Impact of Perspective Taking on Reviewer Behavior: A Multi-Method Exploration

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Abstract

While the existing literature on antecedents of review helpfulness has primarily focused on the direct impact of a variety of individual factors and offered an increasingly long list of recommendations for reviewers and review platforms, few studies have taken a more holistic view or examined how reviewer behaviors can be shaped by the writing guidelines. In this paper, we explore how taking the perspective of prospective consumers, a holistic recommendation that can be easily integrated into writing guidelines, can systematically shape the way reviewers write reviews and subsequently affect the perceived value of their produced content. Extending the concepts of intuition and lay theories, we predict that perspective taking is positively associated with perceived review helpfulness, and that this association can be explained through information amount and information objectivity. Two studies with distinct methodologies provided consistent evidence for our predictions. Our findings provide important implications for both theory and practice.

Keywords: Perspective taking, online reviews, review helpfulness, reviewer behavior, electronic commerce, consumer decision making
Introduction

Online reviews – peer-generated evaluations about products or businesses, such as reviews from Amazon.com or Yelp.com – are playing an increasingly important role in consumer decision-making. Online reviews can reduce uncertainty about products or services and their fit to consumer needs (Dellarocas 2003; Hong and Pavlou 2014), thus facilitating the shopping experience. Not surprisingly, over 60% of consumers consult online reviews before making purchase decisions (Razorfish 2008). However, due to the overwhelming number of online reviews, consumers cannot afford to go through all reviews about the products of their interest (Jones et al. 2004). Thus, identifying the most helpful reviews has become more critical for consumers (Yin et al. 2014). In addition, an examination of “what makes a helpful review” has vital implications for reviewers and review platforms. For example, review platforms can tweak their writing guidelines to systematically shape reviewer behavior and boost the helpfulness of their produced reviews, which could in turn attract more readers and retain existing customers (Connors et al. 2011).

A growing body of research is concerned with identifying precursors of review helpfulness, including various content characteristics (e.g., review length, emotional expressions), source characteristics (e.g., reviewer expertise), and even product level characteristics (e.g., the average and distribution of ratings) (see Cheung et al. 2012; Mudambi and Schuff 2010; Yin et al. 2017; Yin et al. 2016). The literature emphasized different individual factors that directly affect consumers’ perception of review helpfulness, and then attempted to suggest review platforms “nudge” reviewers one way or another. This piecemeal approach has generated an increasing number of individual factors that writing guidelines should incorporate to shape reviewers’ behavior. However, providing too many advices to reviewers may hinder their need for autonomy and desire to behave independently, and subsequently increase their resistance (see Brehm and Brehm 2013). More research is needed to take on a more holistic view regarding how to best “nudge” reviewers and shape their writing behavior. Moreover, the long list of advices was based on the assumption that encouraging reviewers to write in a certain way would in fact change their behavior; limited literature has investigated how the behavior of reviewers can be directly shaped by particular writing guidelines.

In the current research, we focus on perspective taking – adopting another person’s viewpoint – that is common (but not universal) among reviewers. The writing of reviews can be motivated by a wide range of factors; at a fundamental level, some reviewers write reviews for their own needs or gains (such as venting negative feelings), but some reviewers keep others in mind (e.g., helping prospective consumers who may read the review) (Hennig-Thurau et al. 2004). The different levels of perspective taking are also evident from the common use of personal pronouns in online reviews (Pollach 2006), because their use (e.g., I, my vs. you, your) provides information about the focus or subject of people’s attention (Tausczik and Pennebaker 2010).

More importantly, we argue that a holistic writing guideline derived from this concept of perspective taking can systematically shape the way reviewers write reviews and subsequently consumers’ perceptions of review helpfulness. Prior research in the customer service context has demonstrated perspective taking as a crucial determinant of interpersonal relations and service quality, because stepping into customers’ shoes can influence employee behavior such as their empathic concern for customers (Axtell et al. 2007; Rupp et al. 2008). We expect a similar process to occur in our context; taking the perspective of prospective consumers would activate a reviewer’s empathic concern for them and his/her willingness to construct a helpful review. Moreover, extending the novel concept of lay theories (Furnham 1988), we conjecture that the reviewer should rely on the commonly accepted intuition, such as “longer reviewers are better” or “more objective reviews are more useful,” to guide their review writing process.

Specifically, we predict that greater perspective taking of reviewers is associated with more helpful reviews, and that this association can be explained by the greater amount of information and higher objectivity of the review content. To test these hypotheses, we conducted two studies with distinct methodologies: one utilizing a data set of tablet reviews that Wang et al. (2014) collected from Amazon.com in February 2012, and the other being a two-stage controlled lab experiment in which we manipulated the instruction of perspective taking in the cover story for reviewers from the first stage.

This paper makes three primary contributions. First, we introduce the novel concept of perspective taking into the online reviews literature. Essential for proper social functioning and prosocial behavior,
perspective taking has been extensively studied in interpersonal and organizational settings (Hodges et al. 2011). Surprisingly, despite the relevance and prevalence of perspective taking in online reviews, little research has examined its implications, and our paper bridges this important gap. Second, the current online reviews literature takes a piecemeal approach to studying antecedents of review helpfulness with an increasing list of advices for reviewers and review platforms. Instead of a large list of to-dos and not-to-dos, our findings suggest that a holistic guideline as simple as “try to step into future readers’ shoes” can motivate reviewers to write longer and more objectively without asking them to pay attention to the length or objectivity of their produced content. Such a simple (but not simplistic) way of “nudging” reviewers has not been revealed in the literature yet, and it opens up new opportunities for future research in this area. Third, our findings point out the importance of incorporating review writers’ intuition and lay theories into the study of reviewer behavior. Complementing prior research that has examined the normative influence of prior ratings (e.g., Ma et al. 2013) and consumers’ pre-existing beliefs or expectations (Jensen et al. 2013; Yin et al. 2016), our findings suggest that reviewers’ intuition and lay theories about “what constitutes helpful reviews” also play an important role in guiding their review writing process and ultimately influencing the perceived helpfulness of their produced content. These findings also have important practical implications for reviewers and review platforms.

**Theory and Hypotheses Development**

**Perspective Taking, Empathic Concern and Helping Behavior**

Although perspective taking is largely unrecognized in the online reviews literature, it is a commonly observed behavior of reviewers. Perspective taking refers to one’s active and cognitive efforts to step into other people’s shoes and appreciate or take on their point of view (Davis et al. 1996; Galinsky and Moskowitz 2000). Reviewers naturally differ in their perspective taking tendencies due to their individual motivations: some reviewers are self-interested (e.g., venting negative feelings, seeking economic incentives), whereas some reviewers keep others in mind (e.g., caring about other consumers, helping the company) (Hennig-Thurau et al. 2004). There was also evidence that reviewers frequently use first-person pronouns (e.g., I, my) to talk from their own perspective and/or second-person pronouns (e.g., you, your) to address their audiences (Pollach 2006). Personal pronouns provide information about the focus or subject of attention (Tausczik and Pennebaker 2010), and their use has been reliably linked to perspective taking (Pennebaker et al. 2003). Thus, the prevalence of personal pronouns in online reviews further illustrates the importance of studying perspective taking.

In the broader literature, perspective taking has been well established as an essential ingredient in facilitating proper social functioning and increasing prosocial behavior (Hodges et al. 2011). Research has shown that when one takes the perspective of another, there will be greater overlap in one’s mental representations, and this increased self–other overlap can create a sense of interpersonal closeness (Davis et al. 1996; Galinsky et al. 2005). As a result, perspective taking is a common way for people to build interpersonal relations and foster feelings of closeness even for strangers in initial encounters (Galinsky and Moskowitz 2000).

In addition, taking the perspective of another person can activate perspective takers’ empathic concern toward that person and their willingness to help. Empathic concern is defined as one’s concern or compassion for others (Batson 1987). By definition, adopting others’ perspective requires one to get over his/her own, experience or simulate the perceptions of the targets, and appreciate the situations they are encountering. Not surprisingly, perspective taking has been found to increase one’s empathic concern for the targets and subsequent helping behavior (Batson 2009; Hoffman 2001). For instance, greater perspective taking during negotiations may lead one to think more about what would satisfy the other party, increasing the chances of reaching a deal and resulting in more creative solutions (Galinsky et al. 2008a). Similarly, a reviewer in our context who takes the perspective of prospective consumers are more likely to care about the audience and help them out by writing a review that is desirable for them.

**Intuition and Lay Theories**

Perspective taking can systematically influence reviewers’ writing behaviors through their intuition and lay theories on what constitutes helpful reviews. Stepping into another’s shoes can cause a perspective taker to think differently and attend to new or different information (see Koehler 1991). Because the
information that perspective takers have about a target is generally sparse and ambiguous (e.g., Galinsky and Moskowitz 2000), taking the perspective of another person typically involves the activation of perspective takers’ stored knowledge and scripts about the target person (e.g., “What generally happens when someone loses a parent?”) (Galinsky et al. 2008b; Hodges et al. 2011). Such stored knowledge and scripts are a form of lay theories, defined as the informal, intuitive and common-sense explanations or beliefs that people rely on to make sense of complex and ambiguous situations in their everyday life (Furnham 1988). Compelling evidence suggests that perspective taking increases one’s reliance on lay theories (e.g., stereotypes) to guide their subsequent behaviors (e.g., Galinsky et al. 2008b).

The lay theories most relevant for the benefit of prospective consumers pertain to the question of “what constitutes helpful reviews?” Consumers generally prefer to read more helpful reviews in order to efficiently deal with information overload and save their effort (Mudambi and Schuff 2010; Yin et al. 2014). Thus, it is reasonable to expect other-interested reviewers to strive for producing more valuable content than self-interested reviewers because the former care more about review readers than the latter do. Moreover, because the type and exact needs of prospective consumers are largely unknown and uncertain at the review writing stage, reviewers who take the perspective of prospective consumers should rely primarily on their intuition on “what constitutes helpful reviews?” to guide their review writing behavior.

We conjecture that reviewers who are perspective takers are likely to write a longer and more objective review based on their intuition that “longer and more objective reviews are more helpful and valuable.” We define information amount as the amount of details, arguments, and explanations provided in a text review (Mudambi and Schuff 2010), and information objectivity as the extent of the review to be based on facts and logical reasoning (versus personal preferences or subjective feelings) (Jensen et al. 2013). Abundant evidence suggests that reviews that are longer and more objective are typically perceived to be more helpful by readers (Jensen et al. 2013; Mudambi and Schuff 2010). More importantly, intuitions and lay theories are shaped by one’s learning and experience situated in their social contexts (Levy et al. 2001). First, the intuition of “the more the better” is a simple decision rule and heuristic that people assume and utilize in making decisions (Petty and Cacioppo 1984). Second, people generally prefer objective, fact-based reasoning, because subjective evaluations and feelings are commonly assumed to impede rationality and interfere with deliberation (Pham 2007). Taken together, it is very likely for most reviewers to hold the lay theories that more helpful reviews are longer and more objective, and then to craft longer and more objective reviews under the guidance of this intuition.

Following the preceding arguments, we predict that reviewers who take the perspective of prospective consumers are likely to write a review that contains more information and is more objective (guided by their intuition), and ultimately craft a review perceived to be more helpful by consumers. Our theoretical framework is illustrated in Figure 1, and we propose the following hypotheses:

**Hypothesis 1:** Reviews that take the perspective of prospective consumers are perceived to be more helpful than reviews that do not take the perspective of prospective consumers.

**Hypothesis 2:** Perceived amount of information contained in a review mediates the impact of perspective taking on the perceived helpfulness of reviews.

**Hypothesis 3:** Perceived objectivity of information contained in a review mediates the impact of perspective taking on the perceived helpfulness of reviews.
In order to test these hypotheses, we conducted two studies with distinct methodologies. In Study 1, we analyzed tablet reviews collected from Amazon.com and examined the impact of perspective taking (operationalized by the relative frequency in usage of first-person and second-person pronouns) on review helpfulness, and whether this impact could be explained by information amount (operationalized by the review length) and objectivity (operationalized by the percentage of non-emotional words). In Study 2, we designed a two-stage experiment in the restaurant context to provide causal evidence for the hypotheses and address alternative explanations that cannot be ruled out in the first study.

**Study 1**

In the first study, we used the data set of tablet reviews that Wang et al. (2014) collected from Amazon.com in February 2012. They extracted from the reviews critical information needed for our purposes, including the textual content of reviews, the number of helpful votes, and the total number of votes.

**Measures**

Our dependent variable is review helpfulness (*Helpfulness*). We measured this variable by dividing the number of helpful votes by the total number of votes for a review (Mudambi and Schuff 2010; Yin et al. 2014). To facilitate interpretation, we multiplied this variable by 100.

The independent variable is perspective taking (*Perspective Taking*). Because numerous studies have linked the use of first-person pronouns to self-focus and the use of second-person pronouns to other-focus (Pennebaker et al. 2003), prior studies have measured perspective taking through the relative usage frequency of second-person versus first-person pronouns in text (see Seih et al. 2011; Simmons et al. 2005). Similarly, we used the formula below to quantify perspective taking; a higher value indicates greater attention to others and thus a higher likelihood of the reviewer taking others’ perspective. We added 0.0001 to the denominator to avoid computation error in cases where the denominator could be zero.

\[
Perspective\ Taking = \frac{2nd\ Person\ Pronouns}{1st\ Person\ Pronouns + 2nd\ Person\ Pronouns + 0.0001}
\]

The two mediators of interest are information amount and information objectivity. We measured information amount (*Information Amount*) by the number of words in a review. We measured information objectivity (*Information Objectivity*) based on the percentage of non-emotional words in a review, assuming that a more objective review generally contains fewer subjective and emotional words. We used the software LIWC (Linguistic Inquiry and Word Count) to calculate the number of non-emotional words divided by the total number of words in a review; emotional words were identified by matching the word list of “affect” category of LIWC’s dictionary (Pennebaker et al. 2007).

Based on prior research, we also controlled for the influence of review, reviewer, and product level characteristics on review helpfulness. First, the difficulty of reading a review (*Review Reading Difficulty*) has direct implications for its perceived diagnosticity (see Korfiatis et al. 2012). Thus, we computed the Coleman-Liau Index as a proxy for reading difficulty, which is an estimate of the U.S. grade level that a reader must have to understand the text (Coleman and Liau 1975). Second, we controlled for the rating of the review because of its important implications for review helpfulness (Mudambi and Schuff 2010). Third, a more recent review may be voted more helpful because it provides more updated information. Thus, we controlled for the number of days (*Review Days*) since the date when the review was posted.

We also included two reviewer characteristic to account for expertise and experience of reviewers (see Cheung et al. 2012; Forman et al. 2008). In Amazon.com, each reviewer was assigned a ranking according to their review quality. Thus, we included this ranking (*Reviewer Ranking*) to control for reviewers’ expertise. We also included the number of reviews a reviewer had posted before the focal review to control for reviewer experience (*Reviewer Experience*).
Finally, we controlled for product characteristics, including current selling price of a product in Amazon (Amazon Price), the product’s average rating (Product Average Rating), and its total number of reviews (Product Total Review).

Data Analysis and Results

Table 1 reports the means, standard deviations, and correlations of the variables we included in the analysis. All correlations among the variables of interest are below 0.50. We also examined the possibility of multicollinearity; the variance inflation factor (VIF) scores for all variables were below the rule-of-thumb value of 10 (Kennedy 2008), indicating that multicollinearity was not a concern.

Table 1: Means, Standard Deviations and Correlations

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Helpfulness</td>
<td>64.68</td>
<td>34.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Perspective Taking</td>
<td>0.17</td>
<td>0.24</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Information Amount</td>
<td>208.20</td>
<td>260.84</td>
<td>0.20</td>
<td>0.15</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Information Objectivity</td>
<td>-6.09</td>
<td>3.22</td>
<td>0.00</td>
<td>0.10</td>
<td>0.21</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Review Reading Difficulty</td>
<td>8.30</td>
<td>1.83</td>
<td>0.03</td>
<td>0.08</td>
<td>0.07</td>
<td>-0.10</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>6. Review Days</td>
<td>3.80</td>
<td>1.45</td>
<td>0.38</td>
<td>-0.07</td>
<td>0.01</td>
<td>-0.23</td>
<td>-0.08</td>
<td>1.00</td>
</tr>
<tr>
<td>7. Reviewer Ranking</td>
<td>298.74</td>
<td>161.95</td>
<td>0.05</td>
<td>0.11</td>
<td>0.12</td>
<td>0.13</td>
<td>0.06</td>
<td>-0.12</td>
</tr>
<tr>
<td>8. Reviewer Experience</td>
<td>5.04E+06</td>
<td>5.31E+06</td>
<td>-0.45</td>
<td>-0.03</td>
<td>-0.26</td>
<td>-0.02</td>
<td>-0.03</td>
<td>-0.28</td>
</tr>
<tr>
<td>9. Amazon Price</td>
<td>8.84</td>
<td>53.47</td>
<td>0.03</td>
<td>0.02</td>
<td>0.10</td>
<td>0.02</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>10. Product Average Price</td>
<td>274.41</td>
<td>166.66</td>
<td>0.04</td>
<td>0.03</td>
<td>0.12</td>
<td>0.09</td>
<td>0.09</td>
<td>0.05</td>
</tr>
<tr>
<td>11. Product Average Rating</td>
<td>3.80</td>
<td>0.50</td>
<td>-0.06</td>
<td>-0.09</td>
<td>0.00</td>
<td>-0.13</td>
<td>-0.01</td>
<td>0.33</td>
</tr>
<tr>
<td>12. Product Total Review</td>
<td>8551.13</td>
<td>9326.42</td>
<td>-0.12</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-0.19</td>
<td>-0.09</td>
<td>0.15</td>
</tr>
<tr>
<td>8. Amazon Price</td>
<td>-0.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Product Average Price</td>
<td>-0.03</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Product Average Rating</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.21</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Product Total Review</td>
<td>0.05</td>
<td>-0.03</td>
<td>-0.46</td>
<td>0.42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We first tested Hypothesis 1 that proposed a positive effect of perspective taking on perceived review helpfulness. In Model 1 of Table 2, OLS showed that Perspective Taking was positively related to Helpfulness ($\beta = 1.920$, $p < 0.05$). Because of the bounded nature of Helpfulness, we re-estimated the model using Tobit regression and fractional logit regression as robustness checks and found consistent results (see Model 2 & 3). Therefore, controlling for other factors, a review taking others’ perspectives to a greater extent is perceived to be more helpful, providing support for the first hypothesis.

Table 2: Perspective Taking and Helpfulness

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OLS</td>
<td>Tobit</td>
<td>Fractional Logit$^1$</td>
</tr>
<tr>
<td>Perspective Taking</td>
<td>1.920$^{**}$</td>
<td>2.909$^{**}$</td>
<td>0.109$^{**}$</td>
</tr>
<tr>
<td></td>
<td>(0.908)</td>
<td>(1.412)</td>
<td>(0.048)</td>
</tr>
<tr>
<td>Review Reading Difficulty</td>
<td>0.642$^{***}$</td>
<td>0.962$^{***}$</td>
<td>0.033$^{***}$</td>
</tr>
<tr>
<td></td>
<td>(0.122)</td>
<td>(0.182)</td>
<td>(0.006)</td>
</tr>
<tr>
<td>Review Rating</td>
<td>8.683$^{***}$</td>
<td>11.881$^{***}$</td>
<td>0.412$^{***}$</td>
</tr>
<tr>
<td></td>
<td>(0.160)</td>
<td>(0.253)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Review Days</td>
<td>-0.005$^{**}$</td>
<td>-0.024$^{***}$</td>
<td>-0.000$^{**}$</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.003)</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>

$^1$ Because of the requirement of a fractional logit model, we divided the dependent variable Helpfulness by 100.
Impact of Perspective Taking on Reviewer Behavior

Then we tested the mediating effects of information amount and information objectivity proposed in Hypothesis 2 and Hypothesis 3. We first followed Baron and Kenny's (1986) classic 3-step method for testing mediation. First, as shown in Model 1 and Model 2, Perspective Taking was positively associated with Information Amount ($\beta = 132.506$, $p < 0.01$) and Information Objectivity ($\beta = 1.001$, $p < 0.01$). Second, Perspective Taking was significant related to Helpfulness ($\beta = 1.920$, $p < 0.05$) when mediators were not included (see Model 3). Third, review helpfulness was positively associated with both Information Amount ($\beta = 0.014$, $p < 0.01$) and Information Objectivity ($\beta = 0.246$, $p < 0.01$) (see Model 4). Furthermore, after controlling for the impacts of information amount and objectivity, the effect of Perspective Taking on Helpfulness became non-significant ($\beta = -0.168$, $p > 0.10$), suggesting full mediation. Therefore, Hypothesis 2 and 3 were both supported.

### Table 3: Mediation Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perspective Taking</td>
<td>132.506***</td>
<td>1.001***</td>
<td>1.920**</td>
<td>-0.168</td>
</tr>
<tr>
<td></td>
<td>(7.766)</td>
<td>(0.111)</td>
<td>(0.908)</td>
<td>(0.904)</td>
</tr>
<tr>
<td>Information Amount</td>
<td></td>
<td></td>
<td>0.014***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.001)</td>
<td></td>
</tr>
<tr>
<td>Information Objectivity</td>
<td></td>
<td></td>
<td>0.246***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.074)</td>
<td></td>
</tr>
<tr>
<td>Review Reading Difficulty</td>
<td>5.331***</td>
<td>-0.255***</td>
<td>0.642***</td>
<td>0.631***</td>
</tr>
<tr>
<td></td>
<td>(0.727)</td>
<td>(0.016)</td>
<td>(0.122)</td>
<td>(0.122)</td>
</tr>
<tr>
<td>Review Rating</td>
<td>-12.787***</td>
<td>-0.578***</td>
<td>8.683***</td>
<td>9.003***</td>
</tr>
<tr>
<td></td>
<td>(1.232)</td>
<td>(0.017)</td>
<td>(0.160)</td>
<td>(0.163)</td>
</tr>
<tr>
<td>Review Days</td>
<td>0.206***</td>
<td>0.001***</td>
<td>-0.005**</td>
<td>-0.008***</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td>(0.000)</td>
<td>(0.002)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Reviewer Ranking</td>
<td>-0.000***</td>
<td>-0.000***</td>
<td>-0.000***</td>
<td>-0.000***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Reviewer Experience</td>
<td>0.418***</td>
<td>0.001***</td>
<td>-0.004**</td>
<td>-0.010***</td>
</tr>
<tr>
<td></td>
<td>(0.099)</td>
<td>(0.000)</td>
<td>(0.003)</td>
<td>(0.004)</td>
</tr>
</tbody>
</table>

Log Likelihood: Model 1: -89,863.24, Model 2: -65,902.59, Model 3: -8,679.97

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
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Although Baron and Kenny’s 3-step approach is most commonly used for testing mediation, we also utilized the bootstrapping method as a robustness check because it offers several advantages over other methods (Preacher and Hayes 2008). For instance, bootstrapping does not require the assumption of normality of the sampling distribution (Shrout and Bolger 2002), and it has higher power compared with other methods given its constant Type I error (Mackinnon et al. 2002). Bootstrapping can also estimate the statistical significance of indirect effects of multiple mediators simultaneously, thus making this method uniquely valuable for testing our research model. We conducted the analysis with 5,000 bootstrap samples and bias-corrected confidence levels as suggested by Preacher and Hayes (2008). The results revealed that Information Amount was a significant mediator of the relationship between Perspective Taking and Helpfulness (95% bias-corrected confidence interval = [1.577, 2.137]), as zero did not fall into this confidence interval. We also found Information Objectivity to be a significant mediator (95% CI = [0.103, 0.415]). This analysis provided further support to H2 and H3.

Discussion

This study provides initial evidence that perspective taking of reviewers is positively associated with perceived review helpfulness, and this positive association can be mediated by the amount of information contained in the review and the objective level of review content.

However, the nature of this study also brings a number of inherent limitations. First, our measurement of certain variables such as perspective taking and review objectivity were not perfect. For instance, reviews with more second-person pronouns may not necessarily have greater perspective taking. In addition, less emotional content does not necessarily indicate greater objectivity, as reviewers could be quite subjective without relying on any emotional words. Second, because perspective taking was observed rather than manipulated in this study, our findings in this study could not provide causal evidence for the hypotheses. Despite our best efforts in controlling for other determinants of review helpfulness, it is possible for unobserved variables that correlate with perspective taking and also influence review helpfulness. For instance, we were unable to separate the impact of perspective taking on reviewer behaviors from the direct impact of perspective taking on reader perceptions (when review content was held constant). Finally, we relied on data of product reviews in this study, so it was unclear whether this set of results could also generalize to service reviews such as restaurant reviews. We designed the next study – a lab experiment – to address these limitations.

Study 2

To examine the robustness of our findings and to address alternative explanations that cannot be ruled out in Study 1, we designed and conducted a two-stage experiment. We manipulated the level of reviewer’s perspective taking in the first stage through a between-subject design, asking participants to imagine going to a new restaurant nearby and to write a review about their experience while taking either their own or a prospective customer’s perspective. In the second stage, we recruited a separate set of
participants to read and evaluate 10 different text reviews randomly selected from the review pool generated in the first stage.

**Stimulus Materials and Procedure**

The main materials of this study are a set of scripts describing what happened during a restaurant visit. We developed the scripts by transcribing a YouTube video, in which two customers had a bad experience at a local restaurant and encountered an unprofessional waitress. We created this standard set of scripts and used the same scripts for all participants because of two reasons. First, we intended to maintain the experience identical among participants, so differences in the restaurant experience would not be a confounding factor driving reviewers’ writing behavior or the helpfulness of their reviews. Second, reading through the scripts can help each participant to get all the details of the experience in the restaurant without the hassle of using headphones or paying attention throughout the video. Instead, each participant can read over the scripts at their own pace.

116 undergraduate students participated in the first stage of the experiment for course credit. Each participant imagined going to a new restaurant nearby to have lunch with a friend. Then the participant was asked to read through the conversations between him/her, the friend, and the restaurant waitress during the lunch. After reading the conversations, the participant was asked to write a review about the restaurant based on what happened in the script of conversations, and they were asked to take either his/her own or a prospective customer’s perspective as they write the review. Specifically, participants in the low perspective taking condition were instructed to take their own perspective in writing the review, trying to focus on their own experience and how it has affected them. In contrast, participants in the high perspective taking condition were instructed to take the perspective of a prospective customer who might read their review, trying to stand in the customer’s shoes and imagine how this experience would affect him/her. In the end, we created a review pool of 116 reviews, a half written by participants in low perspective taking condition and the other half by participants in high perspective taking condition.

In the second stage, a separate set of 91 undergraduate students participated also for course credit. They were told that a number of previous participants had read the same conversations that occurred in a restaurant and written a review about the restaurant. They were then asked to read and evaluate 10 different text reviews from these previous participants. These reviews were randomly selected from the review pool generated in the first stage, with 5 selected from those written in the low perspective taking condition and 5 from those in the high perspective taking condition. The sequence of the 10 reviews was also randomized. After reading each review, participants rated the helpfulness of the review (2 items adapted from Sen and Lerman 2007), amount of information contained in the review (1 item adapted from Block and Keller 1995), and perceived objectivity (2 items adapted from Uhlmann and Cohen 2005). As a manipulation check, they also rated the extent to which the reviewer is taking the perspective of prospective customers (3 items adapted from Grant and Berry 2011). See Appendix A for detailed measurements.

**Results**

Because each participant in the second stage evaluated different reviews randomly chosen from the pool generated in the first stage, we conducted the analyses at the review level (N = 116). Each review was evaluated by 7.8 participants on average. We used the average of items for all multi-item constructs in the following analyses, as Cronbach’s alphas exceeded .9 and indicated satisfactory reliability.

Analysis of the manipulation check showed that the reviews in the high perspective taking condition were perceived to take others’ perspective to a greater extent than those in the low perspective taking condition (M = 5.69 vs. 5.09, p = 0.01). Thus, the manipulation of perspective taking in the first stage was deemed successful.

To examine the effect of perspective taking on perceived review helpfulness, we performed ANOVA with perspective taking entered as a between-subject factor. Consistent with H1, reviews in the high perspective taking condition were rated significantly more helpful than those in the low perspective taking condition (M = 6.72 vs. 6.31, p < 0.05).
We next investigated the role of information amount and objectivity in mediating the effect of perspective taking. We utilized the SPSS MEDIATE macro that can accommodate multicategorical independent variables (Hayes and Preacher 2014), and used 5,000 bootstrap resamples in the mediation analysis. Results revealed that the effect of perspective taking on information amount was positive and significant ($\beta = 0.51$, $t = 2.02$, $p < 0.05$), and its effect on objectivity is also positive and significant ($\beta = 0.45$, $t = 2.67$, $p < 0.01$). The two mediators are also significantly associated with review helpfulness ($\beta$s = 0.59 and 0.27, $t$s = 12.78 and 3.88, $p$s < 0.01). After controlling for the effects of information amount and objectivity on review helpfulness, the main effect of perspective taking on review helpfulness became non-significant ($\beta = -0.01$, $t = -0.13$, $p = 0.89$), indicating full mediation. Finally, the indirect effect of perspective taking through information amount was significant (indirect effect = 0.30, 95% confidence interval = [0.01, 0.64]), and so was the indirect effect through perceived objectivity (indirect effect = 0.12, 95% confidence interval = [0.04, 0.27]). As illustrated in Figure 2, these results provide support for H2 and H3.

![Figure 2. Mediation Results in Study 2](image.png)

**Discussion**

Using a two-stage experimental design that manipulated the level of perspective taking in the first stage, this study replicated the findings of the archival study: taking prospective consumers’ perspective leads a reviewer to write a review with longer length and greater objectivity, which in turn enhance readers’ perceptions of review helpfulness. This study provided causal evidence for the impact of perspective taking and the mediating roles of information amount and objectivity.

**General Discussions**

Extending the concepts of intuition and lay theories, we hypothesize that taking the perspective of prospective consumers can motivate the reviewers to produce more valuable content by putting in more words and writing more objectively because of their intuition that “longer and more objective reviews are more helpful.” Greater review length and objectivity can in turn increase the perceived helpfulness of the written reviews. To test this theoretical framework, we conducted two studies with distinct methodologies. In Study 1, we collected and analyzed a large data set of Tablet reviews from Amazon. We measured perspective taking by the ratio of second person pronouns, review helpfulness by the ratio of helpful votes, and mediators by the count of all words or percentage of non-emotional words. This study is inherently limited because of its archival nature and inability of ruling out certain alternative explanations. To address these concerns, we conducted a two-stage lab experiment, in which we manipulated perspective taking through cover story instructions in the first stage and collected a pool of 116 reviews. Then a separate set of participants in the second stage read and evaluated 10 reviews that were randomly selected from the first-stage review pool. Results from both studies provided converging evidence that encouraging reviewers to step into others’ shoes can boost the perceived value of their reviews, because such reviews are longer and more objective than those produced by self-interested reviewers.
Theoretical Implications

This paper makes a number of unique theoretical contributions. First, our study is among the first to introduce the novel concept of perspective taking and study how it affects perceived value of online reviews. Perspective taking has been repeatedly demonstrated to be a key ingredient for proper social functioning and prosocial behavior in interpersonal and organizational settings (Hodges et al. 2011). In online reviews context, reviewers naturally differ in their tendencies to step into the shoes of future readers and keep their needs in mind when they craft the review content. Such diversity is also evident in the attentional focus of reviewers based on an analysis of reviewers’ use of first-person and second-person pronouns (Pollach 2006). However, little is known about the implications of perspective taking for perceived value of review content. Our paper provides the first evidence that taking others’ perspective can indeed enhance the diagnosticity of online reviews in the eyes of review readers.

Second, the existing literature studying determinants of review helpfulness has looked into the impact of individual factors at the content, reviewer, and even product levels. Over time, such a piecemeal approach has generated a long list of recommendations for reviewers. Review platforms have incentives to adopt such insights into their writing guidelines in the hope of encouraging reviewers to produce more valuable content and increase the perceived value of the review platform. However, people rarely agree to and adopt a long list of advices as humans have universal needs for autonomy and freedom, and they resist forces that pose a threat to their autonomy (Brehm and Brehm 2013). Instead, our theoretical framework suggests a holistic way of “nudging” reviewers; that is, a guideline as simple as “try to step into future readers’ shoes” can go a long way. Specifically, our second study provides compelling evidence that encouraging a reviewer to keep future readers in mind and take their viewpoint can systematically vary the way he/she writes the review; the produced reviews are not only longer, but also more objective, resulting in higher value perceived by future review readers. These findings illustrate the importance of directly studying reviewer behavior (or how they write reviews) that has critical implications for review helpfulness, above and beyond the examination of variables directly extractable from text reviews or reviewer profiles.

Third, our paper is also among the first to extend and build on the novel concepts of intuition and lay theories in studying reviewer behavior. Prior research has shown that reviewers’ rating behavior is affected by normative influences such as prior ratings (e.g., Ma et al. 2013). Another stream of studies suggested that consumers’ evaluation of online reviews is affected by their pre-existing beliefs or expectations (Jensen et al. 2013; Yin et al. 2016). Complementing and extending these two lines of inquiries, our findings suggest that reviewers’ intuition about “what constitutes helpful reviews” also plays an important role in guiding their review writing process. Although largely unrecognized in the online reviews literature, lay theories of reviewers and consumers alike may have significant implications for the production and consumption of online reviews.

Practical Implications

Our findings also have important practical implications for reviewers and review platforms. First, reviewers who strive to be “best reviewers” or “top reviewers” can certainly follow the detailed advices or recommendations from the review platform. Our findings, however, suggest an easier guideline: simply putting themselves in the shoes of prospective readers can motivate them to write longer and more objectively, without requiring them to pay attention to the length or objectivity of their produced content per se. Review platforms can also incorporate this into their formal writing guidelines for reviewers: instead of providing a large list of to-dos or not-to-dos, the platform can simply remind reviewers to keep readers in mind and step out of their own shoes. Such a holistic guideline is easy for reviewers to understand, follow and implement, and it may also be effective in raising the overall quality of accumulating reviews in the review platform in the long run without the need to keep adding new items into the guideline.

Second, the association of the use of personal pronouns with the self-focus and other-focus attention of reviewers provides an easy way for review platforms to promote high perspective taking reviews that are more likely to be rated favorably by readers. The calculation of the relative usage intensity of second-person versus first-person pronouns can be automated by software such as LIWC that we relied on in
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Moreover, review platforms can identify reviewers who tend to take the perspective of others, and encourage them to write more reviews to benefit future consumers.

Future Research

Our paper also presents a number of exciting opportunities for future research. First, although we provide compelling evidence that taking others’ perspective can shape reviewer behavior, it is unclear whether and how perspective taking can influence reader perceptions directly. For instance, holding substantial content (including its length and objectivity) constant, would a change in reviewers’ attention (e.g., from “I” to “you”) influence readers’ perception of review helpfulness? Although this is clearly out of our scope, it would be interesting for future research to uncover the efficacy of such a low-effort perspective taking strategy. Second, our theoretical framework is built on the concepts of intuitions and lay theories, but we did not measure them in any of our studies. Lay theories play an indispensable role in our daily lives and decision making of consumers (Furnham 1988). More research is needed to systematically investigate the role of lay theories and intuitions, and how they may color consumers’ expectations and beliefs. Third, our studies looked only at two aspects of review-writing behavior: information amount and information objectivity, while review content can be characterized by other aspects such as time framing (Chen and Lurie 2013), explanation types (Moore 2015), etc. It is worth investigating how to best utilize reviewers’ intuition to nudge them in these directions as well.

Conclusion

In keeping with recent interest in the factors that shape reviewers’ rating and reviewing behavior, we suggest that scholars will benefit from a better understanding of the role of holistic writing guidelines such as stepping into other people’s shoes. Our research provides both real-world and experimental evidence that reviewers who keep future readers in mind tend to write longer and more objectively, and subsequently produce more helpful content. We believe this work extends current understanding of an overlooked but important topic, and we call for future research to further explore the consequences of perspective taking and the role of intuition and lay theories when consumers make important decisions in online environments.

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Appendix A: Variables Measured in Study 2

Perceived review helpfulness: (Sen and Lerman 2007)
Imagine that you were considering visiting a new restaurant, and this is the only review you can find online. Using the scales below, how would you describe the above user review?
- not at all helpful / very helpful
- not at all informative / very informative

Perceived information amount: (Block and Keller 1995)
In your opinion, how much information was presented in this review?
- very little information / a great deal of information

Perceived review objectivity: (Uhlmann and Cohen 2005)
- very subjective / very objective
- very biased / very unbiased
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Perceived perspective taking: (Grant and Berry 2011)

Please rate the extent to which you disagree or agree with the following statements about how this reviewer wrote the review.

- This reviewer described the restaurant from the perspective of a prospective customer reading the review
- This reviewer stood in a prospective customer’s shoes when describing the restaurant
- This reviewer described the review through the eyes of potential customers of the restaurant

References


