Can Advertising Compensate the Detrimental Effects of Negative Online Product Reviews?

By Silke Bambauer-Sachse and Sabrina Mangold

Advertising strategies that can compensate the detrimental effects of negative online product reviews have so far received insufficient attention in marketing research. The purpose of this paper is to fill this gap and to examine whether cognition-based versus emotion-based advertising can weaken or even compensate the negative effects that such reviews have on consumers’ attitudes. The results of a preliminary study show the strong harmful impact of negative online product reviews. The findings of two main studies provide the notion that cognition-based and emotion-based advertising have about the same potential to recover consumers’ negative attitudes, but can also lead to unsolicited reactions in terms of even more negative attitudes, particularly when emotion-based advertising is used. The results further show that consumers’ predisposition to show reactance can at least partly explain such negative reactions.

1. Introduction

In highly involving purchase situations, consumers often rely on other consumers’ opinions. Product reviews that consumers publish on independent opinion portals represent one of the most widely used forms of such word-of-mouth (WOM) communication (Chen/Xie 2008; Hennig-Thurau et al. 2004; Schindler/Bickart 2004).

While positive reviews support a company’s marketing efforts, negative reviews can have strong detrimental effects on consumers’ attitudes (Chiu/Cheng 2003). Specifically, cognition-based negative reviews that contain rational, objective arguments are more persuasive than reviews written in an emotional and subjective style and thus are very harmful to companies (Park/Lee/Han 2007). Given such negative effects, the question arises as to how companies can recover consumers’ negative attitudes. However, previous research has focused more on analysing the antecedents and consequences of online word-of-mouth communication (e.g. Chakravarty/Liu/Mazumdar 2010; Dellarocas/Zhang/Awad 2007; Hennig-Thurau/Walsh 2003/04; Sen/Lerman 2007; Sun et al. 2006) than on examining the effects of communication strategies that companies could use. A possible approach could be to react with advertising, a strategy often used by companies when faced with negative publicity (Ahluwalia/Burnkrant/Unnava 2000). Such advertising could, for example, be either cognition-based or emotion-based. We focus on these two types of advertising because they are commonly found in research (e.g. Ruiz/Sicilia 2004; Van Den Putte 2009) and practice. A cognition-based ad provides concrete information about product attributes and benefits (Dubé/Chattopadhyay/Letarte 1996; Pang/Keh/Peng 2009; Ruiz/Sicilia 2004; Van den Putte 2009).

In the context considered here, a cognition-based ad could, for example, positively highlight the product attributes that are criticised in the negative product reviews. An emotion-based ad, as referred to in this article, is based on a slogan (Laran/Dalton/Andrade 2011) that evokes a positive experience during product use and thus induces positive feelings towards the advertised product (Geuens/Pelsmacker/Fasheur 2011; Moore/Harris 1996; Van Den Putte 2009). Please note that the use of the term “emotion-based ad” in the following does not mean a humorous or fear-inducing ad, which represents specific types of emotion-based ads. Even though the effects of cognition-based and emotion-based advertising have been examined in previous studies, the present body of research does not allow any assumptions on the effectiveness of these two types of ad to recover consumers’ unfavourable attitudes which result from reading negative online product reviews. Thus, the purpose of the studies presented below is to examine the effects of negative online product reviews and to test whether and how cognition-based versus emotion-based advertising is able to recover consumers’ attitudes which are negative due
to contact with such negative reviews. The focus on negative reviews can be explained as follows. Previous research provides the notion that negative reviews have stronger effects than positive ones (Chakravarty/Liu/Mazumdar 2010; Chevalier/Myzlin 2006; Chiu/Cheng 2003). The phenomenon that negative information is weighted more heavily than positive information is commonly referred to as the negativity effect (Ahtuvalia 2002; Herr/Kardes/Kim 1991). An explanation for such an effect is that consumers consider negative information as more diagnostic than positive information (Ahtuvalia 2002). Negative information is considered more diagnostic because it helps to assign objects of evaluation to a negative evaluation category more easily than positive information does with regard to a positive evaluation category (Herr/Kardes/Kim 1991). This can be explained by the fact that positive attributes can characterise high, average or low quality products, whereas strongly negative attributes are often only associated with low quality products (Chiu/Cheng 2003; Herr/Kardes/Kim 1991). Consequently, negative reviews have stronger detrimental effects on brand attitudes and purchase intentions than positive reviews have beneficial effects (Chakravarty/Liu/Mazumdar 2010; Chiu/Cheng 2003; Huang/Chen 2006). These negative effects increase with a growing number of negative reviews (Lee/Park/Han 2008). Thus, it is of particular interest to consider the situation in which a consumer encounters several negative online reviews about a specific product.

This paper contributes to the existing body of research by demonstrating how and to what extent the detrimental effects of negative cognition-based reviews can be weakened or even compensated through appropriate advertising. In addition, we show that advertising can also provoke unsolicited effects in terms of negative consumer reactions and that an emotion-based ad (compared to a cognition-based one) even reinforces this effect. It is very important for marketers to know about such negative consumer reactions because they can be very harmful to a company’s product sales. The finding that consumers show positive and negative reactions to the same ad demonstrates that not only the stimulus itself but also person-specific variables play an important role. As previous research has demonstrated that consumers’ general predisposition to show reactance can have a significant negative influence on their reactions to a specific stimulus (e.g. Dillard/Shen 2005; Fitzsimons/Lehmann 2004), we provide insights into the role that consumers’ predisposition to show reactance in response to advertising (referred to as PSR in the following) plays in the context of negative consumer reactions to advertising strategies, which was not examined in previous studies.

In addition to addressing researchers, this paper addresses marketers by providing recommendations on which type of advertising to use in order to compensate the detrimental effects of negative online reviews that consumers read on opinion platforms. Moreover, the results of the studies presented below provide marketers with knowledge about conditions in which such advertising can intensify consumers’ negative reactions, thus enabling them to adapt their advertising strategy accordingly.

2. Theoretical background and hypotheses

2.1. Effects of cognition-based versus emotion-based advertising

2.1.1. Positive effects of cognition-based versus emotion-based advertising

The functional matching approach is used to explain how attitudes can be changed through persuasion attempts. It suggests that persuasive messages are more effective when the arguments presented match the basis of an attitude (Petty/Wegener 1998). This effect occurs because consumers consider matching information as highly diagnostic (Pham/Muthukrishnan 2002) and thus engage in more intensive elaboration of such information (Petty/Wegener 1998). However, previous research in this field has provided contradictory results. Fabrigar/Petty (1999) demonstrated a matching effect in that cognition-based (emotion-based) information which addresses cognition-based (emotion-based) attitudes was more persuasive than non-matching information. Clarkson/Tormala/Rucker (2011) showed this matching effect only for those individuals who were certain of their initial attitudes. Edwards (1990) confirmed the effect for emotion-based attitudes in that individuals were more susceptible to emotion-based than to cognition-based persuasive information. For cognition-based attitudes, Edwards (1990) found a tendency to support for a matching-effect in a first study and no support in a second study.

A closer look at these studies shows that they were conducted in social psychology contexts and that they differ considerably from the research focus considered here. Fabrigar/Petty (1999), for example, induced the initial cognition- and emotion-based attitudes through a description of a fictitious animal in a more cognition-based or emotion-based style and then presented the respondents with persuasive arguments that were either cognitively or emotionally driven. Thus, it is difficult to make any inferences from these basic studies as to the effects of cognition- versus emotion-based advertising as a reaction to negative cognition-based product reviews, which are considered here.

A study conducted by Millar/Millar (1990) can provide interesting insights regarding the context considered here. They demonstrated a mismatching-effect for the situation in which negative cognition-based (emotion-based) attitudes were addressed with a cognition-based (emotion-based) ad. In this sense, Petty/Wegener (1998) argue that arguments matching an attitude basis are not always advantageous because they enable people to scrutinise these arguments and identify their weak points. According to Petty/Wegener (1998), the occurrence of
the matching or mismatching effect is influenced by the arguments put forward in the persuasive message. When strong and persuasive arguments are presented, the matching effect should occur. However, when the arguments are less convincing, mismatching information should be more effective.

In our research, we consider the situation in which a company tries to compensate the detrimental effects of negative cognition-based reviews containing detailed criticism with the use of advertising. For a highly involving product such as a mobile phone, a point of criticism in a consumer review could be, for example, a lack of usability. A cognition-based ad could positively highlight the criticised aspects, such as high usability. An emotion-based ad would rather contain a slogan that could, for example, praise a unique product experience. In such a context, the following effects are plausible. Reviews written by consumers are likely to be perceived as more credible than information provided by the company (Godes/ Mayzlin 2004, Krishnan/Seetharaman/Vakratsas 2012). When arguments are presented by a less credible source, consumers tend to question the credibility of these arguments (Johnson/Izzett 1972) and develop counterarguments (Johnson/Scileppi 1969). Moreover, the information should be processed more thoroughly and scrutinised more intensely when both information sources focus on the same attributes and the content can therefore be easily compared (Zhang/Markman 1998, 2001). Consequently, in the context considered here, a mismatching effect should occur in that consumers faced with advertising (less credible) after contact with product reviews (highly credible) are likely to scrutinise and refute the advertising message. Furthermore, they should do so even more carefully if the information presented in the persuasive message matches the reviews encountered. Thus, when consumers read negative cognition-based reviews that contain detailed information about specific product attributes and are then confronted with a cognition-based ad that focuses on the same product attributes in a positive way, they are expected to carefully compare the two sources of information and refute the information provided by the company. In contrast, an emotional slogan that communicates on a non-cognitive level cannot be compared directly with the information provided in the reviews. Consequently, scrutinising is more difficult and refuting is less likely.

Furthermore, the occurrence of a mismatching effect should be particularly strong in the situation considered here. This can be explained through the Elaboration Likelihood Model (Petty/Cacioppo 1986). According to this model, the extent to which people elaborate the arguments presented in a persuasive message depends on their motivation. In a situation in which people are highly motivated, people are likely to scrutinise the arguments and relate them to their initial attitude towards an object, which is also referred to as central processing route. Such a situation can for example occur when consumers are interested in a high involvement product.

When they see an advertisement for this product, they should be strongly motivated to scrutinise the product information provided in the ad (Petty/Cacioppo/Schumann 1983). In contrast, when the motivation to process arguments is low, a more peripheral processing occurs (Petty/ Cacioppo 1986; Petty et al. 2004). In this research, we consider the situation in which consumers are interested in a high involvement product. Therefore, when confronted with an ad, they should show a strong motivation to scrutinise its content and compare it to their initial attitudes, which were formed based on the information provided in the cognition-based reviews. As a cognition-based ad addresses the central processing route, the arguments provided by the company should be salient and easily refutable. On the contrary, as emotion-based advertising addresses more peripheral processing routes, it is more difficult for consumers to build a link between an emotion-based ad and the arguments provided by the reviews. Thus, the effect of emotion-based advertising is less likely to be devaluated and this type of advertising should consequently be more effective in recovering consumers’ negative attitudes.

Therefore, we assume:

**H1:** After encountering negative cognition-based online product reviews, emotion-based advertising has stronger recovery effects on consumers’ attitudes than cognition-based advertising.

### 2.1.2. Negative effects of cognition-based versus emotion-based advertising

Although advertising can have positive effects on consumers’ attitudes, company-based communication used to compensate the effects of negative reviews might also trigger negative reactions. According to research, the concepts of reactance (Brehm 1966; Brehm/Brehm 1981) and resistance (e.g. Tormala/Petty 2004; Tormala/DesSENS/Petty 2007) play an important role in the context of the effectiveness of persuasive communication. Whereas some researchers do not clearly differentiate between these two constructs (e.g. Silvia 2006; Zauwerink Jacks/ Devine 2000), other literature suggests that reactance is a broader concept representing a motivational state which is aroused when people feel their freedom to act or think is threatened by an influence attempt (Brehm 1966). Such a motivational state can lead people to show resistance (Brehm/Brehm 1981; Fitzsimons/Lehmann 2004) in terms of protecting their attitudes from a persuasive influence (e.g. Ahluwalia 2000; Tormala/Petty 2002; Tormala/Clarkson/Petty 2006). In this sense, resistance represents a behavioural component of reactance. As such, it will be treated in the following.

The occurrence of reactance can be identified through a person’s reactions to a specific stimulus (Brehm 1972), such as attitude changes into a negative direction (e.g. Carver 1977). Clew/Wicklund (1980) argue that reactance effects can occur in various different contexts, such as advertising. Thus, in a context where a consumer reads
highly credible negative reviews and is subsequently confronted with an ad that promotes the product positively, it is plausible that some consumers consider such company-based communication a manipulation attempt and that reactance is triggered.

The magnitude of the expressed reactance is likely to depend on the type of the encountered stimulus (Brehm 1966). Previous research provides the notion that consumers show negative attitudes and reduced behavioural intentions when they perceive a marketing tactic as manipulative (e.g. Campbell 1995; Cotte/Coulter/Moore 2005; Hibbert et al. 2007; Kirmany/Zhu 2007; Wendzel/Tomczak/Herrmann 2010). Thus, even though cognition-based and emotion-based ads both represent persuasion attempts, consumers are likely to react differently depending on the ad content, as will be explained in the following. A cognition-based ad usually has an informative rather than a persuasive character (Santilli 1983), whereas the purpose of an emotion-based ad is to influence consumers’ feelings and emotions towards products (Taat/McQuitty/Sautter 2011). One might argue that emotion-based ads, such as an ad displaying the product with a beautiful background, may not be considered manipulative. However, we are interested in an ad containing a slogan that aims to induce positive feelings towards the product. As consumers generally recognise slogans as an influence attempt (Laran/Dalton/Andrade 2011), an emotion-based ad with such an emotional slogan should be perceived as more manipulative than a cognition-based ad. Thus, for those consumers who show negative reactions to an ad, an emotion-based ad should lead to stronger attitude changes into a negative direction than a cognition-based ad. Therefore, we hypothesise:

H2: After encountering negative cognition-based online product reviews, emotion-based advertising leads to stronger attitude changes into a negative direction than cognition-based advertising.

2.2. Effects of consumers’ propensity to show reactance

Some consumers might consider company-driven communication a threat to their freedom to form whatever attitude they wish (Breinh/Brehm 1981). Consequently, such consumers are likely to resist the persuasive message (Clee/Wicklund 1980) and show counter-reactions (Breinh/Brehm 1981) in terms of attitude changes into a negative direction (Carver 1977; Clee/Wicklund 1980; Wicklund/Brehm 1968). However, due to different life experiences, cultures or social environments, consumers differ in their definitions of freedom (Breinh/Brehm 1981) and their perceptions of threats, and thus in their predisposition to show reactance (Dillard/Shen 2005; Fitzsimons/Lehmann 2004; Miller et al. 2007; Quick/Stephenson 2008). Furthermore, consumers’ strong predisposition does not necessarily mean that they are permanently in a state of reactance. It rather implies that high (as compared to low) predisposition causes stronger negative responses to specific stimuli (Dillard/Shen 2005) if these stimuli trigger reactance.

As consumers are exposed to many company-based persuasion attempts, such as advertising in newspapers and journals (Anderson/de Palma 2012), it is plausible that some consumers perceive an information overload caused by companies’ communication strategies and thus develop a specific type of predisposition to show reactance in response to advertising. In the context considered here, the contact with an ad is one such stimulus that might trigger reactance. Such an ad contact could lead consumers to resist the company’s influence attempt and even to change their attitudes into a negative direction. Such a negative change should be stronger for high PSR consumers than for low PSR consumers. However, when reactance is not triggered and consumers change their attitudes into a positive direction, the level of PSR should not make any difference. Furthermore, we assume that the level of PSR intensifies the negative effects of an emotion-based ad in comparison to a cognition-based one. Therefore:

H3: The more negative effects of emotion-based (vs. cognition-based) advertising are stronger when high PSR consumers (compared to low PSR consumers) are addressed.

The attitude change subsequent to contact with the two alternative ad types can be illustrated as shown in Fig. 1. Note that PSR only moderates the effects of ad type in the case of an attitude change into a negative direction because a change into a positive direction means that no reactance is triggered and thus PSR plays no role.

3. Empirical studies

3.1. Preliminary study

Purpose: The purpose of the preliminary study was to show the destructive effects of negative cognition-based product reviews on consumers’ attitudes. A differentiation for a familiar versus an unfamiliar brand was made in order to see whether attitude changes differ depending on brand familiarity. Furthermore, we aimed to test the appropriateness of the stimulus material for the main studies.
Test product and brands: The test product was a complex, technical high-involvement product because specifically for such products, consumers engage in intensive information search processes (Divine 1995) and are thus motivated to read product reviews (Ha 2002). We selected a multimedia-based mobile phone as the test product because visiting several opinion platforms such as epinions.com and ciao.de showed that many consumers publish reviews about mobile phones.

Appropriate brand names were identified in a pretest. Fifteen respondents were asked to rate nine brand names based on the three aspects “I have a lot of experience with this brand”, “The brand is familiar to me”, “I know a lot about this brand” (e.g. Graeff 2007, Kent/Allen 1994; alpha = .99; 1 = totally disagree to 7 = totally agree). Based on the resulting mean values (Glofifish: M = 1.13, CECT: M = 1.29, HTC: M = 1.64, LG: M = 2.47, BenQ: M = 2.93, Samsung: M = 4.67, Motorola: M = 6.13, Sony Ericsson: M = 6.13, Nokia: M = 6.87), we selected the brands with the lowest (Glofifish) and highest (Nokia) values. In order to ensure that the respondents did not have extremely negative or positive initial attitudes towards the brand, which could bias the results, another 15 respondents were asked to indicate their attitude towards those brands, such as Nokia and Samsung, that obtained mean values above or around the scale midpoint (4) and were thus qualified as moderately or very familiar. These initial attitudes towards the brands were measured based on the statements “I like the brand”, “The brand is appealing”, “The brand stands for good quality”) (e.g. Biehal/Stephens/Carlo 1992; Gardner 1985; Graeff 2007; alpha = .86; 1 = totally disagree to 7 = totally agree). The resulting mean value of M = 4.75 shows that consumers’ attitudes towards the brand Nokia are neither negative nor extremely positive. The initial attitudes towards those brands with low scale values for familiarity, such as Glofifish, were not measured because people usually do not have attitudes towards unfamiliar brands.

Test reviews: According to previous research, reviews which provide detailed objective information about the product are highly persuasive, whereas rather subjective reviews written in an emotional style are less persuasive (Park/Lee/Han 2007). Our examination of reviews posted on several opinion platforms confirms this distinction: cognition-based reviews which contain information about important product attributes are usually rated higher on usefulness and quality, and have a higher number of hits than emotion-based reviews.

We focus on the effects of such cognition-based reviews because previous research has shown that they have a greater impact on consumers’ purchase intentions (Park/Lee/Han 2007) and are more harmful to companies (Bambauer-Sachse/Mangold 2012). As such reviews usually contain about 350 words and consumers read on average 2.6 reviews (Bambauer-Sachse/Mangold 2011), we used three reviews of about this length as test stimuli. In order to select highly persuasive negative reviews, 20 respondents were asked in a pretest to read six cognition-based reviews attentively and to rate them using the statement “The product review is persuasive” (scale: 1 = totally disagree to 7 = totally agree). Based on the resulting mean values (review 1: M = 5.2, review 2: M = 5.5, review 3: M = 5.7, review 4: M = 5.0, review 5: M = 5.1, review 6: M = 5.0), we selected the three most persuasive reviews. The test reviews were presented in an authentic layout in order to make the situation as realistic as possible (Appendix 1). For example, in accordance with research conducted by Sen/Lerman (2007), a review helpfulness rating of other consumers was displayed because such a rating is often provided in real reviews (Mudambil Schaff 2010). As we are only interested in the effects of highly persuasive reviews, the helpfulness rating displayed was high for each review and not manipulated (high vs. low helpfulness) in the studies that will be presented in the following. The review content was kept constant across brands and only the brand name differed.

Sample and Procedure: The respondents were 58 Swiss students (undergraduate, graduate and doctoral students, 53.4 % women, 46.6 % men, average age: 24.10). We chose students as respondents for our empirical studies because they had proved to be a suitable target group in previous research on the effects of online word-of-mouth communication (e.g. Chan/Cui 2011; Chatterjee 2001; Chiu/Cheng 2003; Huang/Chen 2006; Khare/Labrecque/Asare 2011; Park/Lee 2009; Schlosser 2011; Sen/Lerman 2007; Xue/Zhou 2011). No incentives were offered to the respondents in the preliminary and the main studies. We presented the respondents with the following scenario: “Imagine that you are planning to purchase a new mobile phone and that you are particularly interested in the one you see here.” [Contact with the picture and description of the mobile phone], “Please evaluate the mobile phone” [First evaluation of the test product], “Now assume that before making your final purchase decision, you go to an online opinion platform in order to read some reviews from other consumers about this product to ensure you make the right decision. You find the following reviews. Please read them carefully.” [Contact with three negative reviews, presented in a varying order], [...] “Please now evaluate the mobile phone again.” [Second evaluation of the test product]. At the end of the questionnaire, the respondents indicated their age and gender. Before evaluating the phone a second time, the respondents had to answer several distinguishing questions in order to avoid them concentrating too much on the repeated evaluation measure.

Measures: Taking the suggestion of previous research to measure the dependent variable before and after the respondents’ contact with a specific stimulus and using the difference as the focal construct in order to capture the effectiveness of persuasive communication (e.g. Ahluwalia 2000; Mathukrishnan/Chattobadhyay 2007; Tormala/Clarkson/Petty 2006), we measured attitudes in terms of product evaluations before and after respondents’ contact.
with the ad. We used five statements (“This product seems to be of high quality”, “This product is reliable”, “This is a high performance product”, “I like this product”, “I am interested in this product”), e.g., Malaviya 2007; Bouteren/Sneelers/Hultink 2011; alpha\textsubscript{before} = .88; alpha\textsubscript{after} = .83; 1 = totally disagree, ..., 7 = totally agree) in order to determine the attitude change caused by the contact with the reviews. Given that product attitudes might differ from person to person after contact with negative reviews and given that their initial product attitudes represent the starting point for the attitudes formed after the reviews with the reviews, we consider the attitude change resulting from the before/after comparison to be more reliable in the context considered here than simply analysing the attitudes resulting from contact with the reviews. Alternatively, a control group could have been used instead of the before-after measurement. However, with such an experimental design, it would not have been possible to gain insights into the effects of the reviews on an individual level. Moreover, if a control group had been used, the cognitive effort to process the stimulus material might not have been the same across groups because people in the experimental groups would have read three relatively long online product reviews, whereas people in the control group would have been presented with no information or a neutral text. Therefore, we decided to use consumers’ attitude changes as the focal construct in the empirical studies.

**Results:** The attitude changes after contact with the reviews are shown in **Tab. 1**.

The results in **Tab. 1** show that negative online product reviews cause attitude changes into a negative direction. An independent samples t-test additionally reveals that these changes are equally strong for both the familiar and the unfamiliar brand (t = 1.57; p > .10). Consistent with previous research (Chiou/Cheng 2003; Huang/Chen 2006), the results of the preliminary study provide support for the detrimental effects of negative online product reviews. Moreover, these effects are captured more precisely than in previous studies by using a before-after measurement, by using more systematic combinations of positive and negative reviews, and by controlling for message content effects (positive and negative reviews in previous studies contained different aspects of product information). Given these destructive effects, it is important for marketers to recognise this problem and to develop appropriate recovery strategies. Therefore, we will examine the effects of advertising strategies that could be launched for this purpose in the following.

### 3.2. Study 1

**Purpose:** The first objective of this study was to analyse whether consumers who have read negative product reviews and then see an ad for this product show rather positive or negative reactions. The second objective was to analyse whether cognition-based or emotion-based advertising is more appropriate to recover the detrimental effects of negative reviews in the specific situation where consumers encounter only negative reviews because this situation represents the worst case for a company.

**Experimental design:** A 2 (ad: cognition-based vs. emotion-based) x 2 (brand familiarity: high vs. low) between-subjects design was used as will be explained in the following. The respective ads are shown in Appendix 2. The respondents were faced with either the cognition-based or the emotion-based ad that aimed to recover the detrimental effects of the product reviews encountered previously. In order to control for possible brand effects, we used the same familiar and unfamiliar brands as in the preliminary study. The ad layout and the picture of the test product were kept constant across experimental conditions. Thus, only the ad content (cognition-based information vs. emotional slogan) and the brand differed across test ads.

**Test ad pretest:** The objectives of this pretest were to test whether the cognition-based (emotion-based) ad was perceived as such and to identify the emotional slogan which triggered the most positive attitude towards the ad. The layout of the fictitious test ads consisted of a product picture and a neutral colour element. No brand information was provided in the pretest in order to avoid biasing effects. The cognition-based test ad highlighted the most important points of criticism about the mobile phone mentioned in the test reviews (bad quality of the camera, short battery life, lack of usability of the touch-display and insufficient internal data space) in a positive way. For the emotion-based ad, we developed and tested several slogans (see **Tab. 2**) with varying degrees of emotionality in order to examine to what extent they were perceived as rather emotion-based or cognition-based. Thus, six alternative slogans were developed. The emotional slogans were integrated into test ads and tested in a pretest together with the cognition-based ad. The cognition-based ad contained slightly more information than the emotion-based ad, which is typical for the two different ad types. However, we ensured that the difference in the amount of information was not too large in order to avoid any bias which might be caused by considerably different levels of cognitive effort needed to process the ads. The 54 participants in the pretest received the seven ads in a varying order and were asked to indicate their attitude towards the ad (“I like the ad”, “The ad raises my interest in the product”) following the recommendations of Biehal/Stephens/Carlo (1992), Gardner (1985) and Mitchell/Olson (1981). Furthermore, the respondents were asked to rate the persuasiveness of the ad (“The ad is persuasive”). As an analysis of reliability over the

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**Tab. 1: Attitude changes depending on brand familiarity**

<table>
<thead>
<tr>
<th></th>
<th>Familiar brand (n = 29)</th>
<th>Unfamiliar brand (n = 29)</th>
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<tbody>
<tr>
<td>b</td>
<td>4.90 (1.15)</td>
<td>3.83 (0.95)</td>
</tr>
<tr>
<td>a</td>
<td>2.54 (0.77)</td>
<td>1.87 (0.90)</td>
</tr>
<tr>
<td>a-b</td>
<td>-2.35 (0.88)</td>
<td>-1.97 (0.99)</td>
</tr>
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Note: SD indicated in parentheses
b: product evaluation before contact with the reviews
a: product evaluation after contact with the reviews
a-b: attitude change (all changes are significant at the .01 level)
three items showed a sufficiently high Cronbach’s Alpha ($\alpha = .91$), we aggregated these three items and calculated a mean value for the construct attitude towards the ad. Moreover, the perception of the ad as rather cognition-based or emotion-based was measured by two statements which referred to the cognition-based character of the ad (“ad highlights usefulness of the product”/“focuses on product functionality”; $r = .85$) and two statements that referred to emotionality (“ad highlights a positive product experience”/“elicits emotions”; $r = .69$) which were aggregated respectively. Please note that we indicate correlation coefficients and no Cronbach’s Alpha values when only two items are used to measure the constructs of interest as recommended by Verhoef (2003). All items were rated on seven-point scales (1 = totally disagree, ..., 7 = totally agree). The results of the ad pretest are presented in Table 2.

The results in Table 2 suggest that the tested emotional slogans were perceived to be rather emotion-based than cognition-based even though they evoke rather cognition-based aspects, such as quality and technology. Furthermore, they show that the slogan “Technology that makes you dream” evoked the most positive attitude towards the ad ($M = 4.90$) and scored high on the emotion-related items ($M = 5.81$) as well as low on the cognition-related items ($M = 1.86$) and was thus selected. The cognition-based ad also evoked a relatively positive attitude towards the ad ($M = 4.67$) and was perceived, as intended, as rather cognition-based ($M = 5.63$) than emotion-based ($M = 2.34$). There was no significant difference between respondents’ attitude towards the cognition-based and the emotion-based ad ($p_{\text{Scheffé}} > .10$).

Sample and procedure: The initial sample consisted of 402 Swiss students (undergraduate, graduate and doctoral students, 55% women, 45% men, average age: 29.1 years) from different areas of study. An official email list of the university was used to contact the respondents. After the elimination of those respondents who did not show an attitude change, a final sample of 385 respondents (average age and gender structure remained unchanged) resulted.

The respondents were asked to imagine that they intended to purchase a new mobile phone and saw a picture of and technical information about the product. Then, the respondents were provided with the product reviews (in a counterbalanced order). They were asked to read them as thoroughly as in a real situation in which they were looking for such information before making a purchase decision. Afterwards, the respondents had to evaluate the product for the first time. The subsequent instructions were as follows: “Now assume that shortly after having read the reviews, you see the following ad in the newspaper.” [Contact with the cognition-based or the emotion-based ad; the respondents could decide freely how long they looked at the ad]. “Please now evaluate the product again.” [Second evaluation of the test product]. Finally, the respondents had to indicate their age and gender and to evaluate the ad as rather cognition-based or emotion-based. Again, we included several irrelevant and distracting questions before the respondents were asked to make the second evaluation.

Measures: The attitude measurement was the same as in the preliminary study ($\alpha_{\text{before}} = .94$; $\alpha_{\text{after}} = .91$; 1 = totally disagree, ..., 7 = totally agree). Given that the initial attitudes represent the starting point for the attitudes formed after contact with the ad, in accordance with the preliminary study, we consider the attitude change resulting from the before/after comparison to be more reliable in the context considered here than simply analysing the attitudes that result from contact with the ad. Furthermore, we measured the respondents’ perceptions of the ad type as described for the ad pretest ($r_{\text{cognition-based}} = .84$; $r_{\text{emotion-based}} = .83$). All items were rated on seven-point scales.

Results: The results of the manipulation check for the ad type show that the cognition-based ad was ranked significantly higher on the cognition-related items than the emotion-based ad ($M_{\text{cognition-based ad}} = 3.81$, $M_{\text{emotion-based ad}} = 3.18$, $t = 5.94$, $p < .001$) and vice versa ($M_{\text{emotion-based ad}} = 4.23$, $M_{\text{cognition-based ad}} = 2.80$, $t = 9.10$, $p < .001$). In order to test the first hypothesis, we used the initial sample (including the “no change” respondents). In Table 3 we present the mean values of the respondents’ attitudes before

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Attitude towards the ad</th>
<th>Ad perception</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Cognition-based</td>
</tr>
<tr>
<td>Emotion-based ad with slogan 1</td>
<td>3.20</td>
<td>1.83</td>
</tr>
<tr>
<td>(“More than just a mobile phone”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-based ad with slogan 2</td>
<td>4.20</td>
<td>1.85</td>
</tr>
<tr>
<td>(“Expect more from your mobile phone”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-based ad with slogan 3</td>
<td>3.19</td>
<td>1.94</td>
</tr>
<tr>
<td>(“Best quality for you”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-based ad with slogan 4</td>
<td>3.55</td>
<td>2.06</td>
</tr>
<tr>
<td>(“Quality you can count on”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-based ad with slogan 5</td>
<td>4.90</td>
<td>1.86</td>
</tr>
<tr>
<td>(“Technology that makes you dream”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-based ad with slogan 6</td>
<td>4.11</td>
<td>1.97</td>
</tr>
<tr>
<td>(“Best quality and much more”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognition-based ad</td>
<td>4.67</td>
<td>5.63</td>
</tr>
</tbody>
</table>

Table 2: Results of the ad pretest
and after contact with the respective ad as well as the attitude changes both for the pooled sample and differentiated for test brands.

The results of an analysis of variance show that the type of advertising has no significant effect on attitude changes ($F = .87, p > .10$). Thus, the data of the initial sample do not provide support for $H1$. Furthermore, neither the brand nor the interaction of the brand and the ad type has any effect on attitude changes (brand: $F = .38, p > .10$; brand × ad type: $F = .39, p > .10$). Interestingly, a check of the attitude changes in the initial data set indicates that not all respondents showed changes into a positive direction after contact with the ad. Instead, a considerable percentage of the respondents (17%) showed changes into a negative direction, and a small percentage showed no change (4%). The direction of the attitude change did not depend on the ad type (chi-square = 3.82, $p > .10$). The fact that some respondents showed a change into a positive direction whereas others showed no change or a change into a negative direction cancelled out the ad effects, which explains why no effect of ad type could be found in the initial sample. Therefore, a differentiation for the change into a positive direction and a change into a negative direction will be made for the following analyses. As the focus of this paper is on analysing the effects of advertising strategies, it makes no sense to consider respondents who were not affected by the tested advertising strategies. Therefore, those few respondents will be excluded from further analyses. $Tab. 4$ shows the effects of ad type on attitude changes differentiated for those people who showed changes into a positive direction and those who showed changes into a negative direction.

The analyses on brand level provide similar result patterns with regard to the two following aspects. First, the attitude changes into a positive direction are equally strong for the cognition-based and the emotion-based ad. Second, the attitude changes into a negative direction are stronger for the emotion-based ad. Therefore, the results for the pooled sample will be interpreted in the following.

The results in $Tab. 4$ show that consumers in the “positive change” group react similarly to cognition-based and emotion-based advertising (2.14–1.96 = .18, $t = .95, p > .10$). Thus, $H1$ cannot be confirmed. On the contrary, consumers in the “negative change” group show stronger attitude changes into the negative direction if an emotion-based ad (compared to a cognition-based ad) is used ($- .88$ ($-.39$) $=- .49, t = -3.04, p < .001$), which provides support for $H2$. As some consumers react positively whereas others react negatively to advertising that aims

---

### Table 3: Attitude changes depending on the ad type (initial sample)

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Pooled sample Cognition-based (n = 194)</th>
<th>Emotion-based (n = 208)</th>
<th>Familiar brand Cognition-based (n = 106)</th>
<th>Emotion-based (n = 99)</th>
<th>Unfamiliar brand Cognition-based (n = 88)</th>
<th>Emotion-based (n = 109)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>2.79 (1.45)</td>
<td>3.02 (1.74)</td>
<td>3.18 (1.38)</td>
<td>3.67 (1.68)</td>
<td>2.32 (1.40)</td>
<td>2.43 (1.58)</td>
</tr>
<tr>
<td>a</td>
<td>4.36 (1.30)</td>
<td>4.45 (1.35)</td>
<td>4.75 (1.14)</td>
<td>5.00 (1.23)</td>
<td>3.88 (1.33)</td>
<td>3.95 (1.26)</td>
</tr>
<tr>
<td>a-b</td>
<td>1.57 (1.35)</td>
<td>1.43 (1.68)</td>
<td>1.57 (1.46)</td>
<td>1.33 (1.78)</td>
<td>1.56 (1.21)</td>
<td>1.52 (1.59)</td>
</tr>
</tbody>
</table>

Note: SD indicated in parentheses

b: product evaluation after contact with the reviews and before contact with the ad

a: product evaluation after contact with the ad

a-b: attitude change (all changes are significant at the .01 level)

---

### Table 4: Attitude changes depending on the ad type, differentiated for the direction of the attitude change (sample without "no change")

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Pooled sample Cognition-based (n = 199)</th>
<th>Emotion-based (n = 208)</th>
<th>Familiar brand Cognition-based (n = 106)</th>
<th>Emotion-based (n = 99)</th>
<th>Unfamiliar brand Cognition-based (n = 88)</th>
<th>Emotion-based (n = 109)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>2.80 (1.20)</td>
<td>3.10 (1.49)</td>
<td>2.22 (1.35)</td>
<td>1.88 (1.08)</td>
<td>4.02 (1.25)</td>
<td>4.06 (1.20)</td>
</tr>
<tr>
<td>a</td>
<td>4.92 (1.07)</td>
<td>5.21 (1.14)</td>
<td>4.02 (1.25)</td>
<td>4.06 (1.20)</td>
<td>1.80 (1.08)</td>
<td>2.18 (1.13)</td>
</tr>
<tr>
<td>a-b</td>
<td>2.12 (1.17)</td>
<td>2.11 (1.34)</td>
<td>1.80 (1.08)</td>
<td>2.18 (1.13)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: SD indicated in parentheses

b: product evaluation after contact with the reviews and before contact with the ad

a: product evaluation after contact with the ad

a-b: attitude change (all changes are significant at the .01 level)
to recover the effects of negative reviews, we will examine in Study 2 to what extent consumers’ predisposition to show reactance in response to advertising is able to explain this phenomenon. We assume that such a predisposition is not the factor which determines positive and negative reactions, but rather the degree to which consumers react negatively.

The results pooled across ad type further show that the attitudes after contact with the negative reviews (first attitude measurement) are more negative in the “positive change” group ($M = 2.48$) than in the “negative change” group ($M = 4.65$, $t = 12.09$, $p < .001$). Possible reasons for this phenomenon will be analysed in Study 2.

### 3.3. Study 2

**Purpose:** The first objective was to validate the findings of Study 1 using a larger sample. The second purpose was to examine in more detail the phenomenon observed in Study 1 that consumers who changed their attitudes into a positive direction after contact with the ad (“positive change” group) showed much more negative attitudes after their contact with negative reviews than consumers in the “negative change” group. The third objective was to analyse the role of consumers’ PSR in the context of consumer reactions to advertising which aims to recover the negative effects of online reviews.

**Experimental design:** A two-group design, based on the ad type, was used in Study 2. This was based on the same test product (mobile phone), the same sets of negative reviews and the same test ads as Study 1. Only the test brand differed from Study 1 (see Appendix 3).

**Qualitative study:** In order to gain basic insights into why consumers react differently to negative reviews (attitude after contact with the reviews) as well as to advertising (attitude after contact with the ad) that aims to recover the negative effects of such reviews, an exploratory group discussion of about one hour was conducted before the second main study was planned. Five graduate students, who regularly read online product reviews, were asked to put themselves into the situation of planning to purchase a high-involvement product (i.e., new mobile phone). Subsequently, the same three negative cognition-based reviews as in the preliminary study and the first main study were provided and they were asked to read them as if they had looked for such reviews on a real platform. Afterwards, they were presented with the ads used in Study 1 (cognition-based and emotion-based) and asked to imagine that they had come across these ads in an everyday situation. Then, they were asked to express spontaneously what they thought about the reviews, the ads and a possible purchase of the mobile phone. Afterwards, they were asked how they judged their processing of the reviews (in terms of their self-estimations of how thoroughly they had read and elaborated on the reviews) and how they perceived their reaction to the ad. The participants described considerable differences with regard to how carefully they had processed the reviews. The three participants who indicated that they had read the reviews thoroughly seemed to be more negatively influenced in their attitudes than the other two participants. Thus, reviews can affect people’s attitudes differently depending on the extent of processing and as a result, attitudes can differ considerably after contact with negative reviews. Consequently, in the second main study, we decided to measure consumers’ judgments of their processing as well as of whether the reviews provided a sufficient basis for forming an attitude, in order to examine whether these variables can explain the phenomenon that the people in the “positive change” group have less positive attitudes towards the product after their contact with the reviews than the people in the “negative change” group. The second interesting conclusion that can be drawn is that the same three discussion participants who seemed to be more negatively influenced by the reviews reported positive thoughts about the ad, whereas the other two were rather annoyed. The latter respondents mentioned that they did not believe what the company was trying to tell them about the product and that they would not purchase it because of this ad. Such negative reactions can be interpreted in terms of consumer reactance, which will also be examined in more detail in Study 2.

**Sample procedure and test brand:** The initial sample (sample without “no change” respondents) consisted of 982 (911) Swiss students (undergraduate, graduate and doctoral students; 60% women, 40% men for both samples, average age: 27.4 (26.6) years) from different areas of study. The official university email list was used to send out a link to the online questionnaire.

The basic procedure of Study 2 was the same as for Study 1. In addition, the participants were asked to indicate how carefully they thought they had processed the reviews, to what extent they judged that the reviews provided a sufficient basis to form an attitude and to rate their PSR in response to advertising. Again, a mobile phone was used as the high-involvement test product. As Study 1 had shown that attitude changes did not differ depending on respondents’ brand familiarity, we only used one brand for Study 2. Based on the brand selection pretest described in the preliminary study, we chose the brand Samsung, which represented a brand moderately familiar to the respondents. Again, respondents’ attitude towards the brand that was also measured in the ad pretest was neither negative nor extremely positive ($M = 4.63$; scale: 1 = totally disagree to 7 = totally agree).

**Measures:** We measured attitudes using the same items and procedures as in the preliminary study ($\alpha_{attitude} = .93$; $\alpha_{reverse} = .89$). Respondents’ perceptions of the ad type were measured using one bipolar item (1 = cognition-based ad, ..., 7 = emotion-based ad) instead of several items because the ads had proven to be perceived as intended in Study 1.

In addition, we measured how consumers judged their processing of the reviews (“I read the reviews carefully”, “I processed the reviews thoroughly”; $r = .62$) and the
consumers’ judgments of whether the reviews provided a sufficient basis for forming an attitude (“I think that I can assess the product appropriately after having read the reviews”). We used two and one statement respectively so as not to extend questionnaire length unnecessarily as experience with the preliminary study and Study 1 had shown that processing the stimulus materials and filling in the questionnaire took quite a while. The concept “judgment of processing” can be clearly separated from the concept “judgment of whether reviews provided a sufficient basis for forming an attitude” as the inter-concept correlation of .30 is weak (Evans 1996). Moreover, we operationalised consumers’ PSR to advertising with two statements (“I am irritated if companies try to influence me through advertising”, “It bothers me if I am influenced in my consumption decisions by advertising”; r = .50) as will be argued in the following. Previous research on reactance as a personality trait, which used typical scales, such as Hong’s Psychological Reactance Scale (Hong 1992; Hong/Faedda 1996; Hong/Page 1989), was conducted in contexts that differ considerably from the one considered here, e.g. health-related communication (Dillard/Shen 2005; Miller et al. 2007; Quick/Stephenson 2008). A scale developed for a completely different context is less appropriate for measuring the specific type of trait reactance considered here (i.e. consumers’ predisposition to show reactance in response to advertising). As argued by Donnell/Thomas/Buboltz (2001) and Hong/Page (1989), the feeling of irritation in response to an influence attempt can serve as an indicator of trait reactance. It has also been demonstrated in previous research that advertising can evoke such a feeling of being irritated (e.g. Aaker/Bruzzone 1985; Edwards/Li/Lee 2002). Therefore, we operationalised PSR through consumers’ general feeling of being irritated or bothered by advertising in terms of a company-initiated persuasion attempt.

Results: The ad manipulation as rather cognition-based or rather emotion-based was successful (M_cognition-based ad = 2.60, M_emotion-based ad = 4.95, t = 21.18, p < .001).

The same procedure as for Study 1 was used in the first step. Thus, Tab. 5 displays the results for the initial sample and the results differentiated for attitude changes into a negative and positive direction based on the sample from which the “no change” respondents were excluded. A check of the initial sample of Study 2 revealed that 13 % of the respondents showed attitude changes into a negative direction, and 7 % showed no attitude change. Again, the direction of the attitude change did not depend on the ad type (chi-square = .93, p > .10).

The results in Tab. 5 have the same pattern as the findings of Study 1 in that attitude changes into a positive direction do not differ depending on ad type, but are stronger into a negative direction for the emotion-based ad. Thus, they validate these findings. The next step consists of analysing whether the consumers in the two groups differ in their processing of the product reviews. The results of t-tests show that consumers in the “positive change” group judged their processing of the negative reviews as more careful (“positive change” group: M = 4.39 vs. “negative change” group: M = 3.72, t = 4.14, p < .001) and were more convinced that the reviews provided a sufficient basis for forming an attitude than consumers in the “negative change” group (“positive change” group: M = 5.24 vs. “negative change” group: M = 4.41, t = 5.70, p < .001). These results suggest that the considerably more negative attitudes after contact with the reviews in the “positive change” group are due to these consumers processing the reviews more carefully and thus, being more strongly influenced by them.

<table>
<thead>
<tr>
<th>Analysis based on the initial sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad type</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
<tr>
<td>a-b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis based on the sample without “no change” respondents, attitude change into a positive direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad type</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
<tr>
<td>a-b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis based on the sample without “no change” respondents, attitude change into a negative direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad type</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
<tr>
<td>a-b</td>
</tr>
</tbody>
</table>

Note: SD indicated in parentheses
b: product evaluation after contact with the reviews and before contact with the ad
a: product evaluation after contact with the ad
a-b: attitude change (all changes are significant at the .01 level)
Furthermore, the consumers in the “positive change” group, who have more negative attitudes after their contact with negative reviews and who react to the ad with attitude changes into a positive direction, seem to be susceptible to reviews written by consumers and to company-driven advertising. The consumers in the “negative change” group are less susceptible to negative reviews and are not influenced by advertising in the intended way. They instead show negative reactions. Even though we demonstrated in our preliminary study that negative online product reviews generally cause attitude changes into a negative direction, the results of Study 2 suggest that some consumers (those in the “negative change”) group are less negatively influenced by reviews than others (those in the “positive change”) group.

In the next step, we examine the role of consumers’ PSR in the context of consumers’ reactions to the ad. A basic analysis of PSR in the two groups provides the notion that the consumers in the “positive change” group are not generally characterised by lower levels of PSR (M = 3.75) than those in the “negative change” group (M = 3.77, t = .13, p > .10). An additional look at the minimum and maximum values of PSR as well as the standard deviations (“positive change” group: min = 1, max = 7, SD = 1.22; “negative change” group: min = 1, max = 6.5, SD = 1.35) shows that PSR varies considerably in both groups. Thus, as we assumed, consumers’ PSR cannot explain why some consumers react positively to advertising and others negatively. Consequently, we will examine PSR in more detail by differentiating for the level of PSR. In accordance with previous research (e.g. Fitzsimons/Lehmann 2004; Kwon/Chung 2010), the differentiation for low and high PSR level was based on a median split (values above the median designate a high PSR level). The results are presented pooled across different types of the ad, both for the data pooled across attitude change groups and differentiated for attitude change groups. The results are shown in Tab. 6.

For the data pooled across ad types and attitude changes, independent samples t-tests show that the PSR level has no effect on attitude changes (t = .13, p > .10). This suggests that it makes sense to differentiate for attitude changes into a positive and negative direction. The results based on the data pooled across ad types for the “positive change” group show that the PSR level does not make a difference (t = .94, p > .10). However, as expected in H3, the PSR level has a significant influence on attitude changes into a negative direction (t = 3.75, p < .001) in that respondents with a high PSR level show a stronger attitude change into a negative direction after contact with the ad than respondents with a low PSR level. These findings confirm the assumption that the level of PSR only makes a difference when reactance is triggered, which is not the case when consumers are positively influenced by advertising. Furthermore, the findings show that high PSR does not necessarily imply that reactance is triggered in response to a stimulus. However, when reactance is triggered, negative reactions are stronger for high than for low PSR consumers. Interaction effects of consumers’ PSR and ad type are examined in the following. For the data pooled across attitude change groups, the results of an analysis of variance show that neither the PSR level

### Table 6: The role of PSR and ad type in the context of consumers’ attitude changes after contact with advertising

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Pooled across ad types</th>
<th>Cognition-based</th>
<th>Emotion-based</th>
<th>Cognition-based</th>
<th>Emotion-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>low PSR</td>
<td>(n = 449)</td>
<td>(n = 231)</td>
<td>(n = 218)</td>
<td>(n = 227)</td>
<td>(n = 235)</td>
</tr>
<tr>
<td>b</td>
<td>2.39 (1.26)</td>
<td>2.65 (1.43)</td>
<td>2.43 (1.31)</td>
<td>2.35 (1.21)</td>
<td>2.60 (1.43)</td>
</tr>
<tr>
<td>a</td>
<td>3.97 (1.19)</td>
<td>4.22 (1.22)</td>
<td>3.91 (1.18)</td>
<td>4.04 (1.20)</td>
<td>4.22 (1.24)</td>
</tr>
<tr>
<td>a-b</td>
<td>1.58 (1.26)</td>
<td>1.57 (1.37)</td>
<td>1.48 (1.25)</td>
<td>1.69 (1.26)</td>
<td>1.62 (1.27)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Pooled across ad types</th>
<th>Cognition-based</th>
<th>Emotion-based</th>
<th>Cognition-based</th>
<th>Emotion-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>low PSR</td>
<td>(n = 394)</td>
<td>(n = 196)</td>
<td>(n = 198)</td>
<td>(n = 201)</td>
<td>(n = 198)</td>
</tr>
<tr>
<td>b</td>
<td>2.18 (1.10)</td>
<td>2.37 (1.21)</td>
<td>2.14 (1.10)</td>
<td>2.22 (1.10)</td>
<td>2.37 (1.26)</td>
</tr>
<tr>
<td>a</td>
<td>4.04 (1.17)</td>
<td>4.30 (1.15)</td>
<td>3.94 (1.19)</td>
<td>4.13 (1.14)</td>
<td>4.27 (1.21)</td>
</tr>
<tr>
<td>a-b</td>
<td>1.86 (1.09)</td>
<td>1.93 (1.08)</td>
<td>1.80 (1.08)</td>
<td>1.91 (1.10)</td>
<td>1.90 (1.07)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Pooled across ad types</th>
<th>Cognition-based</th>
<th>Emotion-based</th>
<th>Cognition-based</th>
<th>Emotion-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>low PSR</td>
<td>(n = 55)</td>
<td>(n = 35)</td>
<td>(n = 20)</td>
<td>(n = 26)</td>
<td>(n = 37)</td>
</tr>
<tr>
<td>b</td>
<td>3.91 (1.29)</td>
<td>4.43 (1.49)</td>
<td>4.09 (1.17)</td>
<td>3.60 (1.46)</td>
<td>4.36 (1.44)</td>
</tr>
<tr>
<td>a</td>
<td>3.53 (1.30)</td>
<td>3.74 (1.49)</td>
<td>3.77 (1.18)</td>
<td>3.12 (1.43)</td>
<td>3.88 (1.48)</td>
</tr>
<tr>
<td>a-b</td>
<td>-0.38 (0.18)</td>
<td>-0.69 (0.64)</td>
<td>-0.32 (0.15)</td>
<td>-0.48 (0.19)</td>
<td>-0.48 (0.20)</td>
</tr>
</tbody>
</table>

Note: SD indicated in parentheses
b: product evaluation after contact with the reviews and before contact with the ad
a: product evaluation after contact with the ad
a-b: attitude change (all changes are significant at the .01 level)
nor ad type nor their interaction has an effect on the attitude change (PSR: $F = .02, p > .10$; ad type: $F = .42, p > .10$; PSR × ad type: $F = 3.30, p > .50$).

A closer look at the “negative change” group shows that the more negative attitude changes caused by emotion-based (vs. cognition-based) advertising are even stronger for high than for low PSR consumers (low PSR: -.48 – (-.32) = -.16; high PSR: -.84 – (-.48) = -.36; $t = -8.62, p < .001$). Thus, $H3$ is supported.

### 4. General discussion

The starting point of the studies presented above was the observation that companies are facing an increasing number of consumer product reviews on the Internet. Specifically, negative, cognition-based reviews represent a serious threat to companies because of their highly persuasive character and their detrimental effects. Thus, it is important for companies to find appropriate communication strategies with which consumers’ negative attitudes can be recovered. We started from the idea that when consumers read negative online reviews about a product and are subsequently confronted with an ad for this product, two completely different types of reactions (attitude changes into a positive or negative direction) can occur in response to such a company-based persuasion attempt. For those who react positively, we assumed that the emotion-based ad would lead to even more positive reactions than the cognition-based one. However, when reactance is triggered through consumers’ confrontation with two contradictory persuasive messages (i.e. negative consumer-based product review vs. positive company-based ad), we assumed that the emotion-based ad would lead to more negative attitude changes than the cognition-based one.

A preliminary study was conducted to prove the detrimental effects of such reviews on consumers’ attitudes. The results show that, independently of brand familiarity, consumers show an attitude change into a negative direction. Furthermore, we conducted two main studies in order to identify appropriate advertising strategies that companies could use to recover such negative effects and to examine the role of consumers’ PSR in this context. The results of both studies show that, although the majority of consumers (Study 1: 79 %, Study 2: 80 %) are likely to show positive reactions to both cognition-based and emotion-based ads, a considerable percentage of respondents (Study 1: 17 %, Study 2: 13 %) shows negative reactions which are of particular interest for the present research focus. The results show that these negative reactions are even stronger if emotion-based advertising is used. Thus, advertising is not always able to recover consumers’ attitudes which are negative due to contact with negative reviews.

An additional finding of Study 1 was that after contact with negative reviews, the consumers in the “positive change” group have more negative attitudes than the consumers in the “negative change” group. A possible explanation could be that the first group of consumers is more strongly influenced by both peer-to-peer communication and company-driven advertising than the second group. This is specifically interesting because two completely different sources of information cause the observed reactions. Those consumers who are strongly influenced by the negative reviews and consequently have comparatively negative attitudes after contact with the reviews show clear attitude changes into a positive direction after contact with the ad, even though communication through advertising is much less credible than consumer-driven communication. On the other hand, consumers who are less influenced by even highly credible reviews should rather ignore the ad, as it is much less credible. Instead, they show very strong reactions in terms of negative attitude changes. Thus, factors beyond the mere opportunity to show a change into a positive (negative) direction due to the initially comparatively negative (positive) attitude are likely to cause such an effect.

The results of Study 2 additionally provide insights into the determinants of consumers’ reactions to negative product reviews and the role of consumers’ PSR in the context of reactions to advertising that aims to recover negative attitudes. The findings provide the notion that consumers in the “positive change” group process reviews more carefully, are more convinced that the reviews provide a sufficient basis for forming an attitude and are thus more influenced by such reviews than those in the “negative change” group. Consequently, they have more negative attitudes after their contact with the reviews.

The results further show that the consumers in the “negative change” group are not characterised by higher average levels of PSR than those in the “positive change” group. However, differentiating for low and high PSR in each group demonstrates that PSR determines the reactions to advertising to some extent. In the “negative change” group, high PSR consumers show significantly more negative attitude changes after their contact with the ad than low PSR consumers, and they react even more negatively when faced with an emotion-based ad. In contrast, the PSR level does not make a difference in the “positive change” group. Thus, in the positive change group, contact with the ad did not trigger reactance, but instead caused positive reactions. A possible explanation for these findings could be that consumer reactions to advertising after their contact with negative reviews are not only determined by their individual PSR level, but also by other (e.g. external) factors. For example, consumers’ speculation on the motive behind an advertising measure might also determine their reactions. Some low PSR consumers might believe that the company is trying to mislead them by distracting them from the negative reviews which are highly credible and thus show negative reactions to the perceived threat. On the other hand, in some high PSR consumers, reactance might not be triggered and they might show positive reactions because they might think that the company has launched the advertising measure because it believes in its products.
These findings have important implications for marketers who are interested in an advertising strategy that is appropriate to recover consumers’ attitudes that have been negatively influenced by negative reviews. First of all, it is good news for marketers that advertising can recover negative attitudes in the majority of consumers independently of whether cognition-based or emotion-based advertising is used. However, for a minor, but not insignificant part of consumers, such recovery attempts can cause negative reactions. When choosing the type of advertising (cognition-based vs. emotion-based), we recommend that marketers take into account the fact that these two groups of consumers exist. Although no ad type proved to clearly outperform the other in the “positive change” group, the results for the “negative change” group suggest that an emotion-based ad produces even more negative reactions than a cognition-based ad, and that this effect is even stronger if high PSR consumers are addressed. Consequently, a cognition-based ad that informs consumers about favourable product attributes is more appropriate to recover attitudes for the majority of consumers and helps to limit possible negative effects in the group showing negative reactions.

5. Limitations and suggestions for future research

The research presented here has certain limitations. We used students as respondents because they proved to be a suitable target group in previous research on the effects of online word-of-mouth communication (e.g. Chan/Cui 2011; Chatterjee 2001; Chiong/Cheng 2003; Huang/Chen 2006; Khare/Labrecque/Asare 2011; Park/Lee 2009; Schlosser 2011; Sen/Lerman 2007; Xue/Zhou 2011). Nonetheless, it would be interesting to test whether the same effects occur when non-student samples are used. Our studies were designed with the objective of controlling for biases which are likely to occur for a dynamic environment such as the Internet. However, this led to a study design that one might judge as rather artificial. Future research could therefore examine the effects of advertising strategies aiming to recover detrimental effects of online product reviews published on real opinion platforms.

One might argue that sleeper effects (Hannah/Sternthal 1984) occur, which in the considered context means that online product reviews as well as advertising have a delayed impact on consumers’ attitudes. This could make the differing credibility of the consumer- and company-based information sources less relevant. However, contrary to product information originating from offline word-of-mouth communication, online product reviews are available for a long period of time. Thus, for highly involving products such as consumer electronics, it is plausible that consumers read the reviews and are influenced in their attitudes shortly before they purchase a product. To be effective, the contact with the ad should therefore take place before the actual purchase. Therefore, we only considered the situation in which a consumer is confronted with the reviews as well as the ad without a long time lag in between. In this context, it could be interesting to test inverse effects with a certain time delay (i.e. advertising followed by negative reviews after a certain amount of time) because it is possible that contact with an ad could lead consumers to become less susceptible to the influence of negative online product reviews. A study conducted by Smith/Nogt (1995) in the field of offline word-of-mouth communication has already examined such message order effects, but did not compare the effectiveness of different advertising strategies. As in reality, it is difficult for marketers to control whether consumers first read negative reviews and then see the ad or vice versa, it would be interesting to have results for both situations.

Furthermore, it would be interesting to test under which conditions consumers can show reactance to reviews. For example, consumers who already have a mobile phone of a specific brand and have a positive pre-attitude towards it might be less influenced by the reviews than consumers who do not have a product of this brand. Thus, in future studies, consumers’ pre-attitudes towards a brand as well as actual brand possession should be included and analysed in detail.

Moreover, respondents’ situational involvement could explain why some respondents process reviews more thoroughly than others. We chose a high involvement product as test product but did not control for situational involvement in the experiments.

In addition, it would be interesting to analyse whether positive and negative effects of advertising on consumer attitudes depend on general consumer attitudes (e.g. Jin/Lutz 2013) or scepticism (e.g. Ford/Smith/Swasy 1990). Moreover, while we only used two items to measure consumers’ PSR, future research could use more extended scales capturing aspects that go beyond irritation or feeling being bothered by advertising.

Future studies should also measure attitudes towards the ad, perceived ad credibility and the perceived manipulative intent of the advertiser because such factors might further explain differing consumer reactions such as those observed in our empirical studies. Investigating whether consumers speculate on the motives behind advertising messages might also provide interesting insights in this regard. Moreover, it could be important to examine the role of consumers’ affect intensity because this variable was shown to influence consumers’ reactions to emotion-based advertising (Moore/Harris 1996) and thus might additionally explain the reactions to emotion-based advertising which were found here. In addition, it could be interesting to compare the effects of cognition-based ads which highlight positively product features which are criticised in product reviews (as in the studies presented above) with the effects of cognition-based ads that highlight other product features.
Appendix 1: Example of a Negative Online Product Review

| Produktbewertung: | | |
|-------------------|-------------------|
| Verfasser: S.B.   | Diese Produktbewertung wurde von 96% der Mitglieder dieses Portals durchschnittlich als **sehr hilfreich** bewertet | |


Appendix 2: Experimental Design of Study 1

Unfamiliar brand (Glofiish) | Familiar brand (Nokia)
---|---
Cognition-based ad | Cognition-based ad
Emotion-based ad | Emotion-based ad
Appendix 3
Experimental Design of Study 2 (moderate brand familiarity)

<table>
<thead>
<tr>
<th>Cognition-based ad</th>
<th>Emotion-based ad</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Samsung" /></td>
<td><img src="image2" alt="Samsung" /></td>
</tr>
</tbody>
</table>

References


Bambauer-Sachse/Mangold, Can Advertising Compensate Detrimental Effects of Negative Online Product Reviews?


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Negative product reviews; Attitudes; Advertising; Consumer reactance


