, however, they do lead to a higher purchase intention than negative reviews. Lastly, it was found that both customer expertise as well as customer involvement are not moderating between reviews and purchase intention. Additional analysis however showed that for instance, customer expertise, review valence and the attitude towards the mascara had a significant interaction effect on purchase intention.

Conclusion/Implications – The results show that the just looking at the amount of reviews is not enough to influence purchase intention of beauty products. The valence can give consumers an indication of the opinion of other consumers when it comes to the product and is an important factor. The amount of reviews can especially make a difference in purchase intention when reviews are mixed. Although customer expertise and involvement did not moderate between reviews and purchase intention, they still show to be influencing their relationship. It could therefore be concluded that these relationships are more complex than initially expected and future research is needed to further investigate complexity of these relationships. This can give companies that sell their (experience) products online, an opportunity to change or add to their strategies in order to (potentially) increase their sales.

Keywords: online consumer reviews; purchase intention; customer expertise; customer involvement; review valence; review volume; experience goods; beauty products;

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1. Introduction

The importance of online consumer reviews and their role in consumers' purchase decisions is increasing. Research shows that in 2022, the percentage of Dutch consumers that read reviews before an online purchase is 43% when shopping at a known web shop, and 55% when shopping at an unknown web shop (Consumentenbond, 2022). From these consumers, 43% finds product ratings (e.g. in the form of star ratings) the most important part of these reviews, followed by the review text (with 22%) (Juist, 2022). When it comes to cosmetics (and clothing), 63% of consumers say that online consumer reviews influence their purchase decision (Juist, 2022). These cosmetics, such as make up and skincare products, are an essential part of the daily lives of many women. They spend a part of their morning using beauty products such as skincare and makeup products to look groomed and put together and in the evening, they clean and take care of their skin with skin care products.

The beauty market is a very dynamic market where new trends are constantly emerging (Iduozee, 2015). New products are introduced, new technologies are being used to innovate beauty products and new make-up and skincare trends emerge. However, buying beauty products in particular is rarely easy for consumer, especially in an online environment, because they cannot try the products to see whether the product is as they expect it to be (Iduozee, 2015). Usually, consumers that go to stores to buy beauty products can test these products before buying. This is called "try before you buy" and gives consumers the opportunity to touch, feel and smell products before they buy them (Nosita & Lestari, 2019). This way they can see whether the product matches their skin tone or whether the product feels nice on the skin, which is not possible with online shopping. Additionally, product pictures on online web shops can also be misleading due to the pictures being taken in studio lighting and the use of Photoshop. However, buying beauty products online also has benefits, such as the convenience of comparing different products and saving time. Consumers can also easily compare different products and prices and read about other consumers' experiences with products (Pham, 2020). And consumers have the opportunity to read about other consumers' experiences with a product, which can reduce the inconvenience of not being able to try products directly and the risks of buying the wrong product that does not meet their expectations (Iduozee, 2015). Reading reviews can also give consumers more specific information about experiences of consumers with different skin types, skin textures, and more personalized information. This can sometimes be more helpful than information from the brand itself. For example, with mascaras, online consumer reviews can be more helpful than product descriptions, because consumers with different needs can find specific information about experiences of other consumers. For example, when a consumer has short lashes that are also not curled naturally, a different consumer with short and straight lashes that mentions in the review that the mascara is very volumizing and lengthening can very helpful.

Review volume and review valence can help consumers to evaluate whether a product is liked by other consumers. The volume of reviews can give consumers an indication of whether a product is popular (Maslowska, Malthouse, & Viswanathan, 2017). A high review volume can indicate that the product is popular and has been used by many people, which may reduce the perceived risk of buying a product online. Additionally, the nature of reviews (review valence) which can be positive, negative or mixed, can influence consumers' purchase intentions in a certain direction. The degree to which a product has been evaluated

positively or negatively, can then help to evaluate whether a product is being liked or not and can give more information on whether the product meets their needs and does what the seller promises the product does. Whether these factors influence consumers' purchase intention and in what direction, can depend on many factors. For this thesis, consumers' involvement and expertise have been investigated in this context. It is expected that when a consumer is high-involved with a beauty product, they will be influenced by the valence of reviews, whereas low-involved consumers are more likely to be influenced by review volume (Lee, Park, & Han, 2008). Additionally, when a consumer's expertise about beauty products is high, it could be that they are less influenced by online consumer reviews than consumers with low expertise (Zou, Yu, & Hao, 2011). Consumers with high expertise have prior knowledge about beauty products which can help them to better judge information provided from online consumer reviews. Because consumers with low expertise do not have (as much) knowledge about beauty products, they have less to judge their judgement of information on, which could make them rely more on this kind of information and could therefore be influenced more easily (Zou, Yu, & Hao, 2011).

Although there is quite some research in the literature about online consumer reviews and their influence on consumers' purchase intention, there are still topics that have not been researched very much, such as the influence of online consumer reviews on consumers' purchase intention of beauty products in particular. The beauty product industry has been continuously growing (Dalziel & De Klerk, 2021). A reason for this growth could be that consumers are becoming increasingly aware of their appearance, grooming and beauty. Despite the importance of the relationship between online consumer reviews and purchase intention in the growing beauty industry, there is limited research on this topic and the factors that possibly influence this relationship. The aim of this research is therefore to get more insights into the importance of online consumer reviews within this industry. Additionally, there are many research papers in the literature that have investigated the influence of review valence, review volume and consumer characteristics such as customer expertise and involvement in the context of other experience products, however, there is no research in the literature that has taken all these variables into account (for beauty products). Taking all these variables into account can lead to new insights into the influences of these variables and the interactions between them.

In order to get insights into the effects online consumer reviews and different consumer characteristics have on purchase intention of consumers of beauty products, the following research question has been formulated:

“To what extent do valence and volume of online consumer reviews and customers' expertise and involvement have an effect on the purchase intention of consumers of beauty products in online web shops?”

An online experiment has been conducted in order to get insights into this topic and formulate an answer to this research question. During this experiment, respondents had been shown online consumer reviews of a beauty product that were positive, negative or mixed and with a high or low review volume (that was only indicated by a number, all participants have seen an equal amount of reviews). The expertise and involvement of the participants with beauty products has been measured along with their purchase intention.

2. Theoretical framework

In this theoretical framework, concepts and variables that are important for this research and the relationship between these concepts will be discussed. At first, online consumer reviews and their importance in this specific research context of beauty products will be discussed. Next, the dependent variable, purchase intention, will be described, followed by the different factors that are of importance and form the independent variables of this research will be explored. The possible relationship between these variables will be explored and hypotheses will be formulated. Lastly, these relationships will be visually presented in a research model.

E-WOM and online consumer reviews

Online consumer reviews are a form of electronic Word of Mouth that have become increasingly important for consumers' online purchase decisions (Yaylı & Bayram, 2012). e-WOM can be defined as "the dynamic and on-going information exchange process between potential, actual, or former customers regarding a product, service, brand or company, which is available to a multitude of people and institutions via the internet" (Lal, 2020, p. 5). e-WOM has been considered a key information source for online shopping (Cui, Lui, & Guo, 2012). According Beneke et al. (2015), e-WOM seemingly has a bigger influence than traditional word of mouth because of the fast growth of internet users and available platforms to spread information with. Online consumer reviews can be defined as "peer-generated evaluations of a product, service, or content regarding price, function, performance, or usage experience in the form of text, images, or videos" (Zheng, 2021, p. 226). They can be seen as supplements to product descriptions and expert reviews (Mudambi & Schuff, 2010). Many consumers rely on these reviews when making a purchase decision and they have been found the second most trusted information source, after the opinions of consumers' social circle (Filiari, 2015). Through these reviews, consumers inform each other about products, by rating the product and writing a comment about the product and its performance (Iduozee, 2015). This way, consumers can share their experience with the products and help other consumers with making a purchase decision, since consumers often rely on information from these reviews because they are not able to judge the product in person when making an online purchase decision (Yaylı & Bayram, 2012). These reviews are publicly available, easy to reach and a credible form of e-WOM. Because consumers can find product reviews with little effort, they can read these in order to save time in their decision making and in order to make a good purchasing decision (Iduozee, 2015).

Online consumer reviews are more likely to be user oriented, where consumers describe the product's attributes in terms of product performance and usage situations (Chen & Xie, 2008). In contrast, information provided by the seller is more likely to be product oriented, where the seller describes the product attributes in terms of product performance and technical specifications. Online consumer reviews can offer information about attributes of experience products and indirect experiences with the products (Bae & Lee, 2011). According to Chevalier and Mayzlin (2006), online consumer reviews are one of the most important factors of online product sales. Due to high diversity in review content, online consumer reviews could be a useful and credible source of information for consumer that are having difficulties deciding on whether a product meets their needs (Sutanto & Aprianingsih, 2016). According to Li and Zhan (2011), there are two reasons behind the popularity of reading online consumer reviews among consumers before making a purchase

decision. First of all, the popularity of online consumer reviews can be explained by the fact that nowadays, it is more common for consumers to give advice to other consumers based on their experience and opinion about a product or brand. Some reasons behind this willingness to share experiences with a product with other potential consumers could be the desire for social interaction, concern for other consumers or the desire for economic incentives. Secondly, online consumer reviews are seen as a helpful source of information for consumers before making a purchase decision (Li & Zhan, 2011). Reading other consumers' experiences and opinions about a product can help them evaluate whether the product meets their wants and needs. Online consumer reviews are not only useful for consumers to consult before a purchase decision, but are also of value for advertisers because these reviews can serve as a credible source of information about their brand or products (Li & Zhan, 2011). Compared to traditional word-of-mouth, online consumer reviews can spread information at a high speed for a lower cost. For this research however, the focus will be on the perspective of the readers of these reviews.

Experience products

This thesis focuses on the relationship between online consumer reviews and purchase intention in the context of experience products. Experience products are products from which dominant attributes cannot be assessed without direct experience, or when searching information is more difficult and costly than direct experience with the product (Bae & Lee, 2011). Besides experience products, there are also search products. According to Klein (1998), cited by (Bae & Lee, 2011), search products are products from which consumers can get the information about the products' dominant attributes easily before purchasing. The dominant attributes that can either be assessed or not before a purchase is what sets these 2 types of products apart. For experience products, the quality of the products can only be assessed once consumers start using the product and descriptions of the products by the seller might not be sufficient to determine whether the product satisfies the customer's wants and needs. Therefore, buying experience goods from an online web shop involves more risks than buying other types of products, such as search products (Bae & Lee, 2011). This is why online consumer reviews are especially important when it comes to buying experience products online.

Beauty products

The specific type of experience products this research will focus on is beauty products. Beauty products, also referred to as "cosmetics" within the beauty industry, include products that are used in order to care for and clean the human body and enhance the users' aesthetic appeal and general attractiveness (Dalziel & De Klerk, 2021). Beauty products can be used for the face and body, such as make-up products, skin-care products, creams, nail products and perfumes. These products can also be used to conceal imperfections. According to Moe and Trusov (2011), cited by Elwalda and Lu (2016), beauty product sales are directly influenced by online consumer reviews. It is however unclear how valence and volume of online reviews influence purchase intention of consumers with different levels of involvement and expertise when it comes to beauty products.

Therefore, these aspects that can possibly influence the relationship between online consumer reviews and consumers' purchase intention will be investigated with this research. The following aspects will be investigated in the next paragraphs: review volume, review

valence, customer expertise and customer involvement. Before investigating these variables and their relationships with consumers' purchase intention, the dependent variable purchase intention will be discussed.

2.1 Purchase intention

Intentions are presumed to be an indicator of the willingness of people to behave in a certain way (Saleem & Ellahi, 2017). According to Ramandanty et al. (2020, p. 767) "purchase intention describes and determines consumer responses to buy a product based on his or her intention". Purchase intention can also be described as a person's perceptual reaction of his or her attitude towards a product, which is formed by their evaluation of that product and stimulated by external factors (Lin & Lu, 2010). It is the probability or tendency of a consumer to purchase a certain product (Sutanto & Aprianingsih, 2016) (Yoo, Donthu, & Lee, 2000) and it is important to mention that purchase intention does not necessarily mean that an actual purchase will take place. It is a conscious plan of a consumer to make a purchase and therefore does not guarantee a purchase (Spears & Singh, 2004). Despite this, it is useful in predicting the likelihood of an actual purchase and it is therefore important to measure (Brown, Pope, & Voges, 2003; Chen, Hsu, & Lin, 2010).

e-WOM in the form of online consumer reviews play an important role in the purchase decisions of consumers. Online consumer reviews are especially important for online purchase decisions of consumers, due to the perceived risks of making an online purchase decision (Cheung, Lee, & Thadani, 2009). Additionally, as mentioned in the previous paragraph, the nature of experience products makes it already difficult for consumers to make a purchase decision. It can be even more difficult when buying these products online. The reviews themselves and the amount of reviews can help consumers with making a purchase decision. Consumers' expertise of and involvement with beauty products can also have different influences on the effect of these reviews on the purchase intention of consumers. In the context of beauty products and the unique combination of these variables, this can lead to new insights into consumers' purchase decisions and what variables influence this and the dynamics between these variables. In the next paragraphs, the factors that were mentioned and the possible influences of these factors on purchase intention will be explained. The relationships between these factors will also be explored.

2.2 Review volume

Review volume refers to the total number of online reviews that are written about a product (Maslowska, Malthouse, & Viswanathan, 2017). The volume of reviews can be indicated by a number that refers to the total number of reviews for a product on the top or bottom of a product page or can be that consumers see a small or large amount of reviews when they scroll through the reviews of a certain product. In the context of this research, review volume will refer to the number that is indicating the total number of reviews written about a product. This way, review volume will serve as a peripheral cue.

One review website alone can have hundreds or thousands of reviews (Iduozee, 2015). On average, online shoppers read about eight or more reviews (Jiménez & Mendoza, 2013) and focus mostly on the reviews placed at the top before they make a purchase decision (Su & Niu, 2021). Although consumers cannot or are not willing to read all reviews, a high review volume can give an indication of the popularity of the product (Maslowska, Malthouse, &

Viswanathan, 2017) and can therefore be seen as a peripheral cue that can be easily processed by consumers. A high review volume shows that many consumers have used the product (Sutanto & Aprianingsih, 2016) and care about the product or brand, since they have taken the time to write a review (Maslowska, Malthouse, & Viswanathan, 2017). This indication of product popularity can reduce consumer uncertainty and the risk of making a bad purchase decision (De Maeyer, 2012) and can save consumers some time by not having to spend too much time reading all reviews in order to make a purchase decision. Additionally, the indication of product popularity can help consumers in their decision process (Sutanto & Aprianingsih, 2016), even when consumers are not able to read all reviews or when the reviews are less logical and persuasive (Park, Lee, & Han, 2007). This can positively influence consumers' purchase intentions (Elwalda & Lu, 2016). However, this is not the case for all types of products. According to Ciu et al. (2012), review volume is more important for consumers of experience products than for search products, because experience products can only be assessed once the product has been purchased and used. Because it can be difficult in these cases to assess whether a product is good before the purchase, the volume can give some certainty about the product quality. High review volume can indicate that there are a lot of consumers that have used the product and therefore, the product can be perceived as popular, even when there are mixed reviews (Elwalda & Lu, 2016). The hypotheses can therefore be formulated as follows:

H1: High review volume leads to greater purchase intention than low review volume

2.3 Review valence

Besides the volume of reviews, the content of the reviews can also be important for consumers. The review valence can give consumers a better insight into other consumers' opinions and experiences about a product. Review valence is the degree to which reviews are positive, negative, mixed or neutral (Dellarocas, 2007) and can be seen as the average number of stars given to a product (Kostyra, 2016; Maslowska, Malthouse, & Viswanathan, 2017) or the tone of product reviews being positive, negative, a mix of both or neutral (Ketelaar, Willemsen, & Sleven, 2015). For this research, review valence will include both numerical ratings (number of stars), as well as the content of the reviews.

According to Willemsen et al. (2011), review valence is a significant predictor of perceived usefulness of reviews, especially in the case of experience products. This is because consumers mostly rely on these reviews when assessing experience products, due to the nature of experience products (Elwalda & Lu, 2016). The average rating of a product can significantly affect online sales, especially negative ratings can decrease online sales (Su & Niu, 2021). Purnawirawan et al. (2012) state that when there are a lot of reviews, consumers look at the balance of the positive vs negative reviews. However, in general, there is asymmetry between the effects of positive reviews and negative reviews, where negative reviews tend to be seen as more useful than positive reviews (Rajagopal, 2006). This finding is in line with research by Park and Lee (2008), that state that negative reviews have a bigger impact than positive reviews when it comes to experience goods. This is called the 'negativity effect' (Septianto, 2020). This means that the degree to which negative reviews have influence on consumers outweighs the benefits positive reviews have for consumers (Septianto, 2020). This can be explained by the "negativity bias", which is a tendency of consumers to pay more attention to negative than positive information (Elwalda & Lu,

2016). This is way, consumers want to avoid risks of making a bad purchase and will therefore trust a negative review more than a positive review (Iduozee, 2015). Negative reviews can also be trusted more than positive reviews because the chance of a marketer writing these (fake) reviews is smaller with negative reviews (Iduozee, 2015). Lastly, negative Word of Mouth can be spread more quickly than positive Word of Mouth (Cui, Lui, & Guo, 2012), because negative messages are perceived as more credible than positive reviews (Beşer, Lackes, & Siepermann, 2016). This can lead to the negative reviews be more visible than the positive ones. Based on these findings, it is expected that negative reviews can significantly influence consumers' intention to purchase a product negatively. However, not only can the purchase intention prior to reading reviews decrease after reading negative reviews, it can also significantly increase after reading positive reviews. According to Clemons et al. (2006), positive review valence increases consumers' intention to purchase the product. This is later confirmed by Willemsen et al. (2011), who found that the more positive the valence of reviews for a product is, the higher the intention is of other consumers to purchase the product.

2.3.1 Two-sided reviews

Although positive and negative review valence have been shown to influence consumers' purchase intentions, there is not always a clear majority of positive or negative review valence. Sometimes there can be a balance between positive and negative reviews, which can be called mixed valence. According to Tang et al. (2014), there are two types of mixed valence: indifferent mixed valence and differentiating mixed valence. Indifferent mixed valence is when reviews contain neither positive nor negative claims and so, the nature of the reviews is neutral. On the other hand, there is differentiating mixed valence. This is when the amount of positive reviews is equal to the amount negative reviews. Differentiating mixed reviews increase the positive effect of positive reviews and the negative effect of negative reviews, whereas indifferent mixed reviews weaken such effect. For this research, mixed valence will be defined as differentiating mixed valence, where mixed review valence will be seen as equal amounts of positive and negative reviews. Excluding these mixed reviews from research contexts about review valence and its influence on consumers' purchase intention, can lead to a significant under- or overestimation of positive and negative reviews (Tang, Fang, & Wang, 2014). Therefore, it is important to also take reviews with differentiating mixed valence into account during the experiment, which from now on will be called "mixed valence".

Mixed reviews can positively influence consumers purchase intention because consumers can easily evaluate these reviews and directly compare pros and cons of a product instead of comparing information from different sources (Roy, Datta, & Mukherjee, 2019). For experience products, which are hard to evaluate before using, mixed valence can be of better help for consumers with evaluating these products and making a purchase decision. Additionally, mixed reviews are being trusted more by consumers because the presence of both positive and negative reviews reduce the chance that these reviews have been written by companies themselves (Roy, Datta, & Basu, 2017) and can be seen as more objective and accurate evaluations of a product (Lu, Qiu, & Wang, 2021). In addition, Tang et al. (2014) found that mixed reviews can make consumers more motivated to read reviews, because the information is more novel and they become curious about the product use and attributes. This curiosity in turn motivates consumers to process more information about the

product attributes and consumer's experiences with the product, from both positive and negative reviews. This is because these reviews contain more meaningful and complex information about the consumer's experience and the product attributes. Because consumers are more able to process product information, they are able to understand the product, its benefits and usage more accurately, more quickly and with more confidence and it allows them to gain more knowledge about the product (Tang, Fang, & Wang, 2014).

There are however inconsistent results when it comes to the influence of mixed valence on purchase intention. According to Purnawirawan et al. (2014) cited by Tata et al. (2020), positive review valence is more influential on consumers' attitudes towards product than mixed review valence with equal numbers of positive and negative reviews. A possible explanation for this could be that reviews with mixed valence are more likely to increase uncertainty and perceived risks among consumers because of the mixed opinions and therefore decrease their purchase intention (Floh, Koller, & Zauner, 2013). On the other hand, in their literature review, Tata et al. (2020) found inconsistent results when it comes to the effect of positive vs mixed valence on consumers' attitudes. In one research, they found that mixed reviews resulted in a positive attitude amongst consumers, whereas another research found no significant difference between positive valence and mixed valence (2020). Due to these inconsistent results, it is important to include mixed valence along with positive and negative valence in the experiment in order to get more insights into the effects of mixed reviews.

Although there are mixed results in the literature when it comes to the influence of mixed valence, within the context of this research, it is assumed that mixed valence leads to a greater purchase intention than one-sided reviews. This is based on the research by Roy et al. (2019) which, as mentioned before, found that specifically for experience products, mixed reviews are more useful for consumers to make a purchase decision, since they reduce uncertainties (Roy, Datta, & Basu, 2017) and can increase the accuracy of consumer reviews (Lu, Qiu, & Wang, 2021). This can lead to an increase in consumers' purchase intention (Ramirez & Burgoon, 2004). However, there is no research that shows the influence of online consumer reviews on purchase intention of consumers of beauty products that also takes into account mixed reviews and review volume, customer expertise and customer involvement. Since the valence of online consumer reviews has a direct influence on online sales of beauty products (Moe & Trusov, 2011), taking these factors into account can lead to new insights into the influences of these variables on the purchase intention of consumers of beauty products. Therefore, the following hypotheses have been formulated:

H2a: Positive review valence leads to greater purchase intention than negative review valence

H2b: Mixed review valence leads to a greater purchase intention than one-sided (positive or negative) review valence

2.4 Customer characteristics

In this paragraph, two consumer characteristics that are important in the context of this research will be discussed: customer expertise and customer involvement. At first, the Accessibility/Diagnosticity theory will be explained, which will serve as a base to explain the

relationship of customer expertise with online consumer reviews and purchase intention. Then, the difference and the connections between customer expertise and customer involvement will be made clear, followed by explaining customer involvement and the relationship with online consumer reviews and purchase intention further. The Elaboration Likelihood model will give more information on the mechanisms of customer involvement.

2.4.1. Accessibility/Diagnosticity Theory

The Accessibility/Diagnosticity Theory proposes that an earlier response to something will be used as a basis for a subsequent response, if the earlier response is accessible and perceived as more diagnostic than other accessible inputs (Feldman & Lynch, 1988). In the context of consumers and their prior knowledge and experience, information is perceived as diagnostic when it helps consumers to assign a product to one certain category in their mind (Herr, Kardes, & Kim, 1991). So, an already existing input in a person's memory, such as a product belief or a pre-existing attitude towards a product, will be used to determine a related behaviour or attitude towards similar products. When this pre-existing attitude or belief about a product is positive, the accessibility and the cognitive category new information is being placed in, will be positive as well. When the pre-existing attitude or belief about a product is negative, the accessibility and the cognitive category new information is being placed in, will be negative as well. So, when a consumer has positive associations with a product, new information about the same or a similar product will be perceived positively as well and when a consumer has negative associations with a product, new information about the same or a similar product will be perceived as negative (Lynch, 2006).

According to Lynch et al. (1988), this can be explained by the anchoring and adjustment process, in which information is sequentially retrieved from the consumer's mind, which is being updated with every new input of information. A collection of information about the product is being collected over time and when a consumer needs this information, it will be retrieved relatively effortlessly until there is no more information about this product to be received. In the context of this research, this would mean that when consumers are exposed to information about a certain beauty product, this information will be stored in their memory and when they are making a purchase decision, they can access all the information that is stored. How much information a consumer can access, depends on the consumer's involvement with and expertise of beauty products. Prior knowledge or high expertise about a product is easy to interpret and retrieve from memory and are therefore held with a higher level of confidence (Herr, Kardes, & Kim, 1991). When consumers are highly involved with a product, they are able to access more information from their memory than consumers who are low-involved. Customer involvement and customer expertise will be further discussed in paragraph 2.4.2. and 2.4.5.

Which information is momentarily getting activated depends on environmental cues that direct a consumer's attention to the product's stimulus features, individual factors of consumers and retrieval factors (Feldman & Lynch, 1988). This means that when for instance consumers read reviews with a more positive valence, more positive pre-existing information about the product will come to the consumer's mind. However, when negative reviews are being read, more negative pre-existing information about the product will be activated in the consumer's mind. According to this theory, more experienced consumers can have a different response to the reviews they read based on their prior knowledge and

experience. Additionally, negative information tends to be more effective than neutral or positive information (Herr, Kardes, & Kim, 1991). This means that negative information about a product has more influence on the consumers' judgement about a product than positive information, which is in line with the negativity effect mentioned in paragraph 2.3.

To summarize this theory, it states that the probability whether certain information in a consumer's mind will be used in order to make a choice, depends on the accessibility of the information, the accessibility of alternative information and the diagnosticity or perceived relevance of the information (Herr, Kardes, & Kim, 1991). Pre-existing attitudes and knowledge of consumers about a certain product (customer expertise) and how much information they retrieve from their memory (customer involvement) is thought to mediate between reviews (valence) and consumers' purchase intention. When accessibility of certain information increases, the likelihood that this information will be used should also increase and when accessibility of certain information decreases, the accessibility of alternative information decreases. So, when consumers read positive reviews about a product, positive information from their memory about a (similar) product will be activated and when they read negative information about a product negative information will be activated. How much of the information, that has been stored in their memory, will be activated depends on the consumer's involvement with the product. This theory will serve as a foundation for the pre-existing attitudes and knowledge of consumers about a certain product (customer expertise) and its connections with reviews and purchase intention. This will be further explained in the next paragraph.

2.4.2. Customer expertise

Consumer expertise can be defined as the degree to which someone has knowledge about a product and is therefore being considered as someone that can provide accurate information (Ohanian, 1990). According to Zou et al. (2011), customer expertise has a moderating role in the relationship between online consumer reviews and purchase intention. They state that the positive or negative nature of reviews have a greater impact on consumers with low expertise than consumers with high expertise. Specifically, consumers with low expertise are affected more by negative reviews than positive reviews (Zou, Yu, & Hao, 2011). This difference between consumers with high expertise and low expertise, can be explained by the fact that they have different information processing levels. Katelaar et al. (2015) state that the degree to which consumers with high expertise have accumulated knowledge about products or product categories differ from that of consumers with low expertise. This means that when there is no prior experience (or less experience), consumers will respond differently to the same reviews than experienced consumers, because consumers with low expertise lack experience or knowledge about a product and will therefore have a higher perceived risk than experienced consumers when making a purchase decision (Zou, Yu, & Hao, 2011). Therefore, consumers with low expertise rely more on new information from reviews than high expertise consumers, since these reviews are a basis for their judgement of a product, where consumers with high expertise can use reviews for additional information or confirmation of their knowledge and experience (Ketelaar, Willemsen, & Slevin, 2015). The influence of e-WOM is therefore less for consumers with prior knowledge about products (Herr, Kardes, & Kim, 1991).

2.4.3. Customer expertise and review valence

As mentioned in paragraph 2.3 and 2.4.2, both review valence and customer expertise can influence consumers' purchase intention. The degree of the consumer's expertise and the nature of the reviews being positive or negative can have different effects on consumers' purchase intention. In the literature, two conflicting results have been found on whether review valence is more influential for consumers with high expertise or consumers with low expertise.

First of all, Park and Kim (2008) state that review valence has a stronger influence on the purchase intention of consumers with high expertise than on consumers with low expertise. Specifically, according to Roy et al. (2019), consumers with high expertise more often look for mixed reviews before making their purchase decision. The explanation for this difference between is that these consumers seek for different kinds of information, depending on the degree of their already existing knowledge about the product. Consumers with high expertise are looking for confirmation of their knowledge about a beauty product and therefore look more at positive and mixed reviews (Elwalda & Lu, 2016). On the other hand, consumers with lower expertise are more likely to focus on cues such as the number of reviews (Roy, Datta, & Mukherjee, 2019). Since consumers with low expertise have less knowledge about these products, it is harder for them to decide whether the reviews are truthful and therefore, they focus more on product ratings and popularity.

On the other hand, Zou et al. (2011) found that review valence has more influence on the purchase intention of consumers with low expertise than consumers with high expertise. They explain this by stating that the perceived risk of consumers with lower expertise is higher because of their lack of prior knowledge, and that they therefore rely more on new information than consumers with high expertise. This is in line with the Accessibility/Diagnosticity Theory that, as mentioned before, states that prior knowledge or an attitude towards a product is being used to determine a related behaviour or attitude towards (similar) products. Therefore, when there is a lack of this prior knowledge or experience with a product, consumers are relying more on new information, such as information from consumer reviews. Similarly, Ketelaar et al. (2015) found that review valence, has more influence on the purchase intention of consumers with lower expertise than consumers with higher expertise, because consumers with low expertise judge negative reviews more negatively and positive reviews more positively, compared to consumers with high expertise. Based on the Accessibility/Diagnosticity Theory, the following hypothesis has been formulated:

H3: Customer expertise has a moderating effect on the relationship between review valence and purchase intention, where (positive) review valence leads to a greater purchase intention when the consumer's expertise is low than when the consumer's expertise is high

2.4.4. Customer involvement

Next to customer expertise, there is another important variable when it comes to customers: customer involvement. Although they seem to be interchangeable, customer expertise and customer involvement are two different variables. According to Fan et al. (2013), customer expertise is associated with the customer's ability to process information,

whereas customer involvement is associated with the customer's motivation to process information.

Customer involvement can be defined as the personal relevance of a product to a consumer, based on the consumer's personal values, needs and interest (Elwalda & Lu, 2016). It is the extent to which a product has personal meaning or intrinsic importance for the consumer (Petty & Cacioppo, 1986). According to Lee et al. (2008), the involvement of customers is moderating the type and amount of information processing. This means that how much information about a product a consumer is willing to retrieve from their memory and how much information they are willing to process, depends on their involvement with the product (Feldman & Lynch, 1988). As involvement of consumers increases, their motivation to retrieve information from their memory and their ability understand important information increases as well (Lee, Park, & Han, 2008). When it comes to reading online consumer reviews, high-involved consumers are more likely to process the content of the reviews and pay attention to review valence. Low-involved consumers on the other hand, have less motivation to process information from reviews and retrieve information about the product from their memory. Therefore, they will mainly focus on information that is easy to process, such as the volume of reviews.

Review volume and valence are important factors that play a role in the decision making of consumers when buying beauty products online, because especially in an online environment where consumers cannot directly feel or try the product, these products are most often evaluated by affective evaluative cues, such as the aesthetic or popularity of the product, which can be indicated by review volume (Cui, Lui, & Guo, 2012). This is especially the case with low-involved consumers. High-involved consumers on the other hand will most likely not be satisfied with the volume of reviews volume, but will instead pay more attention to whether the reviews are more of positive or negative nature and can read the reviews in order to get more detailed information about the positive and negative aspects of the reviews. This is based on the Elaboration Likelihood Model that will be explained in the next paragraph.

2.4.5. Elaboration Likelihood Model of Persuasion

The Elaboration Likelihood Model of Persuasion is based on the involvement of consumers and explains how consumers process information and can change their attitude based on their level of involvement (Lee, Park, & Han, 2008). This dual processing theory distinguishes between two types of information processing: the central route and the peripheral route (Petty & Cacioppo, 1986). The central route is based on careful assessment, because customers in this route are highly involved (Petty & Cacioppo, 1986). High-involved consumers have the ability and motivation to process information and therefore base their purchase decisions on arguments. Ability refers here to the ability of the consumer to process information, whereas motivation refers to the willingness of the consumer to process information (Lee, Park, & Han, 2008). In contrast to the central route, in the peripheral route, low-involved consumers are not motivated or able to process more complex information, and therefore base their decisions mainly on cues (Lee, Park, & Han, 2008). These cues give an indication of the product liking at the surface level, such as star ratings and product popularity, which can be easily processed and can therefore be more useful when consumers are low involved (Willemsen, 2011). These cues induce change

without careful thought about value of the information being presented (Petty & Cacioppo, 1986).

Information processing, whether it is through the peripheral route or the central route, can change consumers' behaviours and attitudes towards products, brands and companies (Saleem & Ellahi, 2017). Based on this theory, consumers in the central route who are highly involved in a purchase decision of a beauty product, are more likely to read more about the product and are therefore more likely to be affected by the content and quality of the reviews (Elwalda & Lu, 2016). Specifically, high-involved consumers focus on the review message, such as whether the message is positive or negative (Park & Kim, 2008) and review valence is therefore more important for these consumers. Consumers with low-involvement on the other hand are more likely to be affected by factors such as the review volume, which is easier to process because just one number can indicate the popularity of a product (Maslowska E. M., 2017). Based on these insights, the following hypotheses have been formulated:

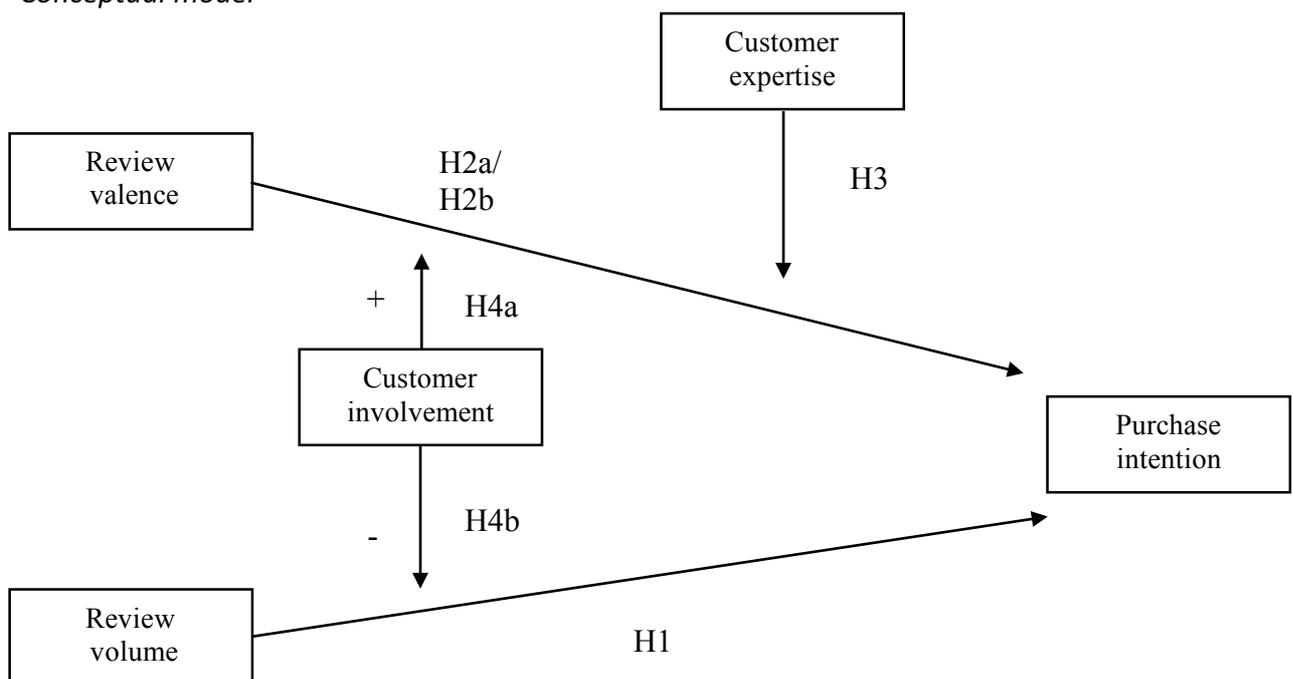
H4a: Customer involvement moderates the influence of the nature of review aspects on purchase intention, where review valence has a greater impact on the purchase intention of consumers with high involvement with beauty products

H4b: Customer involvement moderates the influence of the nature of review aspects on purchase intention, where review volume has a greater impact on the purchase intention of consumers with low involvement with beauty products

2.5 Research model

In order to visually present the expected effects of the independent variables on purchase intention and the links between them, a conceptual model has been developed (Figure 1).

Figure 1
Conceptual model



3. Methods

3.1 Research design

In order to test the hypotheses in the theoretical framework, an online experiment has been executed. With this 2 (volume: high or low) by 3 (valence: positive, negative or mixed) between-subjects experiment, the impact of customer expertise, customer involvement, review valence and review volume on consumers' purchase intention towards beauty products have been investigated. The independent variables review valence (positive, negative and mixed reviews) and review volume (high volume vs. low volume) were manipulated during the experiment. The other two independent variables consumer expertise (high vs. low) and consumer involvement (high vs. low) were not manipulated. Customer expertise has been measured at the beginning of the experiment, whereas customer involvement has been measured at the end of the experiment in order to measure whether this variable had a moderating effect. The purchase intention of the participants towards the beauty product has been measured right after the manipulations in order to measure the influence of the dependent variables on participants' purchase intention, without the manipulation checks influencing the intention to purchase.

The beauty product all participants got to see was a mascara from the beauty brand Lancôme. A mascara has been chosen because, although people can have different choices and criteria for a good mascara, there is not much variety in colour when it comes to mascara. Additionally, good product fit with mascara does not include too much personal preferences which would be the case with other types of make-up products, where a matching colour, the finish, feel and look on the skin and how well it works together with other products is of importance. With mascara, consumers mainly look at the brush and the colour (which is mostly black or brown). The Lancôme Lash Idole mascara has been chosen because it is a popular mascara according to different Dutch beauty web shops, such as Douglas and Ici Paris XL.

In the table 1, the number of respondents per experimental condition can be seen.

Table 1

Research conditions and number of responses

	Positive valence		Negative valence		Mixed valence		Total	
	N	%	N	%	N	%	N	%
High volume	34	16.9%	34	16.9%	32	15.9%	100	49.8%
Low volume	33	16.4%	31	15.4%	37	18.4%	101	50.3%
Total	67	33.3%	65	32.3%	69	34.3%	201	100%

3.2 Participants

Participants were approached via a convenience sampling method and a snowball sampling method, both in person and as well as through social media platforms such as Instagram, Facebook, LinkedIn and WhatsApp. These participants were then asked to approach other potential participants. For the experiment, the goal was to have a minimum of 30

participants per condition. The experiment had six conditions and therefore, a minimum of 180 participants was required.

In total, 267 responses were collected, from which 9 were deleted due to the respondents being under the age of 18 and respondents not giving consent to use their response for data-analysis. Because the target group of this research consisted of users of beauty products in general, respondents who did not use beauty products (13) have been excluded from the experiment. In order to analyse the influences of and interactions between the variables of this experiment, it was important that the data consisted of completed responses. Therefore, 44 respondents who did not finish the experiment have also been deleted, making a total of 201 responses that have been analysed. From the 201 respondents, 196 were female, 2 were male, 1 non-binary/third gender and 2 preferred not to say their gender. The participants' ages ranged from 18 to 60 years, with almost half of the participants being between 21 and 26 years old. Most respondents were from the Netherlands (65%), with the rest of the respondents being from 22 different countries around the world. Of all respondents, 75.6% indicated that they buy their beauty products online and 90% indicated that they read online reviews before making a purchase. Additionally, most the participants use mascara regularly (40.8%) or even every day (35.8%) and only 7.5% of respondents do not use mascara. Almost 70% of the participants did not have experience from with any Lancôme products, and from the respondents that do, most used Lancôme perfume, skincare or make-up products such as (other) mascaras, foundation and lipstick. Additionally, from all respondents, 44.8% were high-expertise customers of beauty products, whereas 55.2% were low-expertise customers of beauty products. When it comes to involvement with beauty products, 55.2% of respondents were high-involved and 44.8% were low-involved. Lastly, no notable differences in demographics were found between conditions, such as one of the conditions containing a bigger percentage of a certain age group.

3.3 Stimulus material

3.3.1. Pre-test

The stimuli of the experiment have been tested with a pre-test. The goal of this pre-test was to select the reviews and the review volume were perceived as intended. First of all, the product reviews for the experiment were tested. The reviews presented in the experiment have not been directly copied from the internet, they have been based on real online consumer reviews of mascaras, in order to make the reviews in the pre-test as accurate as possible. Aspects in mascara reviews that were mentioned by multiple different reviewers of have been noted. From the 16 aspects in total, the 6 that were most mentioned have been used as a baseline for the content of the reviews. Examples of these aspects are the mascara brush, colour, packaging and performance of the product in terms of giving the lashes length and volume. For both the positive reviews as well as the negative reviews, these same aspects have been used.

After writing the reviews, they have been tested. Each participant was shown the reviews one by one, with 40 reviews in total, from which 20 were positive and 20 were negative. The reviews did not include star ratings. Participants were then asked whether they perceived these reviews as positive, negative or neutral and how many stars (1 through 5) they think the consumer that has written the review has given the product. Second, for review volume,

participants were shown 2 numbers that indicated the total number of reviews for a product. They were then asked whether they perceived this number as a high or low amount for product reviews. Additional comments about the stimuli have been taken into account when modifying the stimuli for the actual experiment.

In total, twenty-seven valid responses have been recorded and analysed for this pre-test. These participants were in the same target group as the target group for the experiment and therefore met the same requirements in order to be able to take part in this pre-test. In order to avoid possible bias, these participants did not take part in the main experiment. From all 40 reviews, the mean score, standard deviation, minimum and maximum scores on the questions about the perceived nature of the review (positive, negative or neutral) and the number of stars, have been analysed in order to choose eight positive and eight negative reviews. The reviews were ranked based on their mean scores and standard deviations on these questions. The ones that were the closest to the actual valence and star rating and had the lowest standard deviation, have been chosen for the actual experiment. Additionally, the mean score, standard deviation, minimum and maximum scores on the questions about the review volume were analysed. This analysis showed that the review volume was being perceived as intended, where high review volume was being perceived as high and the low review volume was being perceived as low. All the results of the pre-test can be found in appendix A.

3.3.2. Experiment

As mentioned in the previous paragraph, the valence and volume of reviews were manipulated. For review valence, there were three different conditions: positive valence, negative valence and mixed valence. The reviews shown to the participants were chosen based on the results of the pre-test. All reviews in the experiment included both text as well as star ratings. According to Lee et al. (2008), in general, consumers read about six to eight reviews. Therefore, the number of reviews that was shown to participants during the experiment was eight for each condition. The positive review valence condition contained eight positive reviews with four and five star ratings. The negative review valence condition contained eight negative reviews, with one and two star ratings. The mixed valence condition contained four positive and four negative reviews. The stimuli did not contain three star rated reviews, because a three-star rating is not a clear positive or negative rating. It could be seen as a high rating on some web sites or for some consumers, whereas on other web sites or for other consumers, it could be seen as a rating on the lower side. All eight reviews were shown at once at once. These reviews were put in random order and it was indicated at the top that the reviews were ordered by most recent at reviews at the top to make it clear that the reviews were not in order of their star ratings. The review volume was indicated by a sentence that stated the number of total reviews that was written for the product was shown on top of the reviews. Participants in one condition got to see a low total number of reviews and participants in the other condition got to see a high number of total reviews. These numbers were meant to act as a peripheral cue that indicate the review volume. The valence and volume of the reviews were different for participants, depending on the experimental condition they were randomly divided in. These six conditions were high or low review volume and positive, negative or mixed review valence.

Some examples of the stimuli of the experiment can be seen in figure 2.

Figure 2
Stimuli experiment

Homepage > Makeup > Eyes > Mascara > Lancome Lash Idole Mascara



Lash Idole Mascara

8 ml
€ 28,30

Strive for perfection with Lash Idôle Waterproof mascara from Lancôme! A revolutionary mascara that targets every lash for separated and curled lashes without clumps. 24 hours long lasting and easy to remove.

Give your lashes volume with the unique Lash Idôle mascara brush: a curved elastic brush with 360 micro-hairs that opens the eyes in one go. Voluminized and lengthened eyelashes, guaranteed eyelash extension effect.

ADD TO SHOPPING CART

The total number of reviews for this product is:
484 reviews

The total number of reviews for this product is:
24 reviews

Sorted by: Most recent

Sorted by: Most recent

Super ★★★★★

I already have fairly long eyelashes, but when I curl them they seem to be tucked in and it does not look nice and straight. With this mascara, I do not even need an eyelash curler and I can confirm that it curls the lashes and leaves them nice and straight. The brush is also very nice and separates the lashes. For me personally, this is my go-to mascara!

Best mascara for me! ★★★★★

This is my favourite mascara! It does not clump and stays put during the day. It is also easy to remove.

Must try ★★★★★

My new favourite! It separates my lashes very well and I can layer the mascara without it making my lashes clump together. My lashes get very long with this mascara! It also does not smudge. In short: amazing mascara!

Worth the money ★★★★★

Although I had to get used to the square packaging, it is a great mascara. It curls my lashes and makes them stay curled throughout the day. It is worth the money.

I am a fan! ★★★★★

Normally I use waterproof mascaras because other mascaras smudge quickly, but this mascara from Lancôme absolutely does not smudge! It stays in place all day long and gives volume and creates a natural look!

Great mascara ★★★★★

This mascara curled my lashes really well in no time and did not leave any flakes on my face. I definitely recommend it.

My favourite! ★★★★★

I really love this mascara. The mascara applies very smoothly and makes my lashes look great. The definition and volume it gives my lashes is amazing. Great quality in my opinion. The longevity is super and the colour is perfect.

Great mascara ★★★★★

I heard a lot of good things about this mascara and I have to say that I love it! It makes my lashes longer and gives volume. It does transfer to the upper eyelids when applying because of the way the brush bends. You have to get used to the brush bending, but it is easy to remove the mascara with a cotton swab from your eyelids once the mascara is dry.

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There are better ones ★★

The only thing this mascara does is colouring my lashes, I don't like it. It does nothing special for me.

I am a fan! ★★★★★

Normally I use waterproof mascaras because other mascaras smudge quickly, but this mascara from Lancome absolutely does not smudge! It stays in place all day long and gives volume and creates a natural look!

Very disappointed ★

I am disappointed with this mascara. From the first day, it makes my lashes stick together and the more layers I put on, the worse it gets. All I got was clumps in my lashes. Unfortunately, it is a big disappointment. I will not buy it again and do not recommend it.

Not that good ★★

I do not like this mascara very much. It gives volume and length, but you have to put on a few layers before you can see much of a difference. It also transfers pretty quickly, for example when I am sweating.

Great mascara ★★★★★

This mascara curled my lashes really well in no time and did not leave any flakes on my face. I definitely recommend it.

Bad mascara ★

This mascara made my lashes fall down in no time and my face was full of mascara flakes at the end of the day. I really do not recommend it.

My favourite! ★★★★★

I really love this mascara. The mascara applies very smoothly and makes my lashes look great. The definition and volume it gives my lashes is amazing. Great quality in my opinion. The longevity is super and the colour is perfect.

Great mascara ★★★★★

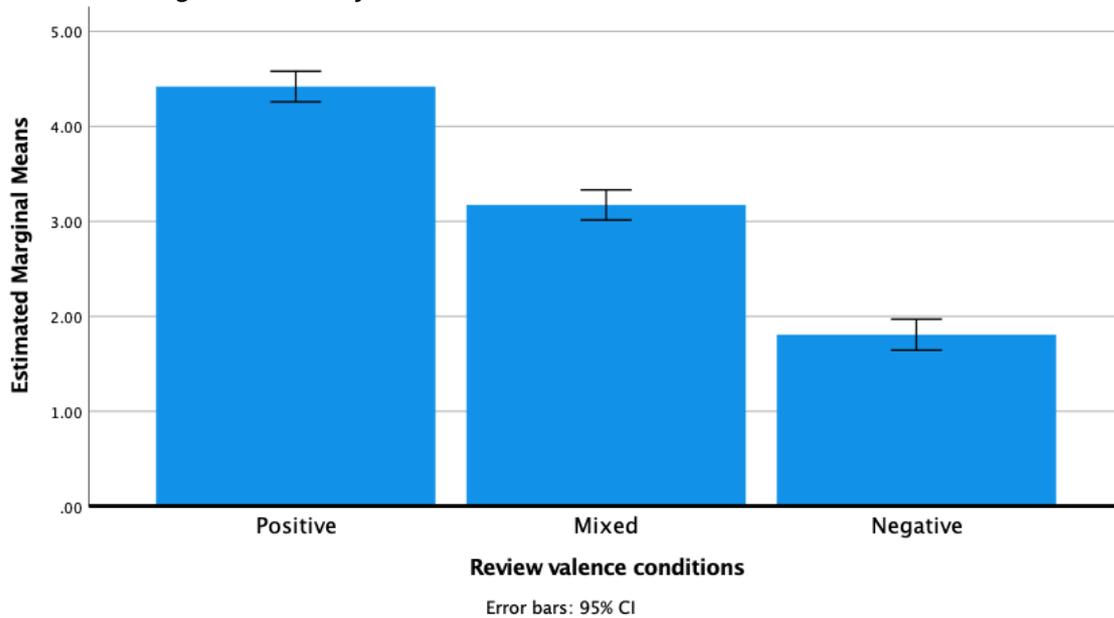
I heard a lot of good things about this mascara and I have to say that I love it! It makes my lashes longer and gives volume. It does transfer to the upper eyelids when applying because of the way the brush bends. You have to get used to the brush bending, but it is easy to remove the mascara with a cotton swab from your eyelids once the mascara is dry.

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Stimuli of the product description, the “High volume, positive valence” condition and the “Low volume, mixed valence” condition

3.3.3. Manipulation check

The measures for review valence and review volume served as manipulation checks in order to see whether the manipulations were interpreted as intended. The One-Way ANOVA shows that there is a significant difference ($F(2,198)=252.33, p<.001$) among the positive ($M=4.42, SD=0.60$), negative ($M=1.81, SD=0.76$) and mixed ($M=3.17, SD=0.64$) review valence conditions. This means that the review valence conditions were all perceived as intended. The means of all three conditions show that the positive valence condition was perceived as the most positive, the negative review valence conditions as the most negative and the mean of the mixed review valence is in between the positive and negative valence conditions. This can also be seen in figure 3. In addition to the review valence, the Two Sample t-test shows that there is also a significant difference between the high ($M=3.56, SD=0.74$) and low ($M= 2.92, SD=0.85$) review volume conditions ($T(199)=-5.66, p<.001$). The means of both conditions tell that, as intended, respondents in the high volume condition perceived the review volume as being high and the respondents in the low review volume condition perceived the review volume as being low. In conclusion, the participants did interpret the manipulations for both review valence and review volume as it was intended.

Figure 3*Estimated marginal means of review valence conditions*

The estimated marginal means of the review valence conditions against the manipulated conditions

3.4 Procedure

An online quasi-experiment has been designed and executed via Qualtrics. The participants started by reading an introduction where they got informed about what they could expect during the experiment and were asked to give their consent. After reading this introduction, they were asked to fill out their demographics like their gender, age and country of residence in order to make sure the participants are part of the target group, which consisted of beauty product users only, with the age of 18 and above. Participants who were not part of the target group were forwarded to the end of the experiment and participants who were part of the target group and therefore were qualified to participate in the experiment, started by having a look at the product and its description in order to understand what kind of product the experiment is about. Here, participants had a chance to look at the Lancôme Lash Idôle mascara on a mock-up product page that is similar to a product page on a beauty web shop, which included a short description of the product, its size and its price. This was the same for all participants to make sure these factors were not influencing the participants differently in the different conditions. After having a closer look at the product, the participants were asked questions in order to measure their expertise. They were then randomly assigned to one of the 6 conditions, where they got to see eight reviews (positive, negative or mixed), including the total review volume which was indicated by the total number of reviews (high or low). After reading these reviews, they were asked to answer questions about whether they perceived the reviews to be positive, negative or a mix of both and how they perceived the volume of the reviews. Lastly participants' involvement and their purchase intention towards the product were measured.

3.5 Measurements

All variables of this experiment have been measured on a 5-point scale (1=strongly disagree, 5= strongly agree). As mentioned in paragraph 3.1, the dependent variables and the independent variable have been measured after filling out the demographics and viewing

the stimuli. Because the scales that have been used in this experiment are existing scales in the literature, these scales have been chosen based on their fit with the experiment and their reliability scores according to the researchers that have found or adjusted these scales. All the statements used in the experiment, can be found in appendix B.

3.5.1. Purchase intention

The dependent variable purchase intention has been measured after measuring customer expertise and showing the stimuli, in order to measure whether the independent variables had an effect on purchase intention. Purchase intention was measured statements from the scales of Spears and Singh (2004) and Sutanto and Aprianingsih (2016). In total, the purchase intention scale included 5 items such as “I would definitely order this mascara” and “In the future, I will consider this mascara discussed in the online reviews as my first choice”. Additionally, it is possible that the reviews shown in the experiment did not have an influence on purchase intention, but they still might have had an influence participants’ opinions about the product or brand shown during the experiment. Therefore, additional information has been collected in order to see if the reviews still had some influence or not by measuring the attitude of respondents towards the price, brand and the type of product. This has been measured with additional statements from the scale from Spears and Singh (2004), such as “I find this brand/product type/price appealing” and “I find this brand/product type/price good”. Each of the attitude scales consisted of 5 items in total.

3.5.2. Review volume

The review volume measures have been used as a manipulation check in order to ensure that the review volume was being perceived as high or low, depending on the condition participants were in. For this manipulation check, items from the scales of Park et al. (2007) and Sutanto and Apprianingsih (2016) have been combined, such as “The number of reviews is large” and “The number of reviews for this mascara indicates that this mascara is popular”. The review volume scale included 5 items in total.

3.5.3. Review valence

The review valence measures have also been used as a manipulation check in order to make sure the reviews in the experiment were being perceived positively, negatively or mixed, depending on the condition the participants were in. For this manipulation check, items from the scales of Purnawirawan et al. (2012) and Sutanto and Apprianingsih (2016) have been combined, such as “Reviewers positively evaluate this particular mascara” and “Most reviewers are satisfied with the mascara”. In total, this scale included 6 items.

3.5.4. Customer expertise

Customer expertise has been measured to investigate the influence of consumers’ expertise and how consumers with high expertise participants are influenced differently by online consumer reviews than consumers with low expertise. In order to get insights into these differences, customer expertise has been measured with statements from the scales of Sharma and Patterson (2000), Chen et al. (2020) and Zou et al. (2011). Examples of these statements are: “I possess good knowledge of beauty products”, “I know precisely which beauty product I want” and “I am an expert on beauty products”. This scale included 7 items in total.

3.5.5. Customer involvement

Customer involvement has been measured in order to investigate the influence of customer involvement on the purchase intention of consumers in the context of beauty products. In order to measure customer involvement, items from the scales of Mittal (1995) and Lee et al. (2010) have been combined. These scales consisted of items such as “When selecting beauty products, I am concerned about the outcome of my choice” and “I choose my beauty products very carefully”. There were 6 items in total in this scale.

3.5.6 Validity and reliability

After the data collection, the validity and reliability of the scales used in the experiment have also been checked with a factor analysis after all responses for the experiment had been collected. Based on the factor analysis in table 2, some adjustments have been made in the scales, where the decision was made for some items to move to a different scale. The Cronbach’s alpha shows that all final scales for the 5 variables have a Cronbach’s alpha above .70, meaning all scales are reliable. The exact Cronbach’s alpha scores can be found in table 3.

Table 2

Factor analysis

	Component								
	1	2	3	4	5	6	7	8	9
Review Valence 5	.92								
Review Valence 3	.92								
Review Valence 2	.92								
Review Valence 4	.91								
Review Valence 1	.88								
Attitude Reviews	.84								
Review Volume 2	.58								
Customer Expertise 6		.88							
Customer Expertise 2		.87							
Customer Expertise 5		.83							
Customer Expertise 4		.79							
Customer Expertise 7		.76							
Customer Expertise 1		.70							
Customer Expertise 3		.68							
Attitude Price 4			.92						
Attitude Price 3			.89						
Attitude Price 5			.89						
Attitude Price 2			.88						
Attitude Price 1			.88						
Attitude Brand 2				.84					
Attitude Brand 3				.83					
Attitude Brand 4				.80					
Attitude Brand 1				.78					
Attitude Brand 5				.77					

Customer Involvement 5	.82	
Customer Involvement 6	.79	
Customer Involvement 4	.75	
Customer Involvement 2	.73	
Customer Involvement 3	.72	
Customer Involvement 1	.63	
Attitude Mascara 5	.75	
Attitude Mascara 3	.74	
Attitude Mascara 4	.72	
Attitude Mascara 2	.70	
Attitude Mascara 1	.68	
Review Volume 3		.86
Review Volume 5		.86
Review Volume 4		.78
Review Volume 1		.63
Purchase Intention 5		.70
Purchase Intention 2		.68
Purchase Intention 3		.66
Purchase Intention 1		.62
Purchase Intention 4		.58
Purchase Intention 7 Reversed		.90
Purchase Intention 6 Reversed		.90

Table 2 shows the factor analysis that has been conducted in order to test the validity of the scales that were used in the experiment. The table shows the outcome of this test and this paragraph will further explain the few changes that were made based on this factor analysis. First of all, were two review volume items also were put into the review valence component. Review volume statement 1 had a higher number under the review volume scale and therefore remained in this scale. Review volume statement 2 was loaded highly into two different components by the factor analysis, in the component of review volume and the component of review valence. This statement is as follows: “the mascara is liked by a lot of people”. The intention was to measure whether consumers thought the review volume was high, which should be an indication of product popularity according to De Maeyer (De Maeyer, 2012), however, the factor analysis shows that most respondents have taken it as an indication of either positive (or not) reviews (“liked” by a lot of people). Since the numbers in the factor analysis for this statement do not differ a lot from each other and this statement aimed to measure review volume and therefore product popularity, it was decided to leave the statement in the review volume scale it was originally intended to be in. Additionally, although purchase intention items 1 to 5 were put into two different components, since the factor analysis has loaded the purchase intention statements into a separate component as well, they were not merged into the same variable with review valence. Only item 6 and 7 that were put into a completely different component, have not been a part of further analysis. This is because these two statements are specifically about negative reviews and participants’ purchase intention, which has already been

measured with the negative review valence condition. The factor analysis that includes the statement per item can be found in appendix C.

Table 3 shows the reliability scores of the final version of the scales, which was based on the factor analysis.

Table 3

Reliability scores of the variables, measured with Chronbach's alpha

Constuct	Chronbach's alpha	N
Review valence	.98	6
Review volume	.89	5
Customer expertise	.91	7
Customer involvement	.87	6
Purchase intention	.97	5
Attitude towards brand	.92	5
Attitude towards mascara	.94	5
Attitude towards price	.96	5

4 Results

4.1 Descriptive statistics

Table 4

Descriptive statistics of the variables

Construct	N	M*	SD
Customer Expertise	201	3.25	0.86
Customer Involvement	201	3.84	0.62
Valence	201	3.15	1.25
Volume	201	3.24	0.86
Purchase Intention	201	2.54	1.14
Attitude towards brand	201	3.52	0.70
Attitude towards mascara	201	3.03	0.87
Attitude towards price	201	2.64	0.91

*All scales are measured on a 5-point Likert scale (1=Strongly disagree, 5=Strongly agree)

Table 4 shows a summary of the descriptive statistics of the variables customer expertise, customer involvement, review valence, review volume, purchase intention and attitudes towards the brand, the mascara and the price of the mascara shown in the stimuli.

4.2 Hypotheses testing

In order to analyse the effects of the independent variables on the dependent variable, the analyses of variance (ANOVA) have been executed to test the hypotheses. The main effects have been analysed in the next paragraph, followed by the analysis of the moderation hypotheses. A Tukey post-hoc analysis has been executed in order to find out whether there were significant differences between the three review valence conditions.

4.2.1. Main effects

H1, H2a and H2b assume that the independent variables review volume and review valence affect the dependent variable, purchase intention. In order to find out whether these independent variables have an effect on purchase intention, Univariate Analyses of Variance have been conducted for all hypotheses. H1 assumed that review volume influences purchase intention, where higher review volume leads to a greater purchase intention than lower review volume. In the experiment, there were two conditions regarding review volume; high review volume and low review volume. The analysis shows that there is not a significant effect ($F(1,201)=0.28, p=.598$) of review volume on purchase intention, therefore, H1 was not supported. This means that a higher amount of reviews ($M=2.58, SE=0.11$) does not lead to a higher intention to purchase than lower amount of reviews ($M=2.50, SE=0.11$). In addition to the review volume, the experiment also included three conditions regarding review valence; positive, negative and mixed review valence.

H2a assumed that positive reviews lead to a greater purchase intention than negative reviews. For this hypothesis, only the positive and negative review valence conditions were tested. The test shows that review valence has a significant effect ($F(1,131)=146.79, p<.001$, partial- $\eta^2=0.53$) on purchase intention. This means that there is a significant difference between positive reviews ($M=3.40, SE=0.11$) and negative reviews ($M=1.60, SE=0.11$). The large effect size indicates that valence has a significant large effect on purchase intention. As

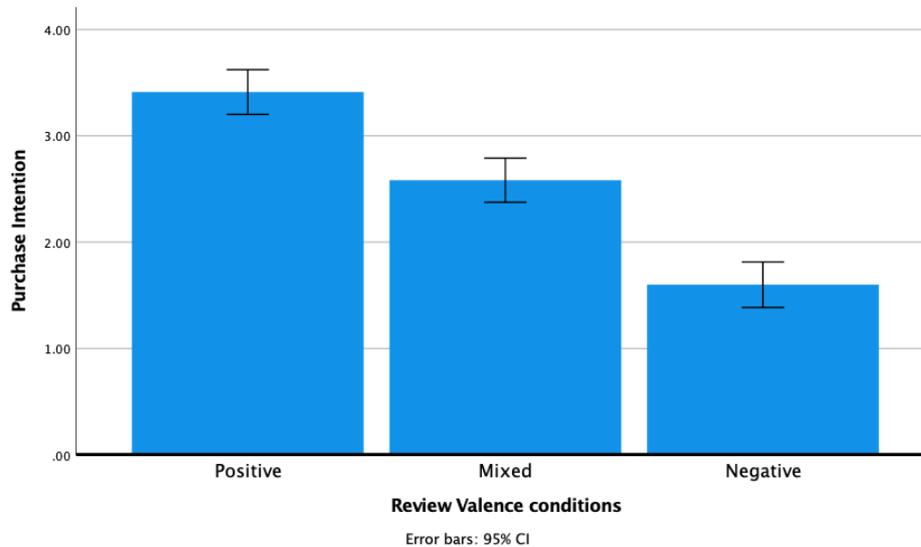
the post-hoc analysis in table 5 shows, positive reviews lead to a greater purchase intention than negative reviews, therefore, H2a was supported.

In addition to H2a, H2b assumed that a mix of positive and negative reviews (mixed valence ($M=2.58$, $SE=0.11$)) lead to a greater purchase intention than one-sided (positive ($M=3.41$, $SE=0.11$) or negative ($M=1.60$, $SE=0.11$)) reviews. With $F(2,201)=71.02$, $p<.001$ and partial- $\eta^2=0.42$, a significant effect from the type of review valence (including all three review valence conditions) on purchase intention was found. However, since this hypothesis is looking for whether the participants in the mixed valence condition had a higher purchase intention than the participants in both the positive and negative valence conditions, a Tukey post-hoc test had been executed. The post-hoc analysis (table 5 and figure 4) shows that there is a statistically significant difference between all three review valence groups. Specifically, the test shows that mixed review valence did not lead to a higher purchase intention than both the positive valence and the negative valence. Mixed valence only led to a higher purchase intention than the negative valence. The positive valence condition led to a higher purchase intention than the mixed valence condition. In conclusion, the more positive the reviews are, the higher the purchase intention. It can therefore be concluded that H2b hypothesis is partly supported.

Table 5

Post hoc analysis

Dependent Variable: Mean Purchase Intention						
Tukey HSD						
(I) Review valence conditions	(J) Review valence conditions	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 Positive valence	2 Mixed valence	0.83*	0.14	<.00	0.48	11.83
	3 Negative valence	1.81*	0.15	<.00	14.53	21.71
2 Mixed valence	1 Positive valence	-0.83*	0.15	<.00	-11.83	-0.48
	3 Negative valence	0.98*	0.15	<.00	0.63	13.39
3 Negative valence	1 Positive valence	-1.81*	0.15	<.00	-21.71	-14.53
	2 Mixed valence	-0.98*	0.15	<.00	-13.39	-0.63

Figure 4*Differences in purchase intention between the review valence conditions*

The differences in mean purchase intention between the three review valence conditions

4.2.2. Moderation effects

H3, H4a and H4b expected different moderation effects between the independent variables (review valence and review volume), the measures (customer involvement and customer expertise) and the dependent variable (purchase intention). H3 assumed that customer expertise moderates between review valence and purchase intention, where review valence leads to greater purchase intention when the consumer has high expertise, than when the consumer has low expertise. In order to test this hypothesis, the test included customer expertise, consisting of two levels which was determined based on the median split; high and low expertise, the three levels of review valence (positive, negative and mixed valence) and the mean purchase intention. The test shows that customer expertise (high: $M=2.75$, $SE=0.09$, low: $M=2.36$, $SE=0.08$) does not have a significant moderating effect ($F(2,201)=0.028$, $p=.97$) between review valence and purchase intention, therefore, H3 was rejected. This means that customer expertise does not moderate the relationship between the valence of reviews and the purchase intention towards beauty products.

H4a assumed that customer involvement moderates between review valence and purchase intention, where review valence leads to a greater purchase intention when consumers are high-involved with beauty products. In order to test this hypothesis, the test included customer involvement, which consisted of two levels which was determined based on the median split; high and low involvement, the three levels of review valence (positive, negative and mixed valence) and the mean purchase intention. The test shows that (high) customer involvement ($M=2.58$, $SE=.08$) does not have a significant moderating effect ($F(2,201)=1.70$, $p=.19$) between review valence and purchase intention, therefore, H4a was rejected. This means that customer involvement does not moderate the relationship between the valence of reviews and the purchase intention towards beauty products.

The last hypothesis, H4b assumed that customer involvement moderates between review volume and purchase intention, where review volume leads to a greater purchase intention when consumers are low-involved with beauty products. In order to test this hypothesis, the test included customer involvement, which consisted of two levels; high and low involvement, the two levels of review volume (high and low) and the mean purchase

intention. The test shows that (low) customer involvement ($M=2.56$, $SE=.12$) does not have a significant moderating effect ($F(1,201)=1.27$, $p=.26$) between review volume and purchase intention, therefore, H4b was rejected. This means that customer involvement does not moderate the relationship between the volume of reviews and the purchase intention towards beauty products. It can therefore be concluded that there were no moderation effects found of customer expertise and customer involvement when it comes to reviews and purchase intention.

Table 6

Overview of the results of hypothesis testing

Nr	Hypothesis	Outcome
H1	High review volume leads to greater purchase intention than low review volume	Not supported
H2a	Positive review valence leads to greater purchase intention than negative review valence	Supported
H2b	Mixed review valence leads to a greater purchase intention than one-sided (positive or negative) review valence	Partly supported
H3	Customer expertise has a moderating effect on the relationship between review valence and purchase intention, where review valence leads to a greater purchase intention when the consumer's expertise is low than when the consumer's expertise is high	Not supported
H4a	Customer involvement moderates the influence of the nature of review aspects on purchase intention, where review valence has a greater impact on the purchase intention of consumers with high involvement with beauty products	Not supported
H4b	Customer involvement moderates the influence of the nature of review aspects on purchase intention, where review volume has a greater impact on the purchase intention of consumers with low involvement with beauty products	Not supported

4.3 Additional analysis

As mentioned in the method section (paragraph 3.5.1), additional information about the participants' attitude towards the brand, the mascara, and the price of the mascara have been collected during the experiment. First, additional analyses have been conducted in order to find out whether there were interaction effects between the main independent variables. Second, analyses were conducted in order to find out whether the additional attitude variables had influence on the dependent variable and the independent variables. Third, linear regression analyses have been conducted in order to find out which of the variables is the biggest predictor of purchase intention. Lastly, some analyses have been conducted with the interactions between the independent variables.

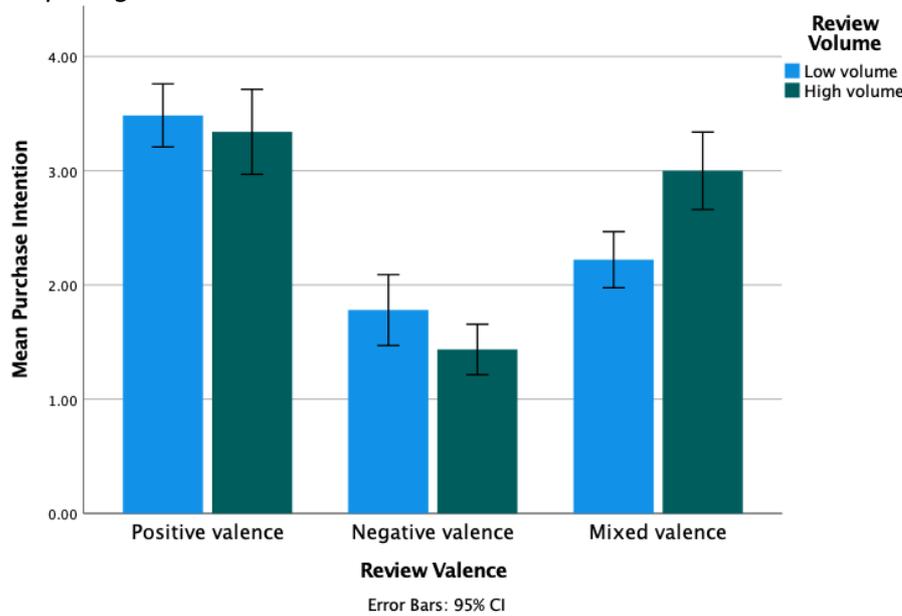
4.3.1. Interactions between independent variables

First of all, while the moderation hypotheses involving customer expertise and customer involvement were not supported, it is still possible that these variables interact with each other. Exploring these interactions could lead to new insights into the dynamics between these variables. Therefore, a univariate analysis with custom interaction terms has been executed. According to this analysis, the interaction between review volume and the level of

consumers' expertise does have a significant effect on purchase intention ($F(1,201)= 5.52$, $p=.03$, $\text{partial-}\eta^2=0.03$), however, according to the effect size, the effect is very small. The interaction between review valence and the level of consumers' expertise does not have a significant effect on purchase intention ($F(2,201)=0.05$, $p=.95$, $\text{partial-}\eta^2=.00$). This is the same for the interaction between review valence and the level of consumers' involvement on purchase intention ($F(2,201)=2.00$, $p=.14$, $\text{partial-}\eta^2=0.02$) and for the interaction between review volume and the level of consumers' involvement on purchase intention ($F(1,201)=0.59$, $p=.46$, $\text{partial-}\eta^2=0.00$). This means that, the only significant interaction effect among the independent variables is the interaction effect between review volume and customer expertise, which is interesting since it is the only significant interaction effect between variables where there was no hypothesis about. This could mean that the level of expertise of consumers determines how they perceive review volume, instead of the level of involvement. Customer expertise could therefore have a different role in the relationship between review volume and purchase intention than initially expected.

4.3.2. Review volume and review valence

Some additional regression analyses have been executed, because the review volume hypothesis not being supported, however, the multiple linear regression showed that review volume is a significant predictor of purchase intention. This brings the question on whether the effect of review volume on purchase intention is dependent on another variable. This variable could be the other variable in this research related to reviews; review valence. An interaction variable with review volume and review valence has been created in order to find out whether the valence of reviews can influence the effect of review volume on purchase intention. The regression analysis shows that the interaction variable of review volume and review valence has a significant effect on purchase intention ($R^2=.056$, $F(1,200)=11.81$, $p<.001$, $\beta=-.28$). This means that the influence of review volume on purchase intention, is dependent on the valence of the reviews. The bar chart in figure 5 shows how review valence effects the relationship between review volume and purchase intention. It can be seen that positive review valence leads to a higher purchase intention both when the review volume is high and when it is low. Negative review valence does also not make a big difference in review volume's influence purchase intention, for both high and low volume, the purchase intention is relatively low compared to the other two valence conditions. However, for mixed valence, it shows a bigger difference in purchase intention with high vs. low review volume. It can be seen that that purchase intention is higher when the review volume is high than when it is low. This means that when reviews are mixed, the volume of these reviews can make a difference in the intention to purchase beauty products.

Figure 5*Comparing review volume with review valence*

Additionally, this interaction effect was also tested for the moderation hypotheses. These tests show however that both customer expertise ($F(2,131)=1.32, p=.270, \text{partial-}\eta^2=.02$) and customer involvement ($F(2,131)=.386, p=.681, \text{partial-}\eta^2=.01$) are not significantly moderating between the interaction effect of valence and volume and purchase intention. This means that when it comes to the moderating effects of customer expertise and customer involvement, the review volume is not dependent on review valence in order to make this moderating effect significant. This could be because these relationships are more complex than just the effect of review volume and review valence. Additionally, because customer expertise is not moderating between review valence and purchase intention, an analysis was executed in order to see if the different levels of expertise process review valence the same way and if that could be the reason of H3 not being supported. The analysis shows that this is not the case and that there is a significant difference between high expertise customers and low expertise customers ($R^2=.36, F(2,200)=14.27, p<.001, \beta=2.74$).

4.3.3. Attitude as independent variable

The attitude towards the product itself, its brand and its price that were shown in the experiment were measured in order to analyse whether the independent variables had influences on these variables in case the hypotheses were not supported. Since most hypotheses were not supported, these attitude variables have been analysed as dependent variables. However, there were only a few significant interaction effects found, from which all had very small effect sizes, such as the interaction between customer involvement and review valence on the attitude towards the mascara ($F(2,201)=4.41, p=.01, \text{partial-}\eta^2=0.043$). As the result of the univariate analysis of variance shows, the effect is very small. This means that the interaction between the involvement of consumers and the valence of reviews has a significant effect on consumers' attitude towards the mascara. However, this is a very small effect.

Although these attitude variables did not help explain why certain hypotheses, such as the moderating effect of customer involvement was not supported, it might give insights into the more complex dynamics between these variables. Therefore, the attitude variables have also been analysed as independent variables to see whether their interaction with the main independent variables would lead to significant effects on the dependent variable, purchase intention. The first significant interaction that was found included the attitude towards price, review valence and the purchase intention. The Univariate analysis of variance shows that the price of the mascara and review valence have an interaction effect on the purchase intention of the participants ($F(66,201)=1.79$, $p=.011$, $\text{partial-}\eta^2=0.65$). The partial η^2 shows that the strength of this effect is medium. This means that the attitude towards the mascara's price and the valence of reviews together significantly influence participants' intention to purchase the mascara. Additionally, the attitude towards the mascara, the participant's expertise and the review valence have a significant interaction effect on purchase intention ($F(3,201)=2.88$, $p=.044$, $\text{partial-}\eta^2=0.13$). This means that participants not liking the mascara could be a possible explanation for why H3 was not supported. The effect size is medium and confirms that the attitude of respondents towards the mascara could be a possible factor that influenced the purchase intention towards this product. Similarly, the attitude towards the mascara, the involvement and the valence of reviews have a significant interaction effect on purchase intention ($F(1,201)=4.52$, $p=.037$, $\text{partial-}\eta^2=0.06$). The effect size is however very small, which means that although there is a significant interaction effect between the involvement of participants and review valence, it is very small. Lastly, there was no significant interaction effect found between the attitude variables, involvement and review volume.

4.3.4. Multiple linear regression

In order to get insights into what independent variable is the biggest predictor of purchase intention towards beauty products, a multiple linear regression was executed. 74% of the variability in purchase intention can be explained by the main independent variables. As table 7 shows, review valence is the biggest predictor of purchase intention ($F(4,200)=59.59$, $p<.001$, $\beta=0.58$), with a positive medium to large effect. This means that review valence is an important factor that influences consumers' purchase intention towards this product. Specifically, the higher beta coefficient indicates that positive reviews are associated with a higher purchase intention. While still statistically significant, customer expertise ($p=.001$, $\beta=0.23$) has a smaller effect size and therefore, has a smaller positive effect on purchase intention. This is an interesting find, because there was no moderation effect of customer expertise found, this shows that it does have a significant (small) effect on its own. For customer involvement however, there was no significant effect of found on purchase intention. The regression analysis also shows that review volume is a significant predictor of purchase intention ($p=.01$, $\beta=.21$), with an effect size very close to that of customer expertise. This outcome indicates that a higher review volume is associated with a higher purchase intention. The fact that review volume is a significant predictor of purchase intention, but the review volume hypothesis was not supported, indicates that the dynamics between review volume and purchase intention could be more complex than initially expected. This will be further investigated in paragraph 4.3.4.

Table 7*Multiple linear regression with main research variables*

Variable	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-.41	.39		-1.05	.29
Customer Expertise	.23	.07	.17	3.33	.00
Customer Involvement	-.07	.10	-.04	-.76	.45
Review Valence	.58	.05	.63	11.44	.00
Review Volume	.21	.08	.16	2.77	.01

Dependent variable: Purchase Intention

When both the main independent variables and the attitude variables are also included in the multiple linear regression, 82% of the variability in purchase intention can be explained by all variables. Table 8 shows that the attitude towards the mascara is the biggest predictor of purchase intention ($F(7,200)=55.10, p<.001, \beta=0.44$), with a positive, medium to large effect. This means that the consumers' attitude towards the mascara shown in the experiment is an important factor that influences purchase intention. This makes sense since the attitude towards a product and the intention to purchase that product are closely related. When the attitude towards a product is positive, it is likely that the purchase intention is also positive. However, it is important to note that liking a product does not necessarily mean that the consumer wants to buy the product. The second significant predictor of purchase intention is review valence ($p<.001, \beta=.36$), which was the biggest predictor in the multiple regression analysis that did not include the attitude variables. Review volume has a significant positive effect on purchase intention, with a slightly smaller effect on purchase intention than the attitude towards the mascara. The attitude towards the price ($p<.001, \beta=.21$) and customer expertise ($p<.001, \beta=.20$) are also significant predictors of purchase intention and their effect size is very close to each other. They both have a small, positive effect on purchase intention. Additionally, although customer involvement does not have a significant effect on purchase intention ($p=.06, \beta=-.16$), the p-value is just slightly bigger than alpha. It should therefore be noted that customer involvement still might have an effect on purchase intention to some degree. While it seems that it would still be a very small effect, it appears to have a negative effect. The analysis does not show a significant effect of the attitude towards the brand and review volume on purchase intention.

Table 8

Multiple linear regression with main and additional (attitude) variables

Variable	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-11	.36		-3.07	.00
Attitude Brand	.10	.09	.06	1.21	.23
Attitude Mascara	.44	.08	.33	5.28	.00
Attitude Price	.21	.06	.17	3.57	.00
Customer Expertise	.20	.06	.15	3.26	.00
Customer Involvement	-.16	.09	-.09	-1.91	.06
Review Valence	.36	.05	.39	6.80	.00
Review Volume	.08	.07	.06	1.15	.25

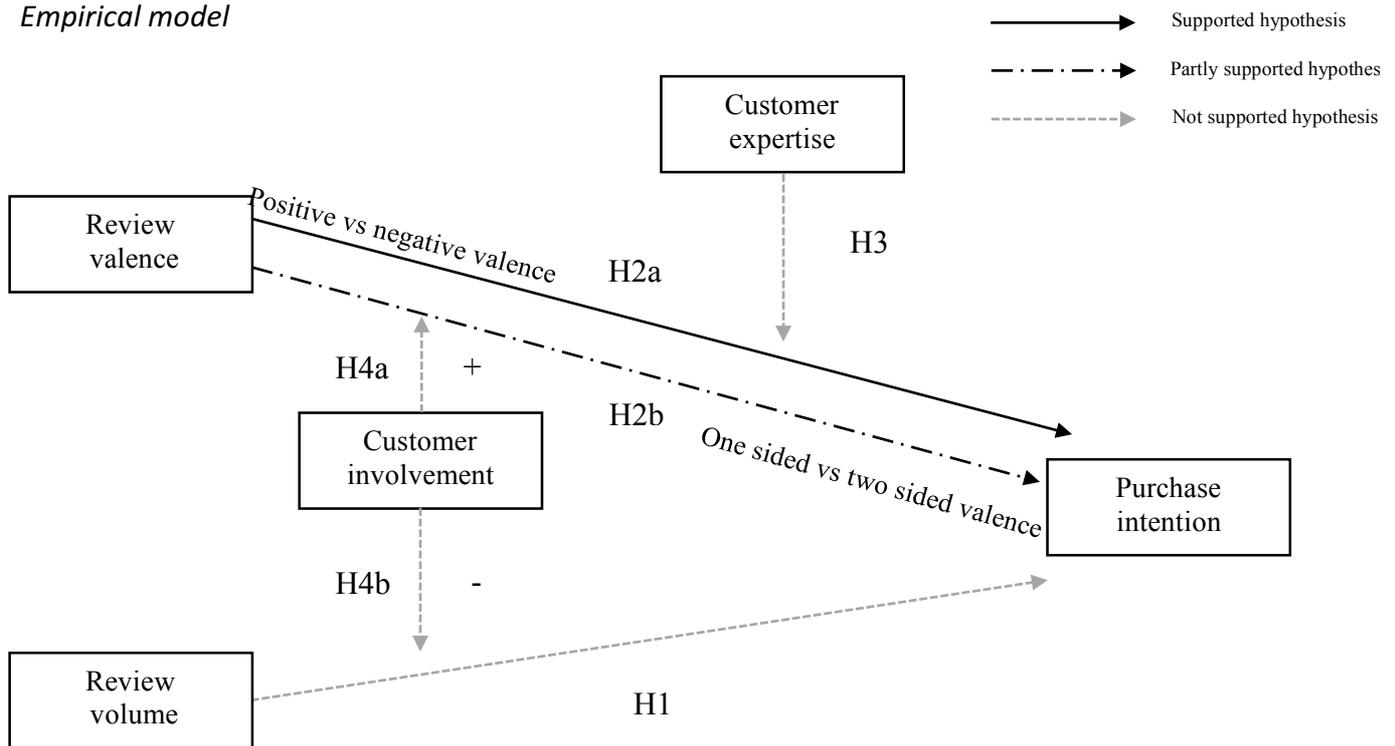
Dependent variable: Purchase Intention

4.4 Empirical model

Based on the outcome of the data-analysis, the empirical model looks as follows:

Figure 6

Empirical model



The empirical model in figure 6 shows the outcomes of the hypotheses. As shown in this model, only hypothesis 2a is fully supported. It was found that positive valence leads to a higher purchase intention than negative valence. Additionally, hypothesis 2b, is partly supported. It was found that mixed valence does not lead to a bigger purchase intention than positive valence and only leads to a higher purchase intention than negative valence. The review volume hypothesis was not supported, it was not found that a higher review

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volume leads to a higher purchase intention. Additionally, no moderation effect found of customer expertise on review valence and purchase intention. Lastly, there was also no moderation effect found of customer involvement on reviews (both valence and volume) and purchase intention.

5. Discussion

The aim of this study was to examine whether review valence, review volume and the expertise and involvement of consumers influenced consumers' intention to purchase beauty products. In this section, the results of this study will be reflected on.

5.1 Results of research and their theoretical implications

The aim of this study was to find out how online consumer reviews and consumers' knowledge of and involvement with products would influence purchase intention of beauty products. In this study, only one hypothesis could be fully supported by the outcome of the experiment. H2a assumed that reading positive reviews would lead to a higher purchase than reading negative reviews. The results of this study confirmed that people had a higher purchase intention towards the mascara when the reviews were completely positive than when the reviews were completely negative. This is in line with research by Su and Niu (2021) who state that negative reviews can be harmful to the purchase intention of consumers, whereas positive reviews can increase purchase intention. This is because negative reviews are likely to increase uncertainties and the risk of purchasing a bad product (Floh, Koller, & Zauner, 2013). The findings of this study contribute to the literature by illustrating the significance of both positive and negative reviews when it comes to purchase intention.

In addition to the effects of positive and negative reviews, this study has also compared effect of mixed reviews with the effect of one-sided reviews on purchase intention. It was expected that mixed valence would lead to a higher purchase intention than one sided reviews (both positive and negative review valence). This was based on the notion that mixed reviews would be trusted more, because the negative reviews in the mix would make consumers think that the company did not write the reviews themselves (Roy, Datta, & Basu, 2017). This would lead consumers to trust the reviews more. However, the results of this study show that although mixed valence leads to a higher purchase intention than negative valence, it does not lead to a higher purchase intention than positive valence. Based on the fact that the purchase intention was not higher with mixed reviews than with positive reviews, it could be that the negative reviews in the mixed review valence still did have a negative impact on the consumers' purchase intention. This is in line with the negativity effect which states that, as mentioned in the theoretical framework, the effect of positive reviews will be reduced when there are negative reviews in the mix, even when there are just a few negative reviews (Floh, Koller, & Zauner, 2013). It could be that when participants saw the negative reviews in the mix valence condition, they thought "better safe than sorry" and could have made them choose the save option of not intending to buy the mascara. This could especially be an important reason in the context of this research, since the product that was shown to the participants was a mascara. A mascara, like many beauty products, can usually not be returned once it has been opened, due to hygiene and safety reasons. This may have increased the perceived risk of consumers and therefore led to less consumers wanting to buy the product when they saw mixed reviews. It is however important to note that mixed review valence can still increase purchase intention and the results show that it led to a higher purchase intention than when all reviews were negative.

In addition to the valence of the reviews, it was expected that the volume of reviews would also influence the purchase intention. The expectation was that a higher volume of reviews would lead to a higher purchase intention than a lower volume of reviews (H1), because a

high review volume would be an indication of product popularity and reduce the risk of a bad purchase (Maslowska, Malthouse, & Viswanathan, 2017; Sutanto & Aprianingsih, 2016; De Maeyer, 2012). This was however not confirmed by this study, which shows that higher review volume did not lead to a higher purchase intention. It was found that review volume on its own does not influence purchase intention, however, when the valence of reviews was taken into account, the volume of reviews did have an effect on purchase intention. When review volume interacted with the valence of reviews, there were effects found on purchase intention. Specifically, the results of this study show that when reviews are positive, there is not a notable difference of purchase intention with the different volume levels. However, when the valence is negative or mixed, the effect of review volume on purchase intention does change. When the volume is high and the valence is negative, the purchase intention was slightly lower than when the volume was low. This is in line with research by Khare et al. (2011), which state that a high review volume and positive review valence lead to an increased intention to purchase, however, negative review valence and a high review volume leads to a decreased intention to purchase. What is especially interesting, is that when it comes to mixed review valence, the purchase intention changes remarkably depending on the volume level. When the review volume is high and the valence is mixed, the purchase intention towards the mascara was higher than when the review volume is low. This finding is in line with research by Elwalda and Lu (2016), who state that when the valence of reviews is mixed and the volume is high, it can increase purchase intention. This could be because when there are a lot of mixed reviews, consumers may see the product as a more complex product and will therefore pay attention to both the pros and cons. By considering both pros and cons with the mixed reviews, which there are a lot of, they could see it as reducing the risk of a bad purchase. As previously mentioned, this can reduce this risk of a bad purchase (Floh, Koller, & Zauner, 2013) and the product can be perceived as a popular product in a good way. In conclusion, it was found that review volume is not sufficient in influencing the purchase intention of beauty products on its own and the valence of reviews is an important factor that influence consumers' intention to purchase a beauty product.

Furthermore, it was expected that the review valence would lead to a greater purchase intention when the consumers' expertise of beauty products was low than when the expertise was high (H3). This was based on research by Zou et al. (2011) who state that because consumers with low expertise lack knowledge about the product(type), they are more dependent on the information they get from the experience of other consumers. This can be explained by the Accessibility/Diagnosticity Theory, which states that an already existing memory (of a product) will be used as a basis for a subsequent response (to a new product). However, the results of this study did not support this finding. There was not such an effect of customer expertise found. A possible reason could be because customers with low expertise have do not have enough knowledge about mascaras to compare the new information from reviews with their own knowledge. Their limited knowledge can be very distant from the new information received from reviews, which requires them to put more cognitive effort into judging new information and base their decision on these reviews (Chen, Tsai, & Hu, 2024). They may not really benefit from the reviews because they do not have the knowledge to judge whether the information in a review is useful. It could for instance be that when a review mentions the mascara "(not) giving enough volume", consumers with low expertise do not know what is meant by this or do not know what to

look in a mascara for when they want “more volume”. It should however be noted that there was still an interaction effect found between customer expertise and review valence with the addition of attitude towards the mascara on purchase intention. This suggests that review valence still is relevant when it comes the customer expertise and requires further research. It could for instance be that review valence increases low expertise customers’ purchase intention towards mascara, but in a different way than what was expected according to the Accessibility/Diagnosticity Theory and research by Zou et al. (2011).

Lastly, it was expected that the involvement of consumers with beauty products would moderate the effect of reviews on purchase intention. Specifically, it was expected that high-involved consumers were more influenced by the valence of reviews (H4a), whereas low-involved consumers were more influenced by the volume of reviews (H4b). This was based on the Elaboration Likelihood Model of Persuasion, which states that consumers who are high-involved, have the ability and motivation to process information and therefore base their (purchase) decisions on arguments, whereas low-involved consumers are not motivated or able to process information and therefore base their decisions mainly on cues (Petty & Cacioppo, 1986). According to Cui et al. (2012), this means that the purchase intention of high-involved consumers would increase with (positive) review valence, whereas low-involved consumers’ purchase intention would increase with the (high) volume of reviews that serve as a cue. However, the results do not support these hypotheses. No moderation effect of involvement was found on neither review valence and purchase intention, nor on review volume and purchase intention. A possible reason could be that high-involved consumers do not always have a higher ability or motivation to process (more complex) information. They may be using different decision-making strategies that are based on the product, their goals, personal preferences, price, etc. This can reduce the influence of involvement on the relationship between review valence and purchase intention. Other factors could be time constraints, familiarity with the product, bias towards the brand, the product type and consumer reviews in general. These could also apply to low-involved consumers. It could also be that not all high-involved consumers process information via the central route. Additionally, for low-involved consumers, a possible reason for the hypothesis not being supported could be that although the customers are low-involved, they still look at review valence and base their purchase decision on mascara reviews. This is also supported by the additional analyses, which shows that the valence of reviews and the involvement of consumers interact and influence the purchase intention towards the mascara. As mentioned before, review volume on its own is not sufficient to influence purchase intention of beauty products and the valence of reviews is here of importance. When all reviews are negative, it is not very likely for purchase intention to increase. Therefore, although it was assumed that low-involved consumers are paying attention to peripheral cues such as the volume of reviews, they may still read a couple of reviews before making their purchase decision. This means that there is not a clear division between consumers in the peripheral route and the central route being influenced by a certain review factor specifically. This is in line with statements by Petty et al. (1993), which built on their Elaboration Likelihood Model by stating that consumers in both the central route as well as the peripheral route can get to the same attitude change. They say that this same attitude change does not always come from different sources (cues vs argumentation).

5.2 Practical implications

The results of this research have some practical implications for companies that sell experience products, specifically beauty products, online. First of all, it was observed that the type of valence has a significant effect on the consumers' intention to purchase beauty products. Positive review valence in combination with high volume works the best for increasing purchase intention, although there is not a big difference with combination of positive review valence with low volume. It is therefore advised that if the goal of companies is to increase sales, they could try to get as many positive reviews as possible. They could do this by asking their customers to leave a product review and encourage them by giving incentives, such as discounts. However, this raises the question of whether this is ethical for a company to do. Companies can try to increase their sales in different ways, but specifically asking for positive reviews can be misleading for other consumers. When a consumer is asked by a company to write a (positive) review, the consumer could be (more) positive than they actually are or regardless of whether they have had a positive experience with the product. The incentive may be the only motivation to write the review and they may think that by leaving a less positive or very negative review, the company will not send the incentive. Companies should therefore emphasize that consumers can leave an honest review. This should therefore be taken into consideration. It is also impossible to prevent negative reviews, there will always be consumers who are not satisfied with the product. However, as this research shows, mixed reviews also lead to purchase intention, although it may not be as high as for positive review valence. Therefore, some negative reviews in the mix does not directly lead to a decrease in purchase intention. Motivating customers to leave a review can also increase the review volume. The results of this experiment showed that the influence of review volume on purchase intention depends on the review valence. When there are a lot of positive reviews, other consumers' purchase intention may increase. The volume of reviews is especially important when the reviews are mixed. It was found that when the reviews are mixed, high volume leads to a higher purchase intention due to consumers being able to compare both pros and cons of a product. This way, the risk of a bad purchase can decrease in the mind of the consumers. It is therefore advised for companies to try to increase their review volume. This raises the question of "what if all reviews are negative?". As the results of this research show, negative reviews clearly have the most negative influence on consumers' purchase intention in comparison to positive and mixed reviews. When a product (mostly) has negative reviews, it could be advised for companies to highlight products that score better on their page in order to keep the focus on consumers on the good products. For consumers, it could be good to also consider products with mixed reviews, especially when the number of reviews is high, as these will give an overview of pros and cons of a product. This way, consumers can prioritize for themselves what the important features are of the beauty product they are looking for and can make a better choice based on these pros and cons in order to minimize the risk of a bad purchase. Taking the review volume into account when looking at the review valence could also give an indication of whether the product is rated high or low based on the experience of just a few consumers or a lot of consumers.

Although customer expertise did not have the expected moderating effect on the relationship between review valence and purchase intention, there was a significant interaction found between customer expertise, review valence and the attitude towards the mascara on purchase intention. This means that it is still important for businesses to pay

attention to the level of expertise of their (potential) customers. For instance, for customers with low expertise, they could create a glossary with terms that are used a lot in product descriptions and reviews to make it easier for these consumers to understand more complex information. This could help customers with low expertise in making a purchase decision. Additionally, low expertise customers may base their purchase decision on additional factors besides reviews. Therefore, in order to create a positive attitude towards the product, they could give these customers tips on how to implement certain aspects in the reviews in their product use. For instance, if in a review, a consumer has said that the mascara is good for lashes who are naturally curled, a note from the company could say: “if your lashes are not naturally curled, you could try to use a lash curler” or they could recommend a product that is more suited for someone who does not have curled lashes. Creating a positive attitude towards the product could help companies to sell products to customers with low expertise. This would also help customers with low expertise, who are having a hard time making the right purchase decision. Customers with high expertise on the other hand, could have valuable insights or suggestions when it comes to beauty products and they could be motivated to provide honest reviews that are easy to understand for those with less expertise. This could be done by giving them incentives such as discounts and extra samples for the reviews they leave on products they have recently ordered. This way, it could be made easier for customers with low expertise to make a purchase decision and it might help them overcome the barrier of “what if I make a bad purchase” which could otherwise lead to not making the purchase at all.

Lastly, although the involvement of consumers did not have the expected moderating effect on the relationship between reviews and purchase intention of beauty products, there still was a significant interaction effect between customer involvement, review valence and the attitude towards the mascara on purchase intention. According to Park et al. (2007) both high- and low-involved consumers are both important for marketers. Although it could be that low-involved consumers are not very interested in a product, they should be treated as potential consumers. The fact that they are low-involved does not mean they are not using the product or that they are not in the market to buy the product. It could be that they are low-involved because they do not use beauty products very often but they could still buy them in a lower frequency or because they keep using the same products and therefore do not look at reviews when they rebuy a product. It could therefore still be relevant for companies to pay attention to the involvement of consumers. Companies could increase customers' involvement by creating loyalty programs with rewards for milestones, which could get higher when these customers are buying a product they have never used before in order to increase their involvement. This way, consumers could keep coming back when they want to buy new beauty products, to get more points and more rewards.

5.3 Limitations and future research

Not all hypotheses have been supported by the findings of this study, some of which may have been due to certain limitations of the experiment. In the next section, these limitations will be discussed and recommendations for future research, which are partly based on the limitations, will be made.

The first limitation of this study is related to the sampling method. For this experiment, convenience sampling and snowball sampling method have been used to find respondents. This could have resulted in a sample that may not be representative of the population, since more than half of the participants were living in the Netherlands, which can make the generalizability of the results harder. It could for instance be that consumers in the Netherlands and consumers in other countries make purchase decisions based on the cultural or economical standards of their country. The economical standards for instance, could make the product shown in the experiment be perceived as an expensive product in one country, whereas inexpensive product. Although Lancôme is a brand sold internationally, the price of its products can still differ. In the Netherlands, the product is more expensive in Douglas (online) stores than in the same store in Germany (Douglas, 2024). It could be that the price difference of this brand in different countries has influenced the purchase intention of the product shown in the experiment which showed the price the product is sold for in the Netherlands. As mentioned in paragraph 5.1, the attitude towards price was found to be interacting with customers' expertise and purchase intention. Additionally, the average age of participants was 26 and the proportion of people between 21 and 26 is relatively big (about half of the sample). Although this age may be in the biggest age range of all the age groups in the sample when it comes to online shopping, it may not be the age group with the most disposable income. Where they may spend relatively more money on beauty products, they may spend less on a single product because of their limited budgets and choose more budget-friendly brands. Therefore, an older age group could have also led to some different outcomes, regarding the preferred brands and the price influencing purchase intention. For an older age group or consumers from different countries, the purchase intention and attitude towards the product, brand and price may have been different. It is also good to mention that when participants were asked about whether they used the brand Lancôme and the mascara they were shown, most participants said that they did not have any experience with Lancôme products. This could also be an indication that this brand is not very popular within the sample of this experiment.

The second limitation is about the manipulation checks, In the experiment, there were two manipulation checks, one for review valence and one for review volume. These followed after the manipulations and the purchase intention questions. These manipulation checks have been placed here in order avoid any influence of the manipulation checks on participants' purchase intention. If the participants got the manipulation check questions right after seeing the manipulations, they could have been influenced by the questions and be conscious of the amount of reviews and the nature of the reviews. Since this does not happen when consumers read reviews on a website or web shop and make a purchase decision, these questions could have influenced the outcome of the experiment. Although the manipulation check shows that the manipulations were interpreted as intended, some participants mentioned not having the questions about the review valence and review volume right after the stimuli made it hard for them to remember some details, such as what the number of total reviews (indicating review volume) was. It is possible that participants aligned their responses with what they believed that this experiment was about instead of how they initially understood the stimuli, which could potentially bias the outcome of the manipulation checks. This could in turn have influenced the results of the analyses, such as the hypothesis testing, and led to different outcomes that expected.

Additionally, although the reliability and validity analyses did not show any problems when it comes to the measures used during the experiment, it should also be noted that the customer expertise and customer involvement scales consisted of self-assessment statements. It could therefore be that participants underestimated or overestimated themselves. It is also possible that participants wanted to present themselves in a more positive light when it comes to the use of beauty products, which is called self-presentation bias. This could mean that high expertise or involved consumers could actually be low expertise or involved (or vice versa). Additionally, the statements in the customer expertise and customer involvement scale can be interpreted differently. For example, the statement “I possess good knowledge of beauty products” could be interpreted as having knowledge about what the products are used for. A mascara can be used for lengthening the lashes, giving the lashes volume, etc. It could however also be interpreted in a way that participants would know about ingredients and more technical things like the materials used to make the mascara brush. Asking specific questions about for example the use of certain beauty product could have been an alternative to avoid this. However, it should be noted that although the questions may have been interpreted differently, beauty products are not that complex to ask such questions. In conclusion, although customer expertise and customer involvement still showed some interesting results and there could be many different reasons for the lack of moderation effects found in this research (as mentioned in the theoretical implications), the self-assessment of customer expertise and customer involvement could have led to self-presentation bias or under- or overestimation of their expertise and involvement. It should also be noted that the difference between high expertise and low expertise participants and high-involved and low-involved participants is not a clear line and can differ in each research. Using the mediation to split these participants in two groups is a good way to divide participants into different groups, since it will create equal group sizes, however, it does have a cut-off point to split the sample in groups. However, variables such as customer expertise and customer involvement could too complex to create a clear line of when someone is high-involved or is considered as having high expertise and low-involved or having low expertise. This may have led to the groups not accurately representing participants who are all highly knowledgeable or highly-involved vs having low expertise or being low-involved.

5.3.1. Additional future research recommendations

Lastly, some additional recommendations for future research will be made in the following paragraph.

Although the relationship between review valence and purchase intention does not look that complex at first, previous research shows that the findings are divided when it comes to the influences of positive vs mixed review valence. This study showed that positive reviews lead to a higher purchase intention than mixed reviews. There are however also studies that showed that mixed reviews lead to a higher purchase intention than positive reviews and some reviews did not find any significant difference between the influence of positive vs mixed reviews on purchase intention. There is still not a clear reason that explains why for one research positive reviews are more influential and in other research mixed reviews are more influential for consumers' purchase intention. Future research could investigate the reason behind these different outcomes, by for instance doing qualitative research, in order to better understand the thought process of consumers when mixed reviews lead to higher

purchase intention versus when positive review valence leads to a higher purchase intention. This can help researchers in the field with understanding the different roles variables can have in different contexts (different industries, different price ranges, different types of beauty or experience products etc.), as well as help companies to understand the thought process of consumers better, which can help with increasing sales and creating loyal customers.

Additionally, it was expected that in the context of this research, customer expertise and customer involvement would be moderating between reviews and purchase intention. However, the results of the experiment show that these two variables were not moderating, but they still have some form of influence on the relationship between reviews and purchase intention. For instance, as also mention in the theoretical implications, it was found that although customer expertise did not moderate between valence and purchase intention, there was still an interaction effect found between customer expertise, review valence and the attitude towards the mascara on purchase intention. The addition of the attitude towards the product suggests that that there is still a relationship between valence of reviews and the expertise of consumers that influences consumers' purchase intention towards beauty products. However, it could be a more complex relationship than initially thought and additional factors could be of importance for this relationship. Additionally, there was a significant interaction effect found between review volume and customer expertise on purchase intention. These findings show that customer expertise still has some kind of influence on the relationship between reviews and purchase intention. It could also be that there are other factors that play a role in the relationship between customers' expertise, reviews and purchase intention. Investigating this in future research could give more insights into the exact dynamics between these variables. Lastly, customer involvement, it was found that it was not a moderating variable between review valence or volume and purchase intention, however, it did show an interaction effect on the relationship between reviews and purchase intention. Therefore, the same applies to customer involvement, that it can have a different role in the relationship between these variables. Concluding, it could be insightful to further investigate the role that customer expertise and customer involvement play in this context, because it shows that they still have some sort of an influence. Finding the exact role these variables play, could shed light on the more complex nature of these relationships for both researchers, as well as companies that sell experience products online. Companies could implement strategies to play into customers' involvement and expertise when making a purchase decision.

Furthermore, although the moderation hypotheses were not supported, the addition of the attitude variables (attitude towards the product, brand and price) showed some influences with customer involvement and/or expertise on the relationship between reviews and purchase intention. For instance, where customer expertise was not a moderator between review valence and purchase intention, when the attitude towards the mascara was added as an independent variable, there was a significant interaction effect on purchase intention. The same result was seen when the attitude towards mascara was added to the analysis of involvement as a moderator between review valence and purchase intention. Therefore, it is very likely that the attitude towards the product and perhaps towards the brand and price and possibly other factors play an important role in these relationships. It could therefore be insightful to further explore the role of consumers' attitude, to find out what its role is.

6. Conclusion

The aim of this study was to gain insights into the influences of online consumer reviews and certain consumer characteristics on the purchase intention of consumers of beauty products. Therefore, the following research question was formulated:

“To what extent do valence and volume of online consumer reviews and customers’ expertise and involvement have an effect on the purchase intention of consumers of beauty products in online web shops?”

Based on the results of this research, it can be concluded that the valence and volume of reviews play important roles when it comes to the purchase intention of consumers of beauty products. Where positive reviews can increase purchase intention, negative reviews can decrease it. Mixed reviews are found to also increase purchase intention, although they are not as effective as positive reviews. What is especially interesting when it comes to mix reviews is that they work best when the amount of reviews is high. It should also be noted that the amount of reviews on its own does not seem to be enough to influence consumers’ intention to purchase beauty products. A high amount of reviews may lead to a higher purchase intention when the reviews are positive or mixed, but when the reviews of a product are negative, consumers are usually not intending to purchase it. The direction of the valence and the amount of reviews a product has, are therefore important factors in consumers’ decision making when it comes to purchasing beauty products.

Furthermore, it could be concluded the expertise of consumers has not been found to influence relationship between review valence and purchase intention as expected. Although a review valence did not lead to a higher purchase intention with low customer expertise, it has shown that it is still influencing the relationship between reviews and consumers’ intention to purchase beauty products. In addition to the expertise of consumers, the involvement of consumers has also not been found to influence the relationship between reviews and purchase intention towards beauty products that was expected. Again, there were some effects found of customer involvement and reviews on consumers’ intention to purchase beauty products. What the exact roles of customer expertise and customer involvement are, are so far unclear and need further investigation, in order to get more insights into the dynamics between consumers, reviews and the intention to purchase beauty products.

Additional research about the roles attitude towards the product, price and brand has also shown that these relationships are more complex than initially thought. In conclusion, this research has found some interesting results about the effects of online consumer reviews on purchase intention, but has also found that there are still many unknown factors. Especially when it comes to the consumers, there are many unknown factors about the dynamics between these consumers, their purchase intention and the reviews of beauty products. This research has therefore raised questions about the roles of these factors, especially the roles of customer expertise and involvement, in the relationship between reviews and purchase intention. Are there unidentified factors that play a role, is it the research context that leads to different results, the consumers thought process or the product type that is even more complex than initially thought? Further research is needed in order to answer these questions.

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Appendices

Appendix A: Results pre-test

Valence of the reviews: Positive reviews

Review nr	Total N	Mean	Stand Dev	Minimum	Maximum
3	27	2.00	.00	2	2
4	27	2.00	.00	2	2
6	27	2.00	.00	2	2
7	27	2.00	.00	2	2
10	27	2.00	.00	2	2
14	27	2.00	.00	2	2
15	27	1.85	.55	0	2
17	27	1.87	.52	0	2

Question: The product review above is... 0= Neutral, 1= Negative, 2= Positive

Number of stars: Positive reviews

Review nr	Total N	Mean	Stand Dev	Minimum	Maximum	Actual nr of stars
3	27	4.92	.28	4	5	4
4	27	4.71	.61	3	5	5
6	27	4.87	.35	4	5	5
7	27	4.33	.62	3	5	4
10	27	4.46	.52	4	5	5
14	27	4.31	.48	4	5	5
15	27	4.85	.55	3	5	5
17	27	4.20	.41	4	5	4

Question: How many stars do you think this reviewer has given this product? (between 1-5)

Valence (nature) of the reviews: Negative reviews

Review nr	Total N	Mean	Stand Dev	Minimum	Maximum
25	27	.85	.38	0	1
27	27	1.00	.00	1	1
29	27	1.00	.00	1	1
31	27	.75	.45	0	1
32	27	1.00	.00	1	1
37	27	.83	.39	0	1
39	27	1.00	.00	1	1
40	27	1.00	.00	1	1

Question: The product review above is... 0= Neutral, 1= Negative, 2= Positive

Number of stars: Positive reviews

Review nr	Total N	Mean	Stand Dev	Minimum	Maximum	Actual nr of stars
25	27	1.62	.65	1	3	2
27	27	1.15	.38	1	2	1
29	27	1.14	.36	1	2	1
31	27	2.42	.51	2	3	2
32	27	1.17	.39	1	2	1
37	27	2.00	.74	1	4	2
39	27	1.36	.63	1	3	1
40	27	1.42	.51	1	2	1

Question: How many stars do you think this reviewer has given this product? (between 1-5)

High volume

	Total N	Mean	Standard Deviation	Minimum	Maximum
Statement 1	27	3.85	.72	2	5
Statement 2	27	1.89	.70	1	3

Statement 1: I consider the total number of reviews to be large (1: Strongly disagree, 5 Strongly agree)

Statement 2: I consider the total number of reviews to be small (1: Strongly disagree, 5 Strongly agree)

Low volume

	Total N	Mean	Standard Deviation	Minimum	Maximum
Statement 1	27	1.81	1.08	1	5
Statement 2	27	4.22	.85	2	5

Statement 1: I consider the total number of reviews to be large (1: Strongly disagree, 5 Strongly agree)

Statement 2: I consider the total number of reviews to be small (1: Strongly disagree, 5 Strongly agree)

Appendix B: Measurements

Purchase intention

Spears and Singh (2004):

- I would definitely order this mascara
- I definitely intend to buy this mascara
- I have a very high purchase interest

Sutanto and Aprianingsih (2016):

- In the future, I will consider this mascara discussed in the online reviews as my first choice
- After reading the reviews about this mascara, my intention to purchase this mascara is high

Attitude

Spears and Singh (2004):

- I find this brand/product type/price appealing
- I find this brand/product type/price good
- I find this brand/product type/price pleasant
- I find this brand/product type/price favourable
- I find this brand/product type/price likable

Review volume

Park et al. (2007):

- The number of reviews is large
- The mascara is very popular
- This mascara is liked by a lot of people
- Many people have posted online reviews about this mascara

Sutanto and Apprianingsih (2016):

- The number of reviews for this mascara indicates that this mascara is popular

Review valence

Purnawirawan et al. (2012):

- Are satisfied with the mascara
- Find the mascara good
- Would recommend the mascara

Sutanto and Apprianingsih (2016):

- Reviewers positively evaluate this particular mascara
- In general, reviewers recommend this particular mascara

Customer expertise

Sharma and Patterson (2000):

- I can understand (almost) all aspects of the beauty product(s) I purchase
- I possess good knowledge of beauty products

Chen et al. (2020):

- I know precisely which beauty product I want
- I can recall the characteristics of this beauty product
- I have enough knowledge to judge the authenticity of this product

Zou et al. (2011):

- I am knowledgeable about beauty products
- I am an expert on beauty products

Customer involvement

Mittal (1995):

- In selecting from the many types and brands of beauty products available in the market, I would say that I care as to which one I buy

Ezgi Ünal

- When selecting beauty products, I am concerned about making the right choice of beauty product
- When selecting beauty products, I am concerned about the outcome of my choice

Lee et al. (2010):

- I choose my beauty products very carefully
- The choice of the right beauty product matters a great deal to me
- Choosing the right beauty product is an important decision for me

Appendix C: Factor analysis

Rotated Component Matrix

Factor	Items	Component							
		1	2	3	4	5	6	7	8
Review Valence	In general, reviewers recommend this particular mascara	.920							
	Most reviewers would recommend the mascara	.917							
	Most reviewers find the mascara good	.917							
	Reviewers positively evaluate this particular mascara	.912							
	Most reviewers are satisfied with the mascara	.878							
Attitude Reviews	What is the overall attitude of these consumer reviews towards this mascara?	.836							
Review Volume	The mascara is liked by a lot of people	.584							.563
Customer Expertise	I am knowledgeable about beauty products	.881							
	I have good knowledge of beauty products	.868							
	I have enough knowledge to judge the authenticity of beauty products	.826							
	I can recall the characteristics of beauty products	.791							
	I am an expert on beauty products	.759							
	I can understand (almost) all features of the beauty product(s) I purchase	.703							
	I know precisely which beauty product I want	.680							
Attitude Price	I find the price favourable				.915				
	I find the price pleasant				.892				
	I find the price likable				.890				
	I find the price good				.884				
	I find the price appealing				.879				
Attitude Brand	I find brand Lancôme good				.840				
	I find the brand Lancôme pleasant				.834				
	I find the brand Lancôme favorable				.801				
	I find the brand Lancôme appealing				.783				
	I find the brand Lancôme likable				.773				

Customer Involvement	The choice of the right beauty product matters a great deal to me		.816	
	Choosing the right beauty product is an important decision for me		.789	
	I choose my beauty products very carefully		.750	
	When selecting beauty products, I am concerned about making the right choice		.733	
	When selecting beauty products, I am concerned about the outcome of my choice		.722	
	In selecting from the many types of beauty products available in the market, I would say that I care as to which one I buy		.626	
Attitude Mascara	I find the Lancôme Lash Idole mascara likable	.368	.752	
	I find the Lancôme Lash Idole mascara pleasant	.401	.741	
	I find the Lancôme Lash Idole mascara favourable	.398	.716	
	I find the Lancôme Lash Idole mascara good	.382	.702	
	I find the Lancôme Lash Idole mascara appealing	.374	.683	
Review Volume	Many people have posted online reviews about this mascara			.862
	The number of reviews is large			.855
	The number of reviews for this mascara indicates that this mascara is popular			.784
	The mascara is very popular	.511		.634
Purchase Intention	My intention to purchase this mascara is high	.452		.697
	I definitely intend to buy this mascara	.484		.678
	I have a very high purchase interest	.516		.660
	I would definitely order this mascara	.536	.312	.616
	In the future, I will consider the mascara discussed in the online reviews as my first choice	.492		.584
Purchase Intention Reversed	(Reversed) Many negative reviews make me choose to seek another beauty brand			.90
	(Reversed) Negative reviews decrease my interest towards this mascara			.89

Online reviews of experience products

Start of Block: Introduction

Dear participant,

Thank you for taking the time to participate in this research. The purpose of this study is to obtain information about various influence factors of online consumer reviews.

This study focuses on people that use make-up or other kinds of beauty products. You must be at least 18 years old to participate in this study. The questionnaire will take about 10 minutes to finish. At first, you will first be asked to fill in your demographics, such as your age, gender and country of residence. If you are eligible to take part in this study, you will be forwarded to the actual questionnaire, in which you will be shown some images and asked a number of questions.

It is important for you to know that participation is completely voluntary and you are able to stop at any time of the experiment if you feel discomfort based on the questions asked. Furthermore, the received data will remain anonymous during the entire study and will not be accessed by any third parties. Your data will be collected and analysed by a student of the University of Twente in correspondence to her master thesis from the Faculty of Behavioural Management and Social Sciences (BMS).

You have the right to submit a request to the researcher to change, delete or adjust your data. For this, or any other questions, please contact enschedegronaustudents@gmail.com

Thank you in advance

Informed Consent I have read the information above and understand and give permission for my anonymous data to be used for academic purposes only

- Yes, I give permission (1)
- No, I do not give permission (2)

Skip To: End of Survey If I have read the information above and understand and give permission for my anonymous data to be... = No, I do not give permission

End of Block: Introduction

Start of Block: Demographics

Ezgi Ünal

Age What is your age?

0 10 20 30 40 50 60 70 80 90 100

70

Skip To: End of Survey If What is your age? [7] < 18

Gender What is your gender?

- Female (1)
- Male (2)
- Non-binary / third gender (3)
- Other, please specify (4)

- Prefer not to say (5)



Country of residence In which country do you currently reside?

▼ Afghanistan (1) ... Zimbabwe (1357)

End of Block: Demographics

Start of Block: Stimuli Product introduction

Please answer the following questions.

Ezgi Ünal

ReadOnlineReviews Do you read online reviews?

- Never (1)
 - Almost never (2)
 - Sometimes (3)
 - Often (4)
 - Very often (5)
-

UseBeautyProducts Do you use beauty products?

- Yes (1)
 - No (2)
-

BuyCosmeticsOnline Do you buy your beauty products online?

- Never (1)
 - Almost never (2)
 - Sometimes (3)
 - Often (4)
 - Very often (5)
 - Always (6)
-

Ezgi Ünal

MascaraUse Do you use mascara regularly?

- Yes, every day (1)
- Yes, I use mascara often (2)
- Yes, but rarely (3)
- No, I don't (4)

Page Break

Next you will see a beauty product and you will be asked some questions about your experience with the product and brand.

Please have a look at the picture below

LancomeLashIdoleUse Have you used this particular mascara before?

- Yes (1)
- No (2)

LancomeExperience Do you have any experience with other Lancôme products? If yes, which product(s) from Lancôme have you used?

- No (1)
- Yes, I have used: (2) _____

End of Block: Stimuli Product introduction

Start of Block: Customer expertise

CustomerExpertise Please rate the following statements

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
I can understand (almost) all features of the beauty product(s) I purchase (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have good knowledge of beauty products (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know precisely which beauty product I want (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can recall the characteristics of beauty products (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have enough knowledge to judge the authenticity of beauty products (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am knowledgeable about beauty products (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am an expert on beauty products (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Customer expertise

Start of Block: Stimuli Positive valence High volume

Please have a look at the product reviews below



Ezgi Ünal

Positive-High

End of Block: Stimuli Positive valence High volume

Start of Block: Stimuli Positive valence Low volume

Please have a look at the product reviews below

Positive-Low

End of Block: Stimuli Positive valence Low volume

Start of Block: Stimuli Negative valence High volume

Please have a look at the product reviews below

Negative-High

End of Block: Stimuli Negative valence High volume

Start of Block: Stimuli Negative valence Low volume

Please have a look at the product reviews below

Negative-Low

End of Block: Stimuli Negative valence Low volume

Start of Block: Stimuli Mixed valence High volume

Please have a look at the product reviews below

Ezgi Ünal

MixHigh

End of Block: Stimuli Mixed valence High volume

Start of Block: Stimuli Mixed valence Low volume

Please have a look at the product reviews below

MixLow

End of Block: Stimuli Mixed valence Low volume

Start of Block: Purchase intention

Now you will be asked some questions about your opinion of the Lancôme Lash Idole Mascara.

PurchaseIntention Please rate the following statements

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
I would definitely order this mascara (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I definitely intend to buy this mascara (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a very high purchase interest (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the future, I will consider the mascara discussed in the online reviews as my first choice (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My intention to purchase this mascara is high (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many negative reviews make me choose to seek another beauty brand (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative reviews decrease my interest towards this mascara (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AttitudeTowardsBrand Please rate the following statements about Lancôme as a brand

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
I find the brand Lancôme appealing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find brand Lancôme good (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the brand Lancôme pleasant (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the brand Lancôme favorable (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the brand Lancôme likable (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AttitudeBeautyProd Please rate the following statements about the Lancôme Lash Idole Mascara

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
I find the Lancôme Lash Idole mascara appealing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the Lancôme Lash Idole mascara good (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the Lancôme Lash Idole mascara pleasant (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the Lancôme Lash Idole mascara favourable (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the Lancôme Lash Idole mascara likable (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



AttitudeTowardsPrice Please rate the following statements about the price of the Lancôme Lash Idole mascara.

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
I find the price appealing (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the price good (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the price pleasant (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the price favourable (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the price likable (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Purchase intention

Start of Block: Review valence

Next you will be asked questions about the product reviews you saw before.

Review Valence Please rate the following statements.

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
Most reviewers are satisfied with the mascara (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most reviewers find the mascara good (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most reviewers would recommend the mascara (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reviewers positively evaluate this particular mascara (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, reviewers recommend this particular mascara (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AttitudeReviews What is the overall attitude of these consumer reviews towards this mascara?

- Completely negative (1)
- Negative (3)
- A mix of both positive and negative (4)
- Positive (5)
- Completely positive (6)

End of Block: Review valence

Start of Block: Review volume

ReviewVolume Please rate the following statements

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
The mascara is very popular (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The mascara is liked by a lot of people (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many people have posted online reviews about this mascara (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of reviews for this mascara indicates that this mascara is popular (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of reviews is large (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Review volume

Start of Block: Customer involvement

Lastly, you will be asked some questions about beauty products in general.



Customer Involvement Please rate the following statements

	Strongly disagree (1)	Disagree (2)	Neither disagree nor agree (3)	Agree (4)	Strongly agree (5)
In selecting from the many types of beauty products available in the market, I would say that I care as to which one I buy (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When selecting beauty products, I am concerned about making the right choice (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When selecting beauty products, I am concerned about the outcome of my choice (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose my beauty products very carefully (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The choice of the right beauty product matters a great deal to me (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choosing the right beauty product is an important decision for me (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Customer involvement

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Start of Block: Questions/Comments

Questions/Comments Do you have any questions or comments?

End of Block: Questions/Comments
