ABSTRACT

Electronic word-of-mouth has proven to have a great impact on the online decision making process of consumers. There is a lot of information available on the internet and consumers use the information to inform themselves before purchasing a product or service. In this research, the effects of persuasion in online product reviews on the attitude of a consumer toward the review, reviewer and brand have been studied. To test the effects, stimulus material has been developed in which different persuasive cues were added around a review text. Two studies were conducted among 167 Dutch participants in study 1 and 166 in study 2. Data has been gathered by the use of an online questionnaire. The results demonstrate a positive effect of liking of the reviewer on the perceived quality of a review and trustworthiness of a reviewer. The volume of available reviews has an effect on the perceived brand attitude and purchase intention. Especially a high volume of available reviews, combined with a positive review score, contributes to a positively perceived review quality and a positive attitude toward the brand. Finally, the results demonstrate an interaction effect between involvement and liking on the perceived brand quality and an interaction effect between involvement and social proof on the perceived review quality and trustworthiness of the reviewer. This paper contains implications for online marketers to improve their product review pages.

ACKNOWLEDGEMENTS

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Introduction

People use the internet for travel and dinner reservations, checking the news and weather forecast and all kinds of other activities; the internet has become a 'new normal way of life' for many people (Ho & Dempsey, 2010; Rainie, 2005). A lot of companies use online channels to sell their products or services and consumer make use of the possibility to use these channels. 91% of the consumers go on the internet to search for information before deciding to purchase a product or service (Cheung & Thadani, 2012). Not only do a lot of consumers use online product reviews to inform themselves about a new product, it also has a great influence on the purchase intention (Dou, Walden, Lee & Lee, 2012). Consumers use the information available on the internet and they spend a lot of money online as well. According to Thuisbezorgd (2014), an amount of €10.6 billion has been spent in online stores in the Netherlands in 2013.

The way consumers search for information and buy their products is changing (Jalilvand, Esfahani, & Samiei, 2010; Pitta & Fowler, 2005). While the online commerce is growing, searching for other consumers' online opinions is becoming a more important part of purchasing behaviour (Pitta & Fowler, 2005). Consumers used to buy all their products in offline stores, nowadays, a lot of purchases are made online. The internet provides a lot of information via different channels. People are using blogs, social media, comparison-platforms and product pages in their quest for information. Companies that are active online, try to distinguish their online activities from their competitors. In a market with fast growing competition, it becomes harder and harder for online marketers to persuade a consumer to engage to a product or service from their company.

In what way can marketers persuade visitors to like or buy their products? How can they influence the behaviour and attitude of an individual in the way they want? Are there any effects on the attitude of a consumer, when persuasive cues are present in e-WOM?

Focus of the research

This research focuses on the reader of a review, just like inter alia Horstman (2013), Lee and Shin (2013), Park, Lee and Han (2007), Pillen (2013), Racherla and Friske (2012) and Vermeulen and Seegers (2009) did. There are two types of people involved when it comes to online reviews; the reviewer, a creator of a review and the receiver of the information, the reader of the review. The creator is someone who has knowledge, experience or a certain opinion about a product, service or brand and shares this via the internet in the form of an online review. The receiver is searching for information about a certain product or service and reads the information which a creator did write. The research focuses on the influence of persuasion on the receiver of the information, the reader of the review. Next to the effect of persuasion, the effect of a consumers' involvement with the product category has been part of the research. Prior research of Zaichkowsky (1985) demonstrated the importance of involvement with the product category on the attitude of a consumer in an offline situation and Park et al. (2007) demonstrated the importance in an online situation. This research searched for effects of involvement as a moderator in an online environment. The main marketing-communication question during this research is:

In what way can marketers design their review page to create a more positive attitude toward a review, reviewer and the brand?

An answer to this question will be given in the managerial implication section at the end of this report. The persuasive heuristics authority, scarcity, liking and social proof have been related to the attitude of an individual toward the review, reviewer and brand.

The main questions during this study are:

1) *To what extent do persuasive heuristics in online reviews influence the attitude of a consumer toward a review, reviewer and brand?*

2) *To what extent does involvement play a role in the relationship between persuasive heuristics and the attitude of a consumer toward a review, reviewer and brand?*

THEORETICAL FRAMEWORK

An introduction to the theoretical framework

During this study, the effect of persuasion in online product reviews on the attitude of a consumer toward the review, reviewer and brand has been researched. Next to the direct effect of persuasion, the moderating effect of involvement with the product category has been measured. To be able to understand the purpose of this study, a variety of concepts will be defined in the theoretical framework.

E-commerce

E-commerce refers to a variety of online commercial activities with the focus on commodity exchanges via the internet, by the consumer, industrial undertakings, factories, companies and enterprises (Zheng, 2009).

Electronic word-of-mouth can be described as any statement which is online available to a mass of consumers, created by consumers who have bought or used a product or are thinking about buying or using a product (Hennig-Thurau, Gwinner, Walsh & Gremler, 2004; Hong & Park, 2012). The internet enables companies and consumers to share a lot of product information, more than in an offline situation (Sasaki, Becker, Janssen & Neel, 2011). Sasaki et al. (2011) conducted a research about the effect of the availability of a lot of product information. Results demonstrate that the availability of a large amount of information leads to less diversity in choice. A lot of people consult online product reviews. 91% of the consumers use content created by consumers before they decide to use a new service or buy a new product. Reviews and other forms of e-WOM play a crucial role in information seeking and have a great influence on the consumers' intention to purchase a service or product (Cheung & Thadani, 2012; Dou et al., 2012).

WOM and e-WOM

Multiple studies demonstrated that WOM communication, as in its traditional form, influences the pre-purchase decision making process and also the post-purchase perception of the product (Matos & Rossi, 2008; Sweeney, Soutar & Mazzarol, 2008). Consumers who are using the internet to compare products and services, trust online reviews from people who are unknown to them more than information in traditional media, almost 12 times more (Bazaarvoice, 2014; eMarketer, 2010). The access to the internet enables consumers to compare products and services at any time of the day. It can be assumed that the widespread of e-WOM interaction and the fact that consumers perceive e-WOM (marketing) communication as more relevant and credible than traditional marketing communication, contribute for an important part to a consumers' intention to make a purchase (Bickart & Schindler, 2001; Chevalier & Mayzlin, 2006; Christodoulides, Michaelidou & Argyriou, 2012; Park & Lee, 2009; Park et al., 2009). Prior e-WOM research of Racherla and Friske (2012) demonstrates that a combination of the reviewer and the review characteristics influences the perceived usefulness of a review. Research of Park and Lee (2009) demonstrates that the e-WOM effect of negatively formulated e-WOM on the attitude of a consumer is greater than the effect of positive e-WOM. Park and Lee (2009) also found evidence for the impact of e-WOM on websites with reputation. Established websites experience more e-WOM than unestablished websites (Park & Lee, 2009). Because of the reputation effect of websites, an established Dutch comparison website (Beslist.nl) has been used in the stimulus material.

There are differences with regard to the impact of WOM versus e-WOM on the attitude of a consumer. The internet exists for a few decades whereas face-to-face communication between people exists since people exist. Taking that into account, WOM has a much longer history than e-WOM. According to Keller & Fay (2012) the majority of branded content is shared offline. Next to the fact that most of the branded content is shared offline, WOM is also still

more powerful than e-WOM (Lovett, Peres & Shachar, 2013; Meuter, McGabe & Curran, 2013). WOM communication is more trustworthy and credible than existing, traditional marketing communication (Christodoulides et al., 2012; de Matos & Rossi, 2008; Newman & Staelin, 1972). More positive implications with regard to a person are formed when communicating face-to-face (traditional WOM) than computer-mediated communication (Okdie, Guadagno, Bernieri, Geers & Mclarney-Vesotski, 2011).

Although offline WOM is more powerful than e-WOM, online communication is becoming more important (Kaptein, 2012). According to Kaptein (2012), the reach of a message via an online channel is enormous. An individual can in theory reach the whole world with a message spread via the internet, something that is hardly possible with traditional WOM. The reach of e-WOM did increase over de last decades, but the impact of the message did decrease (Kaptein, 2012). Communication experts are trying to find ways to increase the impact of online messages. This research is conducted to determine whether or not certain persuasive cues influence the impact of a message, spread via the internet; in this case the impact of persuasive cues in online product reviews.

Persuasion in offline and online marketing

Multiple studies investigated the persuasive influence of other individuals and the influence of groups. Well known examples from the past are the conformity experiment from Asch and Solomon (1956) and the white coat experiment from Milgram (1963), which will be mentioned later in this paper. Persuasion can be defined as a way of communication with the intention to change the attitude and/or response of an individual or group (Cameron, 2009; Cialdini, 2001, 2002). According to Cameron (2009), persuasive theories are a subset of theories that can be applied to a lot of levels, including inter- and intrapersonal, organizational and mass communication. Knowledge retrieved from this subset can be used to better understand the behaviour of a person (Cameron, 2009). Broadly speaking, a marketer can

persuade consumers using two different approaches. Focus on the strong and weak points of a specific product or service is the first possible persuasive approach. The second approach, which a marketer can use to persuade consumers, is to focus on a variety of peripheral cues, like attractiveness, source credibility and expertise (Pornpitakpan & Francis, 2001; Pornpitakpan, 2004). In the past, a lot of persuasive principles have been formulated. Today, there are six main principles, formulated by Cialdini (2001), which are mainly used in textbooks, by students and marketers. According to Cialdini (2001), the six main principles of persuasion are reciprocity, consistency, social proof, authority, scarcity and liking. Although reciprocity and consistency are part of the theory of Cialdini, they will not be part of this research. Authority, scarcity, social proof and liking are used because they are more applicable on the receiver of the information than the heuristics reciprocity and consistency. Although reciprocity and consistency are not part of this research, they will be defined briefly, to be sure that the theory of persuasion is explained clearly. Consistency, also known as commitment, is used by different organisations, aimed on consumers who have already bought or used a product or service and are committed to their brand, product or service (Cialdini, 2001). People who commit orally or written to a brand, product or service are more likely to continue liking or buying it. Online marketers use consistency by, for example, offering a free trial in return for the e-mail of the visitor. Consistency is not part of the study, because the effect of consistency on the reader of a review is difficult to manipulate. Consistency is presumably more applicable on the creator of the review, who might write a review or buy a product because he or she uses the product or has used the product in the past.

People tend to do something in return if someone else did something for them (Cialdini, 2001). A free sample of a product is an example of applying reciprocity in marketing. Companies use reciprocity in online marketing to, for example, persuade consumers or users to write a review about a product, which is mainly focused on someone who has bought or used

a product or service. This research focuses on the reader of a review, who will presumably not feel committed to give something in return for reading a review. For this reason, reciprocity is not part of this research.

The next part of this chapter focuses on the different persuasive heuristics, which have been used during this study.

Introduction to the persuasive heuristics

Authority, liking, scarcity and social proof are the four persuasive heuristics and independent variables during this study. The persuasive cues have been added around a review text. Prior e-WOM research demonstrated that different personal attributes have an influence on the perceived credibility of the information (Münz & Sergiūnaitė, 2012). Inter alia a pseudonym, domicile, occupation, a photo of a reviewer, name and age appear to have an effect on the review credibility (Münz & Sergiūnaitė, 2012).

Authority

Individuals are influenced by experts, who can be described as *Authority* on a certain topic (Cialdini, 2001). According to Reilly (2008) an expert is a person who has achieved a high level of competence and who works or has been working within a certain domain; according to Gardner (2002) he or she should at least work for a decade in a specific domain to be an expert. Present-day, various organisations use authority within their marketing communication. Amazon.com, for example, gives consumers who write a review about a product they have bought a description, like top 50 reviewer and hall of fame, as visible in figure 1. By adding these terms, Amazon intends to give the reviewer authority. Authority is a concept which has been researched since years. A well-known example is the Milgram experiment (1963). This experiment (1963) did show that people are capable of performing certain actions they would normally never perform, all because of the level of authority of the person who asks him or her to do so. This white coat experiment, in which random people have

been asked to give someone an electrical shock, did show that people fictitiously 'tortured' and in some cases even fictitiously 'killed' the person who was receiving the electrical shocks.

Most Helpful Customer Reviews
★★★★★ Excellent 13 Nov 2013
By Paul S. Ell   HALL OF FAME   TOP 50 REVIEWER   VINE VOICE
Configuration: With Special Offers | Connectivity Technology: Wi-Fi Only | Digital Storage Capacity: 16 | Verified Purchase

I received this today despite having only ordered it yesterday afternoon. Cleary Amazon have plenty of HDX 7 inch models in stock. I went for the cheapest option - 16Gb of memory, (Wi-Fi only of course), and 'with special offers' to cut the cost further. This is the third generation of Fire released in the US market and the second UK version. I purchased one of the first US models which has worked well for the last couple of years. The new model is a significant improvement on this.

Figure 1. Authority in e-WOM by Amazon

Prior research demonstrates that authority has a positive influence on the readers' acceptance toward (e-)WOM (Huang, Cai, Tsang & Zhou, 2011; Lo, 2014). If information is shared or presented by an expert, the influence of WOM communication is greater (Bone, 1995). Vermeulen and Seegers (2009) conducted research to the effect of reviewer-expertise in online hotel reviews. Results indicate a minor positive influence of reviewer-expertise on the review impact (Vermeulen & Seegers, 2009). According to Lo (2014), people do especially rely on e-WOM information if it contains accuracy, comprehensibility and authority. Lo (2014) also found that if an online product review relates to a third party, it generates greater authority. Posts from experts contain more authority than posts that are not from experts (Lo, 2014). Therefore the first hypothesis is:

H1: High authority of a reviewer leads to a more positive attitude toward a) the review, b) the reviewer and c) the brand compared to low authority of a reviewer.

Liking

People are more likely to be influenced by people they *Like* (Cialdini 2001). Lee and Shin (2013) found an effect on information processing if a picture of a reviewer has been added to a review. A photo of a reviewer can add stimuli to the message, but it can also distract the attention of the review reader (Lee & Shin, 2013). If a photo of a reviewer is displayed next to a review, less cognitive resources are available to process a message, because the attention of

a reader of a review has to be divided between the photo and the text. Because of the fact that a reader has to divide his attention, a picture can disturb a thorough and extensive estimation of the information in the review (Lang, 2000; Lee & Shin, 2013; Wais, Rubens, Boccanfuso & Gazzaley, 2010).

According to Erdogan (1999) physical attractiveness of a source can induce attitude change of a consumer. Roberts (2013) found that physical attractiveness in video blogging contributes largely to the perceived credibility of the source. It is conceivable that the physical attractiveness of the reviewer contributes to more likeability toward the reviewer, which therefore results in an attitude change of the receiver of information. Raghunathan and Corfman (2006) found a positive effect on liking of an individual if the specific person shares his opinion. Kiecker and Cowles (2001) describe likeability as an affection for the source which is an effect of the behaviour of an individual, physical appearance or other personal characteristics, like talent or personality. Likeability is just like familiarity (the extent to which the receiver has knowledge of the source or feels a certain level of comfort with him or her) and similarity (resemblance between, for example, the reader and creator of e-WOM) part of attractiveness, and reflects the way a reader of the information identifies himself with the source, for example the creator of e-WOM (Cheung & Thadani, 2010; Kiecker & Cowles, 2001). Likeability has, just like familiarity, a positive influence on the way a consumer perceives the source to have the best intentions in mind. Therefore, the second hypothesis is:

H2: High liking of a reviewer leads to a more positive attitude toward a) the review, b) the reviewer and c) the brand compared to low liking of a reviewer.

Figure 2 contains an example of liking, used in online marketing. The company intends to create a positive attitude by using friendly looking pictures of their employees, in order to stimulate the perceived likeability of the organisation and their employees. It is conceivable

that the use of pictures in online product reviews contribute to a more positive attitude of a consumer.

Figure 2. An example of liking in an online environment by PetRelocation.

Scarcity

Perceived *Scarcity* contributes to a bigger demand (Cialdini, 2001). Offers which are only available on a specific moment or the availability of a limited amount of products, demonstrate a positive effect on sales (Cialdini, 2001). Today, various organisations use scarcity in their campaigns to persuade consumers. Products and company websites often contain messages like 'limited edition' or 'only 1 available', which indicate that the consumer has to be quick if he or she wants to become owner of a product. As mentioned before, Booking.com uses a variety of persuasive heuristics in their online marketing communication. Scarcity is one of these heuristics. To motivate consumers to book a hotel, the number of available rooms is added. A term like 'Only 1 room left' is often used by Booking.com. Figure 3 contains an example of scarcity in online marketing in which the organisation mentions the availability of the number of rooms. Figure 3.1 contains an overview with only 1 available

review, from which a consumer has to derive the information. The example in figure 3.1 has been used during this study.

Figure 3. The use of scarcity in the amount of available products by Booking.com.

Figure 3.1. The use of scarcity in the amount of reviews, as used during this research.

Prior studies demonstrate that it is likely for a consumer to feel more informed about a product or service when the volume of an online review text is relatively high (Godes & Mayzlin, 2004; Lui, 2006). Godes and Mayzlin (2004) and Liu (2006) found that the quantity/volume of the available information makes a consumer feel more informed about a specific product, therefore a consumer perceives the quality of a product as more positive. Consumers with a low amount of scepticism are persuaded by the review quantity, because they use the peripheral route in forming an attitude (Sher & Lee, 2009). According to Pillen (2013) the volume (quantity) of a review text has a positive effect on a consumers' trust in a product or service, in case a consumer is highly involved with that specific product category. Prior e-WOM research demonstrates that product or service sales is positively affected by volume, which refers to the amount of reviews (Gupta & Harris, 2010; Park et al., 2007). The

thought that a lot of product reviews are available, makes more people aware of the existence of that product or service, which results in an awareness effect and suggests that numerous others accept the product, wherefore it should presumably should be good enough for 'me' too (Duan, Gu, & Whinston, 2008; Fu & Sim, 2011; Park et al., 2007). If there is not a lot available, people would be more likely to have or use it (Cialdini, 2001). It is plausible that people perceive the value of a review and reviewer higher when there are not a lot of reviews available. Because people do not have a lot of reviews available to use during their decision making process, the information has to come from that specific review. Because prior research demonstrates an awareness effect when the number of available reviews increases, which suggests that other consumer already did accept the product or brand, it is not expected that high scarcity (a small amount of available reviews) has a positive effect on the attitude of a consumer; the opposite is expected. Therefore hypothesis 3 is:

> H3: High scarcity of reviews leads to a more positive attitude toward a) the review, b) the reviewer and a less positive attitude toward c) the brand compared to low scarcity of reviews.

Social proof

A human being is a social creature and thinks, feels and acts like the people around them (Cialdini, 2001). People follow similar others when they experience *Social proof* (Cialdini, 2001). Today, various organisations use social proof in their marketing activities to persuade consumers to like, use or buy their products. In-store products and websites often contain messages like 'number 1 product', 'best buy' or 'best-seller', which indicate that significant others have accepted the product already. In an online environment, consumers often have the opportunity to like or dislike a product or review. Companies like Bol.com and Booking.com give readers of a review the opportunity to rate a review by asking the question: 'do you think this review is useful?'. The opinion of similar others has an important influence

on the attitude of a consumer toward a product or brand (Cialdini, 2001). A well-known example of people following similar others is the experiment of Asch and Solomon (1956). In an experiment with a group of actors, a volunteer had to designate a specific line out of three lines. Although it was obvious which line the participant had to point out, the volunteer did, in several cases, go along with the answer of the group, which was not the correct answer. Cialdini (2001) did mention an example of researchers who found that showing a list of neighbours who donated to charity, contributed to a larger amount of money, donated by people to whom the list was shown, which is an example of social proof in an offline situation. Booking.com is a well-known example of a company that uses persuasion in online marketing. Figure 4 gives an example of social proof applied by Booking.com. Reviewers rate this hotel with an 8.4. Figure 4.1 shows an example of (high) social proof, as used during this research. In this case, 95% of the readers of the review have indicated that the review is useful.

Figure 4. An example of social proof in e-WOM by Booking.com.

Figure 4.1. An example of social proof in e-WOM, as used during this research.

Prior e-WOM research demonstrates the importance of a clear opinion of significant others on the perceived quality of a product or service (Awad & Ragowsky, 2008). The reader and creator of a review do usually not know one another. For that reason, if a review does not contain significant information, people distrust the information given in an online review, therefore the review has to contain valuable information for the reader (Ratchford, Talukdar & Lee, 2001). According to Petty and Cacioppo (1986) an objective and/or rational statement is more adequate than a subjective and/or emotional statement, which indicates that people appreciate useful information. Consumers perceive the quality of a product higher than the actual quality experience, if a positive product review-score has been given by other consumers (Hu, Pavlou & Zhang, 2006). Therefore, the fourth hypothesis is:

H4: High social proof of a review leads to a more positive attitude toward a) the review,

b) the reviewer and c) the brand compared to low social proof of a review.

e-WOM responses

During this study, the effect of persuasion on the perception of the review, the reviewer and brand has been researched. This part of the paper focuses on the dependent variables. To measure the perception of the review, the review quality has been used as dependent variable. The dependent variable for the perception of the reviewer is trustworthiness. The attitude toward the brand, quality of the brand and purchase intention are the dependent variables to measure the perception of the brand. The perceived attitude of a reader of a review toward a review, reviewer and brand is important for e-commerce research, because consumers derive information from product reviews and are influenced by information provided by other consumers.

Perception of the review

Review quality

During this research, the perceived quality of the review has been one of the dependent variables. Within this research, review quality can be described as the way in which a reader of a review perceives the quality of the review text. The quality of a review is an important factor, which, inter alia, influences the purchase intention of a consumer (Park, Lee & Han, 2007). According to Purnawirawan, De Pelsmacker and Dens (2012), only when a review is perceived as relatively useful, recall of information in reviews has an effect on the attitude of a consumer; it has a crucial role on the attitude and intention formation process.

Perception of the reviewer

Trustworthiness of the reviewer

In this research, trustworthiness of the reviewer refers to the amount of trust a reader of a review has in the reviewer. Important purchase decisions are based on the degree of trust in a (sales-)person, a product or a business (Hosmer, 1995). The most important credibility dimension in e-WOM is trustworthiness (Reichelt, Sievert & Jacob, 2013). A consumer, or in the context of this research a reviewer, is perceived as credible if he or she consists of a widespread knowledge with regard to a certain topic and has the willingness to honestly share the information with others (Feick & Higie, 1992; Gilly, Graham, Wolfinbarger & Yale, 1998; Shrauger & Schoeneman, 1979; Tseng & Fogg, 1999).

Perception of the brand

Brand attitude

An important part of a good long-term relationship between a consumer and a company is the way in which an individual perceives a brand (Fournier, 1998). Fishbein and Ajzen (1975) define the attitude of an individual toward a brand as a function of his or hers salient beliefs, at a certain moment. According to Mitchell and Olsen (1981), the definition of brand attitude is the overall evaluation of a consumer, with regard to a brand, which can be positive

or negative. Brand attitude can be influenced in a positive way by positive WOM of consumers, (Keller & Berry, 2003). Bakshy, Hofman, Mason and Watts (2011) found, in their study among 1.6 million Twitter users, the same positive effect on brand attitude for e-WOM as Keller and Berry (2003) found in their WOM study. Next to the effect of positive WOM and e-WOM, positive advertisements have a positive influence on brand attitude (Keller & Berry, 2003; Bakshy et al., 2011).

Brand quality

According to Aaker and Keller (1990), the perceived quality of a brand is a global assessment of the judgment of people, regarding the superiority of the brand. If a consumer perceives a brand as credible and relies on the quality of that brand, the probability that the specific brand becomes part of the consideration set of a consumer increases (Erdem & Swait, 2004).

Purchase intention

During this research, purchase intention is the likelihood that a person is going to purchase a product in the future, just like in the studies of Huang, Chou and Lin (2010) and Ng (2013). Online product reviews do have a great influence on the consumers' intention to make a purchase (Dou, Walden, Lee & Lee, 2012). According to Chang, Cheung and Lai (2005) the attitude of a consumer consistently exhibits impact on the intention to make a purchase.

The moderating role of involvement

The involvement with a product category plays an important role in the attitude forming process of a consumer (Zaichkowsky, 1985). Zaichkowsky (1985) defines involvement with the product category as the perceived relevance of an object on the needs, values and interests of a person. High involvement products are characterized by profound consideration, before the purchase decision will be made (Cacioppo & Petty, 1986; Petty, Cacioppo & Schumann, 1983). Petty et al. (1983) demonstrated a moderating role of involvement in advertising. In a

study among undergraduates, they have found a greater impact on the attitude among low involved individuals compared to high involved individuals, when a product endorser was shown in the manipulation. Findings of Petty et al. (1983) are in line with the Elaboration Likelihood Model from Petty and Cacioppo (1986) in which low involved consumers are less motivated and follow the peripheral route, in which they are influenced by judgmental heuristics like the number of arguments of an expert. Therefore, the hypotheses for study 1, with authority and liking as independent variables, are:

H5: If a consumer is low involved, the effect of high authority of the reviewer, compared to low authority of the reviewer on a) the review, b) the reviewer and c) the brand, should be stronger, compared to someone who is high involved.

H6: If a consumer is low involved, the effect of high liking of the reviewer, compared to low liking of the reviewer on a) the review, b) the reviewer and c) the brand, should be stronger, compared to someone who is high involved.

Park et al. (2007) did conduct a research to the moderating effect of involvement of a consumer with a product on the purchase intention. In their research, results indicate that consumers who are highly involved with a certain product or service, are influenced by the quantity of the review especially if the review quality is high. Consumers who are low involved with a service or a certain product category, are influenced by the quantity, rather than the review quality. Therefore it is conceivable that there is a relationship between social proof and involvement on the attitude of a consumer toward the review, reviewer and brand. It is also conceivable that there is a relationship between scarcity and involvement on the attitude of a consumer toward the review and reviewer, but the influence on the attitude toward the brand is presumably less positive. The attitude is presumably less positive because prior research demonstrates an awareness effect when the number of available reviews increases (Duan, Gu,

& Whinston, 2008; Fu & Sim, 2011; Park et al., 2007). Therefore, the hypotheses for study 2 are:

H7: If a consumer is low involved, the effect of high scarcity of reviews, compared to low scarcity of reviews on a) the review and b) the reviewer, should be stronger, compared to someone who is high involved and the effect of high scarcity of reviews, compared to low scarcity of reviews on c) the brand, should be less strong, compared to someone who is high involved.

H8: If a consumer is low involved, the effect of high social proof of a review, compared to low social proof of a review on a) the review, b) the reviewer and c) the brand, should be stronger, compared to someone who is high involved.

METHODOLOGY

An introduction to the methodology

This part of the paper focuses on the studies that have been conducted. Within this research, two studies have been conducted, in which the effect of persuasive cues in online reviews has been investigated. Before the start of the main study, a pre-study has been conducted to test the visibility of the persuasive manipulations.

The scope of the study would be too big if all the four independent variables were tested separately. Therefore it has been decided to combine two persuasive heuristics in two studies. As shown in figure 5, the research model consists of two 2*2 designs. The first study is a 2*2 design, with the independent variables authority and liking. Authority and liking are combined because they both tell something about the reviewer. A picture tells something about the appearance and the descriptions tells something about the experience of the reviewer. A photo of a friendly looking person (liking) and a description of that person (authority) surrounding a review reflects a real-life situation for the participants. The second study is a 2*2 design, with scarcity and social proof as independent variables. The persuasive heuristics scarcity and social proof are combined because they are both related to statistics; the number of available reviews and the rating of a review. The dependent variables are: perception of the review (quality of the review), perception of the reviewer (trustworthiness of the reviewer) and perception of the brand (brand attitude, brand quality, purchase intention). Involvement with the product category is used as a moderator in both studies.

The research design

The model is an in between subjects design with four independent variables.

Involvement with product category

Study 1

- Authority
- Liking

Study 2

- Scarcity
- Social Proof

Perception of the Review

- Quality of the review

Perception of the Reviewer

- Thrustworthiness

Perception of the Brand

- Brand attitude
- Brand Quality
- Purchase intention

Design 1: Authority * Liking

		Liking	
		High	Low
Authority	High	X	X
	Low	X	X

Design 2: Scarcity * Social Proof

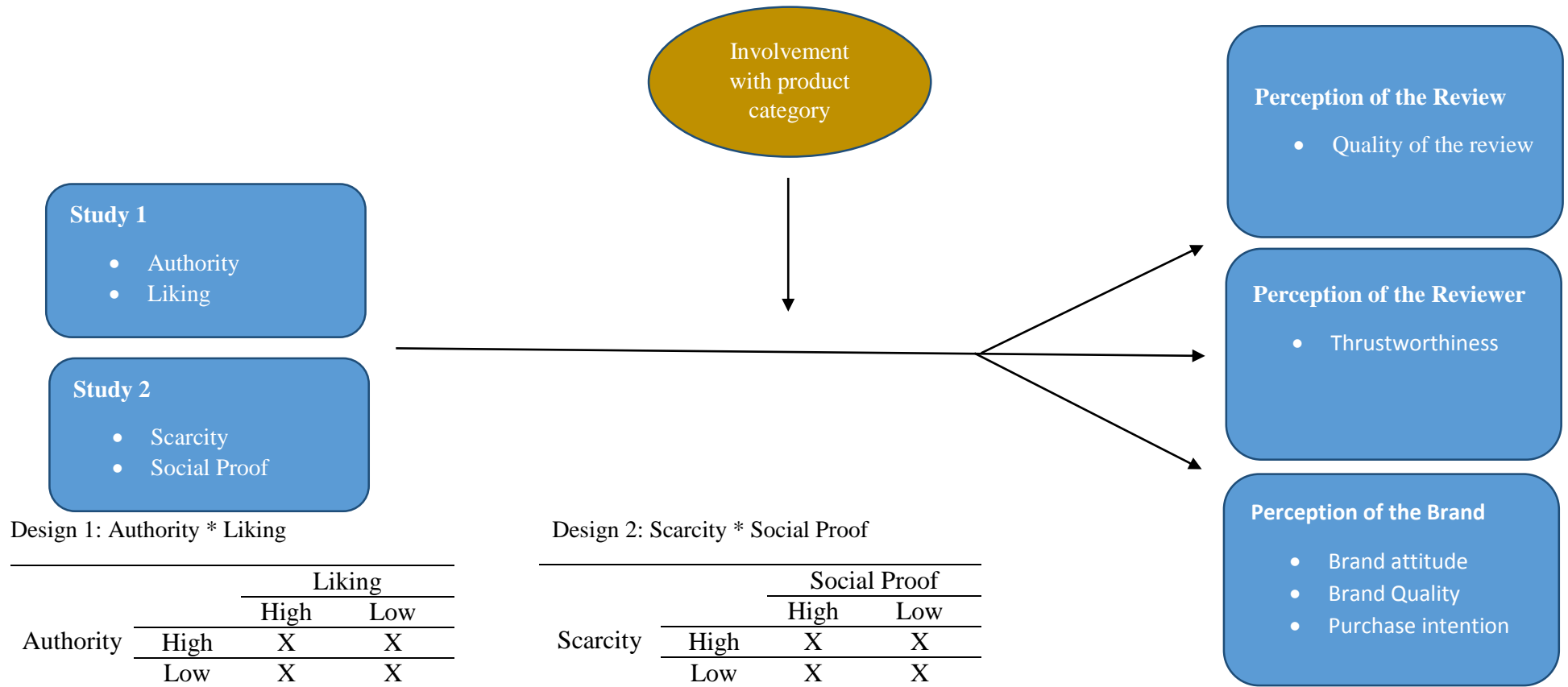|		Social Proof	
		High	Low
Scarcity	High	X	X
	Low	X	X

Figure 5. Research design for measuring the effect of persuasion on attitude toward the review, reviewer and brand.

Selecting the stimulus material

As demonstrated in prior research, expertise has a positive influence on the impact of a message (Bone, 1995; Lo, 2014; Vermeulen & Seegers, 2009). Therefore it has been decided to add a description of the reviewer to the review in order to manipulate authority. In the high authority condition, the reviewer is an expert (professional photographer), in the low authority condition, the reviewer is just registered to write a review and has no cues of expertise in his description.

As mentioned by Cheung and Thadani (2010) and Kiecker and Cowles (2001) a message is more persuasive when perceived attractiveness is greater. A likeable picture with cues of attractiveness might contribute to a greater perceived attractiveness. Therefore a photo of the reviewer is added in the high liking situation. In the low liking situation, a standard image has been used, containing less likeability.

Perceived scarcity contributes, according to the theory of Cialdini (2001), to a bigger demand. By supplying only one review, the specific review might be perceived as more relevant than in a situation in which over a 1000 reviews are available. The participant has, after all, to rely on the information in that specific review, because it is the only one available. Therefore, it has been decided to add the text 'review 1 out of 1' to the review in the high scarcity situation and 'review 1 out of 1390' in the low scarcity situation.

Due to the fact that a reader and creator of a review usually do not know one another, minor manipulations might influence the attitude of a reader. It is plausible that consumers create a more positive attitude toward a review if significant others have indicated that they find the review useful. Therefore, a percentage of people who assesses the review as useful has been added to the review. In the high social proof condition, 95% of the readers find it useful. In the low social proof condition, 23% of the readers find it useful.

Product category

There are a few differences with regard to product categories, therefore it is important to determine whether to use search goods or experience goods. Search goods can be described as products or product attributes wherefore a lot of information can be acquired before the purchase is done. Experience goods are dominated by attributes that are unknown to an individual until the purchase is done and/or for which the collection of information is more costly than experiencing the product directly (Klein, 1998; Nelson, 1970; Park & Lee, 2009). A book or a movie is an example of an experience good. Next to search and experience goods, there are credence goods. Darby and Karni (1973) define credence products as product attributes an individual can not (or can hardly) verify, even after using it. Medical treatment or supplements are examples of credence goods. The effect of e-WOM is greater for experience goods in contrast to search goods (Klein, 1998). During this research, search goods have been used in the stimulus material. Search goods are goods for which a lot of information can be acquired before the purchase is done. A consumer can collect information on the website of a company, on social media and on comparison platforms. It is likely that participants in this research have searched for information concerning search goods in the past. In the first study, a camera has been used in the stimulus material and in the second study a laptop; products which participants presumably have searched for in their personal life.

Participants

Participants have been asked to participate in the research by filling out an online questionnaire. The personal network of the researcher has been used to approach the participants. During the first week, participants have been personally invited via social network sites (direct messages on Twitter, Facebook and LinkedIn), by e-mail and by asking face-2-face. During the second week, ten participants within the network of the researcher shared the questionnaire among their friend and family, which eventually has resulted in 167 participants

in study one and 166 participants in study two. In study one, 71 of the participants are female and 96 of the participants are male, as demonstrated in Table 1. In study two, 70 females have participated and 96 of the participants are male, as demonstrated in Table 2. All the data has been collected within a two week period, between the 14th of February and the 28th of February. All the participants are Dutch citizens, aged 18 years or older, who did participate voluntarily and anonymously. The mean age is 26,7.

Table 1. *Distribution of gender in study one*

		n
Gender	Male	96
	Female	71

Table 2. *Distribution of gender in study two*

		n
Gender	Male	96
	Female	70

Measures

Several scales have been retrieved from the Marketing Scales Handbook by Bruner II (2009), which consists of a variety of scales used in former research. The independent variables authority, liking, scarcity and social proof have been controlled by the questions for expertise, likeability, scarcity and popularity of the review. For authority, an expertise scale from Ohanian (1990; 1991) has been used. The scale consists of four items, with anchors ranging from 1 = strongly disagree to 5 = strongly agree. The scale has proven to be reliable in study 1 (α = 0.80) and study 2 (α = 0.80). Liking has been measured by the likeability scale from Whittler and Dimeo (1991), consisting of four items. A five-point Likert-scale, ranging from 1 = strongly disagree to 5 = strongly agree has been used. The scale has proven to be reliable in study 1 (α = 0.75) and in study 2 (α = 0.83). For scarcity, the third independent variable, one item has been used. A five point Likert-scale has been used, with anchors from 1 = strongly

disagree to 5 = strongly agree. The fourth and last independent variable is social proof, wherefore the popularity (of the review) scale from Bell, Holbrook and Solomon (1991) has been used. The scale consists of 4 items with anchors ranging from 1 = strongly disagree to 5 = strongly agree. The scale has proven to be reliable in study 1 ($\alpha = 0.77$) and in study 2 ($\alpha = 0.88$).

All the dependent variables have proven to be reliable, just like the moderator. For all the variables, a five-point Likert-scale has been used, which anchors from 1 (strongly disagree) to 5 (strongly agree) For the review quality, a scale of Park et al. (2007) has been used. Results indicated a reliable scale for both study 1 ($\alpha = 0.70$) and study 2 ($\alpha = 0.79$). To measure the trustworthiness of the reviewer, a scale of Ohanian (1990) has been used. Study 1 ($\alpha = 0.84$) and study 2 ($\alpha = 0.80$) show both reliable results. To measure the attitude toward the brand, a scale of Sengupta and Johar (2002) has been used. Again, study 1 ($\alpha = 0.75$) and study 2 ($\alpha = 0.87$) show reliable results. A scale of Petrick (2002) has been used to measure the quality of the brand. The scale has proven to be reliable in study 1 ($\alpha = 0.82$) and study 2 ($\alpha = 0.87$). Purchase intention is measured by using a scale of Baker and Churchill (1977). The scale is reliable for study 1 ($\alpha = 0.84$) and study 2 ($\alpha = 0.87$). Involvement with the product category, the moderator during both studies, has been measured by using a scale of Coulter et al. (2003). The scale has proven to be reliable for both study 1 ($\alpha = 0.82$) and study 2 ($\alpha = 0.78$).

Reliability of the construct

Table 3.
An overview of the internal consistency for study 1.

Variables	Scale	Items	Cronbach's Alpha
Independent	Expertise reviewer	4	α 0.80
	Likeability reviewer	4	α 0.75
	Popularity review	4	α 0.77
Dependent	Review Quality	5	α 0.70
	Trustworthiness reviewer	3	α 0.84
	Brand attitude	3	α 0.75
	Quality of brand	3	α 0.82
	Purchase intention	3	α 0.84
Moderator	Involvement product category	4	α 0.82

Table 4.

An overview of the internal consistency for study 2.

Variables	Scale	Items	Cronbach's Alpha
Independent	Expertise reviewer	4	α 0.80
	Likeability reviewer	4	α 0.83
	Popularity review	4	α 0.88
Dependent	Review Quality	5	α 0.79
	Trustworthiness reviewer	3	α 0.80
	Brand attitude	3	α 0.87
	Quality of brand	3	α 0.87
	Purchase intention	3	α 0.87
Moderator	Involvement product category	4	α 0.78

Procedure

Data has been gathered by the use of an online questionnaire, which is developed in Qualtrics. The questions are all written in the Dutch language (Appendix B). The questionnaire starts with a concise introduction regarding the study. After the introduction, demographical questions have been asked, followed by the stimulus material. There are eight conditions (four in study one and four in study two), which have randomly been shown to the participants. For study one, the stimulus material consists of cues with a high and/or low level of authority and a high and/or low level of liking. In the second study, the stimulus material consists of cues with a high and/or low level of scarcity and a high and/or low level of social proof. The text of the review is the same in every condition, as shown in the questionnaire in Appendix B.

Experimental setting

As mentioned above, the review-text has been the same in every condition. The persuasive cues did differ in the eight different conditions. The following combinations have been made in the different combinations:

Study one did, in the positive version of the stimulus material, contain a picture of a friendly looking person with a camera (manipulation for liking) and a description of a 'professional photographer' (manipulation for authority). The contrary stimulus material did not contain a picture, but a standard stock photo from Beslist.nl (liking low) and the description 'registered' instead of professional photographer (authority low). According to Ohanian (1990; 1991) a perceived image of a spokesperson can have an impact on the purchase intention. By adding a photo of a friendly looking person to the review, the review becomes more personal and therefore readers presumably like it more.

Study two did contain the volume / amount of available reviews with regard to the product (laptop). In the positive version, with a high level of scarcity, 1 out of 1 review was available, in the version with a low level of scarcity, 1 out of 1309 reviews were available. Social proof has been the other cue in the second study. In the situation with a high level of social proof, 95% of the readers of the review found the review useful, in the contrary situation, 23% of the readers found it useful.

Manipulation check pre-test

Prior to the main study, a pre-test has been conducted to ensure to correct implementation of the independent variables. 12 volunteers participated anonymously in the study. The participants have been asked to fill out an online questionnaire, in which 8 different situations where shown. After every situation, four different independent variables were tested, by the use of four scales, derived from the Marketing Scale Handbook (2009). An independent samples T-test has been conducted to test if there was a statistically significant difference

between the sample means of the independent variables authority, scarcity, liking and social proof. The results show significant results for all the manipulations. The independent samples T-test indicates the presence of the main effect for (study 1) scarcity ($t(46)$ = -8.69, $p < .01$), with in the high scarcity situation (M = 1.33, SD = .64) and (M = 4.17, SD = 1.46) in the low scarcity condition. Authority ($t(46)$ = 5.71, $p < .01$), with in the high authority condition (M = 4.10, SD = .44) and (M = 3.18, SD = .67) in the low liking condition. For study 2: liking ($t(46)$ = 2.51, p = .016), with in the high liking condition (M = 3.81, SD = .53) and (M = 3.46, SD = .89) in the low liking condition. Social proof ($t(46)$ = 14.01, $p < 0.01$), with in the high social proof condition (M = 4.48, SD = .47) and in the low social proof condition (M = 2.41, SD = .56). All the manipulations in the stimulus material show significant results, strong enough to start gathering the data.

(A note regarding the potentially confusing means for scarcity. The control question for scarcity refers to the amount of reviews available. In the high scarcity condition, only 1 review has been available, the low scarcity condition contains 1309 reviews.)

RESULTS

Introduction to result section

In total, there are four independent variables in this study. In study 1, authority and liking are the independent variables, in study 2 scarcity and social proof. The dependent variables are perception of the review (quality of the review), perception of the reviewer (trustworthiness of the reviewer) and perception of the brand (brand attitude, quality of the brand and purchase intention) have been used to measure the dependent variables in both studies. Involvement with the product category has been the moderator in both studies.

Table 5 gives an overview of the direct effects (mean and standard deviation) of study 1. Table 6 gives an overview of the main effects of study 1 (sum of squares, F-value and p-value) and tables 7 and 8 show the interaction effects (mean and standard deviation) of study 1. Tables 9 gives an overview of the direct effects (mean and standard deviation) of study 2. Table 10 contains an overview of the main effect of study 2 and tables 11 and 12 demonstrate the interaction effect of study 2. In order to test the hypotheses, an univariate analysis of variance (ANOVA) has been conducted for both studies.

Results study 1

In order to ensure a clear demonstration of the results, the results are explained within the text and displayed in tables. The tables consist of different scales, which refer to the dependent variables in the research model. The quality of the review, the first scale in the table, refers to the dependent variable perceived attitude toward the review. Trustworthiness refers to the perceived attitude toward the reviewer. Brand attitude, quality of the brand and purchase intention refer to the perceived attitude toward the brand. The results in this section apply to the independent variables authority (of the reviewer) and liking (of the reviewer).

Table 5.

The direct effects of authority and liking.

	Authority low	Authority high	Liking low	Liking high
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*
Quality of review	3.63(.56)	3.70(.57)	3.58(.64)	3.77(.45)
Trustworthiness	3.52(.59)	3.53(.58)	3.45(.63)	3.61(.52)
Brand attitude	3.07(.60)	3.18(.59)	3.09(.65)	3.16(.52)
Quality of Brand	3.13(.59)	3.25(.61)	3.15(.66)	3.23(.52)
Purchase intention	2.58(.73)	2.68(.80)	2.64(.75)	2.62(.78)

The mean is higher for all the dependent variables in the high authority condition, in which the description *professional photographer* had been assigned to the reviewer, instead of *registered*, in the low authority situation. The mean score of perceived quality of the review, trustworthiness of the reviewer and brand attitude is higher in the high liking situation, in which a picture of an likeable photographer has been used, instead of a standard photo. Only the purchase intention has a slightly lower mean-score in the high liking condition.

As the results in table 6 demonstrate, there is no significant difference between high authority and low authority on quality of the review(F (1, 165) = .65, p = .42), trustworthiness of the reviewer (F (1, 165) = .01, p = .91), attitude toward the brand (F (1,165) = 1.57, p= .21), quality of the brand (F (1, 165) = 1.50, p = .22) and purchase intention (F (1,165 = .76, p = .39), therefore hypothesis 1 - high authority of the reviewer leads to a more positive attitude toward (a) the review, (b) the reviewer and (c) the brand than low authority of the reviewer - can not be confirmed.

For the second hypothesis - high liking of the reviewer leads to a more positive attitude toward (a) the review, (b) the reviewer and (c) the brand than low liking of the reviewer - two of the five dependent variables show (marginally) significant results. The results indicate a

significant main effect of liking on the quality of the review (F (1, 165) = 5.05, p = .03). This means that participants in the high liking condition (M = 3.77, SD = .45) did perceive the quality of the review higher than in the low liking condition (M = 3.58, SD = .64). The results indicate a marginally significant effect for liking on trustworthiness of the reviewer (F (1, 165) = .01, p = .08). This means that participants in the high liking condition (M = 3.61, SD = .52) did perceive the trustworthiness of the reviewer slightly higher than in the low liking condition (M = 3.45, SD = .63). No significant effect has been found for liking on brand attitude (F (1, 165) = .53, p = .47), quality of the brand (F (1, 165) = .67, p = .42) and purchase intention (F (1, 165) = .03, p = .87). Therefore, hypothesis 2a can be confirmed, 2b can be marginally confirmed. Hypothesis 2c can not be confirmed.

As demonstrated in table 6, there is no interaction effect between liking and authority with regard to the attitude toward the review (F (3, 163) = 2.01, p = .11), trustworthiness of the reviewer (F (3, 163) = 1.77, p = .15), attitude toward the brand (F (3, 163) = 1.08, p = .36), quality of the brand (F (3, 163) = 1.00, p = .39) and purchase intention (F (3, 163) = .57, p = .64).

Table 6.

The direct main effects of study 1

Parameter	Dependent variable	Sum of squares	*F*-value	*p*-value
Authority	Quality of review	.21	.65	.42
	Trustworthiness	.004	.01	.91
	Brand attitude	.55	1.57	.21
	Quality of brand	.54	1.50	.22
	Purchase intention	.45	.76	.39
Liking	Quality of review	1.59	5.05	.03
	Trustworthiness	1.03	3.06	.08
	Brand attitude	.19	.53	.47
	Quality of brand	.24	.67	.42
	Purchase intention	.02	.03	.87
Authority*Liking	Quality of review	1.91	2.01	.11
	Trustworthiness	1.79	1.78	.15
	Brand attitude	1.15	1.08	.36
	Quality of brand	1.09	1.00	.39
	Purchase intention	1.01	.57	.64

Table 7.

The interaction effect of study 1.

Study 1 Authority*Liking	Authority low		Authority high		Liking low		Liking high	
	Involvement		Involvement		Involvement		Involvement	
	High	Low	High	Low	High	Low	High	Low
Quality of review	3.65(.59)	3.61(.53)	3.88(.40)	3.56(.66)	3.64(.63)	3.50(.66)	3.88(.33)	3.66(.53)
Trustworthiness	3.59(.49)	3.43(.69)	3.61(.50)	3.47(.65)	3.53(.52)	3.36(.73)	3.68(.44)	3.55(.59)
Brand attitude	3.19(.52)	2.89(.65)	3.32(.58)	3.06(.59)	3.23(.57)	2.93(.72)	3.27(.53)	3.05(.50)
Quality of brand	3.26(.47)	2.95(.69)	3.42(.47)	3.10(.68)	3.35(.57)	2.91(.77)	3.30(.46)	3.16(.49)
Purchase intention	2.74(.69)	2.35(.72)	2.96(.77)	2.44(.76)	2.81(.72)	2.44(.76)	2.88(.76)	2.37(.73)

As demonstrated in table 8, there is no interaction effect between involvement and authority. Therefore it can be stated that involvement is not a moderator for authority; hypothesis 5 - if a consumer is low involved, the effect of high authority of the reviewer, compared to low authority the reviewer on a) the review, b) the reviewer and c) the brand, should be stronger, compared to someone who is high involved - can not be confirmed. There is a marginal interaction effect between involvement and liking on the quality of the brand ($F (1, 163) = 2.85$, $p = .09$). This means that participants in the high liking condition who are highly involved with the product category ($M = 3.30$, $SD = .46$) perceive the quality of the brand higher than in the low

involvement condition ($M = 3.16$, $SD = .49$) and participants in the low liking condition who are highly involved ($M = 3.35$, $SD = .57$) perceive the quality of the brand higher than in the low involvement condition ($M = 2.91$, $SD = .77$). Figure 6 contains a graph in which the interaction effect between involvement and liking on the perceived brand quality is demonstrated. Especially in the low liking condition, involvement affects the perceived brand quality. High liking has an effect on participants who are low involved. Therefore, hypothesis 6 - If a consumer is low involved, the effect of high liking of the reviewer, compared to low liking of the reviewer on a) the review, b) the reviewer and c) the brand, should be stronger, compared to someone who is high involved – can partially be confirmed. Hypothesis 6a and 6b can not be confirmed, hypothesis 6c can partially be confirmed.
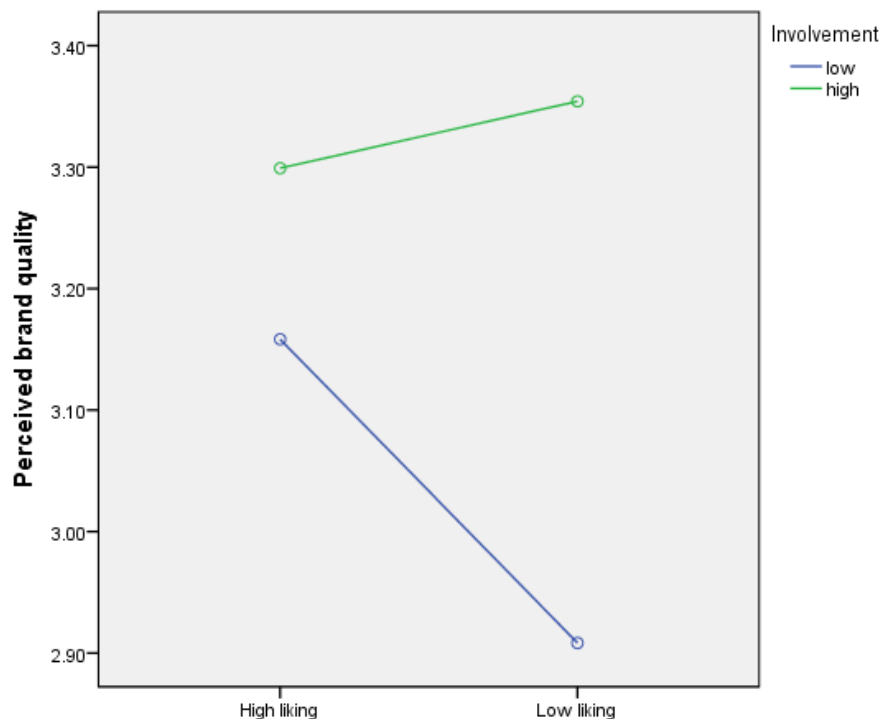

Figure 6. Graph for marginal interaction effect between liking and involvement on perceived quality of the brand

Table 8.

The interaction effect between authority and involvement on the dependent variables.

Parameter study1	Dependent variable	Sum of squares	F-value	p-value
Authority*involvement	Quality of review	.74	2.34	.13
	Trustworthiness	.01	.03	.86
	Brand attitude	.01	.04	.85
	Quality of brand	.004	.01	.92
	Purchase intention	.18	.38	.57
Liking*involvement	Quality of review	.07	.22	.64
	Trustworthiness	.03	.08	.78
	Brand attitude	.06	.18	.67
	Quality of brand	.96	2.85	.09
	Purchase intention	.23	.43	.52

Results study 2

The results in this section apply to the independent variables scarcity (of reviews) and social

proof (of a review).

Table 9.

The direct main effects of study 2.

	Scarcity low	Scarcity high	Social proof low	Social proof high
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*
Quality of review	3.66(.66)	3.57(.45)	3.51(.62)	3.73(.48)
Trustworthiness	3.49(.67)	3.41(.69)	3.42(.67)	3.49(.69)
Brand attitude	3.08(.69)	2.84(.69)	2.90(.73)	3.02(.66)
Quality of brand	3.02(.63)	3.00(.60)	2.96(.65)	3.07(.56)
Purchase intention	2.67(.82)	2.42(.87)	2.51(.88)	2.59(.82)

The mean score is higher for every dependent variable in the high social proof

condition. The mean score is lower when the scarcity condition is high, which is in line with

the expectations.

As the results in table 10 demonstrate, no significant effect has been found for scarcity

on quality of the review ($F (1, 164) = 1.05$, $p = .31$), trustworthiness ($F (1, 164) = .66$, $p = .42$)

and quality of the brand ($F (1, 164) = .04$, $p = .84$). There is a significant effect of scarcity on

brand attitude ($F (1, 164) = 4.94$, $p = .03$) and a marginally significant effect of scarcity on the

purchase intention of the reviewer ($F (1, 164) = 3.44$, $p = .07$). The number of available reviews

has a significant effect on the attitude toward the brand. In this case, participants in the high

scarcity situation ($M = 2.84$, $SD = .69$) have a lower attitude toward the brand than in the low

scarcity situation ($M = 3.08$, $SD = .69$). For the purchase intention, participants in the high

scarcity condition ($M = 2.42$, $SD = .87$) have a lower purchase intention than in the low scarcity

condition ($M = 2.67$, $SD = .82$). Therefore, hypothesis 3 - High scarcity of reviews leads to a

more positive attitude toward the a) review, b) reviewer and a less positive attitude toward c) the brand compared to low scarcity of reviews - can partially be confirmed. Hypotheses 3a and 3b can not be confirmed, hypothesis 3c can partially be confirmed.

Hypothesis 4 - high social proof of a review leads to a more positive attitude toward (a) the review, (b) the reviewer and (c) the brand than low social proof of a review - can partly be confirmed. Social proof has a significant effect on the quality of the review (F (1, 164) = 6.75, p = .01). This means that the participants in the high social proof situation (M = 3.73, SD = .48) did perceive the quality of the review higher than in the low social proof situation (M = 3.51, SD = .62). Therefore hypothesis 4a can be confirmed. Social proof has no significant effect on trustworthiness of the reviewer (F (1, 164) = .41, p = .53), brand attitude (F (1, 164) = 1.31, p = .26), quality of the brand (F (1, 164) = 1.32, p = .25) and purchase intention (F (1, 164) = .34, p = .56). Therefore, hypothesis 4b and 4c can not be confirmed.

As demonstrated in table 10 and figure 7, there is an interaction effect between scarcity and social proof on the perceived quality of the review (F (3, 162) = 2.67, p = .05). This means that participants in the high scarcity and high social proof condition (M = 3.68, SD = .37) perceive the quality of the review higher than in the high scarcity and low social proof condition (M = 3.45, SD = .49) and participants in the low scarcity and high social proof condition (M = 3.78, SD = .57) perceive the quality of the reviewer higher than in the low scarcity and low social proof condition (M = 3.55, SD = .57). Results demonstrate a marginal significant interaction effect between scarcity and social proof on the attitude toward the brand (F (3, 162) = 2.45, p = .07). This means that participants in the high scarcity and high social proof condition (M = 2.86, SD = .74) perceive the quality of the review slightly lower than in the low scarcity and high social proof condition (M = 3.20, SD = .51) and participants in the high scarcity and low social proof condition (M = 2.83, SD = .64) perceive the quality of the reviewer slightly lower than in the low scarcity and low social proof condition (M = 2.97, SD = .81).

Figure 8 contains a graph with the interaction effect between scarcity and social proof on the attitude toward the brand. No interaction effect between scarcity and social proof has been found on the trustworthiness of the reviewer (F (3, 162) = 1.08, p = .36), quality of the brand (F (3, 162) = .77, p = .51) and purchase intention (F (3, 162) = 1.29, p = .28).

Table 10.

The direct main effects and interaction effect between scarcity and social proof.

| Parameter	Dependant variable	Sum of squares	F-value	p-value
Scarcity	Quality of review	.33	1.05	.31
	Trustworthiness	.30	.66	.42
	Brand attitude	2.35	4.94	.03
	Quality of brand	.02	.04	.84
	Purchase intention	2.47	3.44	.07
Social Proof	Quality of review	2.08	6.75	.01
	Trustworthiness	.19	.41	.53
	Brand attitude	.63	1.31	.26
	Quality of brand	.49	1.32	.25
	Purchase intention	.25	.34	.56
Scarcity*Social Proof	Quality of review	2.48	2.67	.05
	Trustworthiness	1.48	1.08	.36
	Brand attitude	3.48	2.45	.07
	Quality of brand	.87	.77	.51
	Purchase intention	2.80	1.29	.28
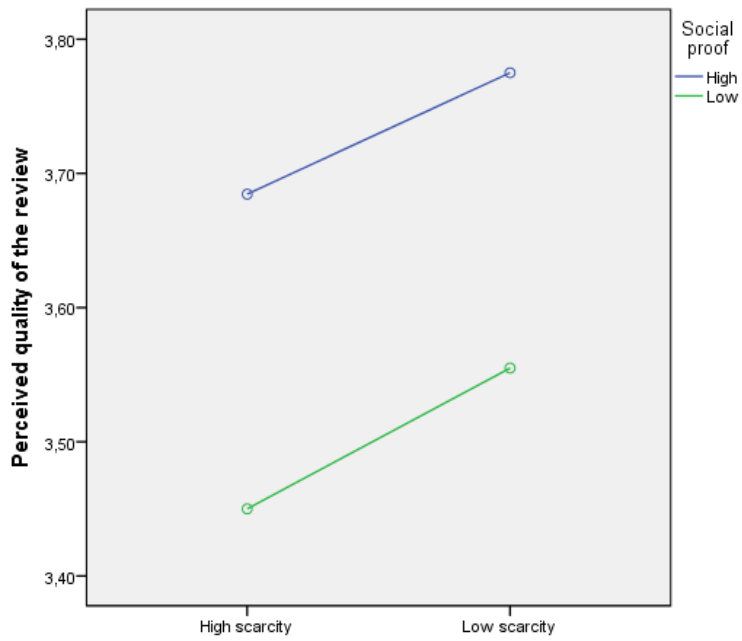
Figure 7. Graph for interaction effect between social proof and scarcity on perceived quality of the review.
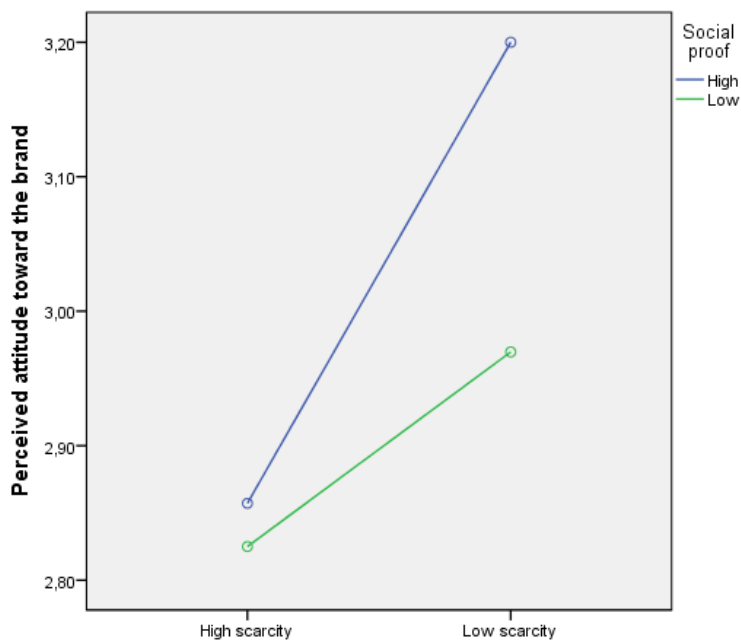

Figure 8. Graph for interaction effect between social proof and scarcity on perceived attitude toward the brand.

Table 11

interaction effect between the independent variables and involvement on the dependent variables.

Study 2 Scarcity*Social Proof	Scarcity Low		Scarcity High		Social Proof Low		Social Proof High	
	Involvement		Involvement		Involvement		Involvement	
	High	Low	High	Low	High	Low	High	Low
Quality of review	3.67(.75)	3.66(.52)	3.51(.51)	3.64(.36)	3.38(.72)	3.68(.38)	3.83(.45)	3.61(.49)
Trustworthiness	3.49(.70)	3.50(.62)	3.42(.63)	3.39(.76)	3.32(.68)	3.55(.63)	3.61(.62)	3.33(.74)
Brand attitude	2.99(.72)	3.22(.56)	2.85(.67)	2.83(.72)	2.81(.76)	3.03(.68)	3.04(.65)	3.00(.67)
Quality of brand	2.95(.67)	3.12(.54)	3.01(.53)	2.99(.67)	2.88(.66)	3.07(.64)	3.09(.53)	3.04(.58)
Purchase intention	2.59(.80)	2.78(.86)	2.37(.93)	2.48(.81)	2.37(.88)	2.70(.87)	2.61(.84)	2.56(.82)

To measure the moderating effect of involvement in study 2, an univariate analysis of variance (ANOVA) has been conducted. For hypothesis 7, the effect of involvement on scarcity and the dependent variables quality of the review (F (1, 162) = .62, p = .43), trustworthiness of the reviewer (F (1, 162) = .06, p = .81) brand attitude (F (1, 162) = 1.28, p = .26), quality of the brand (F (1, 162) = .88, p = .35) and purchase intention (F (1, 162) = .11, p = .75), show no significant results. Therefore, hypothesis 7 - if a consumer is low involved, the effect of high scarcity of reviews, compared to low scarcity of reviews on a) the review and b) the reviewer, should be stronger, compared to someone who is high involved and the effect of high scarcity of reviews, compared to low scarcity of reviews on c) the brand, should be less strong, compared to someone who is high involved - can not be confirmed.

As demonstrated in table 12, the interaction between social proof and involvement shows an effect on quality of the review (F (1, 162) = 9.57, $p < .01$). Although this result is significant, it is contrary to the expectations. Participants in the high social proof condition who are highly involved with the product category ($M = 3.82$, $SD = .45$) perceive the quality of the brand higher than in the low involvement condition ($M = 3.61$, $SD = .48$) and participants in the low social proof condition who are highly involved ($M = 3.38$, $SD = .72$) perceive the quality of the brand lower than in the low involvement condition ($M = 3.68$, $SD = .38$). Figure 9 contains an overview of the interaction effect between involvement and social proof on the perceived review quality. The results do not indicate a positive effect of social proof on participants who are low involved. Particularly participants who are highly involved with the product category do perceive the quality of the brand as more positive in the high social proof condition.

There is also an interaction effect between social proof and involvement on the trustworthiness of the reviewer (F (1, 162) = 5.82, $p = .02$). Although this result is significant, it is contrary to the expectations. Participants in the high social proof condition who are highly involved with the product category ($M = 3.61$, $SD = .62$) perceive the quality of the reviewer higher than in the low involvement condition ($M = 3.33$, $SD = .74$) and participants in the low social proof condition who are highly involved ($M = 3.32$, $SD = .68$) perceive the trustworthiness of the reviewer lower than in the low involvement condition ($M = 3.55$, $SD = .63$). Figure 10 contains an overview of the interaction effect between involvement and social proof on the perceived trustworthiness of the reviewer. The results do not indicate a positive effect of social proof on people who are low involved with the product category. Participants who are highly involved do perceive the trustworthiness of the reviewer as more positive in the high social proof condition. No significant interaction effect has been found between social proof and involvement and the dependent variables brand attitude (F (1, 162) = 1.46, $p = .23$),

quality of the brand (F (1, 162) = 1.61, p = .21) and purchase intention (F (1, 162) = 1.92, p = .17). Hypothesis 8 - If a consumer is low involved, the effect of high social proof of a review, compared to low social proof of a review on a) the review, b) the reviewer and c) the brand, should be stronger, compared to someone who is high involved – can, although significant results have been found, not be confirmed. The effect of high social proof on participants who are low involved is not stronger compared to someone who is high involved.

Table 12.

Interaction effect between the independent variables and moderator on the dependent variables.

| Parameter study 2	Dependent variable	Sum of squares	*F*-value	*p*-value
Scarcity*involvement	Quality of review	.20	.62	.43
	Trustworthiness	.03	.06	.81
	Brand attitude	.61	1.28	.26
	Quality of brand	.33	.88	.35
	Purchase intention	.08	.11	.75
Social Proof*involvement	Quality of review	2.81	9.57	.002
	Trustworthiness	2.61	5.82	.02
	Brand attitude	.71	1.46	.23
	Quality of brand	.60	1.61	.21
	Purchase intention	1.39	1.92	.17
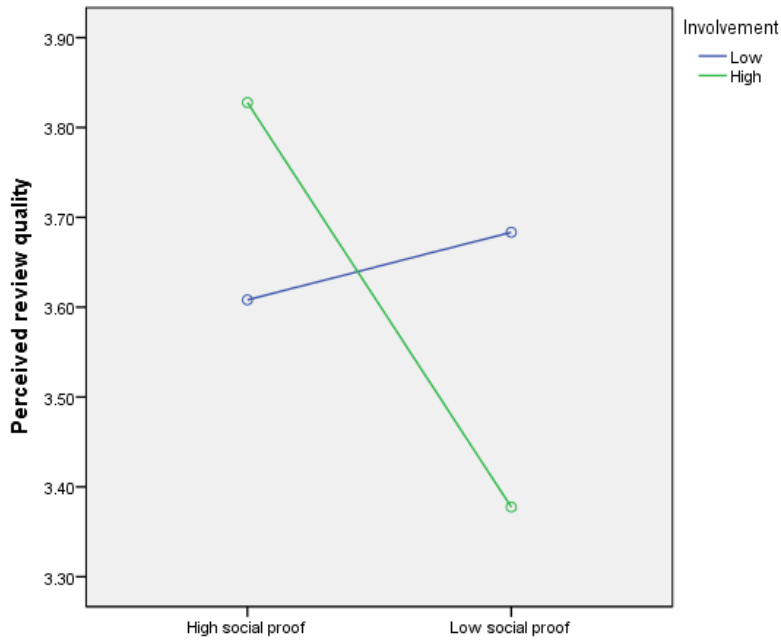
Figure 9. Graph for interaction effect between social proof and involvement on perceived quality of the review.
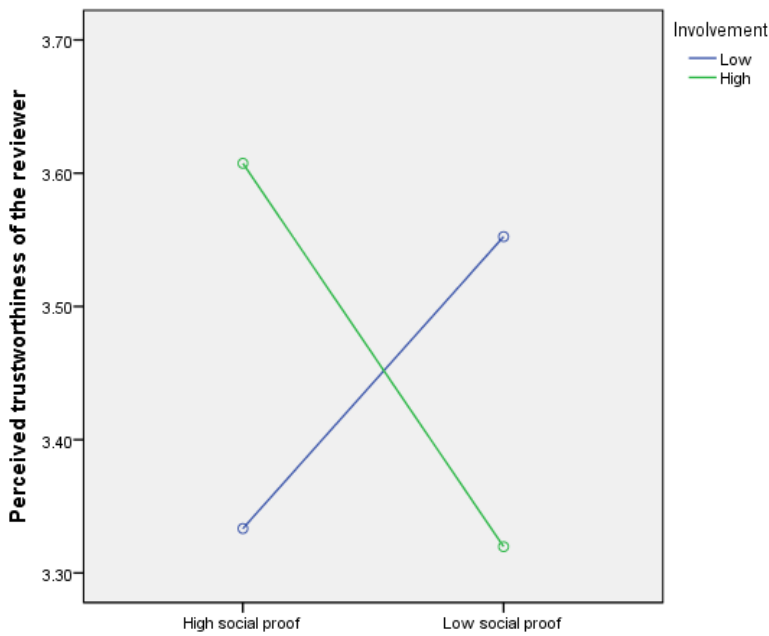

Figure 10. Graph for interaction effect between social proof and involvement on perceived trustworthiness of the reviewer.

DISCUSSION

During this research, the effect of the persuasive heuristics authority, liking, scarcity and social proof on the attitude toward the review, reviewer and brand has been studied. Involvement with the product category has been used as a moderator.

Although not all of the hypotheses are confirmed, a number of significant results have been found. In study 1, significant results were found for the effect of liking on the quality of the review, liking on trustworthiness of the reviewer (marginally) and a marginally significant interaction effect between involvement and liking on the quality of the brand.

In study 2, a significant result has been found for the effect of scarcity on brand attitude and a marginally significant effect of scarcity on purchase intention. Social proof has a significant effect on the perceived quality of the review. Also an interaction effect has been found between the independent variables scarcity and social proof on the quality of the review and a marginally significant interaction effect between scarcity and social proof on the dependent variable brand attitude. Finally, an interaction effect has been found between involvement with the product category and social proof on the quality of the review and on the trustworthiness of the reviewer.

Although prior research of Huang et al. (2011), Lo (2014) and Vermeulen and Seegers (2009) indicated an effect of authority of a reviewer on the attitude of a consumer, no significant results for authority have been found in this study. Authority in the description of the reviewer seems to have no significant influence on the perception of the reader of a review toward the review, reviewer and brand. Vermeulen and Seegers (2009) found only a minor positive effect of reviewer expertise on the impact of the review by the consumer. Presumably, the level of expertise in the stimulus material in this study was not strong enough to find an effect of authority. The stimulus material consisted of several cues which might have distracted the attention of the reader of a review too much to find a significant effect of authority on the

attitude of a consumer. The stimulus material contained, next to the review, product information and a part of a website. This might have distracted the participant too much. Another reason for not finding significant results with regard to authority, is the probability that authority does not work for Dutch participants. During this research, only Dutch individuals participated. Authority of a reviewer might be of less influence on a Dutch review reader. Presumably Dutch consumers do not believe the reviewer is an expert, because they are not known to the person in a real-life situation. For future research, it would be recommendable to add more authoritarian cues to test the effect on the attitude of a consumer.

For liking, significant results have been found for the effect of this persuasive heuristic on the attitude toward the review and reviewer. No significant direct effect has been found for liking on the attitude toward the brand. According to Cheung and Thadani (2010) and Kiecker and Cowles (2001), attractiveness, a part of likeability, influences the way a reader of a review identifies himself with the source. Lee and Shin (2013) found that the presence of a photo of a reviewer distracts the attention from the review text, because the reader has to divide the attention between the photo and the text. This might be a reason for not finding a significant result for liking on the attitude toward the brand. Significant positive results have been found for liking on the attitude toward the review and reviewer; a photo of the reviewer has probably a bigger effect on personal characteristics than brand related characteristics.

According to Cialdini (2001), in case there is less available, the more valuable it becomes. Although this might be the case in a variety of situations, scarcity in e-WOM seems to work on the contrary. The volume of reviews as predictor of scarcity might not be a correct one. The expectation was that, if only one review was shown, the number of available reviews, as mentioned above the text in the stimulus material, would positively influence the attitude toward the review and the reviewer. The participant should, after all, retrieve the information with regard to the product from that specific review, because it is the only one available. This

research did not result in significant effects with regard to the attitude toward the review and reviewer, but it did result in a significant result on the attitude toward the brand. A lot of available reviews (1.390), as manipulated in the low scarcity condition, leads to a more positive attitude toward the brand and a higher purchase intention. These results are in line with prior research from Duan et al. (2008), Fu and Sim (2011) and Park et al. (2007). They demonstrated a positive effect of the quantity of reviews on the attitude of a consumer towards the brand. It reflects some kind of popularity. In their studies, more than one review has been shown, in this study, participants saw one review. Above the text, the amount of reviews has been shown. Consumers think that the product or service should be good enough for them, because many others did buy or use the product as well (Duan et al., 2008; Fu & Sim, 2011; Park et al., 2007).

Social proof has a significant positive effect on the quality on the review, but not a significant effect on the trustworthiness of the reviewer and the attitude toward the brand. As mentioned by Ratchford, Talukdar and Lee (2001) and Awad and Ragowsky (2008), a reviewer and reader of a review usually do not know one another. Therefore, a review should contain valuable information to gain trust in the information. Presumably, the information in the stimulus material did not contain enough valuable information to find significant results for the attitude toward the reviewer (trustworthiness) and attitude toward the brand.

Just like in research from Park et al. (2007), significant results were found for an interaction effect between social proof and involvement; one on the perceived quality of the review and one on the perceived trustworthiness of the reviewer. The expectation was that low involved participants would perceive the quality of the review and trustworthiness of the reviewer higher in the high social proof condition, but the results are the opposite; high involved participants perceive the quality of the review and trustworthiness of the reviewer higher in the high social proof condition. Participants in the high social proof condition, who are high involved, perceive the quality of the review remarkably high, quite a bit higher than in other situations.

Presumably, high involved Dutch consumers are looking for conformation and are therefore sensitive for social proof. It is also plausible that low involved Dutch consumers do not really care about social proof or do not take the manipulation seriously. The mean score of low involved participants is almost the same in the high and low social proof condition.

A reason for not finding a lot of significant results might be that the manipulation in the stimulus material did not work. Although the pre-test did show significant results, not all the results are as expected. Probably the persuasive cues did not get enough attention; the review text might have taken too much attention. Consumers have to divide their attention between the text and cues surrounding the text (Lee & Shin, 2013). The persuasive cues could have been placed in a more prominent way in the stimulus material.

Another possible reason why the manipulation did not work, might be the fact that in both studies only two cues have been used. A combination of all the four heuristics might have worked better.

By emphasizing (in the introduction) the importance of checking the whole review - not only the text, but also the pictures surrounding the text - participants might be influenced more. Although the effect might be bigger when mentioning this issue, the results of the review might be less reliable. In a real life situation, consumers determine themselves what they read and what they use around the text.

MANAGERIAL IMPLICATIONS

The online environment enables consumers to consult a large amount of sources. From company websites to social media and comparison platforms, a consumer can and does consult different sources in the decision making process. Prior research already did demonstrate the impact of e-WOM and, in the context of this research, online product reviews, on the attitude of a consumer. Marketers should be aware of the importance of e-WOM. The question for the marketing department should not be *if* reviews are interesting to use, but *how* reviews should be used within a marketing strategy of the company.

Liking (likeability of the reviewer) has a positive effect on a consumer his or hers attitude toward the quality of a review and trustworthiness of the reviewer. As a marketer, it would be interesting to give reviewers the opportunity to personalize their (review-)account. Next to offering the possibility to personalize an account, provide the reviewer with easy to understand tips with regard to their profile picture and motivate reviewers to use a profile picture. Consumers who are low involved with the product category, are affected by likeability. This study demonstrates a positive effect on the perceived brand attitude of low involved participants, if a profile picture of the reviewer has been shown. By displaying a profile picture of the reviewer, marketers can persuade low involved consumers to perceive the quality of the brand as more positive.

Social proof has a direct effect on the attitude of a consumer toward the review quality. As a marketer, it would be interesting to give readers of a review the opportunity to like or dislike a review. It directly contributes to the attitude toward the brand. Consumers who are highly involved with a product category do perceive the review quality as more positive in a high social proof condition. The volume of reviews (low scarcity) directly affects the attitude of a consumer toward the brand and affects the purchase intention. A high amount of reviews indicates the popularity of a product; 'many others use it, so it should be good enough for me

too'. Even if only one review is shown, the fact that more reviews are available does influence a consumer. For marketers, especially marketers working for companies that receive a lot of reviews, it is important to mention the number of available reviews. Even if consumers do not read all the other reviews, the availability of a lot of reviews influences the attitude. Besides, a high volume of available reviews and a positive review score together, positively influence the perceived review quality and trustworthiness of the reviewer. Marketers should therefore motivate consumers to write a review about a product and stimulate to write the review in a positive way.

LIMITATIONS AND FUTURE RESEARCH

This research has a few limitations. One of the limitations of this study is the fact that not all the persuasive cues have been combined in the stimulus material. Although a variety of different combinations has been made, there was not enough capacity to test the effect of all combinations. Future researchers can, for example, use multivariate testing to determine which combination gives the best results.

A second limitation is the fact that during this study only two search goods have been used in the stimulus material; one product per study. It would be interesting to use different products to check whether the results differ. It would also be interesting for future research to use experience goods like movies or books or even credence goods, like medication.

According to Guadagno and Cialdini (2002; 2006), there are differences in the effect of persuasion in e-WOM between men and women. In one of their articles, titled 'persuade him by e-mail and her face-to-face', the differences are demonstrated. Because a lot of companies focus particularly on women or men, it is important and interesting for future research to know what the differences are between men and women after being exposed to persuasive cues surrounding a review text.

For future research, it would be interesting to test the differences in attitude among different age categories. More and more consumers use a device (laptop, pc, smartphone, tablet) to buy a product online. For a few years ago, only relatively young people where active online. Nowadays, elderly people are online as well. A lot of companies do request all their customers to use online channels for their practices. Because of that, people in different age categories are becoming more and more active online. This may change their shopping behaviour as well. For future research it would be interesting to see what the differences are within these age groups.

For future research, it would be interesting to conduct this research within different cultures. A lot of companies operate globally and have to deal with different cultural aspects and should therefore focus on the cultural differences. Companies can use the results to determine whether or not to create country-specific review pages to optimize the persuasive effect on the attitude of the consumer toward a review, reviewer and brand.

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Appendix A – English version online questionnaire

Demographics

      What is your gender?

      What is your age?

      What is your education level?

Involvement with product category (Coulter, Price & Feick, 2003)

      Cameras/Laptops:

      Are fun to me

      Are fascinating to me

      Are important to me

      Are exciting to me

Scarcity

      There are a lot of reviews available for this product

Popularity of the object (Bell, Holbrook & Solomon, 1991)

      The review is:

      Unpopular / popular

      Socially unacceptable / socially acceptable

      Undesired impression / desired impression

      Disapproved by others / approved by others

Product information (Park, Lee & Han, 2007)

      The review is objective

      The review is understandable

      The review is credible

      The review is clear

      In general, the quality of the review is high

Expertise of the reviewer (Ohanian, 1990, 1991)

The reviewer is:

Not an expert / expert

Inexperienced / experienced

Unqualified / qualified

Unskilled / skilled

Trustworthiness of the reviewer (Ohanian, 1990)

I Trust the author

The author makes trustful claims

The author is honest

Attitude toward the spokesman (Likeability of the reviewer) (Whittler & Dimeo, 1991)

The reviewer is:

Insincere / sincere

Unlikeable / likeable

Cold / warm

Unfriendly / friendly

Attitude toward the brand (Sengupta & Johar, 2002)

I think Ares/Hera is a very good brand

I think Ares/Hera is a very useful brand

My opinion of Ares/Hera is very favourable

Quality of brand (Petrick, 2002)

Ares/Hera is of an outstanding quality

Ares/Hera is dependable

Ares/Hera is reliable

Purchase intention (Baker & Churchill, 1977)

I would like to try this brand

I would buy this brand

I would actively seek out for this brand in order to purchase it

Appendix B – Dutch version online questionnaire

Demographics

1. Wat is uw geslacht?

2. Wat is uw leeftijd?

3. Welke opleiding volgt u momenteel of heeft u afgerond?

Involvement with product category

4. Camera's zijn voor mij persoonlijk:

   Leuk

   Fascinerend

   Belangrijk

   Opwindend

Scarcity

5. Er zijn veel reviews beschikbaar voor dit product

Popularity of the review

6. De review:

   Is niet populair / Is populair

   Is niet sociaal geaccepteerd / Is sociaal geaccepteerd

   Geeft een ongewenste indruk / Geeft een gewenste indruk

   Is afgekeurd door anderen / Is goedgekeurd door anderen

Quality of the review

7. De review is objectief

8. De review is begrijpelijk

9. De review is geloofwaardig

10. De review is helder

11. In het algemeen is de kwaliteit van de review hoog

Expertise of the reviewer

    12. De reviewer is

        Geen expert / Expert

        Onervaren / Ervaren

        Slecht ingelicht / Goed ingelicht

        Ongekwalificeerd / Gekwalificeerd

Trustworthiness of the reviewer

    13. Geef aan in welke mate u het met de volgende stellingen eens bent

        Ik vertrouw de reviewer

        De reviewer maakt overtuigende claims

        De reviewer is eerlijk

Likeability of the reviewer

    14. De reviewer is:

        Onoprecht / Oprecht

        Onaardig / Aardig

        Koud / Warm

        Onvriendelijk / Vriendelijk

Attitude toward the brand

    15. Ik denk dat Ares een erg goed merk is

    16. Ik denk dat Ares een erg bruikbaar merk is

    17. Mijn mening m.b.t. Ares is zeer positief

Quality of the brand

Het merk Ares is:

    18. Van een uitstekende kwaliteit

    19. Betrouwbaar

20. Geloofwaardig

Purchase intention

21. Ik zou dit merk willen uitproberen

22. Ik zou dit merk kopen

23. Ik zou actief op zoek gaan naar dit product om het te kopen

Appendix C – Stimulus Material

There are eight conditions added in the following sequence:

1. Authority high & liking high

2. Authority low & liking low

3. Authority low & liking high

4. Authority high & liking low

5. Scarcity high & social proof high

6. Scarcity low & social proof low

7. Scarcity high & social proof low

8. Scarcity low & social proof high

Ares EOS 600D Kit (18-55 IS II)

home > elektronica > fotografie > digitale camera's > ares digitale camera's

Specificaties

- Digitale camera
- Spiegelreflex
- Effectieve resolutie:..

Bekijk alle specificaties

Raad dit product aan

Vergelijk 41 shops ▶

Review Ares EOS 600D

Professioneel fotograaf

Begin dit jaar heb ik de Ares EOS 600D aangeschaft. Deze spiegelreflexcamera ligt goed in de hand en bevat een redelijke hoeveelheid aan instellingen. De Ares EOS 600D komt met een veelzijdige en compacte IS II-lens, welke voor mooie foto's zorgt. De 18-55mm lens betreft een instapmodel, maar doet zeker niet onder voor professionele lenzen. Wel wordt de kwaliteit van de foto's zichtbaar minder wanneer er wordt ingezoomd. De camera beschikt over een 2,5" LCD-scherm, waarop foto's vrij duidelijk zichtbaar zijn. Een van de grote voordelen van deze camera is de aanwezigheid van WiFi, waardoor foto's snel kunnen worden gedeeld.

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× *Ares EOS 600D Kit (18-55 IS II)*

KLEDING | SCHOENEN | MEUBELS | SPEELGOED | GAMES | WOONACCESSOIRES | ELEKTRONICA | ALLES

Ares EOS 600D Kit (18-55 IS II)

home > elektronica > fotografie > digitale camera's > ares digitale camera's

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Geregistreerd

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Geregistreerd

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× Ares EOS 600D Kit (18-55 IS II)

KLEDING · SCHOENEN · MEUBELS · SPEELGOED · GAMES · WOONACCESSOIRES · ELEKTRONICA · **ALLES**

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Hera Pavilion 17-e009ed (E6Z99EA)

KLEDING SCHOENEN MEUBELS SPEELGOED GAMES WOONACCESSOIRES ELEKTRONICA ALLES

Hera Pavilion 17-e009ed (E6Z99EA)

home > computers > systemen > laptops > hera laptops

Specificaties

- Notebook
- E1-2500 1.4 GHz
- Windows 8 64-bit

Bekijk alle specificaties

Raad dit product aan

Vergelijk 41 shops ▶

Review 1 van 1

Hera Pavilion 17-e009ed

Begin dit jaar heb ik de Hera Pavilion 17 aangeschaft. Deze slanke en lichte notebook is eenvoudig mee te nemen, ondanks het grote 17" beeldscherm. Het is standaard voorzien van de 64-bits versie van Windows 8 en beschikt over een snelle E1-2500 1,4 GHz processor. De Hera Pavilion start hierdoor snel op en draait programma's zoals Photoshop en InDesign zonder enige moeite. De notebook heeft problemen met het draaien van zware 3D-programma's. Over het strakke design ben ik zeer tevreden, echter ontstaan er snel krassen op de glanzende behuizing. Een beschermhoes is daarom geen overbodige luxe.

95% vindt deze review nuttig

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Hera Pavilion 17-e009ed (E6Z99EA)

KLEDING   SCHOENEN   MEUBELS   SPEELGOED   GAMES   WOONACCESSOIRES   ELEKTRONICA   **ALLES**

Hera Pavilion 17-e009ed (E6Z99EA)

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Raad dit product aan

Vergelijk 41 shops

Review 1 van 1.390

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× *Hera Pavilion 17-e009ed (E6Z99EA)* 🔍

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Bekijk alle specificaties

Raad dit product aan 🇹 🇮🇮 🇫

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👍👎 **95% vindt deze review nuttig**