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Silke Bambauer-Sachse, University of Fribourg, Switzerland
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The Role of Perceived Review Credibility in the Context of Brand Equity Dilution Through Positive Product Reviews on the Internet
Silke Bambauer-Sachse, University of Fribourg, Switzerland
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ABSTRACT
In this paper, we examine effects of negative online product reviews on consumer-based brand equity as well as the role of review quality and perceived review credibility. The results of our study show that brand equity dilution increases with increasing review quality and that review credibility plays an important role.

INTRODUCTION
A look at the historical development of the Internet as a source of product-specific information shows that, in a first phase, product-specific information was mainly provided by producers and retailers whereas a more recent phase is characterized by the trend that consumer-based product information in terms of product reviews, as a specific type of online word-of-mouth (WOM) communication, can be increasingly found in addition to company-based information. In the light of this trend, the finding that consumers are more susceptible to WOM communication than to company-based product information (Bickart and Schindler 2001; Herr, Kardes, and Kim 1991; Smith, Menon, and Sivakumar 2005; Trusov, Bucklin, and Pauwels 2009) leads to the assumption that consumer-based online product reviews have a comparatively strong impact on consumer behavior (Chatterjee 2001; Chevalier and Mayzlin 2006; Kiecker and Cowles 2001; Sen and Lerman 2007; Xia and Bechwati 2008). In addition, companies only spread positively valenced information, whereas consumers especially tend to share negative experiences with as many people as possible (Chatterjee 2001) and to look for negative product reviews because negative information is considered as more diagnostic than positive or neutral information and thus is weighted more heavily in judgments (Herr et al. 1991). Consequently, from a company’s perspective, negatively valenced online product reviews are very harmful. Regarding the persuasiveness of online product reviews, it is important to consider that, over time, consumers have become more skeptical about consumer generated information that is provided on the Internet. This skepticism is due to news publications about Internet abuses (McKnight and Kacmar 2006) and the fact that people who provide information on the Internet are anonymous. In addition, the fact that such information is unfiltered (Cheung et al. 2009) and that marketers use the anonymity of the Internet to disguise their promotions as consumer recommendations or to pay people for writing negative online reviews about competitor products foster consumer skepticism.

Consequently, it is interesting to analyze whether effects of negatively valenced online product reviews generally exist or whether such effects depend on factors such as review quality and subjectively perceived review credibility. According to Park, Lee, and Han (2007), we refer to review quality as the relevance, understandability, sufficiency, objectivity, and persuasiveness of a review’s content. Thus, high-quality reviews provide matter-of-fact information about product characteristics, whereas low-quality reviews are emotional, subjective and do not provide factual information. Perceived review quality is derived from the concept of source credibility which represents the extent to which a person who is processing the information provided by the source evaluates the source as being knowledgeable, qualified, experienced, trustworthy, and able to provide unbiased, objective information (Belch and Belch 2001).

In this paper, we consider the situation where consumers have the intention to purchase a specific product and visit opinion platforms to learn about other consumers’ evaluations of this product before making the final purchase decision. We only consider online product reviews posted on opinion platforms that are independent of producers or retailers because this is the most widely used type of online WOM communication (Hennig-Thurau et al. 2004). The target variable with regard to which we examine effects of online product reviews is consumer-based brand equity. Consumer-based brand equity corresponds to consumers’ perceptions of a product’s additional value that is generated by the brand name (Park and Srinivasan 1994) and is based on associations with the brand which are activated in response to the brand name (Krishnan 1996). These associations are composed of perceived brand attributes and brand benefits such as product quality (Keller and Lehmann 2006; Krishnan 1996). Since the late 1980s, brand equity has been one of the most important marketing concepts in both research and practice (Srinivasan, Park, and Chang 2005). Thus, the objectives of our research are to examine the effects of negative online product reviews on consumer-based brand equity in terms of brand equity dilution depending on review quality and to analyze the mediating role of perceived review credibility in the relation between review quality and brand value perceptions that are a pre-stage of brand equity. This paper adds to the existing body of research because studies on the link between negative online WOM communication and the dilution of consumer-based brand equity are scarce. Moreover, no study has examined in detail the role of perceived review credibility in the relation between review quality and consumer-based brand equity. In addition to addressing researchers, our paper addresses marketers by showing that online product reviews can have negative consequences for companies and by offering insights into the processes that underlie these effects.

EMPIRICAL AND THEORETICAL BACKGROUND

Previous Research on Review Quality and the Role of Perceived Review Credibility
Concepts such as message quality and perceived credibility have been subject to several studies in the field of offline communication (Dholakia and Sternthal 1977; Heesacker et al. 1983; Hovland and Weiss 1951-52; Jain and Posavac 2001; Nan 2009; Sternthal, Dholakia, and Leavitt 1978). However, as information processing in online environments differs considerably from offline information processing, we do not consider these studies in more detail. We will instead focus on research on effects of quality/perceived credibility of online product reviews.

In the field of online communication, only three studies cover review quality and/or perceived review credibility. Although none of these studies exactly examines the effects we are interested in, we will shortly summarize them because they still provide interesting aspects with regard to our study purpose. In a basic study, Park et al. (2007) investigated whether the quality of online product reviews can affect consumers’ purchase intentions and found that this effect is significant. Note that this study did not include perceived review credibility and only examined effects of positive online product reviews. However, the findings of this study provide the notion that the quality of online product reviews plays an important role with regard to typical marketing response variables.

In another study, McKnight and Kacmar (2006) analyzed the role of perceived information credibility at the example of a legal advice website for consumers. Their results show that perceived
information credibility significantly mediates the relation between factors such as individual characteristics, technology affinity as well as the initial impression of the website, and the willingness to follow the provided legal recommendations. Note that this study did not test effects of consumer-based information, but effects of legal recommendations provided by experts and that this study does not cover negatively valenced information. However, the findings of this study are interesting with regard to our study purpose because they show the mediating effect of perceived credibility in the context of processing information that is provided on the Internet.

A study conducted by Cheung et al. (2009) has most in common with our research purpose. They examined the mediating role of perceived credibility in the relation between the argument strength of positively and negatively valenced online consumer recommendations and the intention to adopt the recommendation. They found that argument strength has a positive effect on perceived credibility which in turn positively influences the intention to adopt the recommendation. Starting from these findings, it is interesting to examine the mediating role of perceived credibility in the relation between review quality and more concrete consumer response variables such as brand value perceptions.

**Theoretical Background of Effects of Online Product Reviews on Consumer-Based Brand Equity and the Role of Review Quality and Perceived Review Credibility**

In a first step, we will shortly discuss the concepts of brand equity and brand equity dilution. We refer to brand equity as a synonym for consumers’ brand beliefs, attitudes and behavioral intentions (Ailawadi, Lehmann, and Neslin 2003; Farquhar 1989; Keller and Lehmann 2006). According to Keller (1993), consumer-based brand equity describes the differential effect brand knowledge has on consumers’ value perceptions of brands that are comparable with regard to their major attributes. Consumer-based brand value perceptions as a pre-stage of brand equity comprise aspects such as brand associations, perceived quality (Aaker 1991; Farquhar 1989; Keller 1993; Silverman, Sprott, and Pascal 1999; Washburn and Plank 2002) and aspects of consumer behavior such as purchase intentions and willingness to pay (Agarwal and Rao 1996; Faircloth, Capella, and Alford 2001; Yoo, Donthu, and Lee 2000). The concept of brand equity dilution reflects the idea that information processing can result in a revision of brand evaluations (Buchanan, Simmons, and Bickart 1999; Loken and Roedder John 1993; Roedder John, Loken, and Joiner 1998) through the weakening of important brand value perceptions. Such effects can result in lower purchase intentions (Pullig, Simmons, and Netemeyer 2006). Thus, in the context considered here, we refer to brand equity dilution as a revision of consumer-based brand value perceptions that differ across brand knowledge.

Note that brand equity and thus also brand equity dilution can only be examined on an aggregate level if brand knowledge is a between-subjects factor. Consequently, the below derived research hypotheses will contain brand equity as dependent variable if an analysis on an aggregate level is sufficient and brand value perceptions which constitute a pre-stage of brand equity as dependent variable if a more detailed analysis is needed.

In the following, we will first explain theoretically why online product reviews can have considerable strong effects on consumer-based brand equity. Afterwards, we will provide a theoretical explanation for the mediating role of perceived review credibility in the considered context.

In order to build up a theoretical framework for effects of negative online product reviews on brand equity we draw on previous studies on brand equity dilution in different fields of research such as brand extensions (Loken and Roedder John 1993; Milberg, Park, and McCarthy 1997; Roedder John et al. 1998), retailing (Buchanan et al. 1999), and product-harm crises (Dawar and Pillutla 2000). A theoretical approach that can be found in this type of literature and that can be used to explain effects of negative online product reviews is the so-called search and alignment theory. According to this approach, consumers who initially have positive attribute-specific product information and then are faced with negative attribute-specific product information that challenges the initial impression, tend to revise this impression into the direction of the challenging information (Pham and Muthukrishnan 2002).

In our case, the initially positive attribute-specific product information translates into initially positive brand value perceptions that are due to the fact that consumers who are interested in buying a particular product have formed their intention to purchase the product on the basis of an initially positive evaluation of relevant product attributes. Furthermore, the negative information provided in online product reviews can be interpreted in terms of the negative attribute-specific product information because the authors of such reviews often report their experiences with a particular product in a very detailed way. Consequently, we explain effects of negative online product reviews on brand equity in terms of brand equity dilution as follows. Consumers who are faced with such online product reviews weight negative reviews more heavily than possibly also found positive ones. Processing negative online product reviews further means dealing with attribute-specific product information that is contrary to the initial brand value perceptions. Consequently, consumers are likely to revise their initial brand value perceptions into the direction of the negative online product reviews, which leads to brand equity dilution. The presented arguments lead to our first and basic research hypothesis:

**Hypothesis 1:** Negative online product reviews have detrimental effects on consumer-based brand equity which occur in terms of brand equity dilution.

With regard to effects of review quality on consumer-based brand equity, we draw on literature in the field of effects of strong versus weak arguments. According to Petty and Cacioppo (1983), strong arguments provided in a message represent high message quality and lead to a stronger attitude change into the direction of the message than do weak arguments that correspond to low message quality. Consequently, we argue in our second hypothesis:

**Hypothesis 2:** High-quality product reviews have stronger effects on consumer-based brand equity in terms of brand equity dilution than have low-quality product reviews.

The literature provides the following arguments with regard to the role of source credibility in the context of information processing. First, in computer-mediated communication, it is difficult to evaluate attributes such as attractiveness and physical appearance of the information source (Cheung et al. 2009) and thus, cues such as content credibility play a considerable role. Second, the cognitive response hypothesis (Greenwald 1968) proposes that when an issue is personally involving or relevant, people are more motivated to think about the information provided by a highly than by a less credible source. Moreover, attitudes are rather determined by argument quality if a message is presented by a highly credible source (Heesacker, Petty, and Cacioppo 1983).

In the context considered here, we focus on high-involvement products because especially in high involvement contexts, people are motivated to consult opinion platforms before making their
purchase decisions. Thus, the arguments provided by the cognitive response hypothesis can be transferred to the context considered here as follows. The quality of negative online product reviews has an effect on perceived review credibility which in turn has effects on consumer-based brand equity. The latter effect can be explained by the fact that consumers are more motivated to think about the information provided in the online product review and to modify their brand value perceptions into the direction of the evaluation provided in the review if this review seems to be credible. These arguments lead to our third research hypothesis:

**Hypothesis 3:** Perceived credibility of a negatively valenced online product review mediates the relation between review quality and consumer-based brand value perceptions.

**EMPIRICAL STUDY**

**Test Products**

We decided to use different test products to cover several product categories. Thus, we used one utilitarian (computer notebook), one hedonic (digital camera), and one hybrid product (a product with both utilitarian and hedonic features: multimedia mobile phone). We chose high-involvement products that were familiar to the respondents because especially such products are frequently subject to WOM communication (Ha 2002). This phenomenon can be explained by the fact that only in the case of high involvement, consumers are willing to process detailed product-related information and thus are motivated to write and look up online product reviews.

**Pretests**

We conducted a first pretest to identify the average number of online product reviews people read on opinion platforms before making a purchase decision. In a university computer room, 20 test participants were asked to imagine that they intended to buy a specific product and then received the instruction to spend as much time as they would need in a real situation on an opinion platform to read as many reviews on this product as they thought to be appropriate. Afterwards, people were asked to indicate the number of online product reviews they had read. The results show that on average, people read 2.6 reviews. Thus, we decided to use three reviews as test stimuli for the main study.

We conducted a second pretest to find high- and low-quality product reviews. In a first step, we looked at several opinion platforms to get an impression of the average length and the typical content of high- and low-quality product reviews on such platforms. We found that high-quality reviews usually have a length of about 350 words and contain attribute-specific information, whereas low-quality reviews have about half the length of high-quality reviews and rather express emotions. We then selected six negatively valenced online product reviews for each product (three reviews that we a-priori judged to be of high quality and three other reviews that we considered as low quality reviews) from a real opinion platform. In order to select the online product reviews, we used the criteria indicated by Belch and Belch (2001) and additionally considered the review quality ratings provided on the platform. The high-quality reviews we chose were more logical and persuasive and gave reasons based on specific facts about the product whereas the low-quality reviews we chose were emotional, subjective, did not offer any factual information, and simply provided a recommendation.

Thirty respondents participated in the pretest on perceived review quality. Each respondent rated the six online reviews for one of the products on the basis of five items that measured review quality (e.g., helpful/informative review, precise information, reviewer has a comprehensive knowledge etc.) on seven-point scales. The five single items were aggregated to an overall value for perceived review quality. The resulting mean values are shown in table 1.

A post-hoc analysis showed that the mean value differences among the online product reviews that were a-priori chosen as low-/ high-quality reviews were not significant whereas the mean values of the low-quality reviews and the high-quality reviews differed significantly.

A third pretest was needed to prove that the chosen online product reviews were indeed judged as negatively valenced reviews. Thus, we asked another 30 people to participate in the negativity pretest.

**Table 1**

**Results of the Pretest on Perceived Review Quality**

<table>
<thead>
<tr>
<th>Review</th>
<th>A-priori assigned review quality</th>
<th>Perceived review quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>computer notebook</td>
<td>digital camera</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>1.42</td>
</tr>
<tr>
<td>2</td>
<td>low</td>
<td>2.08</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>1.52</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>5.16</td>
</tr>
<tr>
<td>5</td>
<td>high</td>
<td>5.40</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>5.86</td>
</tr>
</tbody>
</table>

**Table 2**

**Results of the Pretest on Perceived Review Negativity**

<table>
<thead>
<tr>
<th>Review</th>
<th>Review quality</th>
<th>Perceived review negativity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>computer notebook</td>
<td>digital camera</td>
</tr>
<tr>
<td>1</td>
<td>low</td>
<td>6.10 (t = 6.03, p &lt; .001)</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>6.40 (t = 1.85, p &lt; .001)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>5.70 (t = 5.08, p &lt; .01)</td>
</tr>
<tr>
<td>4</td>
<td>high</td>
<td>5.90 (t = 8.66, p &lt; .001)</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>6.00 (t = 9.49, p &lt; .001)</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>6.30 (t = 10.78, p &lt; .001)</td>
</tr>
</tbody>
</table>
Each participant was instructed to read the six reviews for one of the three test products (10 participants per test product) and to evaluate the negativity of each review using the item “the author has a very negative opinion of this product” (scale: 1 = “do not at all agree” to 7 = “totally agree”). The resulting mean values that are summarized in table 2 are significantly higher than the scale midpoint (one sample t-tests) and thus the online product reviews are perceived as being clearly negatively valenced.

The purpose of the fourth pretest was to identify brands about which consumers have more or less comprehensive brand knowledge. For each of the tested products (computer notebook, digital camera, mobile phone), we examined five existing brand names that were

<table>
<thead>
<tr>
<th>Computer notebook (n = 15)</th>
<th>Axxiv</th>
<th>Packard Bell</th>
<th>Acer</th>
<th>Sony</th>
<th>Dell</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.07</td>
<td></td>
<td>3.00</td>
<td>4.47</td>
<td>6.60</td>
<td>6.73</td>
</tr>
<tr>
<td>Digital camera (n = 15)</td>
<td>Sigma</td>
<td>Praktica</td>
<td>Olympus</td>
<td>Nikon</td>
<td>Canon</td>
</tr>
<tr>
<td>1.93</td>
<td></td>
<td>2.13</td>
<td>4.80</td>
<td>5.27</td>
<td>6.73</td>
</tr>
<tr>
<td>Mobile phone (n = 15)</td>
<td>Glofiish</td>
<td>LG</td>
<td>Samsung</td>
<td>Sony</td>
<td>Nokia</td>
</tr>
<tr>
<td>1.13</td>
<td></td>
<td>2.47</td>
<td>4.87</td>
<td>6.13</td>
<td>6.87</td>
</tr>
</tbody>
</table>

### Table 3

Results of the Pretest on Brand Knowledge

Experimental Design and Measures

Our main study was based on a 2 (low/high review quality) x 2 (poor/comprehensive brand knowledge) x 3 (product type: utilitarian/hedonic/hybrid) between-subjects design. By testing utilitarian, hedonic and hybrid products in the study, we controlled for possible effects of product type.

In order to measure brand value perceptions as a pre-stage of consumer-based brand equity, we used the items shown in table 4 that we chose in accordance with existing literature (Aaker 1991; Agarwal and Rao 1996; Dawar and Pillutla 2000; Keller 1993).

Furthermore, we measured perceptions of review credibility using four items (“I believe that the product reviews reflect the true experiences of these consumers”, “the authors of these reviews are trustworthy”, “these reviews are credible”, and “if I had the intention to buy a product in this category, I would consider these reviews when making a purchase decision”) according to the recommendations of Cheung et al. (2009) and got a coefficient alpha of 0.89. The high coefficient alpha values for brand value perceptions and perceived review credibility indicate that the chosen items are appropriate to reliably measure the concepts they were intended to measure.

Furthermore, we measured the respondents’ perceptions of the general persuasiveness of online product reviews in order to examine whether the different experimental groups are comparable with regard to this variable. In order to do so, we used two items (“online product reviews have an impact on my purchase decisions”, “before making important purchase decisions, I go to product review websites to learn about other consumers’ opinions”, 7-point rating scales), for which we identified a bivariate correlation of 0.56. As the alpha values and the correlation were sufficiently high, we calculated the overall values for the considered variables as mean values of the respective items.

In addition, we measured the perceived quality of the three presented online product reviews and brand knowledge in order to be able to do manipulation checks. We used the item “the reviews are helpful” (7-point scale) to check for review quality and the item “Please indicate your knowledge with regard to the brand […]” based on a dichotomous scale (“poor knowledge” vs. “comprehensive knowledge”) to check for brand knowledge. As perceived review quality and brand knowledge have already been subject to pretests, we decided to use these simplified measures to limit questionnaire length.

### Table 4

Measures of Brand Value Perceptions

<table>
<thead>
<tr>
<th>Item</th>
<th>Coefficient alpha (measurement before WOM)</th>
<th>Coefficient alpha (measurement after WOM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The [product] seems to be of high quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think that the [product] is reliable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe that the [product] is a high performance product.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like this [product].</td>
<td>0.93</td>
<td>0.97</td>
</tr>
<tr>
<td>I am interested in this [product].</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can imagine buying this [product].</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would recommend this [product] to my friends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would prefer this [product] over others in this product category.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that we used seven-point rating scales ranging from 1 = totally disagree to 7 = totally agree.
Sample and Procedure
Six hundred people participated in the main study (thus 50 people per experimental group). The sample consisted of 55% women and 45% men who were familiar with opinion platforms. The age of the participants ranged from 14 to 60 years, the average age was 25.8 years.

The procedure was as follows. The participants were instructed to imagine that they were planning to buy a product in the respective product category in the near future. Then, they were provided with a picture and a short description of the test product. Afterwards, we measured brand knowledge and a-priori brand value perceptions. Subsequently, the respondents were presented with three negative online product reviews. We varied the order of these reviews from respondent to respondent to counterbalance possible order effects. After having read the online product reviews, the participants were asked to answer the brand value perception scales for a second time. Then, the respondents had to indicate their perceptions of review credibility and to judge review quality. In a final step, the respondents were asked to indicate their perceptions of the general persuasiveness of online product reviews and to provide information about their age and gender.

DATA ANALYSIS AND RESULTS
Before presenting the results of the main study, we prove that the experimental groups are comparable with regard to perceptions of general persuasiveness of online product reviews. An analysis of variance shows that the twelve groups that result from the experimental design described above do not differ with regard to perceptions of persuasiveness \(F(5, 0.53, p > .10).\)

In the next step, we present the results of the manipulation checks for brand knowledge and perceived review quality. As both the brand knowledge manipulation and the brand knowledge measurement are dichotomous, we used a chi-square test. Ninety-four percent of the respondents indicated poor knowledge about the brand that initially was chosen as a poor knowledge brand and 93% of the respondents agreed to have comprehensive knowledge about the brand that was intended to be the comprehensive knowledge brand \(\chi^2 = 450.75, p < .001).\) Consequently, for the further analyses, we used the manipulated brand knowledge variable.

As perceived review quality was measured as a metric variable, we conducted an independent samples \(t\)-test with the manipulated review quality as independent variable and the perceived review quality as dependent variable. The results show that the reviews that were used as low-quality reviews were judged as significantly less helpful \(M = 3.86) than the reviews that were used as high-quality reviews \(M = 5.55, t = 12.90, p < .001).\) Therefore, the manipulated review quality variable was used for further analyses.

We now present the results of the main study that aimed to identify the numerical value of brand equity dilution depending on review quality and to examine the mediator effect of perceived review credibility in the relation between review quality and change in brand value perceptions as a pre-stage of brand equity. Based on the theoretical conceptualization, brand equity corresponds to the distance between a comprehensive-knowledge brand and a poor-knowledge brand. The value for this distance that represents brand equity was calculated as a difference by following the recommendations of Smith and Lusch (1976). Thus, we first calculated mean values of brand value perceptions before and after the contact with negative online product reviews, then the differences between comprehensive and poor brand knowledge, and finally the value of brand equity dilution as the difference of brand equity before and brand equity after the contact with the negative online product reviews. These calculations were done separately for low and high review quality. In order to judge whether the brand equity values are based on significant mean value differences and to evaluate brand equity dilution, we calculated independent samples \(t\)-test statistics. The results are shown in table 5.

### Table 5: Brand Equity Dilution in the Case of Low and High Review Quality

<table>
<thead>
<tr>
<th></th>
<th>Low review quality (n = 300)</th>
<th>High review quality (n = 300)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(VP_{Kc - VPKp}) (t)-test</td>
<td>(VP_{Kc - VPKp}) (t)-test</td>
</tr>
<tr>
<td></td>
<td>(E_{Kc}) (t)-test</td>
<td>(E_{Kc}) (t)-test</td>
</tr>
<tr>
<td>Before WOM</td>
<td>4.99 3.99 1.00 (t = 7.64) (p &lt; .001)</td>
<td>5.10 3.95 1.15 (t = 8.99) (p &lt; .001)</td>
</tr>
<tr>
<td>After WOM</td>
<td>3.12 2.54 0.58 (t = 4.02) (p &lt; .001)</td>
<td>2.96 2.59 0.37 (t = 2.53) (p &lt; .05)</td>
</tr>
<tr>
<td>Difference (before - after)</td>
<td>1.87 1.45 0.42 (t = 2.52) (p &lt; .05)</td>
<td>2.14 1.36 0.78 (t = 4.83) (p &lt; .001)</td>
</tr>
</tbody>
</table>

Note: \(VP = brand value perceptions, E = brand equity, Kc/Kp = comprehensive/poor brand knowledge\)

The results presented in table 5 show that the contact with negative online product reviews causes a significant brand equity dilution (low review quality: 0.42, high review quality: 0.78). This result that provides support for H1 shows the destructiveness of negative online product reviews with respect to consumer-based brand equity. The fact that brand equity dilution occurs implies that initially was chosen as a poor knowledge brand and 93% of the respondents agreed to have comprehensive knowledge about the brand that was intended to be the comprehensive knowledge brand \(\chi^2 = 450.75, p < .001).\) Consequently, for the further analyses, we used the manipulated brand knowledge variable.

As perceived review quality was measured as a metric variable, we conducted an independent samples \(t\)-test with the manipulated review quality as independent variable and the perceived review quality as dependent variable. The results show that the reviews that were used as low-quality reviews were judged as significantly less helpful \(M = 3.86) than the reviews that were used as high-quality reviews \(M = 5.55, t = 12.90, p < .001).\) Therefore, the manipulated review quality variable was used for further analyses.

We now present the results of the main study that aimed to identify the numerical value of brand equity dilution depending on review quality and to examine the mediator effect of perceived review credibility in the relation between review quality and change in brand value perceptions as a pre-stage of brand equity. Based on the theoretical conceptualization, brand equity corresponds to the distance between a comprehensive-knowledge brand and a poor-knowledge brand. The value for this distance that represents brand equity was calculated as a difference by following the recommendations of Smith and Lusch (1976). Thus, we first calculated mean values of brand value perceptions before and after the contact with negative online product reviews, then the differences between comprehensive and poor brand knowledge, and finally the value of brand equity dilution as the difference of brand equity before and brand equity after the contact with the negative online product reviews. These calculations were done separately for low and high review quality. In order to judge whether the brand equity values are based on significant mean value differences and to evaluate brand equity dilution, we calculated independent samples \(t\)-test statistics. The results are shown in table 5.
product reviews is much higher in the case of high quality reviews than in the case of low quality reviews.

In the second step of our analysis, we examined the mediator effect of perceived review credibility in the relation between review quality and the change in brand value perceptions. We did not use brand equity as dependent variable for this analysis because numerical values for brand equity can only be calculated on an aggregate data level whereas we needed data on the individual level to be able to accurately examine the mediator effect of perceived review credibility. Choosing brand value perceptions that constitute a pre-stage of the concept of brand equity should not pose a problem because in the first step of our analysis, we have shown that brand equity is calculated on the basis of brand value perceptions and thus both concepts are closely related. We used the SmartPLS procedure to determine the role of perceived review credibility in the relation between review quality and change in brand value perceptions. We estimated the model shown in figure 1.

The estimated path coefficients and the associated t-values as well as the factor loadings are summarized in table 6.

The significantly high factor loadings show that the chosen single items are appropriate to measure the model constructs. Furthermore, the estimated path coefficients are significant with plausible signs and thus provide support for the assumed relations. In more detail, the path coefficients indicate that a higher review quality leads to more positive perceptions of review credibility which in turn lead to a larger difference between brand value perceptions before and after the contact with negative online product reviews. Consequently, the data provide support for the assumed mediator effect of perceived review credibility and thus for the assumption of H3. As the differences have been calculated as brand value perceptions before – brand value perceptions after, a larger difference means a stronger detrimental effect of negative online product reviews on brand value perceptions. Thus, the analysis has shown that perceptions of review credibility play an important role in the context of effects of negative online product reviews on brand value perceptions.
CONCLUSION

The starting point of this paper has been the observation that opinion platforms where consumers publish their product reviews become increasingly popular, from both the reviewers’ and the readers’ perspective. Moreover, both practical experience and previous research let assume that consumers are especially interested in writing and reading negative online product reviews. Additional important observations have been that such reviews vary considerably in quality and that consumers show an increasing skepticism toward online product reviews. Consequently, from a marketer’s perspective, the questions arose which effects especially negatively valenced online product reviews might have on consumer-based brand equity, whether these effects exist for all negative product reviews or depend on review quality, and which processes underlie these effects. Therefore, it stood to reason to extend the existing body of research in the field of effects of online WOM communication which only consists of a small number of studies by introducing the concept of dilution of consumer-based brand equity as dependent variable, by examining possible effects of negative product reviews depending on review quality, and by shedding light on the processes that underlie these effects.

The findings of the empirical study show that negative online product reviews have considerable detrimental effects on consumer-based brand equity and that these effects increase with higher review quality. A more detailed analysis of the role of perceived review credibility shows that this variable mediates the relation between review quality and brand value perceptions that are a pre-stage of consumer-based brand equity.

Consequently, marketers should start considering such negative consequences that they might have neglected up to now when planning their communication strategies. Thus, marketers should continuously monitor the relation of high- and low-quality reviews on their brands that can be found on the most important opinion platforms. In addition, most of the leading opinion platforms provide information about the number of hits per review. Out of these two types of information, marketers can estimate the likelihood that potential customers will be faced with a comparatively large number of negatively valenced high-quality reviews. If this likelihood is considerably high, they should try hard to develop appropriate coping strategies.

REFERENCES


