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The Impact of Text Valence, Star Rating and Rated Usefulness in Online Reviews

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The influence of text valence, star rating and rated usefulness of online reviews on review readers' impression of the review and their positive word-of-mouth intention is tested in an experimental study (n = 431). In addition, we investigate the moderating role of review readers' product category involvement and susceptibility to interpersonal influence on the effect of the three review components. The influence of review text valence on evaluative responses is stronger for more highly involved people and for people who are more susceptible to interpersonal influence. The influence of rated review usefulness on review impression is marginally stronger for people who are more susceptible to interpersonal influence. Star ratings do not influence evaluative responses, and their effect is not moderated by either involvement or susceptibility.

Keywords: online reviews; review valence; review usefulness; review impression; word-of-mouth intention.

Introduction

Word-of-mouth (WOM) communications have been proven to influence both pre-purchase decisions as well as post-purchase product perceptions (Herr, Kardes, and Kim 1991; Matos and Rossi 2008; Sweeney, Soutar, and Mazzarol 2008). Online word-of-mouth communications, also referred to as "electronic word-of-mouth" (eWOM), are "any positive or negative statement made by potential, actual, or former customers

about a product or a company, which is made available to a multitude of people and institutions via the Internet” (Hennig-Thurau et al. 2004, p. 39). More and more people exchange or share product information on the Internet and this available information is increasingly used by other consumers to deliberate their purchase decision (Werbler 2009). eWOM is generally faster and more convenient than offline WOM, reaches mass audiences, and lacks face-to-face human pressure, all of which intensify the impact of communication (Phillips, Miller, and McQuarrie 2014).

Online consumer reviews – user-generated product information based on their personal experience – constitute one of the most prevalent forms of eWOM. Online reviews and other forms of eWOM have been shown to influence trust (Sparks and Browning 2011), perceived credibility (Mauri and Minazzi 2013), attitudes (Purnawirawan et al. 2015), quality perceptions (Torres, Singh, and Robertson-Ring 2015), behavioral intentions (Purnawirawan, De Pelsmacker, and Dens 2012), willingness to pay (Nieto-García, Munoz-Gallego, and González-Benito 2017) and sales for a variety of products including books (Forman, Ghose, and Wiesenfeld 2008), movies (Liu 2006), online games (Zhu and Zhang 2010), restaurants (Kim, Lim, and Brymer 2016) and hotels (Duverger 2013). For a complete review, we refer to the meta-analyses by Babić Rosario et al. (2016), Floyd et al. (2014), Purnawirawan et al. (2015) and You, Vadakkepatt, and Joshi (2015).

The effects of eWOM can be explained by the fact that the opinion of experienced other consumers is perceived as less intrusive than producer-generated content (e.g., advertising), because readers generally actively search for the information themselves (Winer 2009). Compared to advertising or other marketer-induced messages, information retrieved from user-generated sources is also generally perceived as more independent, credible and trustworthy, and consequently more useful, than

information generated by marketers (Bronner and de Hoog 2010; Mauri and Minazzi 2013). eWOM less likely triggers persuasion knowledge (i.e. the attitude bias that results from the awareness of a persuasion attempt) (Friestad and Wright 1994) since it is understood to be the real experience of other consumers. It is therefore crucial for companies and service providers to better understand how consumers process and respond to eWOM messages.

Consumers can express their online evaluation of products and services both in a written text and/or through a simple rating (e.g. star rating or score). Online reviews also often include a usefulness score based on passed readers' votes. Several authors have studied the influence of the review text valence (Purnawirawan et al. 2015), product rating (Floyd et al. 2014; Purnawirawan et al. 2015) and rated usefulness of the review (Korfiatis, García-Bariocanal, and Sánchez-Alonso 2012) on readers' responses. The results, however, are mixed. A possible reason for these mixed findings may be that the relative impact of these different features of a review on consumer responses and, more importantly, the conditions under which some features have a stronger impact than others, have not received a lot of research attention. Indeed, the extent to which prospective consumers take the various components of a review into account may be subject to boundary conditions. One relevant factor may be product involvement. It can be assumed that the relative importance of information-rich cues such as the text of a review may be more important for highly involved consumers, while more peripheral cues such as star or usefulness ratings may have more influence on less involved recipients. A second factor is an individual's susceptibility to interpersonal influence. This is a factor that is particularly relevant in an eWOM setting, since taking the impact of the opinion of others into account is a crucial feature of social media engagement. It can be assumed that the extent to which consumers take different reviews features into

account depends on their susceptibility to the opinion of others (Floyd et al. 2014). We propose that different components of a review will influence readers differently, depending on their involvement with the product and their susceptibility to interpersonal influence.

The purpose of the current study is thus to investigate the effects of three commonly encountered online review components, i.e. review text, review star rating, and rated usefulness of a review, on review readers' review impression and their positive WOM intention, for consumers with different levels of product category involvement and susceptibility to interpersonal influence. The theoretical contribution of the paper is that it adds to the knowledge about the processing of online reviews by simultaneously investigating the effect of three important components of reviews on consumer responses. Additionally, we provide insights into the boundary conditions of these effects by exploring the moderating effect of two characteristics of review recipients, one that relates to a general inclination that is particularly relevant in a social media context (susceptibility to interpersonal influence), and one that captures how strongly message recipients are involved with a product, a factor that has been shown to profoundly affect how individuals process information and make evaluations about products. Finally, we contribute to knowledge by not just measuring consumers' evaluative responses, but by also studying the effect of different features of online reviews and their boundary conditions on positive WOM intentions, a consumer response that is particularly relevant in a consumer-generated content environment, such as social media on which reviews are placed and read. Administrators of online review sites and marketers can use the results of the current study to optimize the impact of online reviews or to increase their relevance. The study is carried out in Belgium and set in the context of online reviews for a digital camera.

Literature review and hypotheses development

Online reviews and their effects on consumer behaviour and sales have attracted a plethora of research and has been the focus of four meta-analyses to date (Babić Rosario et al. 2016; Floyd et al. 2014; Purnawirawan et al. 2015; You, Vadakkepatt, and Joshi 2015). Across these studies, there is convincing evidence that review valence, i.e. the degree of positivity (rating) of the review(s) (Purnawirawan et al. 2015) strongly affects readers' attitude and behavioral intention as well as product sales. A more positive review induces a more favorable attitude toward the reviewed object (e.g., Lee and Youn 2009; Sen and Lerman 2007; Vermeulen and Seegers 2009), willingness to pay (Nieto-Garcia et al. 2017), purchase intention (Torres et al. 2015) and encourage sales (e.g., Chevalier and Mayzlin 2006; Forman, Ghose, and Wiesenfeld 2008). It is also well documented that reviews that are considered more helpful by consumers have stronger effects on consumer purchase decisions than other reviews (e.g., Cheung, Lee, and Rabjohn 2008; Purnawirawan, De Pelsmacker, and Dens 2012). In the present research, we research the extent to which readers' involvement and susceptibility to interpersonal influence moderate their (relative) reliance on eWOM valence (in text and ratings) and rated usefulness.

Involvement

Review readers' involvement, i.e., the personal relevance of the product (category), determines readers' motivation to process a review, and therefore affects the route to persuasion (Park, Lee, and Han 2007; Sussman and Siegal 2003). We propose that involvement will moderate the (relative) importance of the different review elements under study.

Dual-process theories, such as the elaboration likelihood model (ELM) (Petty and Cacioppo 1986) and the Heuristic-Systematic Model (HSM) (Chaiken 1980) prescribe that people can process persuasive messages by means of two major routes: the central route and the peripheral route to persuasion (ELM) or heuristically and systematically (HSM). The central route and/or systematic processing imply a high level of elaboration, and an effortful, systematic information processing strategy in which message-based cognitions drive persuasion (Cheung, Sia, and Kuan 2012; Dens and De Pelsmacker 2010). People processing messages systematically through the central route pay more attention to central cues, i.e., the arguments that a message contains (Petty and Cacioppo 1986). In the present research, we consider the (argument quality of the) review text containing a description of advantages and disadvantages of the product and an implicit or explicit recommendation as a central message component which allows readers to process information systematically and in an objective way (Baek, Ahn, and Choi 2012).

The peripheral route, or heuristic processing, in turn, involves a low level of elaboration, in which simple decision rules mediate persuasion and requires less cognitive effort (Baek, Ahn, and Choi 2012; Cheung, Sia, and Kuan 2012). Cues that are used while processing messages through the peripheral route are often non-content cues that lead to persuasion by means of simple decision rules (Baek, Ahn, and Choi 2012). In the context of the present study, we consider a star rating of a product (Poston and Speier 2005) and the rated usefulness of the review (Chen and Xie 2008; Korfiatis, García-Bariocanal, and Sánchez-Alonso 2012) as peripheral cues.

Dual-process models have previously been applied to understanding the influence of online reviews. Based on the ELM, Cheung, Lee, and Rabjohn (2008) used four dimensions of information quality, namely relevance, timeliness, accuracy, and

comprehensiveness, as central route factors and employed source expertise and source trustworthiness as peripheral cues. They found that only relevance and comprehensiveness significantly impact information adoption for online reviews. Zhang and Watts (2008) found that both argument quality (systematic processing) and source credibility (heuristic processing) can affect the adoption of online reviews in online communities. In line with the HSM, they further showed that disconfirming information reinforces the importance of argument quality and reduces the effect of source credibility. Kim, Maslowska, and Malthouse (2017) refer to both the ELM and HSM in testing how argument quality, star ratings, review helpfulness, source credibility, message sidedness, and reviewer recommendation influence purchase probability. As mentioned, involvement is a key component in the motivation to process and therefore in the route to persuasion. Highly involved consumers will be more motivated to process the message, and the persuasion will most probably occur systematically via the central route. Therefore, they will look for and rely more on central cues, such as arguments present in the text of a review. Low involvement, and thus low motivation, often implies that the persuasive message will be processed heuristically via the peripheral route and peripheral cues will therefore play a more important role in decision making (Park, Lee, and Han 2007). Low-involvement consumers tend to rely on decision aids in order to conserve cognitive resources and ease the purchase decision process (Mudambi and Schuff 2010; Todd and Benbasat 1992). Park, Lee, and Han (2007) found that both the quality (central route) and quantity (peripheral route) of online reviews positively affect consumers' purchase intention. They further showed that involvement moderates the effect from the quality of reviews, but not from the quantity of reviews. Lee, Park, and Han (2008) found that the persuasive effect of the proportion and the quality of negative reviews depends on readers' product

involvement. As the proportion of negative online consumer reviews increases, high-involvement consumers tend to conform to the perspective of reviewers, depending on the quality of the negative online consumer reviews; in contrast, low-involvement consumers tend to conform to the perspective of reviewers regardless of the quality of the negative online consumer reviews.

In line with these findings, we propose that the effects of central (review text) and peripheral (star rating, rated usefulness) cues in product reviews will vary with the level of product category involvement of the review readers. More highly involved readers will rely more heavily on the review text, which provides them with the detailed description of the product advantages and disadvantages and the valence (i.e., evaluative direction) of the text will thus influence the intentions and attitudes of readers more with increasing involvement. The less involved readers are, the more they will rely on peripheral cues such as star ratings or indications of rated usefulness, which form a fast and easy way to judge the product, as they are not motivated and/or able to consider the review text. Therefore, we propose the following:

H1: The effect of the text valence of online reviews on a) review impression and b) positive WOM intention becomes stronger with increasing product category involvement.

H2: The effect of the star rating of online reviews on a) review impression and b) positive WOM intention becomes stronger with decreasing product category involvement.

H3. The effect of the rated usefulness of online reviews on a) review impression and b) positive WOM intention becomes stronger with decreasing product category involvement.

Susceptibility to interpersonal influence

Susceptibility to interpersonal influence is the willingness of a person to accept the opinions of groups which, in turn, influences the degree of others' influence on a person's beliefs, attitudes and behaviors (Laroche et al. 2005). Consumer susceptibility to interpersonal influence is a consumer trait that describes the tendency to learn about products and services by getting information and observing others (Bearden, Netemeyer, and Teel 1989; Park et al. 2011). There are two dimensions of consumer susceptibility: normative and informational (Bearden, Netemeyer, and Teel 1989; Bone 1995). The normative dimension includes utilitarian and value-expressive components and implies purchasing a product to gain approval from others (Bone 1995). The informational dimension refers to the tendency to consult with others about a product and to accept this information as a credible evidence about reality (Bone 1995; Laroche et al. 2005). The focus of the current is the latter dimension of consumer susceptibility, given the nature of online reviews as sources of information for consumers (cfr. Bailey 2005). Due to the anonymous nature of the online environment and the lack of possibilities to get approval or feedback from the peers after making a purchase, the normative component of susceptibility is less relevant in this context.

Word-of-mouth communication is a type of social influence. Previous research has shown that consumers highly susceptible to interpersonal influence are more likely to be influenced by others and thus by word-of-mouth (WOM) when making purchase decisions (Liao and Cheung 2001; Schroeder 1996). Park et al. (2011) show that people with higher degrees of consumer susceptibility to social influence have more experience with eWOM, find it more credible, and are more strongly influenced by it. People who are highly susceptible to interpersonal influence are more likely to seek out the opinions of others online and pay a lot of attention to these opinions (Cheng et al. 2013; Chu and

Kim 2011). Therefore, we expect that readers who are more susceptible to interpersonal influence will be generally more inclined to pay attention to all available information in a review. In the context of this research, that means both the text, the star rating and the rated usefulness, since all of these elements provide meaningful information on the opinion of others.

Less susceptible readers, on the other hand, attach less importance to (e)WOM (Park et al. 2011). They will therefore be not as interested in the opinion of others, and less likely to pay much attention to any aspect of the review. We hypothesize:

H4: The effect of the text valence of online reviews on a) review impression and b) positive WOM intention becomes stronger with increasing susceptibility to interpersonal influence.

H5: The effect of the star rating of online reviews on a) review impression and b) positive WOM intention becomes stronger with increasing susceptibility to interpersonal influence.

H6: The effect of the rated usefulness of online reviews on a) review impression and b) positive WOM intention becomes stronger with increasing susceptibility to interpersonal influence.

Method

We set up an experiment in which participants were exposed to either a positive or a negative online review for a camera. The content of the reviews was a combination of text, star rating and rated usefulness. First, in two pre-tests we selected an appropriate product and texts for the reviews. We first report the results of these pre-tests, and subsequently explain the method of the main study.

Pretests

By means of a first pretest ($n = 25$, 68% female, average age = 36), we selected a focal product for which consumers regularly post and consult reviews. Research by Nielsen (2010) indicates that consumer electronics is the product category for which people are most likely to consult online reviews. Since we wanted to test the moderating impact of involvement, we wanted to select a product that showed a sufficient variation in involvement (Zaichkowsky 1994). A digital camera was selected as a suitable and relevant product (Involvement: $M = 5.06$; $SD = .929$).

One of the manipulated factors in the main study is review text valence. Through a content analysis of review websites, a number of camera attributes frequently used in online reviews were collected. They were incorporated into five negative text reviews, containing different combinations of four product attributes. Each review contained an opening sentence that gave the evaluative direction of the review, some information about the attributes in the review, and a conclusion. These five negative reviews were then reversed into their opposites to generate positive reviews with the same content and attributes. The aim of the second pretest was to find a review, positive and negative versions of which did not have a significantly different valence, i.e., the positivity degree of the positive reviews should not significantly differ from the negativity degree of the negative review. Two review sets were composed, each containing five different reviews. The first review set consisted of three negative and two positive reviews and the second review set contained the opposites of these reviews, i.e. three positive and two negative reviews. Respondents ($n = 87$, 44% female, age 17-66) were randomly assigned to one of the two review sets and were asked to rate how positive or negative the provided reviews were on a 7-point scale with 1 = very negative and 7 = very positive. Positive scores were then reversed to make them

comparable with negative scores. We selected the review pair for which the positive and negative version did not significantly differ from each other in terms of (reversed) valence ($M_{\text{positive}} = 2.03$, $M_{\text{negative}} = 1.72$, $t(85) = -1.375$, $p = .173$), that also had the lowest standard deviations ($SD_{\text{positive}} = 1.187$, $SD_{\text{negative}} = .852$), indicating that most participants were in agreement about the score (see Appendix for the selected text messages). The positive review was also perceived as significantly more positive ($M = 5.98$) than the negative review ($M = 1.72$, $t(85) = 19.382$, $p < .001$).

Design and procedure of main experiment

The main experiment was a 2 (Text Valence: positive, negative) x 2 (Star Rating: high, low) x 2 (Rated Usefulness: high, low) full factorial between-subjects design. Eight stimuli were created based on the different combinations of text valence, star rating and rated usefulness. The text of the review (either positive or negative) was chosen based on the second pretest reported above. The manipulation of the review rating was done by using the visual element “Stars” which can be often seen on review websites. In the low rating condition, two out of five stars were colored blue, while in the high rating condition, the review gave the reviewed camera four stars. We have chosen not to use extreme values (such as one or five stars) in order to keep the reviews more realistic, and because extreme reviews can trigger atypical responses from consumers (Purnawirawan et al. 2015). Rated usefulness was manipulated by informing respondents how many (previous) users found the review useful: 7 of 83 users in the low rated usefulness condition and 75 of 83 users in the high rated usefulness condition.

Respondents for the main study were recruited from the panel of a professional market research agency. Respondents were contacted via e-mail containing a link to the online survey. The agency offered a small incentive for participation. Data of 431

Belgian respondents ($M_{\text{age}} = 48$, 53% male, 52% educated beyond high school) were collected. Respondents were told on the welcome screen that the research concerned online reviews and were instructed to imagine that they were going to buy a digital camera and that they had already a certain preference, so they were going online to read a review about the camera they were planning to buy. Each respondent was randomly assigned to one of the eight camera reviews (see Appendix for example), with a picture of the camera containing no brand name or other identifications of the brand. The specifications of the camera and the picture were identical in all conditions. They then responded to the dependent variables (see below) and provided their age, education and gender.

Measures

Before being exposed to the review, respondents' involvement with cameras (e.g., choosing a camera is an important decision; $\alpha = .899$) (Dens and De Pelsmacker 2010) and consumer susceptibility to interpersonal influence were measured (e.g., I often ask other people to help me making the best product selection,; $\alpha = .803$) (Bearden, Netemeyer, and Teel 1989). After reading the review, respondents were asked to rate their review impression (e.g., I think that most people find the camera good; $\alpha = .960$) (Purnawirawan, Dens, and De Pelsmacker 2012) and positive word-of-mouth intention (e.g., I will recommend the camera to my family and friends; $\alpha = .915$) (Arnett, German, and Hunt 2003) on seven-point multi-item scales. The constructs and individual items are shown in Table 1. Construct scores were computed by calculating the average of the items per construct.

<<Table 1 about here>>

Analyses

Two sets of moderated regression analyses were conducted to test the hypotheses. In the first set, H1-H3 (the moderating effect of involvement) were tested by conducting two moderated regressions, with text valence (negative: -1, positive: +1), star rating (negative: 0, positive: 1), rated usefulness (low: 0, high: 1), involvement, and the interactions between involvement and text valence, star rating and usefulness rating as independent variables and review impression (RI) and positive WOM intention (PWI) as the dependent variables. To investigate the moderating effect of susceptibility to interpersonal influences (H4-H6), the same two moderated regression analyses were carried out, but this time with susceptibility as a moderator instead of involvement. Following the standard procedure for moderated regression analysis, we mean-centred the continuous moderators (Aiken, West, and Reno 1991).

Results

Table 2 shows the means and standard deviations in the eight experimental conditions, for review impression and positive word-of-mouth intention. The results of the first two regression analyses, testing the moderating effect of involvement (H1-H3), are shown in Tables 3 and 4. There is a significant main effect of text valence on RI ($\beta = .510$, $p < .001$) and PWI ($\beta = .373$, $p < .001$). Positive reviews lead to higher RI and PWI than negative reviews, as expected. The main effect of star rating and rated usefulness is insignificant on either of the dependent variables. Additionally, and more importantly for testing our hypotheses, there is a significant positive interaction effect between involvement and text valence for RI ($\beta = .108$, $p = .010$) and PWI ($\beta = .109$, $p = .019$). Figures 1 and 2 show the effects of review valence on RI and PWI, plotted at the mean level of involvement – 1 SD and mean + 1 SD). As anticipated, the differences between

a positive and negative review text are larger for relatively highly involved review readers than for lower involved readers. The effect of review valence on RI and PWI is thus reinforced by a greater degree of involvement, confirming H1. The interaction effects between star rating and involvement (RI: $\beta = .037$, $p = .524$; PWI: $\beta = .053$, $p = .407$) and between rated usefulness and involvement (RI: $\beta = .033$, $p = .606$; PWI: $\beta = .033$, $p = .632$) are not significant. Hence, H2 and H3 are not supported.

<<Tables 2, 3 and 4 and Figures 1 and 2 about here>>

The results of the second set of regression analyses, testing the moderating effect of readers' susceptibility to interpersonal influence (H4-H6), are shown in Tables 5 and 6. The significant main effect of review valence on RI ($\beta = .523$, $p < .001$) and PWI ($\beta = .389$, $p < .001$) is reconfirmed. The main effects of star rating and rated usefulness are again insignificant. Additionally, there is a significant positive interaction effect between text valence and susceptibility RI ($\beta = .187$, $p < .001$) and PWI ($\beta = .130$, $p = .006$). Figures 3 and 4 show the effects of text valence on RI and PWI for the mean - 1 SD and mean + 1 SD of the moderator "susceptibility". As anticipated, compared to low susceptibility individuals, high susceptibility individuals report a higher RI and PWI following exposure to a positively valenced review, and a lower RI and PWI following exposure to a negatively valenced review. The effect of review valence on RI and PWI is thus stronger for more highly susceptible participants than for lowly susceptible ones, confirming H4. The interaction effects between star rating and susceptibility (RI: $\beta = .062$, $p = .253$; PWI: $\beta = -.002$, $p = .979$) and between rated usefulness and susceptibility (RI: $\beta = .107$, $p = .084$; PWI: $\beta = .079$, $p = .252$) are not significant. Hence, H5 and H6 are not supported.

<<Tables 5 and 6 and Figures 3 and 4 about here>>

To further test the stability of these findings across experimental conditions, we carried out 12 additional regression analyses, 6 for each dependent variable, in which RI and PWI, respectively, are regressed on:

- Valence, star rating, involvement and their two-way and three-way interactions
- Valence, rated usefulness, involvement and their two-way and three-way interactions
- Star rating, rated usefulness, involvement and their two-way and three-way interactions
- Valence, star rating, susceptibility and their two-way and three-way interactions
- Valence, rated usefulness, susceptibility and their two-way and three-way interactions
- Star rating, rated usefulness, susceptibility and their two-way and three-way interactions

In each of these regression analyses we thus combined one of the moderators with two of the independents. We did not include all three independents and both the moderators into one model, because this leads to unacceptable levels of multicollinearity.

The results show that none of the two-way and three-way interactions is significant in any of these 12 models, except for the originally found interactions between valence on the one hand and involvement and susceptibility on the other. This indicates that our original results are stable across conditions and not affected or modified by the interactions between independents and/or interactions between combinations of independents and moderators.

Discussion

We investigate the effects of three online review components, i.e. review text, star rating, and rated usefulness of a review on review readers' review impression and their positive WOM intention for consumers with different levels of product category

involvement and susceptibility to interpersonal influence. We thus provide insights into the boundary conditions of the effects of three different indicators of appreciation in online reviews by studying the moderating role of two potentially moderating factors.

The valence of the text of a review has a stronger effect on the review evaluation of readers who are more highly involved with cameras. This confirms our expectations that highly involved individuals are more motivated to process central information in a review than less involved people. Contrary to our expectations, peripheral cues such as star rating or rated usefulness, do not have a greater influence on lowly involved readers than on highly involved ones. Apparently, text valence is the dominant component of a review in terms of triggering evaluative responses. Lowly involved consumers are less influenced by them than highly involved ones, but the former do not compensate this by relying more on peripheral cues. In fact, neither star rating nor rated usefulness have a significant effect on review evaluations, neither for high nor for low involvement individuals. This suggests that they are effectively ignored when processing reviews that contain text.

The results of the analyses with readers' susceptibility to interpersonal influence as a moderator are largely the same. As expected, the valence of the text of a review has a stronger effect on the review evaluation of readers who are more susceptible to interpersonal influence. Additionally, although they are in the expected direction, the effects of neither the star rating nor the rated usefulness are significantly influenced by susceptibility, except for the fact that, the more consumers are susceptible to interpersonal influence, the stronger the effect of rated usefulness on review impression is. However, this effect is only marginally significant.

The relative irrelevance of heuristic cues in online reviews in the present study

may be attributable to different factors. First, Cheung, Sia, and Kuan (2012) also found only very limited effects of peripheral review cues on review impact. Chevalier and Mayzlin (2006) found that, in general, prospective customers read review text rather than relying on summary statistics, such as ratings. Further, in general, reviews have been found to have a greater impact in high involvement situations than in low involvement ones (Floyd et al. 2014). This may have led to a situation in which any review cue has less or no impact on low involvement decision making. Baek, Ahn, and Choi (2012) found that central cues are considered more helpful in the evaluation stage of decision making than in the information search stage. The current study is set in an 'evaluation' context. This may, in general, have led to making central cues more salient and relevant than peripheral cues. Baek, Ahn, and Choi (2012) conclude that central cues are more influential for search goods, while peripheral cues are more influential for experience goods. A digital camera is predominantly a search good: its characteristics and quality can be relatively easily judged before buying and using it. This may also explain why, in the current study, peripheral cues are largely insignificant, while central cues are more influential. Finally, in the few studies that found an effect of peripheral review cues on review evaluations, these effects were obtained in a context of abundant information load, i.e. readers were exposed to multiple reviews with conflicting valence (Chevalier and Mayzlin 2006; Poston and Speier 2005). In those circumstances, readers may revert more easily to shortcut evaluation cues such as star ratings than in a situation in which they are only exposed to one review that contains both texts and ratings.

Managerial implications

Practitioners could use these insights to make reviews more relevant and impactful. Administrators of review websites should stimulate rich text reviews to make reviews relevant and useful. Marketers should encourage their customers to write

positive reviews, with lots of arguments, and clear recommendations. This will have the greatest impact on prospective consumers who look for information. Admittedly, these texts are less impactful for people who are not so strongly involved or less susceptible to the opinion of others. But people consulting online reviews are often relatively highly involved in the product categories they are looking for information about; otherwise they would not actively look for reviews in the first place. Indeed, product categories for which online reviews are frequently consulted, such as hotels, restaurants and durable consumer goods, are for most people relatively highly involving, since they are infrequently purchased and/or expensive (some durables, travel), or emotionally involving (travel, restaurants). Similarly, people who consult review sites on a regular basis are per definition susceptible to the opinions of others, otherwise they would not consult review sites.

Star ratings do not seem to be very relevant, regardless of people's level of product category involvement or susceptibility to interpersonal influence. Merely providing shortcut star ratings on review sites is therefore a bad idea, because they are not taken into account by review readers. Indications of rated usefulness are slightly more relevant. They do not play a dominant role in the evaluation of individuals with different levels of involvement, but they are more likely taken into account by people who are more susceptible to the opinions of others. Adding them in reviews makes reviews more relevant for those people. Review website administrators should thus encourage rich textual reviews, as well as measure review usefulness and integrate the latter in the reviews published.

Limitations and suggestions for further research

Future research should corroborate our findings for different products or service categories. A camera is, for most people, relatively highly involving. Other products,

such as books, music or airlines, may be, on average, less involving, and the effects of review components may thus be different. People often consult several reviews of different valence. This will often result in contradictory information and, consequently, in ambiguous recommendations and information overload. It may well be that in those circumstances peripheral cues are more often used as shortcuts to get a grip on the overall tendency in a set of reviews, even for more highly involved or susceptible individuals. Future research should thus test the effects of review components in situations where readers are exposed to review sets varying in valence.

Other non-text review cues could also be tested. For instance, reviews may be taken more seriously when they are posted by similar consumers as the reader. When you are a family with young children, looking for a holiday hotel, a review posted by a similar family may be more influential than a review posted by a retired couple. For some people, an opinion of a compatriot is more influential than that of a consumer from a far-away country (“this hotel is loved by the French”). Geographical or cultural proximity may be an important cue for ethnocentric people or individuals with an outspoken opinion about their own country or culture, or about certain different cultures. One could, for instance, imagine that a review about a Japanese restaurant that is written by a Japanese customer, is more influential than a review written by a foreign (non-Japanese) one. These are all avenues for further research.

In experimental studies, there is always a trade-off between internal and external validity. One of the major advantages of experiments is the high degree of internal validity, allowing for the detection of causal relationships. At the same time, experiments always suffer to at least a certain degree from lacking external validity. In the present study, we have done everything we can to maximize the external validity of the set-up so that it represents a realistic consumer context. We deliberately chose a

digital camera as the focal product as electronics are among the product categories with the highest percentage of online research prior to being bought (54%) (Guy 2016). Respondents read a scenario to create a mindset of a consumer looking for online information by other consumers to take an informed decision. The use of such a scenario is highly common in experimental research, including in the context of online reviews or eWOM more generally (e.g., De Keyzer, Dens, and De Pelsmacker 2017; Dens, De Pelsmacker, and Purnawirawan 2015; Kolomiets, Dens, and De Pelsmacker 2016). The tested reviews contain elements that are very common in real-life reviews. The text was written based off on actual reviews for a camera. For the star ratings and usefulness ratings, we chose clear manipulations, at the same time avoiding using extreme values (such as five stars, or “0” for usefulness rating) to keep the reviews more realistic, and because extreme reviews can trigger atypical responses from consumers. However, our dependent measures (review impression and WOM intention) do not necessarily imply actual buying behaviour. While attitudes and intentions are important antecedents of buying and commonly used in research (e.g., De Veirman, Cauberghe, and Hudders 2017; Kim and Song 2017; Kim et al. 2017), further research should be carried out by means of behavioural experiments or real-life field studies, in which actual activation or even buying behaviour is measured to enhance the external validity.

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Table 1. Measures

Construct	Items	Cronbach's Alpha
Involvement with digital cameras	Choosing a digital camera is - an important decision; - a decision that requires a lot of thought; - a decision with high risks.	.899
Consumer susceptibility to interpersonal influence	- I often ask other people to help me making the best product selection. - To make sure that I make the right decision, I observe other people behavior. - If I have little experience with a product, I ask advice from friends. - I usually collect information from family and friends before buying a product.	.803
Review impression	I think that most people: - are satisfied with the camera; - find the camera good; - have a positive judgment about this camera; - will recommend this camera to their family/ friends.	.960
Positive word-of-mouth intention	- I will speak favorably about the camera. - I will recommend the camera to my family and friends. - I will bring up the camera in a positive way in conversations I have with family and friends.	.915

Table 2. Means, standard deviations and cell sizes per condition

Text valence		<u>Star rating</u>			
		Low		High	
		<u>Rated Usefulness</u>		<u>Rated Usefulness</u>	
		Low	High	Low	High
Negative	RI	3.279 (1.201)	3.264 (0.908)	3.319 (1.268)	3.245 (1.227)
	PWI	3.072 (1.159)	3.302 (0.858)	3.229 (1.012)	3.170 (1.201)
Positive	RI	4.750 (1.309)	4.400 (0.959)	4.800 (1.111)	4.500 (1.052)
	PWI	4.109 (1.268)	3.780 (0.929)	4.193 (0.982)	4.044 (0.983)

Note: Cells represent mean scores (standard deviations). Cell sizes between 48 and 60.

Table 3. Regression results with involvement as the moderator and Review impression as the dependent

	Unstandardized coefficient	Standard error	Standardized coefficient Beta	t	Sig.
Constant	4.008	.094	-	42.579	< .001
Text valence	.671	.054	.510	12.379	< .001
Star rating	.072	.108	.027	.666	.506
Rated usefulness	-.192	.108	-.073	-1.775	.077
Involvement	.047	.072	.050	.658	.511
Text valence x involvement	.102	.039	.108	2.577	.010
Star rating x involvement	.050	.078	.037	.638	.524
Rated usefulness x involvement	.041	.078	.033	.517	.606

$F(7,423) = 24.662, p < .001. R^2 = .290$

Table 4. Regression results with involvement as the moderator and Positive word-of-mouth intention as the dependent

	Unstandardized coefficient	Standard error	Standardized coefficient Beta	t	Sig.
Constant	3.598	.089	-	40.422	< .001
Text valence	.424	.051	.373	8.244	< .001
Star rating	.119	.103	.052	1.154	.249
Rated usefulness	-.080	.103	-.035	-.779	.436
Involvement	.049	.068	.061	.725	.469
Text valence x involvement	.088	.037	.109	2.360	.019
Star rating x involvement	.061	.073	.053	.829	.407
Rated usefulness x involvement	.035	.074	.033	.480	.632

$F(7,408) = 11.992, p < .001. R^2 = .171$

Table 5. Regression results with susceptibility to interpersonal influence as the moderator and Review impression as the dependent

	Unstandardized coefficient	Standard error	Standardized coefficient Beta	t	Sig.
Constant	4.015	.094	-	42.945	< .001
Text valence	.690	.054	.523	12.856	< .001
Star rating	.049	.106	.019	.465	.642
Rated usefulness	-.118	.107	-.045	-1.102	.271
Susceptibility	-.070	.091	-.056	-.767	.444
Text valence x susceptibility	.233	.053	.187	4.438	< .001
Star rating x susceptibility	.117	.102	.062	1.144	.253
Rated usefulness x susceptibility	.178	.103	.107	1.733	.084

$F(7,422) = 28.016, p < .001. R^2 = .317$

Table 6. Regression results with Susceptibility to interpersonal influence as the moderator and Positive word-of-mouth intention as the dependent

	Unstandardized coefficient	Standard error	Standardized coefficient Beta	t	Sig.
Constant	3.590	.090	-	40.101	< .001
Text valence	.442	.052	.389	8.564	< .001
Star rating	.105	.102	.046	1.030	.304
Rated usefulness	-.013	.103	-.006	-.124	.901
Susceptibility	.061	.087	.057	.701	.484
Text valence x susceptibility	.139	.050	.130	2.771	.006
Star rating x susceptibility	-.003	.098	-.002	-.026	.979
Rated usefulness x susceptibility	.113	.098	.079	1.146	.252

$F(7,407) = 12.887, p < .001. R^2 = .181$

Figure 1. Text valence by involvement interaction for Review impression

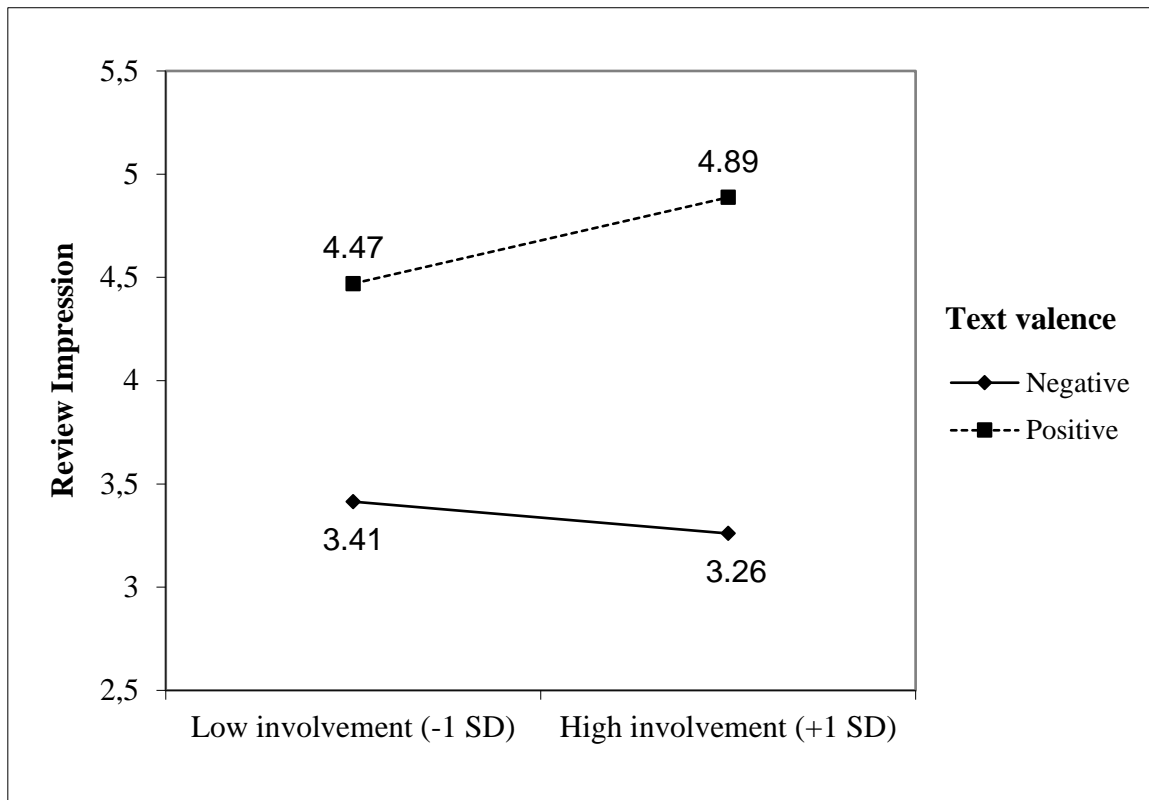


Figure 2. Text valence by involvement interaction for Positive word-of-mouth intention

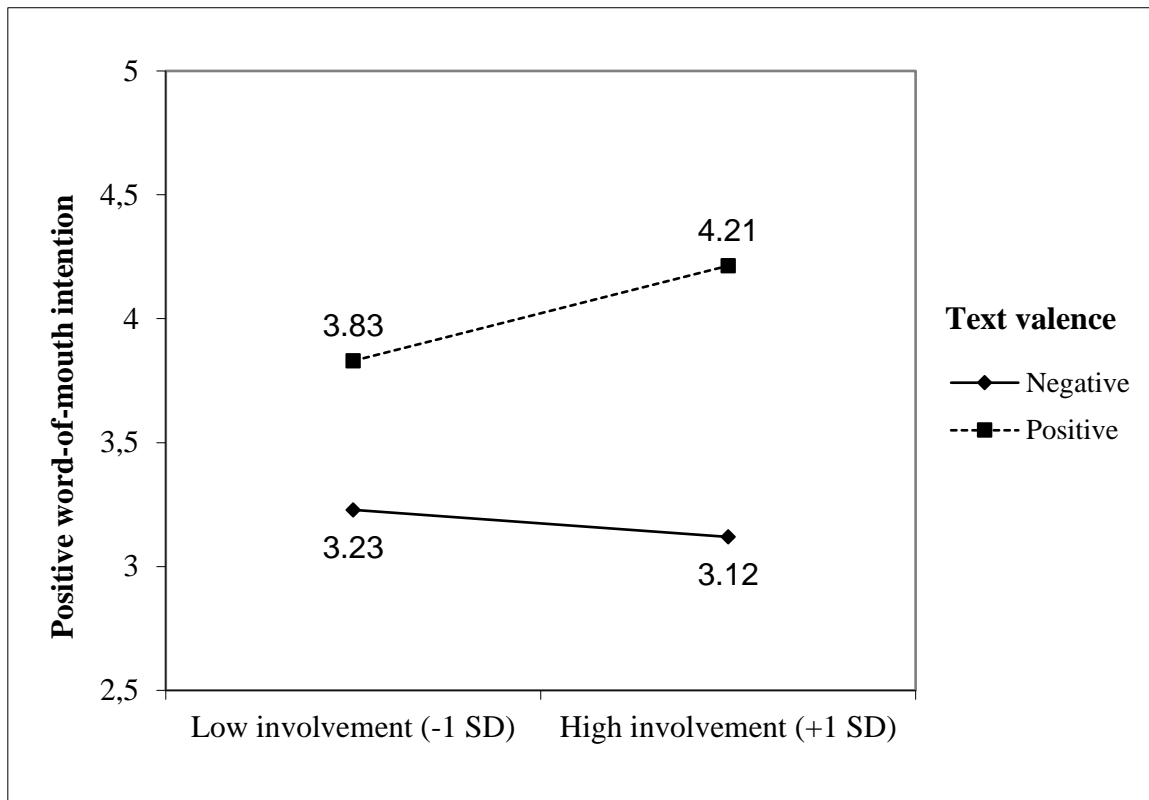


Figure 3. Text valence by susceptibility to normative influence interaction for Review impression

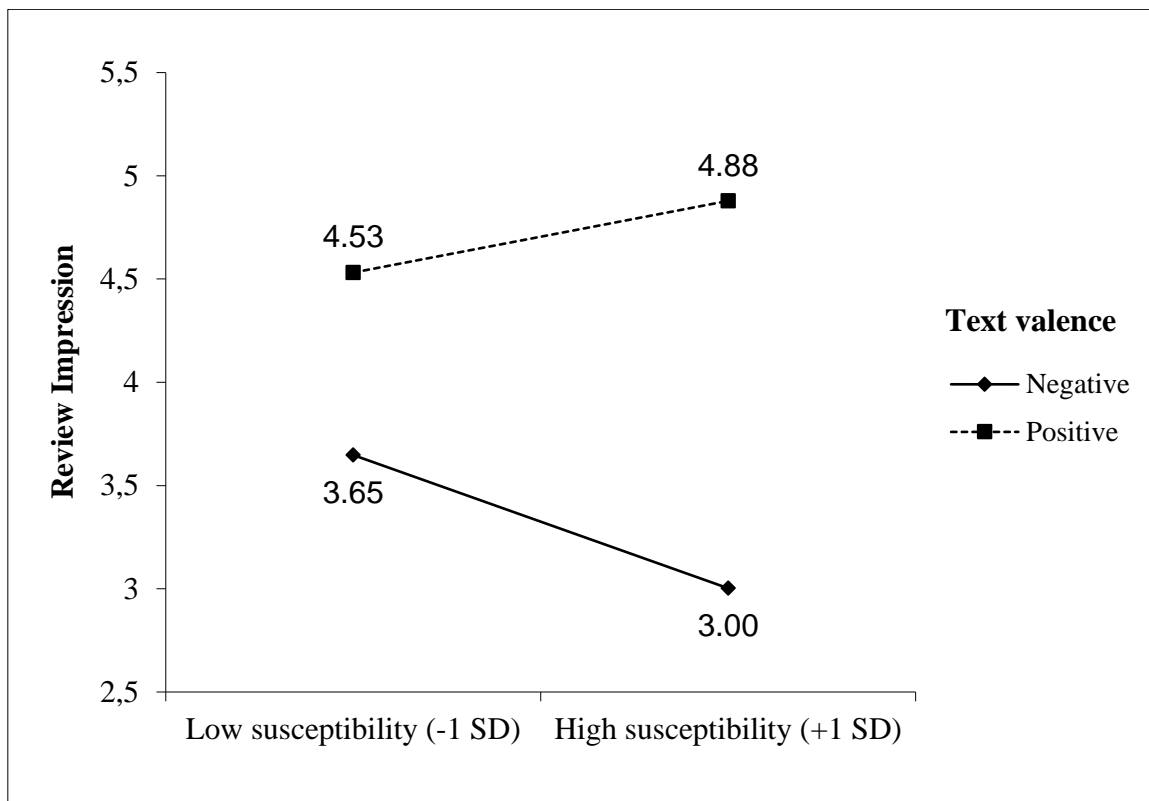
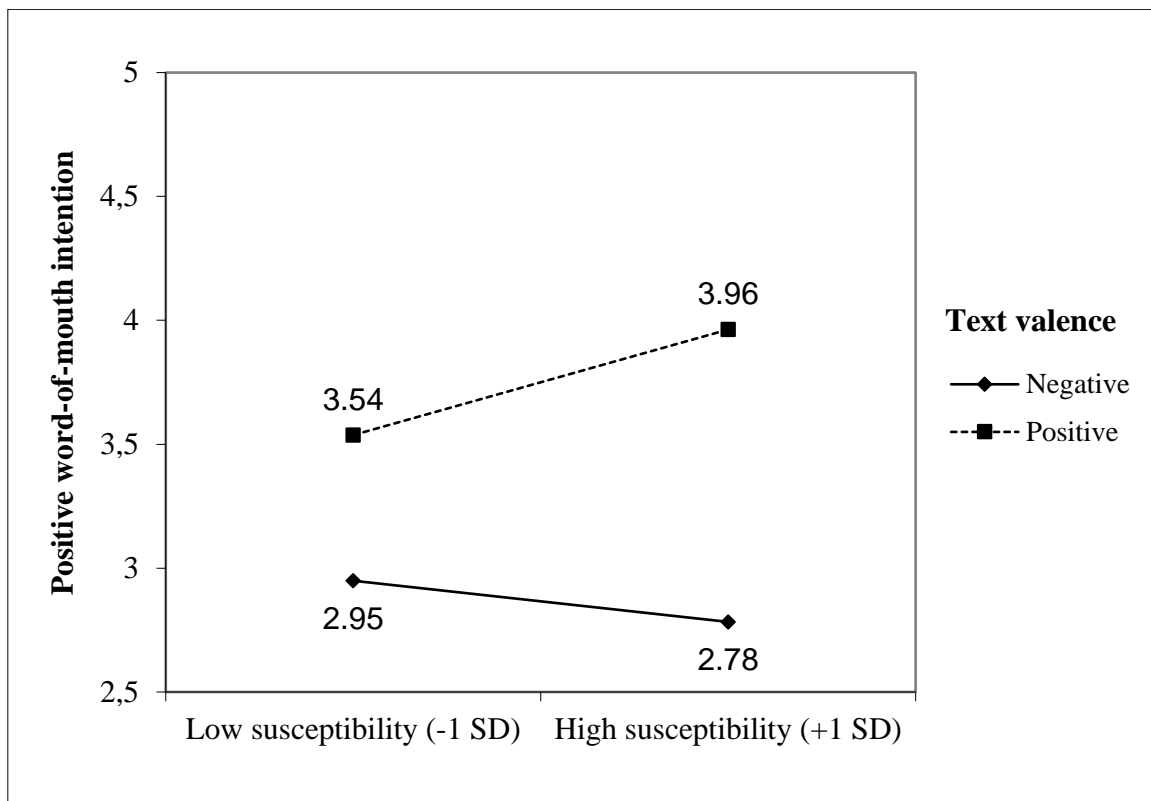


Figure 4. Text valence by susceptibility to normative influence interaction for Positive word-of-mouth intention



Digital Camera

75 of 83 users found this review useful

Rating: ★★★★★



Price: 150-300 €

Specifications:

Megapixels	14.1 megapixel	Aperture	F3.3-5.9
Optical zoom	8 times	Screen resolution	230000
Digital zoom	4 times	Battery type	Lithium
Maximal ISO-values	6400	Battery capacity	895 mAh
Lens	25-200 m	Internal memory	40 MB

I've been using this apparatus for a little over a week now, and so far it has exceeded all my expectations. It is one of the easiest cameras to work with, all functions are clearly indicated and the right settings are selected in no time. It is also a very sturdy piece of equipment, so you take it with you anywhere without worry. The battery life is fantastic, I haven't had to recharge it yet and I use the camera a few times a day. So the battery last a long time. A final major advantage of this apparatus is the automatic red eye removal. This camera offers an automatic reduction of red eyes, so that saves you the work in post-editing. In sum, a very practical and good camera, I would buy it again in a heartbeat!

Negative review text:

I've been using this apparatus for a little over a week now, and I don't have much positive to say about it so far. It is one of the most complicated cameras to work with, the functions are not really clearly indicated and it takes some time to select the right settings. It is also not a sturdy piece of equipment in any way, you have to be extremely careful when taking it anywhere. The battery life is way too short, I've had to recharge it twice already and I only use the camera a few times a day. So the battery doesn't last long at all. A final drawback of this apparatus is the lack of red eye removal. In contrast to most cameras, this one doesn't offer an automatic reduction of red eyes, so that means extra work in post-editing. In sum, a very unpractical camera, I wouldn't buy it again.