



MASTER THESIS

What you see is what you get

The effect of image style and typing errors of online hotel reviews on purchase intention, helpfulness and trust

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Abstract

Aim: Because customers can only evaluate a hotel experience by visiting the hotel, customers are dependent on online reviews to determine whether a hotel experience is worth purchasing. As recent developments have allowed customers to, besides text, put images into their review, not only the way the review text is written, but also the kind of images that are included in the review can have an influence on the purchase decision process. Thus, the aim of this study is to investigate the effect of image style (in terms of professional images (studio aesthetics) versus amateur images (snapshots) versus no image), as well as the effect of typing errors in online hotel reviews on helpfulness, transaction trust, review trust and purchase intention. *Methods:* In order to investigate the effect of image style and typing errors: no errors versus errors) between-subjects experiment in the form of an online questionnaire was conducted, in which 183 people participated.

Results: The results of the experiment showed that typing errors had a negative effect on all dependent variables. However, for image style, only an effect on purchase intention was found, as images with studio aesthetics showed significant higher purchase intention than snapshots and no image.

Discussion: Although the results on typing errors were in line with previous research and showed the important role typing errors in online reviews play in the purchase decision process, the effects of image style did not meet the expectations. However, because it was showed that image style has an effect on purchase intention, it is essential to consider image style as an important determinant of buying behavior with regards to the hotel business. Furthermore, practical recommendations and suggestions for future research are discussed.

Keywords: online hotel reviews, typing errors, image style, purchase intention, trust.

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1. Introduction

Because of the emergence of technological advancements, the form of online reviews is changing. Recent developments have allowed consumers to provide more and richer information when it comes to online reviews (Wu et al., 2020). Reviews have become more multimedia, as consumers are now able to not only review products through text, but also by uploading pictures, as well as videos (Xu et al., 2015). However, despite the fact that many review platforms, brand websites and social media platforms allow people to include images in their reviews, the influence of these images has only recently received some attention in academic research (Ma et al., 2018). Nonetheless, a study conducted by Zinko and colleagues (2021) showed the importance of images in reviews, as the results of the study concluded that reviews with images as well as text have a larger impact on trust and purchase intention than reviews without images.

The inclusion of images in online reviews is especially important for the hotel industry (Schuckert et al., 2015), because the customer cannot return a hotel experience or test it beforehand (Liu et al., 2020). As consumers develop a perspective on the hotel and the destination by looking at pictures (Trpkovski et al., 2018), visuals, as part of a review, are capable of creating a public image of a hotel, as well as display the experience other travelers had. Moreover, it can be said that images are of great importance to hoteliers, because aesthetically pleasing images result in better customer recognition of the product (Trpkovski et al., 2018). Previous research has shown that images are the most significant factor to influence hotel booking decisions (Negri & Figolo, 2015).

An important difference between the hotel images that are available online, is the variation in style. Next to the professional photos that can be found for instance on a hotel's website, lots of travelers also post their own pictures online. Although the style of these hotel images vary to a great extent, research on images has not investigated the impact of image

style on purchase intention, trust and helpfulness, as often only professional images were used in the research design (Zinko et al., 2021). Yet, this is of great importance, as consumer generated content varies in style to a large extent compared to professional images. Therefore, this study investigates image style by means of making a distinction between professional images that portray studio aesthetics and snapshots that are taken by customers of the hotel.

Next to the image, various characteristics of the review text also play a vital role in the purchase decision process. One of the characteristics that has gained quite some attention in academic research is whether the review contains typing errors or not (Risselada et al., 2018; Cox et al., 2017; Cooper et al., 2020). Previous research has shown that typing errors negatively influence the perceived helpfulness of the review, as well as the trust in the review an ultimately the purchase behavior of the customer (Schindler & Bickart, 2012). One of the reasons for this is that a text that contains typing errors is essentially harder to process, as the readability of such a text is much lower, making the review less helpful (Risselada et al., 2018). Moreover, the author of the review is seen as less conscientious when the text contains typing errors, which reduces the trust in the review (Cox et al., 2017). However, previous research has not taken into account the interplay between typing errors and image style. This gap should be addressed, as it gives more insights into which (combinations of) characteristics of online reviews have an influence on people's buying behavior, as well as their purchasing experience. Furthermore, by taking into account both image and text, this study will better reflect on real life online review experiences (Zinko et al., 2021).

Thus, this study researches the effect of image style on purchase intention, trust and helpfulness by comparing the effect of a review without an image with the effect of a review with an image which portrays studio aesthetics and a review with a snapshot image. Furthermore, the effect of typing errors in reviews on purchase intention, trust and helpfulness

is researched by comparing the effect of reviews with typing errors with reviews without typing errors. The following research question was therefore developed:

RQ: To what extent do typing errors and image style of an online hotel review have an effect on the experience of trust, helpfulness and purchase intention?

By answering this research question, this study contributes to and extents the already existing research on online reviews and will therefore advance the paradigm. Moreover, the results of this study are highly valuable for hotel businesses, as well as for booking and review websites, as it will help them to determine which characteristics of an online review positively effect the purchase behavior of their customers. This, in turn, can be used to, for example, select certain reviews on the basis of their characteristics and give them a more prominent position on the website page. This is also beneficial for the customer, as the results of the study can be used to make reviews more helpful and thus contain more valuable information.

In order to investigate the effect of image style and typing errors, a 3 (image style: snapshot versus studio aesthetics versus no image) by 2 (typing errors: no errors versus errors) between-subjects experiment was conducted in the form of an online questionnaire. The focus in this study is on positive reviews, as previous research has shown that consumers are less likely to post pictures with their reviews if they had a negative hotel experience (Trpkovski et al., 2018). Moreover, it has been found that positive online hotel reviews increase trust and purchase intention (Kusumasondjaja et al., 2012; Sparks & Browning, 2011). Using positive reviews will therefore reveal whether image style and typing errors will increase or decrease trust, purchase intention and helpfulness.

The remaining parts of this paper will elaborate on the conceptual framework and will develop hypotheses. Furthermore, a chapter will be dedicated to explaining the methodology

that is used in order the test these hypotheses. The results of the study will then be showcased, which will be followed by a chapter which discusses these results and a conclusion.

2. Theoretical background

2.1 Introduction

This chapter will define and elaborate on the concepts that are of interest in this study and will therefore develop hypotheses. Firstly, the concepts transaction trust, review trust, helpfulness and purchase intention will be discussed, as well as previous research that has been done on these topics with regards to online reviews. These concepts have played an important role in research on reviews, as they have a large effect on the purchase decision process of customers (Alfina et al., 2014). Therefore, these concepts are also considered to be important outcomes when investigating the effect of typing errors and image style. Secondly, typing errors and image style will be defined and this part will also touch upon various studies related to both concepts. Throughout the chapter, the hypotheses that will be tested are stated. Lastly, at the end of this chapter, a conceptual model will be presented.

2.2 Trust

Trust can be defined as "a party's willingness to accept vulnerability, but with an expectation of confidence that the other party can be relied upon to not take advantage of the trustor" (Bart et al., 2005, p. 134). The concept of trust has often been used as an outcome in research about online reviews (Zinko et al., 2019). The reason for this is that trust has a positive effect on purchase intention (Alfina et al., 2014). It has even been argued that trust is the most important indicator of purchase behavior, because trust indicates the expectation that an organization or service is dependable (Sparks & Browning, 2011). A lack of trust, therefore, can be seen as a barrier, which keeps people from making a purchase online (Wang & Emurian, 2005). This means that when there is no confidence in a person or an organization, the likelihood of a purchase taking place is very small (Wang & Emurian, 2005). Online reviews are thus crucial for the development of trust, as the experiences other customers had can build on the belief whether a person or an organization is trustworthy or not (Sparks &

Browning, 2011). A study done by Tran and Strutton (2020) has for example shown that e-WOM positively influences trust and that trust, in turn, positively impacts customer loyalty.

Moreover, the establishment of trust is especially important for the hospitality industry, as well as other experience goods, in order to reduce uncertainty and risk perception among customers (Cheng et al., 2019). The distinction is often made between search and experience goods, with search goods being a product for which a customer can retrieve information on its quality before purchasing it, such as a computer, and an experience good being a product where one has to purchase it in order to determine its quality, such as a hotel experience (Lee & Choeh, 2016). Because customers can only evaluate a hotel experience by actually visiting the hotel, they are dependent on other informational cues to determine whether a hotel experience is worth purchasing (Cheng et al., 2019). Reviews, as a kind of informational cue, are especially important, because they give customers access to prior service experiences, thus reducing risk and uncertainty and increasing trust in the hotel (Sparks & Browning, 2011).

Whether consumers think that the review actually contains a real prior experience has been found to have a great impact on the establishment of trust. The results of the study by Kim and Kim (2020) for example show that perceived authenticity of online reviews has a significant impact on the development of trust for customers. According to Kim and Kim (2020), the reason for this is that "travelers tend to use the reviews as a cue for assessment not of the users who posted but of the websites that host the users and provide this user-generated information" (p. 772). The extent to which a review is found authentic is therefore used by customers to judge whether a site or service can be trusted.

Previous research on trust in the context of online reviews has discussed different dimensions of trust (Sparks & Browning, 2011; Cheng et al., 2019; Kim & Kim, 2020; Kusumasondjaja et al, 2012; Zinko et al., 2021). Zinko et al. (2021) for example describe the

dimensions transaction trust and interpersonal trust. In the context of reviews, interpersonal trust (also termed party trust (Tan & Thoen, 2000)) describes the trust one has in the person who wrote the review. However, because this study does not focus on the characteristics of the reviewer, interpersonal trust is not within the scope of this research. This study will focus on the other dimension that is discussed by Zinko et al. (2021): transaction trust. Transaction trust is described as "a mental state that determines whether the focal individual has sufficient trust to engage with in a transaction" (Zinko et al., 2021, p. 86). This therefore portrays the trust a customer has to experience in order to commit to a transaction and purchase the hotel experience. Customers who believe that the hotel will deliver on its promises, experience more trust to engage in a transaction with the hotel (Wang & Emurian, 2005). The reason that this dimension is chosen as a focus of this study, is that, logically, transaction trust is essential for customers to eventually purchase a hotel experience, as a customer will not purchase a hotel experience when they do not experience sufficient trust to engage in a transaction with the hotel (Zinko et al., 2021).

The other dimension that is of interest in this study, is described by Ahmad and Guzmán (2020) as message trust. This concept focusses on the extent to which a message is found to be trustworthy. In the context of online hotel reviews, the written review as well as the possibly attached image can be seen as the message that has to be trusted by the customer. In the context of this study, we will continue using the term review trust. Grewal et al. (1994) for instance found that when a message is found to be trustworthy, the perception of product performance risk is lower, which therefore increases purchase intention. By including two different dimensions of trust in the study, we want to see whether differences in image style and typing errors of an online hotel review have a different effect on the trust people have in engaging in a transaction with the hotel and the trust people have in the review itself.

2.3 Helpfulness

Next to trust, review helpfulness has also been a largely studied outcome in the research on online reviews. A helpful review can be defined as "a peer-generated product evaluation that facilitates the consumer's purchase decision process" (Mudambi & Schuff, 2010, p. 186). Review helpfulness has been used as a way to measure how consumers evaluate a review (Mudambi & Schuff, 2010). Many retailers, like for example Amazon.com, already measure this by asking consumers whether they found a review helpful (Cao et al., 2011). As the amount of reviews on some products can cause information overload, the helpfulness voting that many retail sites nowadays offer can facilitate the decision process of consumers, as they see the most helpful reviews first. Therefore, making it easier for consumers to make a purchase decision (Cao et al., 2011).

What is important to note is that the determinants of a helpful review differ for various product categories. As was discussed previously, the difference here is made between search products and experience products. Research has found that the amount of reviews is more important for review helpfulness of experience products, whereas reviewer reputation and extremity has a bigger influence on the perceived helpfulness of reviews of search products (Lee & Choeh, 2016). According to Lee and Choeh (2016), the total number of reviews that a product has represents the amount of information that is available, meaning that a more popular product has more reviews. Because the sellers information that is available on experience goods is often not sufficient to make a purchase decision, the total number of reviews is used in the first stage of the purchase decision process and is used as a cue to determine whether a product is good or not (Lee and Choeh, 2016). So, although many reviews on a product can cause information overload, as previously stated, a large amount of reviews is also a sign of popularity for experience goods and thus probably good quality.

The study done by Mudambi and Schuff (2010) builds on the above mentioned findings from Lee and Choeh (2016), as they found that extremity in reviews is less helpful for experience goods, like hotels. Moreover, the results of their study suggested that research depth is important for the helpfulness of a review, but less for experience goods than for search goods. According to Mudambi and Schuff (2010), the reason for this is that the product type influences the type of information that a customer is looking for. As it is much easier to give a textual description of the quality of a search good than of an experience goods. Furthermore, subjective information is used when deciding to purchase an experience good (as opposed to objective information when purchasing a search good), meaning that less detail is required and thus a shorter review is sufficient (Lee & Choeh, 2016).

2.4 Purchase intention

Purchase intention is a prominent concept in the literature about online reviews (Zhang et al., 2014; Jiménez & Mendoza, 2013) and can be defined as "a consumer's willingness to buy a given product at a specific time or in a specific situation" (Lu et al., 2014, p. 261). Although purchase intention does not directly translate to actual purchase behavior, it still remains important to study the intention to purchase. According to the theory of planned behavior (TPB), intention is a crucial intervening stage between one's attitude and actual behavior (Hassan et al., 2016). In general, it can be said that the stronger the intention is to perform a certain behavior, the more likely it is that one actually executes the behavior (Ajzen, 1991). Despite the fact that intention is not equal to behavior, many studies regarding many types of behaviors have proven the TPB to be reliable, and thus were able to predict behavior through intentions, to some extent (Ajzen, 1991; Gass & Seiter, 2015). In the context of online purchase intentions, a study done by Gu and Wu (2019) has found that intention to purchase was indeed a reliable measure for predicting actual purchasing behavior. Therefore, the

concept of purchase intention will be used in this study as a predictor for actual purchase behavior.

Research has shown that purchase intention is influenced by a variety of different elements (Zinko et al., 2019). Next to brand loyalty, general attitude and word-of-mouth, risk perception plays an important role in the formation of purchase intention. When people do not have sufficient information about a product, which is especially the case for experience products, risk perception is rather high. But by reading online reviews, risk perception can be reduced, thus increasing purchase intention (Zinko et al., 2019). This is closely related to both transaction trust and review trust, as one can argue that when risk perception is reduced, both kinds of trust are increasing. As was mentioned above, previous research has confirmed this link between purchase intention and trust, as it has been found that trust positively influences purchase intention (Alfina et al., 2014). We therefore adopt the following hypotheses:

H1: Transaction trust positively influences purchase intention.

H2: Review trust positively influences purchase intention.

Just like trust, helpfulness has also been found to have an influence on purchase intention. A study done by Filieri et al. (2018) investigated the determinants of review helpfulness and its effect on purchase intention. The outcome of their study did not show a positive relationship between trust and helpfulness, but the study did find that helpfulness has a positive influence on purchase intention. Thus, we hypothesize that:

H3: Review helpfulness positively influences purchase intention.

2.5 Typing errors

Previous research has shown that various characteristics of the text of an online review play an important role in the purchase decision process of consumers. One of the ways in which text has an influence, is by making a review more (or less) helpful. Baek et al. (2012) for example studied review helpfulness in the context of dual process theories and focused on which peripheral and central cues had an influence on the perceived helpfulness of online reviews. According to dual process theories, people process information in two types of ways. When one uses heuristic information processing, they make use of the peripheral route, meaning that they make decisions based on associations they have with certain cues. However, when one uses systematic information processing, they make use of the central route, meaning that they carefully consider all the information that is at hand. Taking the central route therefore takes much more cognitive effort and is much more extensive than the peripheral route (Baek et al., 2012). The results of the study show that when customers are in the stage of evaluation of alternatives, when shopping for a product, they tend to focus on central cues, meaning that when a customer is making a final choice, the content of the review is most important for the helpfulness of the review.

A research done by Korfiates et al. (2012) took into account other review characteristics, and suggested that the word count of a review is not the best predictor of the perceived helpfulness of a review. The results showed that readability had a greater effect on review helpfulness than review length (Korfiates et al., 2012). This was also supported by Li et al. (2020), as they found that reviews with a short length and high readability could achieve the best performance and that overall high text quality could better serve customers and their decision making process. They noted that high readability and a short length of the review helped customers to accurately identify the reviewer's opinion, which aids their purchase decision (Li et al., 2020).

A study done by Cao et al. (2011) also investigated the factors that influence the voting of helpfulness on online reviews with regards to text quality. They took into account basic characteristics (i.e. rating of the product, posting time), stylistic characteristics (i.e. sentence length, number of long words) and semantic features (i.e. the meaning of words). The results showed that all characteristics had a significant influence on helpfulness votes.

As was showcased in the paragraphs above, various characteristics of text have an influence on the helpfulness and thus the purchase intention of the customer (Mudambi & Schuff, 2010; Baek et al., 2012; Korfiates et al., 2012; Li et al., 2020; Cao et al., 2011). However, one characteristic that has also played an important role in the research on the effect of the review text is typing errors. Research has found evidence that typing errors have an effect on the purchase intention of customers. A study done by Akhtar et al. (2020), which was also done in the context of online hotel reviews, considered typing errors in the light of language expectancy theory. Language expectancy theory assumes that language is rule-based and because people create norms for appropriate language use, behavior change occurs when these norms, and thus the expectancy, is violated (Akhtar et al., 2020). As typing errors are a violation of language rules, they have a negative effect on various outcomes. This was also supported by the results of the study by Akhtar et al. (2020), which showed that typing errors indeed have a negative effect on purchase intention. We therefore hypothesize that:

H4: Typing errors in reviews result in lower purchase intention than no typing errors.

Next to purchase intention, trust has also played a role in research on the effect of typing errors in reviews. Cox et al. (2017) for example focused on the effects that typing errors had on perceived credibility of the review and made a distinction between typographical (i.e. mechanical errors, such as mistyping) and orthographical errors (i.e. cognitive errors, misspellings). The results showed that the effect of textual errors on credibility rely on general trust and that consumers with high trust negatively viewed typographical errors, as it showed carelessness, as opposed to orthographical errors, which indicate cognitive ability (Cox et al., 2017). Cox et al. (2017) argue that typing errors indicate a lack of conscientiousness, which is correlated with dishonest behavior. Therefore, a review with typing errors is seen as dishonest and is trusted less than a review that does not contain typing errors. Cooper et al. (2020) had similar results in that they found that typing errors in

online reviews have a negative impact on organizational attraction. The results of the research showed that both negative and positive reviews have a more positive impact when they do not include any errors. As the above mentioned research shows an effect of trust in general, we hypothesize that typing errors have an effect on both transaction trust and review trust:

H5: Typing errors in reviews result in lower transaction trust than no typing errors.

H6: Typing errors in reviews result in lower review trust than no typing errors.

Next to trust and purchase intention, typing errors also have an effect on the perceived helpfulness of a review. According to Risselada et al. (2018) content presentation characteristics, such as typing errors, are important drivers for the perceived helpfulness of online reviews. The reason for this is that typing errors influence the way customers process the information in the reviews, and thus impact the helpfulness of a review. When a review contains typing errors, the readability of the review is much lower, which makes information processing less fluent (Risselada et al., 2018). The study by Risselada et al. (2018) therefore also concluded that typing errors had a negative effect on helpfulness votes. This is in line with the research by Schindler and Bickart (2012), as the results of their study show that "stylistic elements (such as typing, spelling and grammatical errors) were associated with less valuable reviews" (Schindler & Bickart, 2012, p. 234). Therefore, the following hypothesis was constructed:

H7: Typing errors in reviews result in lower helpfulness than no typing errors.

2.6 Image style

Images have proven to be very effective in that they have the ability to catch the attention of a consumer much faster than only text would (Teo et al., 2019). Moreover, images are processed faster than text and are capable of transferring much more information (Zinko et al., 2021). In order to explain how images are able to create more customer engagement than only text can, media richness theory (MRT) can be used (Zinko et al., 2021). According to Daft

and Lengel (1986), communications are considered rich when they "can overcome different frames of reference or clarify ambiguous issues to change understanding in a timely manner" (p. 560). They therewith argue that some media are more effective when transmitting information, as they are able to transmit more context and cues. Because images are able to transmit much more information than text only, images allow reviewers to enrich their review and give a more complete picture of their experience, thus increasing engagement with the reviews (Zinko et al., 2021).

Image style can be defined in various ways. One way in which one can differentiate between image styles is by looking at image quality. When informally defining image quality, Ke et al. (2006) make a difference between professional photos and snapshots, stating that: "we define professional photos as those that would be framed and hung on a wall, and snapshots as those that would stay in a photo album" (p. 419). However, another, more general, definition of image quality is given by Engeldrum (2004): "Image quality is the integrated perception of the overall degree of excellence of an image" (p. 448). In practice, this means that image quality, just as text quality, has various dimensions. According to Ke et al. (2006), a high quality images possess various characteristics. First, high quality images show simplicity in the sense that it is obvious what one should be looking at. This is often not the case for snapshots, as they are often busy and full with clutter. High quality images therefore use color and lighting contrast to let the subject pop out.

Another way in which high quality images differ from snapshots is realism. High quality images can be seen as surreal, because they use much brighter colors and place the subject in unusual settings. This means that high quality images often portray a scene that does not look natural, as one would not encounter it in real life. One might therefore argue that professionally taken pictures are surreal in the sense that they enhance reality.

Lastly, a difference that Ke et al. (2006) found between professional high quality images and snapshots is that overall basic techniques of high quality images are better. Snapshots are much more often blurry, which is a result of poor technique and low quality equipment. However, it is important to note that blurriness and low quality equipment are not representative characteristics of low quality images anymore, as the devices that are used to take pictures have become much more advanced (Tprkovski et al., 2018). Thus, making it unlikely to snap a shot that shows blurriness.

Trpkovski et al. (2018) also addressed several visual features that were used to assess the image quality of online travel pictures. Just as Ke et al. (2006), Trpkovski et al. (2018) assessed image quality by means of brightness, colorfulness and contrast. However, Trpkovski et al also took into account noisiness and sharpness. They describe noisiness as randomly appearing dots in the photo, which is a result of random pixel variation. The results of their analysis of over 10.000 travel images showed that professional pictures of the hotel (which are for example pictures that are posted on the original hotel website) indeed have higher brightness, saturation, contrast and sharpness and less noisiness, thus resulting in higher quality images than those of travelers.

This study will define image style by making a difference between snapshots and studio aesthetics. Snapshots in this sense are pictures taken by customers of hotels, which portray clutter, such as personal belongings, and low contrast and brightness. Images which portray studio aesthetics, on the other hand, show simplicity, high contrast and brightness and are very colorful. These images are taken by a professional and in some sense can be seen as surreal, as the image of the hotel room displays an enhanced version of reality (Ke et al., 2006).

Because previous research has shown that images of high quality (such as studio aesthetic images) result in more positive affective experiences (Colliander & Marder, 2018),

one might argue that images with studio aesthetics result in more engagement than snapshots, and might therefore also result in higher transaction trust, review trust, helpfulness and purchase intention. Teo et al. (2019) validated this, as the results of their study on Instagram marketing show that high image quality positively influenced perceived product quality and purchase intention. This might therefore also be the case for online reviews with images that show studio aesthetics. However, because images in online reviews are often user-generated and therefore informal in nature, studio aesthetics might also reduce trust. According to Colliander and Marder (2018), snapshots therefore "hold greater congruence with the custom of the medium" (p. 35). Because reviews are written by laypeople, it would be expected that the reviews would not include high quality studio aesthetic images. A review containing a studio aesthetic image could therefore reduce the trustworthiness of the review. Previous research confirmed this as well, as it was found that snapshot aesthetics on a brand's Instagram account resulted in higher product recommendation and brand attitudes, as opposed to studio aesthetics (Colliander & Marder, 2018). When taking into account previous research, it can be said that studio aesthetics might disturb trust, helpfulness and purchase intention, as it reduces credibility of the review. Therefore, snapshots are more realistic and can give the customer a better view of the actual hotel quality.

Furthermore, as previous research and MRT have shown that images are able to transfer more information than text, it is believed that including an image in the review has a positive effect on the perceived helpfulness, transaction trust, review trust and purchase intention than a review without an image. This was also shown in the results of the study done by Zinko et al. (2021), as their study showed that reviews with images as well as text have a larger impact on trust and purchase intention than reviews without images. Thus, the following hypotheses have been constructed:

H8: Snapshots result in higher purchase intention than studio aesthetics and no image.

H9: Snapshots result in higher transaction trust than studio aesthetics and no image.

H10: Snapshots result in higher review trust than studio aesthetics and no image.

H11: Snapshots result in higher helpfulness than studio aesthetics and no image.

Furthermore, it is believed that images can decrease the negative effect that reviews with typing errors have on helpfulness, transaction trust, review trust and purchase intention. As this section showcased, images are more easily processed and are able to transfer more information than text only (Zinko et al., 2021). Because reviews with typing errors result in worse processing of information (Risselada et al., 2018), the inclusion of images to reviews with typing errors can decrease the negative effect that reviews with typing errors have on helpfulness, transaction trust, review trust and purchase intention in comparison to reviews which do not include an image (see figure 1):

H12a: The inclusion of an image in the online review decreases the negative effect of a review with typing errors on transaction trust.

H12b: The inclusion of an image in the online review decreases the negative effect of a review with typing errors on review trust.

H12c: The inclusion of an image in the online review decreases the negative effect of a review with typing errors on purchase intention.

H12d: The inclusion of an image in the online review decreases the negative effect of a review with typing errors on helpfulness.



Figure 1: Conceptual framework

The following chapter will touch upon the method that was used to test the hypotheses, as well as the participants that were included in the study. Furthermore, after the methodology is discussed, the results of the study will be showcased. These results will then be discussed in the discussion chapter, followed by a brief conclusion.

3. Method

3.1 Design

In order to examine the effect of image style and typing errors on purchase intention, helpfulness, transaction trust and review trust, an online experiment was conducted. The experiment was done in the form of a 3 (image style: snapshot versus studio aesthetics versus no image) by 2 (typing errors: no errors versus errors) between-subjects experiment. As can be seen in table 1 below, the experiment contains six different conditions, with one review per condition. The questionnaire was created with Qualtrics. In order to test the hypotheses, participants were asked to read and look at mock-up reviews. The reviews were written in the context of a hotel booking site. Therefore, the photos and texts that were included in the reviews concern a hotel experience.

Table 1

Conditions

Condition	Typing errors	Image style
1	Yes	Studio aesthetic
2	No	Studio aesthetic
3	Yes	Snapshots
4	No	Snapshots
5	Yes	No image
6	No	No image

3.2 Stimuli and pre-test

In order to investigate the effect of image style and typing errors on purchase intention, helpfulness, transaction trust and review trust, the mock-up reviews had to be manipulated in two different ways: in terms of text and in terms of image. The following section will discuss how the mock-up reviews were manipulated and how a pre-test was done in order to test the extent to which people recognize the manipulations.

As stated previously, this study manipulates typing errors. The study includes typographical errors, because previous research demonstrated that typographical errors had more impact on credibility than orthographical errors (Cox et al., 2017). Therefore, the reviews with typing errors include various typographical errors (i.e. mechanical errors, such as mistyping) and the reviews without typing errors does not. Each condition is shown the same text, but the texts that are shown to the typing errors conditions, of course, contain typing errors. Thus, aside from the typographical errors, all review texts were identical. It is important to note that all reviews are written in a positive tone, as this study will not take into account the effect of the valence of the review. The main reason for this is that the conditions that would portray the studio aesthetic image with a negative review are not realistic, as the studio aesthetic image portrays a favorable image of the hotel. Therefore, these conditions would not be logical, as a customer who leaves a negative review would not attach a high quality image. Moreover, as mentioned before, it has been found that customers are less likely to attach pictures to their review if they had a negative experience (Trpkovski et al., 2018).

In order to ensure that the reviews are perceived as realistic, existing reviews were analyzed and elements of these reviews were used in the reviews that were written by the researcher. The reviews were presented like on the hotel booking site Booking.com. However, some adjustments to the presentation were made, as the name of the reviewer, the grade that was given and other personal information were removed from the review, in order to make sure that these characteristics did not influence the judgement of the participants. The review was written on the basis of a few requirements. The first requirement is that the review should not be too long. Previous research has found that positive reviews have a much shorter length and are less detailed than negative reviews, as customers use more words to express their

frustrations and anger (Zhao et al., 2019). Moreover, a study done by Cao et al. (2011) found that review helpfulness rapidly declines after a length of 144 words. Next to the length, the review should discuss at least two topics that are often discussed in hotel reviews. According to Mankad et al. (2016), the most discussed topics in hotel reviews are the location, amenities (such as breakfast, wifi, etc.) and experience, for example with regards to the staff. Lastly, the review has to match the attached image to some extent. Therefore, the review should for instance not mention a view that cannot be seen on the picture.

In order to test whether participants recognized the typing errors, a pre-test was conducted among 10 participants. The pre-test was qualitative in nature, meaning that interviews were conducted. During the interviews, participants were asked to look at two texts, with one including typing errors and the other not. Aside from the typing errors, the reviews were identical. The participants were asked to elaborate on the extent to which they view the reviews as realistic and what stands out to them. Moreover, participants were asked to compare the stimuli and point out the differences they recognize. Participants were also asked to think about what kind of person wrote the review and took the picture (all questions can be found in appendix A). The results of the pre-test also showed that the text with the typographical errors was not seen as realistic, as it contained too many typing errors. The review was therefore adjusted by reducing the amount of typing errors in the text. Figures 2 and 3 below are the adjusted reviews that were eventually used in the questionnaire. Reviewed: February 23, 2020

Very satisfied

⊙ The location is just perfect. Most of all the important spots in the city are easily reachable by foot, but the hotel is also very close to a metro station. Lots of shops and restaurants are nearby too. The room was as clean as it can be and the beds were comfortable. We slept amazing, as the rooms were not noisy at all. The breakfast was also amazing! There was a great variety of delicious food which changed every day. The staff was very friendly and helpful during the check-in, as well as during the stay and check-out. I would highly recommend this hotel and I would definitely visit this hotel again whenever I return to the city.

⊙ · Nothing at all

🌢 Helpful 🛛 🐢 Not helpful

Figure 2: Review without typographical errors

Reviewed: February 23, 2020

Very satisfied

⊙ The location is jsut perfect. Most of all the importnt spots in the city are easily reachable by foot, but the hotel is also very close to a metroo station. Lots fo shops and restaurants are nearby too. Thw room was as clean as it can be and the beds were comfrtable. We slept amaazing, as the rooms werent noisy at all. The breakfast was also amazinf! there was a great variety of deliciuos food which changed every day. The staff was very friendly and helpful during the checkin, as well as during the stay and the checkout. I would highly recommmend this hotel and I would definitely visit this hotel again whenever I return to the city.

😟 · Nothing at all

🏚 Helpful 🛛 🐢 Not helpful

Figure 3: Review with typographical errors

In order to manipulate image style, two types of images were included. The image with the studio aesthetics is a professionally taken picture that can be found on the hotel's website. Thus, an image of an existing hotel from the hotel's website or from a booking platform was used. As stated by Ke et al. (2006), this professional picture is high in contrast, colorfulness and brightness and is sharp without noise. The image shows a clear and clean picture of a hotel bedroom, meaning no clutter such as personal belongings or an unmade bed is visible (see figure 4 below). The snapshot image is a picture that can be perceived as taken by a customer of the hotel. This picture was taken from the review section of a hotel booking website and corresponds with the studio aesthetics image. The sharpness and noise in this picture were not manipulated and are of rather high quality, as the devices that capture images nowadays are more advanced because of technological developments (Trpkovski et al., 2018). However, the contrast, colorfulness and brightness is much lower, resulting in an overall lower quality image. Moreover, Ke et al. (2006) mentioned that snapshots often include more clutter. Therefore, the snapshot picture of the hotel bedroom shows some personal belongings as well as a not as neatly made bed (see figure 5 below for an example). Both images were taken in the daylight and consist of the same elements of the hotel room (both pictures show the whole bed for example), in order to allow for better comparison.

During the before mentioned pre-test, participants were also asked to look at four sets of images including one studio aesthetic image and one snapshot image from four different hotels in order to determine whether they recognized the different image styles (see appendix B). Participants were asked the same kinds of questioned as for the review texts, meaning they were asked what differences they recognized and what kind of person they thought the picture took. Moreover, the participants were asked to choose one set of images that represented the snapshots and studio aesthetics the best, according to them. The results of the pre-test showed that participants recognized the difference between the snapshot image and the studio

aesthetic image. Figure 4 and 5 below were found to best represent the studio aesthetic and the snapshot aesthetic according to 7 out of the 10 participants. This is therefore the set of images that was also used in the questionnaire. In appendix C an example can be found of how the stimuli for one condition were showcased in the questionnaire.



Figure 4: Studio aesthetic image of the hotel room 1



Figure 5: Snapshot image of the hotel room 1

3.3 Procedure

This section will describe the exact procedure that participants went through during the online experiment. When participants entered the questionnaire, they were first briefed about the purpose of the study, as well as how participating was entirely voluntarily and anonymous. After the participants checked a box with which they gave consent to participate, participants got some demographical questions, such as their gender and educational level. Then they saw a short text in which they were asked to imagine that they were looking for a hotel, because they were planning a trip to Prague. Moreover, it was explained to the participant that information about the reviewer (such as their name), as well as the grade they gave, was removed from the review, because of privacy concerns. Participants were asked to carefully read the review and look at the picture (if they were given the condition that included a picture). Then each participant saw one of the six conditions, meaning they saw a review text with or without typing errors and without an image or with an image with snapshot or with studio aesthetics (see appendix C for an example). After looking at the review, the participants were asked to what extent they agreed to various statements, first regarding purchase intention, then regarding review helpfulness, review trust, transaction trust and lastly authenticity. The survey ended with two questions regarding the extent to which participants use reviews to make purchase decisions and a manipulation check. The manipulation check asked two questions about whether the text contained typing errors, one questions to ask whether they saw an image and if they did, two questions about whether they saw a snapshot or a studio aesthetic image. Lastly, participants were thanked for their participation in the research.

3.4 Participants

A total amount of 238 participants were collected for this study. A convenience sample was used to recruit participants, meaning that the questionnaire was distributed via various

channels, among which e-mail, WhatsApp, LinkedIn, etc. Because everyone above 16 is a potential consumer of hotel experiences, no other limitations were set in place to filter participants. As it was believed that this sampling technique would result in a wide variety of nationalities, the questionnaire was written in English.

After a first inspection of the dataset, it became clear that a significant amount of participants had left more than 4 questions blank. For this reason a total of 54 participants were removed from the dataset. Moreover, one more participant was deleted from the dataset, as they were underage. Therefore, a total amount of 183 participants were used for analysis. The distribution of the participants among the conditions is equal, as each group contains about 30 participants. Table 2 below shows the demographic information of the respondents that were included in the dataset.

Table 2

			Group1		Group 2 Gro		Group 3 Group 4			Group 5			Group 6						
		Ν	%	М	Ν	%	М	Ν	%	М	N	%	М	Ν	%	М	Ν	%	М
Age				26.7			28.9			30.6			28.4			29.3			29.6
Gender	Male	14	45.2		9	28.1		9	29		10	37		9	28.1		6	20	
	Female	17	54.8		22	68.8		22	71		17	63		23	71.9		24	80	
	Non binary	0	0		1	3.1		0	0		0	0		0	0		0	0	
Level of education																			
	Elementary school	1	3.2		0	0		2	6.5		0	0		0	0		0	0	
	High school	7	22.6		8	25		2	6.5		2	7.4		1	3.1		4	13.3	
	Vocational education	5	16.1		4	12.5		4	12.9		5	18.6		6	18.8		5	16.7	
	Bachelor's degree in college	4	12.9		5	15.6		10	32.3		6	22.2		7	21.9		3	10	
	Bachelor's degree in	8	25.8		11	34.4		8	25.8		8	29.6		8	25		10	33.3	
	university Master's degree	6	19.4		4	12.5		3	9.7		6	22.2		10	31.3		8	26.7	
	Doctoral degree	0	0		0	0		2	6.5		0	0		0	0		0	0	
Total		31	100		32	100		31	100		27	100		32	100		29	100	

Demographical information per condition

Note: M - mean value.

Group 1 - typing errors, studio aesthetics, Group 2 - no typing errors, studio aesthetics, Group 3 - typing errors, snapshots,

Group 4 – no typing errors, snapshots, Group 5 – typing errors, no image, Group 6 – no typing errors, no image

To test whether there were any significant differences between the groups for age, gender and educational level, three ANOVA tests were performed. The results of the test showed that age (F(5, 176) = 0.39, p = .858), as well as gender (F(5, 177) = 1.10, p = .361) and educational level (F(2, 177) = 1.21, p = .306) were not significantly different for each group. Therefore, it can be concluded that all groups have similar demographics.

3.5 Measures

Next to general demographical information (such as gender, age and experience with review sites), the dependent variables purchase intention, helpfulness transaction trust and review trust were measured.

In order to measure purchase intention a combination of the scale used by Bian and Forsythe (2012), who adopted it from Dodds, Monroe, and Grewal (1991), and the scale from Sharma et al. (2021) was used. A total of six items were included in the questionnaire to measure purchase intention (see appendix D for an overview of all items). A five-point Likert scale was used. An example of an item is: "If I were going to book a hotel, I would consider booking this hotel."

To measure helpfulness both the scale by Sen and Lerman (2007) and the scale by Wu (2013) was used. Five items were included in order to measure the helpfulness of the review. Again a five-point Likert scale was used. One of the items that was used is: "This review would aid my purchase decision."

To measure both transaction trust and review trust a new scale was developed, which was inspired by the scales of Ohanian (1990), Bart et al. (2005) and Sparks and Browning (2011). Six items were constructed for review trust, and four items for transaction trust. All items used a five-point Likert scale. For review trust an item that was used is: "This review is sincere". An example of an item that was used for transaction trust is: "I have confidence in purchasing this hotel experience." Next to the above mentioned scales that are part of the conceptual framework, the decision was made to measure the concept of authenticity. The choice was made to add an authenticity scale, because authenticity is highly related to review trust. As was briefly discussed in the theoretical framework, a study done by Kim and Kim (2020) showed that perceived authenticity of an online review has a significant impact on the development of trust. Therefore, by measuring authenticity, it might be the case that some of the effects that will be found during the statistical testing can be explained by authenticity. In order to determine whether the reviews were perceived as authentic, a scale by Banerjee and Chua (2021) was used. This scale consists of four items. All items were measured with a five-point Likert scale. An example of an item is: "This review is a genuine account of a post-trip experience".

Lastly, a manipulation check was set in place, in order to determine whether the participant recognized the condition they were in. This check consists of five questions in total in which the participant was asked two questions about whether heir review contained typing errors and one question to ask whether their review contained an image. If they answered yes to the question whether review contained an image, they were asked two questions about whether they found the image professional looking or if it looked like it was taken by a customer.

3.6 Validity and reliability of the measurements

A confirmative factor analysis was conducted to establish the validity of the measurements. Prior to the factor analysis, the suitability of the data for factor analysis was assessed. As the KMO value was above .06 (KMO = .95) and Bartlett's Test of Sphericity was significant (X^2 (276) = 3906.90, p < .001), it was shown that the data was suitable for a factor analysis. The factor analysis was performed with varimax rotation on a total of 25 components. A fixed number of 5 components were extracted, as existing scales were used in the study. Not all items loaded cleanly into the constructs they were supposed to measure, as authenticity and review trust loaded into the same component. This makes sense, as the constructs are highly related. However, the decision was made to not merge them into one component, as authenticity and review trust were used for different analysis later on. Moreover, one of the items from transaction trust (number 4) loaded very low. A possible explanation for this is that the item was the only reversed item in the scale, meaning that participants possibly looked over the questions and answered them the same as the others. Although the item was reverse coded, it loaded very low, so the decision was made to remove the item from the scale. After removing the item and performing the factor analysis again, all items loaded above .5, meaning that all factors are strong and form one component, therefore confirming the validity of the constructs.

After all items were merged into their respective constructs, the Cronbach's Alpha was calculated in order to assess the internal consistency of the constructs and therefore the reliability of the measurements. The results showed that all values were satisfactory, as they are all above .7. It can therefore be stated that the constructs are internally consistent and reliable. Table 3 below shows the outcome of the factor analysis, as well as the Cronbach's Alpha for each construct.

Table 3

				(Comp	onent	
Constructs		α	1	2	3	4	5
Purchase	If I were going to book a hotel, I would consider	.93		.70			
Intention	1 booking this hotel.						
	2 I would recommend this hotel to my friends and			.52		.56	
	family.						
	3 My willingness to book a room in this hotel would			.75			
	be high if I were shopping for a hotel.						
	4 I would probably choose this hotel over other			.74			
	hotels in the same area.						
	5 I predict that I would buy this hotel experience if I			.71			
	am looking for a hotel in the future.						
	6 If I were going to book a hotel, I would consider			.72			
	booking this hotel.						
Helpfulness	1 I would consider this review to be useful.	.90			.65		
	2 This review helps me to make a decision about				.78		
	booking this hotel.						
	3 I think this review is informative.		.42		.64		
	4 I would use this review when making a decision				.74		
	for a hotel.						
	5 This review would aid my buying decision.				.79		
Review Trust	1 This review is reliable.	.93	.67		.43		
	2 I believe this review to be trustworthy.		.72				
	3 I think this review is dependable.		.42	.61			
	4 This review is sincere.		.74				
	5 I have confidence in this review.		.63		.46		
	6 Overall, I think this review is believable.		.63		.45		
Transaction	I have confidence in buying this hotel experience.	.89				.62	
Trust	1						
	2 I would experience enough trust to book this					.60	
	hotel.						
	3 If I would book this hotel, I believe it would		.49			.55	
	deliver on its promises.						
	4 I would not feel confident engaging in a						95*
	transaction to buy this hotel experience.						
Authenticity	1 The review is a genuine account of a post-trip	.90	.81				
	experience.						
	2 The review is written after a stay in the hotel.		.70				
	3 The review is an honest description of a stay in		.79				
	the hotel.		<i>.</i> .				
	4 Overall, I think this review is authentic.		.84				

Results of the second factor analysis with varimax rotation and reliability analysis

* Deleted item from the transaction trust scale

4. Results

In order to test the hypotheses and investigate whether image style and typing errors have an effect on purchase intention, transaction trust, review trust and helpfulness of the review, statistical tests were performed via SPSS. This section will discuss and showcase the results from the linear regression analysis, as well as the MANOVA and ANOVA that were performed.

4.1 Manipulation checks

In order to check whether the participants recognized the manipulation of the various conditions, a manipulation check was included in the questionnaire. With yes or no questions the participants were asked whether their review contained typing errors and whether it contained an image. If they answered that their review contained an image, they got two questions about whether they thought the image looked professional.

The spelling error manipulation was recognized quite well. From the people who were in the spelling error condition, 81.9% answered no to the question "The text I read was well written". 84.3% of the participants who were in the no spelling error condition answered yes to this question. The percentages for the question "The text I read contained typing errors" were similar. It can therefore be concluded that the spelling error check was recognized by a majority of the participants and was therefore successful.

Just like the spelling error manipulation, the image style manipulation was recognized by the participants. However, the studio aesthetics were recognized a bit better than the snapshot aesthetics. From the people who were in the studio aesthetics condition, 93.3% of the participants answered yes to the question "The image I saw looked professional". 85% of this group answered no the question "The image I saw looked like it could have been taken by a customer". The percentages of right answers of the group who was in the snapshot

aesthetics condition was a bit lower, as 61.8% of this group said their picture did not look professional.

In order to check whether the manipulation was indeed effective, a Chi-square test was conducted. The results of the Chi-square test show that the manipulations for typing errors $(X^2(10, N = 183) = 117.43, p < .001)$, as well as for image style $(X^2(10, N = 127) = 96.61, p < .001)$ were effective. The *p* value under .001 shows that both the image style and spelling error variables are dependent on the condition that the participants were in. No participants were therefore removed from the dataset if they answered the manipulation check questions wrong.

Next to the manipulation checks, an ANOVA test was conducted to see whether there was a significant difference between the time the participants from each condition took to look at the reviews. The results from the test showed that there was no significant difference between the groups, with no main effect for typing errors (F(1,177)=3.44, p = .065) or for image style (F(2,177)=0.28, p = .788). This might be explained by the standard deviations, as they are rather high (as can be seen in table 4 below), meaning that the data is spread widely and the differences within the groups are very large. After looking at the boxplot of the time participants took to look at the reviews, it became clear that there were quite some outliers in the dataset, which explains the high standard deviation. After taking out the outliers, there was a significant effect for typing errors (F(1,66)=6.01, p = .015), but not for image style (F(2,166)=0.67, p = .512). This means that, without taking into account the outliers, people with typing errors looked significantly longer at the reviews, which is in line with previous research which noted that typing errors are harder to process (Risselada et al., 2018).

Table 4

		Mean	Std. Deviation
Image condition	Text condition	(in sec)	(in sec)
Studio aesthetics	Typing errors	35.64	34.53
	No typing errors	30.10	30.61
	Total	32.83	32.45
Snapshot	Typing errors	35.22	25.73
	No typing errors	28.68	27.69
	Total	32.17	26.63
No image	Typing errors	50.11	90.22
	No typing errors	24.49	21.49
	Total	37.71	67.25
Total	Typing errors	40.43	57.97
	No typing errors	27.78	26.74
	Total	34.28	45.86

Descriptive statistics of time each condition looked at the review (with outliers)

4.2 Hypothesis testing

In order to test the hypotheses and investigate the effects that occur in the conceptual model, linear regression, as well as various ANOVAs and a MANOVA were conducted. The following section will describe the statistical tests that were performed and their outcomes.

First a linear regression was conducted in order to look at the effects of image style and typing errors, as well as helpfulness, review trust and transaction trust on purchase intention. By putting all variables into one linear regression, it can be determined which variables have an effect on purchase intention and which variables have the largest influence on purchase intention. The overall model of the linear regression was (F(5, 182) = 66.39, R^2 = .65). The results of the linear regression show that helpfulness (p = .001, b = .24), review trust (p < .001, b = .31), transaction trust (p < .001, b = .31), and typing errors (p = .028, b = .11) were significant, therefore showing an effect on purchase intention. Image style (p = .732, b = .02), on the other hand showed no significant results and therefore did not have a main effect on purchase intention. When looking at the reported standardized beta coefficients, it can be seen that those are the highest for transaction trust and review trust. This means that those variables have the largest influence on purchase intention, followed by helpfulness and lastly typing errors. We can therefore already conclude that hypotheses 1, 2 and 3 are supported.

Because the R-squared value is rather high, it was checked whether there is multicollinearity. By checking on multicollinearity, it was tested whether there is similarity between the independent variables. The results indicated that multicollinearity is not a concern, as all VIF values are between 1 and 2.72 (Helpfulness, Tolerance = .39, VIF = 2.55; Transaction trust, Tolerance = .51, VIF = 1.97; Review trust, Tolerance = .37, VIF = 2.72; Image style, Tolerance = .99, VIF = 1.00; Typing errors, Tolerance = .88, VIF = 1.14). Therefore, none of the independent variables are highly correlated with each other.

In order to test whether there is a direct effect of image style and typing errors on purchase intention, an ANOVA was conducted. The results of the ANOVA show that there is a significant effect for both typing errors (F(1, 182) = 24.57, p < .001) and image style (F(2, 182) = 5.07, p = .003) on purchase intention. No interaction effect was found (F(1, 182) = 1.08, p = .343). These results show that both the image style and typing errors in the reviews have an effect on the purchase intention of the participants. So, although image style did not have a significant effect when all other variables were taken into account, the results of the ANOVA show that there is a significant direct effect of image style on purchase intention. This can also be seen in figure 6 below, as the figure shows the differences in means between the conditions for purchase intention. It can therefore be concluded that hypothesis 4 is supported.

To determine which image style groups had a significant difference on purchase intention, Tukey's HSD Post Hoc test was conducted. The results of Tukey's test show that there is a significant difference between studio aesthetic images (M = 3.68, SD = 0.78) and snapshot images (M = 3.23, SD = 0.95), with a *p* of .007, as well as between snapshot images

and no images (M = 3.73, SD = 0.85), with a *p* of .003. However, no significant difference was found between studio aesthetic images and no images as the *p* value was .943. Furthermore, when looking at the means of the image groups for purchase intention, it is surprising to see that the mean for snapshot images is lower than the mean for studio aesthetics and no image, as this indicates that people who saw a snapshot image had lower purchase intentions. It can therefore be concluded that hypothesis 8 is not supported.



Figure 6: Differences in means of purchase intention in each condition

Next, a MANOVA was performed in order to test whether image style and typing errors had an effect on transaction trust, review trust and helpfulness. To test for the homogeneity of variances, the Box's M test was evaluated. Because it was not significant (35.69, F = 1.14, p = .275), the assumption of homogeneity was not violated, and it was safe to use Wilk's Lamda. The MANOVA test showed that there was a main effect for typing errors (F (3, 175) = 8.04, p < .001; Wilk's $\Lambda = 0.88$, partial $\eta^2 = .12$), but not for image style (F (6, 352) = 0.43, p = .860; Wilk's Λ = 0.99, partial η^2 = .01). Moreover, no interaction effect was found (F (6, 352) = 0.73, p = .628; Wilk's Λ = 0.98, partial η^2 = .01). This means that there is only a main effect of typing errors. When looking more closely at the test of betweensubjects effects, which can be seen in table 5 below, one can see that the significant effect for typing errors applies to all dependent variables, meaning it has an effect on helpfulness, transaction trust and review trust. Therefore, hypotheses 5, 6 and 7 are supported, but hypothesis 9, 10 and 11 are not supported. Moreover, as no interaction effects were discovered in either the ANOVA or MANOVA test, hypotheses 12a, 12b, 12c, and 12d are not supported. In table 6 at the end of this chapter, an overview of all hypotheses can be found.

Table 5

— .	(1.	<u> </u>	C		
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10313	$\mathcal{O}I$	Derween-	Subjects	enecis		ivping	CITUIS
			,	JJ J		1 0	

	Dependent Variable	df_1	df_2	F	р
Typing errors	Transaction trust	1	177	16.81	.000
	Review trust	1	177	9.57	.002
	Helpfulness	1	177	20.83	.000

4.3 Additional testing

Next to the statistical tests that were performed to determine whether the hypotheses were supported, some additional analyses were done. A mediation analysis for typing errors was performed, in order to investigate whether helpfulness, transaction trust and review trust mediate the effect of typing errors on purchase intention. In order to investigate the mediation, the traditional method by Kenny and Baron (1986) was used. This method assumes that there are four different steps in order to prove mediation. The first step is to prove a significant effect between the independent and the dependent variable. The ANOVA that was performed

above showed that this was indeed the case, as typing errors had a significant effect on purchase intention. Next, a significant effect of the independent variable on the mediator variable has to be showcased. This was also the case in the MANOVA test, which showed that typing errors had a significant effect on helpfulness, transaction trust and review trust. Then, the effect of the mediator variable on the dependent variable has to be proven, which was done in the first regression analysis, which showed that helpfulness, transaction trust and review trust have a significant effect on purchase intention. As those three relationships have all shown to be significant, the model can be used for mediation analysis.

In the last step of the Kenny and Baron method (1986), it is checked whether mediation is actually occurring. This was done by putting all variables into a linear regression together with purchase intention as the dependent variable. The results of the linear regression still showed a significant effect of helpfulness (F(4, 183) = 83.74, p = .001, $R^2 = .65$ B = .24), transaction trust (F(4, 183) = 83.74, p < .001, $R^2 = .65$ B = .31), review trust (F(4, 183) = 83.74, p < .001, $R^2 = .65$ B = .31), and typing errors (F(4, 183) = 83.74, p = .028, $R^2 = .10$ B = .24), meaning that full mediation was not occurring. However, by looking at the Beta coefficient, it is clear that there was partial mediation, as the Beta in the regression between typing errors and purchase intention was .60 and went to .18 in the regression with the other independent variables. Figure 7 below shows the mediation for helpfulness.



Figure 7: Mediating effect of helpfulness on purchase intention

As the results of the linear regression showed partial mediation, a follow up analysis was done in which authenticity was also taken into account. The reason for this is that authenticity might also mediate the effect and by adding it into the regression, full mediation might occur. However, after taking steps one to three from the Kenny and Baron (1986) method, it became clear that authenticity was not a mediator, as there was no significant effect of typing errors on authenticity (F(1, 182) = 2.60, p = .109, $R^2 = .01$ b = .12). Therefore, authenticity could not be used to get full mediation.

Another additional analysis was done in order to see whether image style had an effect on authenticity. A regression analysis was also used for this. The results of the analysis showed that image style (F(1, 182) = 0.14, p = .705, $R^2 = .01$ b = -.03), just like typing errors, did not have an effect on the extent to which participants believed the review to be authentic. Moreover, linear regression was used to test whether authenticity had an effect on purchase intention, helpfulness and transaction trust. The regression analysis showed that authenticity influences purchase intention (F(1, 182) = 94.31, p < .001, $R^2 = .34$ b = .59), as well as helpfulness (F(1, 182) = 99.36, p < .001, $R^2 = .35$ b = .60) and transaction trust (F(1, 182) = 89.88, p < .001, $R^2 = .33$ b = .58). The effect of authenticity on review trust was not measured, as they loaded into the same component in the factor analysis, meaning they are almost measuring the same construct.

Table 6

Number	Hypothesis	Results
H1	Transaction trust positively influences purchase intention.	Supported
H2	Review trust positively influences purchase intention.	Supported
H3	Review helpfulness positively influences purchase intention.	Supported
H4	Typing errors in reviews result in lower purchase intention than no typing errors.	Supported
H5	Typing errors in reviews result in lower transaction trust than no typing errors.	Supported
H6	Typing errors in reviews result in lower review trust than no typing errors.	Supported
H7	Typing errors in reviews result in lower helpfulness than no typing errors.	Supported
H8	Snapshots result in higher purchase intention than studio aesthetics and no image.	Not supported
H9	Snapshots result in higher transaction trust than studio aesthetics and no image.	Not supported
H10	Snapshots result in higher review trust than studio aesthetics and no image.	Not supported
H11	Snapshots result in higher helpfulness than studio aesthetics and no image.	Not supported
H12	The inclusion of an image decreases the negative effect of a review with typing errors on all dependent variables.	A, b, c, d: not supported

Summary of the tested hypothesis and the results.

5. Discussion

This section will discuss the results of the experiment and will try to explain the results. Moreover, this section will go over the practical and theoretical implications of this paper by elaborating on the contributions it can make to science as well as to businesses. Lastly, this section will go over the limitations of this study and will make some recommendations for future research.

5.1 Discussion of the results

The main purpose of this study was to investigate how the inclusion of typing errors and images have an effect on the purchase intention of customers, as well as on the perceived helpfulness of the review and the transaction and review trust of the customer. This section will discuss the outcomes of this study.

5.1.1 Typing errors

The results of this study show that typing errors have a statistically significant effect on all independent variables that were of interest in this study. It was therefore proven that the inclusion of typing errors has a negative effect on purchase intention, as well as on helpfulness, transaction trust and review trust. This was in line with the constructed hypotheses, as it was expected that typing errors would reduce the purchase intention of the customer, as well as decrease the helpfulness of the review and the review trust and transaction trust that the customer experiences. One can argue that typing errors therefore have a significant impact on the customer experience, as they impact the decision making process of customers. Because this study showed a significant impact of typing errors on purchase behavior, badly written reviews can ultimately make or break a purchase.

However, as was shown by the mediation analysis, the effect of typing errors on purchase intention can be partly explained by helpfulness, transaction trust and review trust. This means that because typing errors reduce transaction trust, review trust and helpfulness, purchase intention is eventually reduced. This was also in line with previous research, as it was found that usefulness and trust are predictors of the behavioral intention to shop online (Cho & Sagynov, 2015). Helpfulness, transaction trust and review trust can therefore be used to explain why typing errors ultimately have an impact on purchase intention.

As the results of this study also showed that both transaction trust and review trust had the largest influence on purchase intention, it can be said that the establishment of trust is essential in order for customers to purchase. This can be explained by the way in which trust reduces perceived risk. When trust is established, customers feel less uncertainty and risk and feel more secure to purchase (Sparks & Browning, 2011). Typing errors play a role in this, as they can reduce the trust by making the review writer seem less conscientious, which is correlated with dishonesty (Cox et al., 2017).

However, another plausible explanation for this might be that typing errors are an indication of a fake review. Because fake reviews are written constantly, with no time to proof read, typing errors are often seen as an indication of a fake review, which in turn reduces trust (Cox et al., 2017). This was also found in a study done by Ong et al. (2014), in which the linguistic characteristics of fake reviews were studied. The findings of the study suggest that readability is much lower for fake reviews, meaning that it takes much more effort to read a fake review than a real one. Moreover, as was also noted by Ong et al. (2014), readability of the review has also been used to detect fraud in reviews. As typing errors result in lower readability, it might be the case that typing errors are an indication of a fake review. However, the results of this study are not in line with this, as it was shown that typing errors do not affect perceived authenticity of the review, meaning that a review without typing errors was not found to be significantly more authentic than a review with typing errors. If participants did perceive a review with typing errors as a fake review, it would be logical for the authenticity scores to be much lower.

Furthermore, typing errors reduce the helpfulness of the review. An explanation for this is that typing errors make it much harder to process information, which reduces the readability of the review (Risselada et al., 2018). When the review is harder to read, it is likely for a customer to not take it into account in their decision process, as it takes too much effort to go through it. This is in turn effects purchase intention, as a series of badly written reviews on a product cannot help a customer to determine whether the product is of good quality, which might make them turn to another product with more helpful reviews (Schindler & Bickart, 2012).

A more general explanation of why typing errors have an influence on all variables, is because they violate the expectancy of appropriate language use. This is explained by the language expectancy theory, which states that language is rule-based and people create certain norms for language use (Akhtar et al., 2020). Any violation of those rules is a violation of people's expectancies, which in turn causes behavior change (Akhtar et al., 2020). So, when a review contains typing errors, it violates general language rules. This in turn has a negative impact on helpfulness, transaction trust, review trust and purchase intention, which was also supported by the study by Akhtar et al. (2020).

5.1.2 Image style

Unlike the outcomes of the effect of typing errors, the effects of image style did not meet the expectations that were established prior to the experiment. None of the constructed hypotheses were supported, as no effect was found of image style on helpfulness, transaction trust and review trust. However, a main effect was discovered for image style on purchase intention, but this still did not meet the expectations. It was found that purchase intention was the lowest for the snapshot condition, although it was believed that this condition would result in the highest purchase intentions. One of the possible explanations for this outcome might be that, although snapshots portray a realistic image of the hotel room, snapshots also show a less

favorable version of the hotel. As personal belongings and less aesthetically pleasing lighting are all part of the snapshot image style, they portray the hotel room in a way that might not be preferred by possible customers. This was also the outcome of a study done by Teo et al. (2019), as they found that high image quality influenced perceived product quality and therewith purchase intention.

Although previous research showed that the presence of an image in a review had positive effects on trust and purchase intention (Zinko et al., 2021), the results of this study showed that purchase intention was higher for the reviews with no image than for the reviews with a snapshot image. A possible explanation for this effect, that builds upon the above described elaboration on snapshot images, might be that a positive review with a snapshot image shows a less favorable version of the hotel than the review without the snapshot image. As the snapshot image might be prove of lower quality of the hotel, a positive review without an image can be seen as more positive representation of the hotel. A review that does not have an image speaks to the imagination, as it allows the customer to imagine the hotel in a favorable light. When connecting this to Media Richness Theory, one can argue that although images are able to provide more context and information, this increase in context might not always be in favor of the hotel, as (snapshot) images do not always show the most flattering picture.

Furthermore, one might argue that the way in which the manipulations were designed can be the cause of this effect. Because people only see one review of the hotel, they do not have any other information to relate the review to. It might be the case that when people did have the chance to look at the professional hotel pictures that are part of the hotel booking site, they might appreciate the snapshot images more, as they give a more complete picture of what the hotel actually looks like. When the studio aesthetic images of the hotel room seem too good to be true, the experienced helpfulness and trust of the snapshot image might be

much higher, as it shows that the hotel does (or does not) actually look like the professional pictures.

5.2 Theoretical implications

The results of the study, with regards to typing errors, have shown to be in line with previous research. This study therefore builds on previous research and has confirmed earlier findings. The findings by Cox et al. (2017) on typographical errors for example also showed that typing errors have an effect on trust. Moreover, it is in line with the findings on typing errors in relation to helpfulness, as this study confirmed the findings of Risselada et al. (2018), that typing errors have a significant effect on the perceived helpfulness of the review. Furthermore, the findings on typing errors support the language expectancy theory, as violation of linguistic rules, by means of typing errors, resulted in change of purchase intention, transaction trust, review trust and helpfulness.

With regards to the findings on image style, it can be said that the results of this study do not go hand in hand with the findings of previous studies. Although image style had an effect on purchase intention, no such effect was found for transaction trust, review trust and helpfulness. These findings therefore are in contrast with previous findings that the inclusion of images increases trust and purchase intention (Zinko et al., 2021). As was discussed above, this might be due to the design of the experiment, meaning that a slightly different design might result in very different findings.

Moreover, it can be stated that Media Richness Theory does not completely explain these results, as, according to MRT, reviews with images should have a more positive effect than the images without pictures. As Ishii et al. (2019) note, there are more empirical studies that show inconsistent results with the theory. Ishii et al. (2019) state that the technological advancements, such as the ability to incorporate images in reviews, seem to alter the traditional concept of media richness. Several other factors, such as experience with the

medium and social influence, should also be taken into account, as they also play an important role in the selection of a channel.

5.3 Practical implications

As the results of this study show a negative main effect of typing errors on purchase intention, helpfulness, transaction trust and review trust, it can be said that it is especially important for hotels and hotel booking websites to focus on reducing the amount of reviews with typing errors. A possible, but simple, solution for this problem can be to incorporate a decent spelling checker on the website on which the customer writes their review. As some people write reviews in a rush, it can be a good idea to let the spelling checker automatically alter the typing errors into a neatly written text. This way, most reviews will not include typing errors, which therefore increases the purchase intention, as well as the perceived helpfulness, transaction trust and review trust.

Another way in which businesses might benefit from this knowledge, is by incorporating deep-learning and opinion mining techniques. This was done for example in the research by Yang et al. (2020), as they created a deep-learning model that was taught to extract different product attribute words, as well as opinion words. Moreover, it could determine the sentiment of a review and could therewith calculate the overall sentiment of a product. Such techniques can be very helpful in the future, as they can be used to determine which reviews are most helpful on the basis of various characteristics, such as typing errors. Subsequently, this can be used to place certain reviews on the top of the page, so that customer see the best reviews first.

With regards to image style, it can be said that because all papers that were written about images in online reviews showed the significance of the image (Trpkovski et al., 2018; Zinko et al., 2020; Teo et al., 2019), the results of this study should not encourage hotels and hotel booking websites to let images out of sight. As the results of this study still show a

significant effect of image style on purchase intention, it is important for businesses to encourage customers to incorporate pictures into their reviews. However, as this study showed how studio aesthetics result in higher purchase intention than snapshot aesthetics, businesses might focus on filtering the pictures that people post in a certain way, so that the most aesthetically pleasing pictures are on top of the page.

5.4 Limitations and future research

The first limitation of this study is the way in which the manipulations were designed. Because participants were only confronted with one review, they did not experience how one would decide on which hotel they want to book, like they would in real life. Future research might therefore make more extensive manipulations in which people are able to scroll through a hotel booking website that includes information and professional pictures of the hotel, as well as a variety of reviews. Furthermore, future research might offer participants a choice between various hotels which all contain reviews with different kinds of images. The manipulation would therefore look more like the decision making process people go through in real life.

Secondly, one of the factors that influenced this study is the pandemic that was taking place during the experiment. Most countries in the world were in a lockdown due to rising numbers of COVID-19 contaminations. Most people were therefore unable to visit a hotel or go on a vacation. The situation that the experiment simulated could have been less relatable, as it could have been harder for the participants to imagine themselves booking a hotel. The purchase intentions of the participants could therefore have been effected. Future research might conduct this experiment again, without the COVID regulations, in order to see whether different effects might occur when participants are able to relate themselves to booking a hotel.

Thirdly, this study only focused on positive reviews, meaning that the results of this study only apply to positive reviews. Future research could therefore also take into account the effects of negative reviews in relation to image style and typing errors. It could be that the style of the image that is included in a negative review is perceived very differently than in a positive review. This is very relevant for hotel owners and booking/review websites, as customers might for example take a negative review more lightly when the review shows what the hotel actually looks like. The negative effect of the review could thus be reduced when an image is included.

Lastly, future research could focus on improving the generalizability of the results. For example, most of the participants in this research fell in the age group of 16-25 and were rather highly educated, so future research could include a wider variety of ages and education levels in order to determine whether the results would differ or not. Moreover, future research could focus on conducting a similar research with other products. As this study only addressed hotel experiences, it might be interesting to see whether typing errors and image style behave differently for, for example, search products. It could be the case that image style is less important for search products, because search products can be returned and it is therefore not essential to have snapshot images of the product. This could be interesting for retailers, as the results of such a study might suggest a different strategy toward online reviews than for experience products.

6. Conclusion

The purpose of this study was to examine the effects of image style and typing errors on purchase intention, the perceived helpfulness of the review and on transaction trust and review trust. The study showed that helpfulness, transaction trust and review trust are all essential components in the purchase decision process of the customer. This study therefore confirms again how important it is in an online environment to provide useful information and gain the trust of the consumer. Especially in the hospitality industry, the online environment is the key to gaining new customers, meaning that the impression people get from a hotel online can make or break the intention to purchase. The prior experiences that are share in reviews thus play a vital role in giving people assurance (or not) of the quality of the hotel.

Although the results of this study show a main effect for typing errors but not for image style, images still remain an important factor on review sites. Because people are mostly dependent on information they can find online to book their hotel experience, images play crucial in the way that customers make their purchase decision (Trpkovski et al., 2018). As the results of this study showed an effect of image style on purchase intention, it can still be said that images play an important role in the purchase decision process. However, this role has to be explored to a larger extent in the future.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. doi:10.1016/0749-5978(91)90020-T
- Akhtar, N., Akhtar, M. N., Siddiqi, U. I., Riaz, M., & Zhuang, W. (2020). Unveiling the effects of figurative meanings in manipulated online hotel reviews on consumers' behavioral intentions. *Asia Pacific Journal of Marketing and Logistics*, *32*(8), 1799-1821. doi:10.1108/APJML-06-2019-0398
- Alfina, I., Ero, J., Hidayanto, A. N., & Shihab, M. R. (2014). The impact of cognitive trust and e-wom on purchase intention in C2C e-commerce site. *Journal of Computer Science*, *10*(12), 2518. doi:10.3844/jcssp.2014
- Banerjee, S., & Chua, A. Y. (2021). Calling out fake online reviews through robust epistemic belief. *Information & Management*, 58(3), 1-13. doi:10.1016/j.im.2021.103445
- Bart, Y., Shankar, V., Sultan, F., & Urban, G. L. (2005). Are the drivers and role of online trust the same for all web sites and consumers? A large-scale exploratory empirical study. *Journal of Marketing*, 69(4), 133-152. doi:10.1509/jmkg.2005.69.4.133
- Baek, H., Ahn, J., & Choi, Y. (2012). Helpfulness of online consumer reviews: Readers' objectives and review cues. *International Journal of Electronic Commerce*, 17(2), 99-126. doi:10.2753/JEC1086-4415170204
- Bian, Q., & Forsythe, S. (2012). Purchase intention for luxury brands: A cross cultural comparison. *Journal of Business Research*, 65(10), 1443-1451.
 doi:10.1016/j.jbusres.2011.10.010
- Bickart, B., & Schindler, R. M. (2001). Internet forums as influential sources of consumer information. *Journal of Interactive Marketing*, *15*(3), 31-40. doi:10.1002/dir.1014

- Bigne, E., Chatzipanagiotou, K., & Ruiz, C. (2020). Pictorial content, sequence of conflicting online reviews and consumer decision-making: The stimulus-organism-response model revisited. *Journal of Business Research*, *115*, 403-416.
 doi:10.1016/j.jbusres.2019.11.031
- Cao, Q., Duan, W., & Gan, Q. (2011). Exploring determinants of voting for the "helpfulness" of online user reviews: A text mining approach. *Decision Support Systems*, 50(2), 511-521. doi:10.1016/j.dss.2010.11.009
- Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing*, 65(2), 81-93. doi:10.1509/jmkg.65.2.81.18255.
- Cheng, X., Fu, S., Sun, J., Bilgihan, A., & Okumus, F. (2019). An investigation on online reviews in sharing economy driven hospitality platforms: A viewpoint of trust. *Tourism Management*, 71, 366-377. doi:10.1016/j.tourman.2018.10.020
- Cho, Y. C., & Sagynov, E. (2015). Exploring factors that affect usefulness, ease of use, trust, and purchase intention in the online environment. *International Journal of Management & Information Systems (IJMIS)*, 19(1), 21-36.
- Colliander, J., & Marder, B. (2018). 'Snap happy'brands: Increasing publicity effectiveness through a snapshot aesthetic when marketing a brand on Instagram. *Computers in Human Behavior*, 78, 34-43. doi:10.1016/j.chb.2017.09.015
- Cooper, A. E., Diab, D. L., & Beeson, K. M. (2019). Why Spelling Errors Matter: Online
 Company Reviews and Organizational Attraction. *Corporate Reputation Review*, 23, 1-10. doi:10.1057/s41299-019-00075-z
- Cox, D., Cox, J. G., & Cox, A. D. (2017). To Err is human? How typographical and orthographical errors affect perceptions of online reviewers. *Computers in Human Behavior*, 75, 245-253. doi:10.1016/j.chb.2017.05.008

- Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, *32*(5), 554-571.
- Forman, C., Ghose, A., & Wiesenfeld, B. (2008). Examining the relationship between reviews and sales: The role of reviewer identity disclosure in electronic markets. *Information Systems Research*, 19(3), 291-313. doi:10.1287/isre.1080.0193
- Filieri, R., McLeay, F., Tsui, B., & Lin, Z. (2018). Consumer perceptions of information helpfulness and determinants of purchase intention in online consumer reviews of services. *Information & Management*, 55(8), 956-970. doi:10.1016/j.im.2018.04.010
- Gass, R. H., & Seiter, J. S. (2015). *Persuasion: Social Influence and Compliance Gaining*. Routledge.
- Grewal, D., Gotlieb, J., & Marmorstein, H. (1994). The moderating effects of message framing and source credibility on the price-perceived risk relationship. *Journal of Consumer Research*, *21*(1), 145-153.
- Hassan, L. M., Shiu, E., & Shaw, D. (2016). Who says there is an intention–behaviour gap?
 Assessing the empirical evidence of an intention–behaviour gap in ethical consumption. *Journal of Business Ethics*, *136*(2), 219-236. doi:10.1007/s10551-014-2440-0
- Ishii, K., Lyons, M. M., & Carr, S. A. (2019). Revisiting media richness theory for today and future. *Human Behavior and Emerging Technologies*, 1(2), 124-131. doi:10.1002/hbe2.138
- Jiménez, F. R., & Mendoza, N. A. (2013). Too popular to ignore: The influence of online reviews on purchase intentions of search and experience products. *Journal of Interactive Marketing*, 27(3), 226-235. doi:10.1016/j.intmar.2013.04.004

- Ke, Y., Tang, X., & Jing, F. (2006). The design of high-level features for photo quality assessment. 2006 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'06), 1, 419-426. doi:10.1109/CVPR.2006.303.
- Kim, M., & Kim, J. (2020). The influence of authenticity of online reviews on trust formation among travelers. *Journal of Travel Research*, 59(5), 763-776. doi:10.1177/0047287519868307
- Korfiatis, N., García-Bariocanal, E., & Sánchez-Alonso, S. (2012). Evaluating content quality and helpfulness of online product reviews: The interplay of review helpfulness vs. review content. *Electronic Commerce Research and Applications, 11*(3), 205-217. doi:10.1016/j.elerap.2011.10.003
- Kusumasondjaja, S., Shanka, T., & Marchegiani, C. (2012). Credibility of online reviews and initial trust: The roles of reviewer's identity and review valence. *Journal of Vacation Marketing*, *18*(3), 185-195. doi:10.1177/1356766712449365
- Lee, S., & Choeh, J. Y. (2016). The determinants of helpfulness of online reviews. *Behaviour* & *Information Technology*, *35*(10), 853-863. doi:10.1080/0144929X.2016.1173099
- Li, L., Goh, T. T., & Jin, D. (2020). How textual quality of online reviews affect classification performance: a case of deep learning sentiment analysis. *Neural Computing and Applications*, 32(9), 4387-4415. doi:10.1007/s00521-018-3865-7
- Liu, Y., Huang, X., An, A., & Yu, X. (2008). Modeling and predicting the helpfulness of online reviews. In 2008 Eighth IEEE International Conference on Data Mining (pp. 443-452). doi:10.1109/ICDM.2008.94
- Liu, Z., Lei, S. H., Guo, Y. L., & Zhou, Z. A. (2020). The interaction effect of online review language style and product type on consumers' purchase intentions. *Palgrave Communications*, 6(1), 1-8. doi:10.1057/s41599-020-0387-6

- Lu, L. C., Chang, W. P., & Chang, H. H. (2014). Consumer attitudes toward blogger's sponsored recommendations and purchase intention: The effect of sponsorship type, product type, and brand awareness. *Computers in Human Behavior*, *34*, 258–266. doi:10.1016/j.chb.2014.02.007
- Ludwig, S., De Ruyter, K., Friedman, M., Brüggen, E. C., Wetzels, M., & Pfann, G. (2013).
 More than words: The influence of affective content and linguistic style matches in online reviews on conversion rates. *Journal of Marketing*, 77(1), 87-103.
 doi:10.1509/jm.11.0560
- Lutz, R. J., MacKenzie, S. B., & Belch, G. E. (1983). Attitude toward the ad as a mediator of advertising effectiveness: Determinants and consequences. ACR North American Advances, 10, 532-539.
- Ma, Y., Xiang, Z., Du, Q., & Fan, W. (2018). Effects of user-provided photos on hotel review helpfulness: An analytical approach with deep leaning. *International Journal of Hospitality Management*, *71*, 120-131. doi:0.1016/j.ijhm.2017.12.008
- Mankad, S., Han, H. S., Goh, J., & Gavirneni, S. (2016). Understanding online hotel reviews through automated text analysis. *Service Science*, 8(2), 124-138. doi:10.1287/serv.2016.0126
- Mudambi, S., & Schuff, D. (2010). Research note: What makes a helpful online review? A study of customer reviews on Amazon.com. *MIS Quarterly, 34*(1), 185-200. doi:10.2307/20721420
- Negri, F., & Vigolo, V. (2015). Hotel attributes and visual image: A comparison between website and user-generated photos. In *Information and Communication Technologies in Tourism 2015* (pp. 621-633). Springer, Cham.

- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, *19*(3), 39-52. doi:10.1080/00913367
- Ong, T., Mannino, M., & Gregg, D. (2014). Linguistic characteristics of shill reviews. *Electronic Commerce Research and Applications*, 13(2), 69-78. doi:10.1016/j.elerap.2013.10.002
- Qazi, A., Syed, K. B. S., Raj, R. G., Cambria, E., Tahir, M., & Alghazzawi, D. (2016). A concept-level approach to the analysis of online review helpfulness. *Computers in Human Behavior*, 58, 75-81. doi:10.1016/j.chb.2015.12.028
- Risselada, H., de Vries, L., & Verstappen, M. (2018). The impact of social influence on the perceived helpfulness of online consumer reviews. *European Journal of Marketing*, 54(4), 619-636. doi:10.1108/EJM-09-2016-0522
- Schindler, R. M., & Bickart, B. (2012). Perceived helpfulness of online consumer reviews:
 The role of message content and style. *Journal of Consumer Behaviour*, *11*(3), 234-243. doi:10.1002/cb.1372
- Schuckert, M., Liu, X., & Law, R. (2015). Hospitality and tourism online reviews: Recent trends and future directions. *Journal of Travel & Tourism Marketing*, 32(5), 608-621. doi:10.1080/10548408.2014.933154
- Sen, S., & Lerman, D. (2007). Why are you telling me this? An examination into negative consumer reviews on the web. *Journal of Interactive Marketing*, 21(4), 76-94. doi:10.1002/dir.20090
- Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, 32(6), 1310-1323. doi:10.1016/j.tourman.2010.12.011

Tan, Y., Toen, W. (2000). Toward a generic model of trust for electronic commerce. *International Journal of Electronic Commerce*, 5(2), 61-74.

- Teo, L. X., Leng, H. K., & Phua, Y. X. P. (2019). Marketing on Instagram: Social influence and image quality on perception of quality and purchase intention. *International Journal of Sports Marketing and Sponsorship*, 20(2), 321-332. doi:10.1108/IJSMS-04-2018-0028
- Tran, G. A., & Strutton, D. (2020). Comparing email and SNS users: Investigating eservicescape, customer reviews, trust, loyalty and E-WOM. *Journal of Retailing and Consumer Services*, 53, 1-17. doi:10.1016/j.jretconser.2019.03.009
- Trenz, M., & Berger, B. (2013). Analyzing online customer reviews-an interdisciplinary literature review and research agenda. ECIS 2013 Completed Research, 83, 1-12. doi:ecis2013_cr/83
- Trpkovski, A., Vu, H. Q., Li, G., Wang, H., & Law, R. (2018). Automatic hotel photo quality assessment based on visual features. In *Information and Communication Technologies in Tourism 2018* (pp. 394-406). Springer, Cham.
- Wang, Y. D., & Emurian, H. H. (2005). An overview of online trust: Concepts, elements, and implications. *Computers in Human Behavior*, 21(1), 105-125.
 doi:10.1016/j.chb.2003.11.008
- Wang, L., Ren, X., Wan, H., & Yan, J. (2020). Managerial responses to online reviews under budget constraints: Whom to target and how. *Information & Management*, 57(8), 103-382. doi:10.1016/j.im.2020.103382
- Wu, R., Wu, H. H., & Wang, C. L. (2020). Why is a picture 'worth a thousand words'?
 Pictures as information in perceived helpfulness of online reviews. *International Journal of Consumer Studies*, 1-15. doi:10.1111/ijcs.12627

- Xu, P., Chen, L., & Santhanam, R. (2015). Will video be the next generation of e-commerce product reviews? Presentation format and the role of product type. *Decision Support Systems*, 73, 85-96. doi:10.1016/j.dss.2015.03.001
- Yang, Z., Ouyang, T., Fu, X., & Peng, X. (2020). A decision-making algorithm for online shopping using deep-learning–based opinion pairs mining and q-rung orthopair fuzzy interaction Heronian mean operators. *International Journal of Intelligent Systems*, 35(5), 783-825. doi:10.1002/int.22225
- Yin, D., Bond, S. D., & Zhang, H. (2014). Anxious or angry? Effects of discrete emotions on the perceived helpfulness of online reviews. *MIS quarterly*, 38(2), 539-560. doi:10.2307/26634939
- Zhang, K. Z., Zhao, S. J., Cheung, C. M., & Lee, M. K. (2014). Examining the influence of online reviews on consumers' decision-making: A heuristic–systematic model. *Decision Support Systems*, 67, 78-89. doi:10.1016/j.dss.2014.08.005
- Zhao, Y., Xu, X., & Wang, M. (2019). Predicting overall customer satisfaction: Big data evidence from hotel online textual reviews. *International Journal of Hospitality Management*, 76, 111-121. doi:10.1016/j.ijhm.2018.03.017
- Zhu, F., & Zhang, X. (2010). Impact of online consumer reviews on sales: The moderating role of product and consumer characteristics. *Journal of Marketing*, 74(2), 133-148. doi:10.1509/jmkg.74.2.133
- Zinko, R., de Burgh-Woodman, H., Furner, Z. Z., & Kim, S. J. (2021). Seeing is Believing: The Effects of Images on Trust and Purchase Intent in eWOM for Hedonic and Utilitarian Products. *Journal of Organizational and End User Computing* (*JOEUC*), 33(2), 85-104. doi:10.4018/JOEUC.20210301.oa5

Zinko, R., Stolk, P., Furner, Z., & Almond, B. (2019). A picture is worth a thousand words: how images influence information quality and information load in online reviews. *Electronic Markets*, 1-15. Doi:10.1007/s12525-019-00345-y

Appendix A

Pre-test questions

Questions for the images:

- 1. What stands out to you when looking at the pictures?
- 2. Would you describe the images as realistic? Why?
- 3. Do you recognize any differences between the pictures?
- 4. (For each image) what kind of person do you think took the pictures?
- 5. Which image set represents the difference between snapshots and professional pictures the best?

Questions for the review:

- 1. What stands out to you when looking at the reviews?
- 2. Would you describe the reviews as realistic? Why?
- 3. Do you recognize any differences between the reviews?
- 4. (For each review) what kind of person do you think wrote the review?
- 5. Do you think the reviews fit the images?

Appendix B

Additional images for the pre-test



Figure 8: Studio aesthetic image of hotel room 2



Figure 9: Snapshot image of hotel room 2



Figure 10: Studio aesthetic image of hotel room 3



Figure 11: Snapshot image of hotel room 3



Figure 12: Studio aesthetic image of hotel 4



Figure 13: Snapshot image of hotel 4

Appendix C

Stimuli

The image below shows the stimuli that participants saw when taking the questionnaire who

were in the condition no typing errors and snapshot image.



Reviewed: February 23, 2020

Very satisfied

So - The location is just perfect. Most of all the important spots in the city are easily reachable by foot, but the hotel is also very close to a metro station. Lots of shops and restaurants are nearby too. The room was as clean as it can be and the beds were comfortable. We slept amazing, as the rooms were not noisy at all. The breakfast was also amazing! There was a great variety of delicious food which changed every day. The staff was very friendly and helpful during the check-in, as well as during the stay and check-out. I would highly recommend this hotel and I would definitely visit this hotel again whenever I return to the city.

Nothing at all

🏟 Helpful 🛛 🐢 Not helpful



Appendix D

Questionnaire items

Demographical information:

- 1. Gender.
- 2. Age.
- 3. Highest achieved educational level.
- 4. Native language.
- 5. Frequency of visiting hotels (before Covid).
- 6. I often use reviews to make a purchase decision.

Purchase intention:

- 7. If I were going to book a hotel, I would consider booking this hotel. (PurchIn1)
- 8. If I were looking for a hotel to stay, the likelihood I would buy this hotel experience is high. (PurchIn6)
- 9. My willingness to book a room in this hotel would be high if I were shopping for a hotel. (PurchIn3)
- 10. I would probably choose this hotel over other hotels in the same area. (PurchIn4)
- 11. I predict that I would buy this hotel experience if I am looking for a hotel in the future.(PurchIn5)
- 12. I would recommend this hotel to my friends and family. (PurchIn2)

Helpfulness:

- 13. I would consider this review to be useful. (Help1)
- 14. This review helps me to make a decision about booking this hotel. (Help2)

- 15. This review would aid my buying decision. (Help5)
- 16. I would use this review when making a decision for a hotel. (Help4)
- 17. I think this review is informative. (Help3)

Review trust:

- 18. This review is reliable. (RevTr1)
- 19. I believe this review to be trustworthy. (RevTr2)
- 20. I think this review is dependable. (RevTr3)
- 21. This review is sincere. (RevTr4)
- 22. I have confidence in this review. (RevTr5)
- 23. Overall, I think this review is believable. (RevTr6)

Transaction trust:

- 24. I have confidence in buying this hotel experience. (TranTr1)
- 25. I would experience enough trust to book this hotel. (TranTr2)
- 26. If I would book this hotel, I believe it would deliver on its promises. (TranTr3)
- 27. I would not feel confident engaging in a transaction to buy this hotel experience.

(TranTr4)

Authenticity:

- 28. The review is a genuine account of a post-trip experience. (Auth1)
- 29. The review is written after a stay in the hotel. (Auth2)
- 30. The review is an honest description of a stay in the hotel. (Auth3)
- 31. Overall, I think this review is authentic. (Auth4)

Review usage:

- 32. Often used source for reviews (i.e. social media, hotel websites, travel websites, etc.)
- 33. I often use reviews to make a purchase decision.

Manipulation check:

- 34. The text I read was well written.
- 35. The text I read contained typing errors.
- 36. The review I saw contained an image.

If yes:

- 37. The image I saw looked like it could have been taken by a customer.
- 38. The image I saw looked professional.