Proximate Emotion and Distant Reason: Temporal Inference in Word-Of-Mouth

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Five field and laboratory studies reveal that word-of-mouth opinions (in online reviews) are significantly less persuasive when shared at “proximate” (soon after) versus “distant” (long after) points of purchase. This occurs because proximate reviewers are assumed to be emotional/irrational, discrediting otherwise identical content shared by distant reviewers.

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Inferential Perspectives in Online Word-of-Mouth: How Senders and Receivers Infer from Subtle Cues
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Paper #1: “Don’t Buy” or “Do Not Buy”? Negation Style and Product Evaluations
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Paper #3: Positively Useless: Irrelevant Negative Information Enhances Positive Impressions
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Paper #4: Does Sharing Lead to Sharing? Evidence from Free Product Settings
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SESSION OVERVIEW
Online sharing in the form of word-of-mouth (WOM) has become a prevalent and vital source of information for consumers (Chevalier and Mayzlin 2006; Dellarocas 2003), allowing them to share their own product and service experiences while learning about the experiences of others. Given that online reviews are inherently embedded in a social context (Hamilton, Vohs, and McGill 2014; Naylor, Lamberton, and Norton 2011), we suggest that seemingly ‘irrelevant’ information (e.g., language use) may serve as a critical social cue that leads consumers to make inferences about reviews or reviewers. The aim of this session is to examine such inferential processes in online WOM. Together, the four papers address the following questions: 1) What inferences do consumers draw from indirect cues in online reviews? and 2) How do these inferences impact review evaluations, product evaluations, and motivation to post reviews? Session attendees will learn how the subtle cues embedded in online reviews affect consumer inferences about both reviewers and reviews, thereby influencing their judgment and behavior.

The first two papers focus on how the language utilized in a review evokes inferences about reviewer characteristics. Kim, Moore, and Murray examine how linguistic negation style—contractions (e.g., isn’t) versus full negations (e.g., is not)—can alter perceptions of the reviewer. They show that the use of contractions leads to more favorable inferences about the reviewer’s warmth and knowledge, as well as more positive product evaluations. Hagen and O’Brien investigate the effect of linguistic temporal markers on review helpfulness. They find that the same review is less impactful when it is shared at a proximate point in time rather than a distant point in time (e.g., after one week vs. after one year), due to inferences that consumers draw about the reviewer’s emotionality and rationality. The last two papers investigate how inferences drawn from multiple reviews impact consumers’ judgment and motivation. Shoham, Moldovan, and Steinhart examine the role of the ‘unhelpful’ reviews in a set of reviews. They demonstrate that seemingly irrelevant negative reviews can lead consumers to infer that the worst is already known about a product, boosting their product evaluations. Bond, He, and Wen explore reviewer motivation in free product settings (e.g., open-source software), and suggest that posting behavior in these settings is driven in large part by reciprocity. Using a real-world natural experiment, they present evidence that consumers use characteristics of existing reviews (e.g., quantity, variance) to infer whether posting will satisfy their reciprocity motivations.

Together, these papers highlight the diverse ways in which seemingly irrelevant cues in online WOM interact with consumer inference processes to yield unexpected consequences. We expect this session to be of interest to researchers in the areas of social connection and influence, WOM, language, and inference-making. Given the widespread applicability and implications of the issues discussed, we anticipate that the session will foster meaningful connections not only across research topics, but also across academics, practitioners, and consumers.

“Don’t Buy” or “Do Not Buy”? Negation Style and Product Evaluations

EXTENDED ABSTRACT
Online sharing in the form of word of mouth (WOM) is increasingly prevalent (Berger and Milkman 2012; Dellarocas 2003) and a significant body of work has demonstrated the impact of positive and negative WOM on consumers and firms (Chevalier and Mayzlin 2006; Dellarocas, Zhang, and Awad 2007; Richins 1983). Recent work has expanded beyond this focus on the valence of WOM by examining specific linguistic content. For example, specific emotion words (Yin, Bond, and Zhang 2014), abstract versus concrete language (Schellekens, Verlegh, and Smidts 2010), and explaining language (Moore 2012) can influence consumers’ product evaluations (Moore 2012), review helpfulness (Cao, Duan, and Gan 2011; Yin et al. 2014), and product choice (Kronrod and Danziger 2013). Yet while a growing body of work has examined linguistic content, or what is said, little research has examined linguistic style, or how things are said. We consider a prevalent and important aspect of linguistic style: negations. Building on the social agreement principle that governs online WOM, we investigate the novel question of how the use of different negation terms in online reviews can alter consumers’ product evaluations.

Specifically, we suggest that reviewers’ use of contracted negations (e.g., don’t) will lead consumers to have more favorable product evaluations than reviewers’ use of full negations (e.g., do not) due to the reduction in negativity communicated by contracted negations. Because the minimization of negatives in contractions better fits the socially communicative and interactive nature of online WOM (Berger 2014; Hamilton et al. 2014; Naylor et al. 2011), in which overt disagreement is curtailed and agreement is preferred (Schegloff, Jefferson, and Sacks 1977), the use of contracted negations should suggest a more favorable persona about the reviewer to consumers, resulting in more positive product evaluations than the use of full negations, which stress negativity (Yaeger-Dror, Hall-Lew, and Deckert 2002). Two studies test this hypothesis and show that consumers perceive a reviewer who uses contracted negations as warmer and more knowledgeable than one who uses full negations and evaluate the target product more favorably. A third study rules out processing fluency and language typicality as alternative explanations for this effect.
Study 1 tested whether negation style influences product evaluations. Undergraduates (N = 85, M_{age} = 20.9, SD = 2.34) read one of three identical online reviews about a digital camera. The reviews varied only in whether a sentence about the camera’s ease of use contained a contraction (“wasn’t easy to use”), a full negation (“was not easy to use”), or an affirmation (“was easy to use”). Participants reported their overall evaluations of the camera (e.g., bad/good, unfavorable/favorable; α = .89) and their perceptions of how easy the camera was to use on 7-point scales. Participants in both negation conditions (M_{contracted} = 4.33, M_{full} = 3.91) evaluated the camera less positively than those in the affirmation condition (M = 5.00, p < .0001), showing that both negations were attended to. However, participants who read the contracted negation evaluated the camera more positively than those who read the full negation (t = 2.85, p < .01) and rated the camera to be easier to use in the contraction condition (M = 3.48) than those in the full negation condition (M = 2.79; t = 2.12, p < .05).

To test the underlying mechanism, study 2 examined whether consumers’ perceptions of reviewers’ warmth and knowledge mediated the effect on negation style on product evaluations. Mechanical Turk participants (N = 365, M_{age} = 33.1, SD = 11.64) read an online review about a digital camera, the content of which was identical except for three sentences which contained either contracted or full negations (e.g., “the video menu wasn’t working properly”). Participants then evaluated the camera as in study 1 and rated the reviewer’s warmth and knowledge (1 = not at all, 7 = very much). Participants in the contracted negation condition evaluated the camera more positively (M = 4.26) than those in the full negation condition (M = 4.04; t = 1.95, p = .05), and perceived the reviewer as warmer (M_{contracted} = 4.84, M_{full} = 4.60; t = 2.03, p < .05) and more knowledgeable (M_{contracted} = 4.91, M_{full} = 4.62; t = 1.99, p < .05). The effect of negation style on product evaluations was mediated by the reviewer’s perceived warmth (95% CI: 0.001 – 0.082) and knowledge (95% CI: 0.005 – 0.101; Hayes 2013) individually.

Study 3 ruled out two alternative explanations for these findings. Contracted negations could lead to increased product evaluations not because of reviewer perceptions, but because they are more typical (Kronrod and Danziger 2013; Ling and Baron 2007) or more fluent to process (Alter et al. 2007) than full negations. Participants assessed the typicality (e.g., “How typical is this sentence for an online review?”) and fluency (e.g., “How easy to read was this sentence?”) of the sentences with contracted or full negations from study 2. We found that neither variable mediated the effect of negation style on product evaluations.

In sum, these findings suggest that beyond linguistic content, the linguistic style of negations can influence consumers. Specifically, consumers evaluate products more favorably and perceive reviewers as warmer and more knowledgeable when they use contracted rather than full negations. In contrast to prior work, which has focused on full negations (Grant et al. 2004), this research provides a nuanced understanding of negation style. By providing insight into how negations influence consumer judgments, this work contributes theoretically to marketing and psychology, and offers insight for marketers and consumers regarding online WOM.

**Proximate Emotion and Distant Reason: Temporal Inference in Word-of-Mouth**

**EXTENDED ABSTRACT**

Before purchasing, consumers often seek the opinions of others who have had personal experience with the product. For example, many people browse customer reviews online. We find that the persuasive impact of these word-of-mouth (WOM) opinions depends on the temporal context of the source: the same review is much less impactful when shared at “proximate” (i.e., soon after product purchase) versus “distant” (i.e., long after product purchase) points in time.

Surprisingly, this is not merely attributable to a perceived lack of usage experience on the part of quick review writers. Rather, this effect is driven by personality inferences about the reviewer, such that proximate reviewers are perceived as impulsive and emotional, rendering their opinion less credible and overall less helpful. The detrimental effect of proximate WOM is thwarted, however, when (a) the source’s rationality is reaffirmed in other ways, (b) the review is emotion-relevant, i.e., about hedonic products, or (c) the audience is induced to value emotions. Five studies explore the phenomenon and establish process through mediation and moderation.

To begin, we showed the basic effect that proximate WOM is less impactful than distant WOM. First, a field study using real food processor reviews from Williams-Sonoma (Study 1a) leveraged ordinal length-of-ownership information reported by reviewers (“less than 1 week”–“over 5 years”) to predict the proportion of readers rating the review as helpful (“I found this review: helpful vs. not helpful”). Regression showed that the more proximate the review to the purchase, the smaller the proportion of readers who rated it as helpful, even controlling for valence, word count, and concreteness.

Next, in a controlled laboratory experiment, participants read a positive or negative iPhone review labeled with a review date that was close (proximate) or far (distant) from the phone’s reported release date (Study 1b). All other features of the review, including the content mentioned, were held constant. Participants rated on 1-7 scales how reliable, diagnostic, accurate, dependable, and helpful the review was, and how confident it made them feel (“Helpfulness Index,” α = .95). They also indicated to what extent the reviewer seemed like a person who is impulsive, emotional, rational (reversed), or has strong feelings (“Personality Index,” α = .62). As predicted, proximate reviews were seen as less helpful than distant reviews, despite identical review content. Further, proximate reviewers were perceived as more emotional types of people than distant reviewers, and this difference mediated the effect of time on review helpfulness (regardless of review valence).

Studies 1a and 1b showed evidence for the proposed effects, that is, that proximal reviews are less impactful, and that this is due to perception of proximate reviewers as impulsive and emotional. While Study 1b showed process evidence through mediation, we next examined moderators to further support our process hypothesis. Specifically, we tested whether reviews by patently unemotional reviewers (Study 2), for emotion-relevant products (Study 3), or read by an audience induced to value “gut” reactions and emotions (Study 4), would turn off the effect.

In Study 2, participants read positive Samsung Chromebook reviews written by a layperson or a professional product reviewer at a proximate or distant time after purchase. Here, temporal distance was manipulated by explicit mention of the specific timeframe of ownership. Again, participants completed the review “Helpfulness Index.” To the extent that a professional product reviewer is perceived as unemotional (i.e., clearly writing the review based on logic and expertise), the effect of temporal distance on helpfulness should be muted. As predicted, reviews written by laypeople were much less helpful when shared soon versus long after purchase, but for reviews written by professional reviewers proximity did not undermine helpfulness.

Following the same design, in Study 3, participants read positive reviews written about a cook book or a food-art book at a proximate or distant point after purchase. As before, they rated the review on the “Helpfulness Index.” Once more, we found the predicted interaction between temporal distance and product type: For the cook book (i.e., a product that does not involve immediate hedonic reac-
tions), proximate reviews were indeed much less helpful than identical reviews at a distant point. However, for the food-art book (i.e., a product for which immediate hedonic reactions are relevant), proximate reviews were seen as just as helpful as distant reviews.

Finally, in Study 4, participants read a positive review of a beverage mix written at a proximate or distant time after purchase. Crucially, before reading the review and rating the “Helpfulness Index,” half the respondents read a mock New York Times article about research evidencing the value of gut reactions and instinctual decisions (based on actual research, e.g., Gigerenzer 2007). To the extent that the article persuades people to value quick, feelings-based judgments, the effect of temporal distance on helpfulness should be muted. Indeed, as predicted, we found an interaction between temporal distance and attitude toward emotional reactions: Among control participants who read nothing beforehand, proximate reviews were seen as less helpful than distant reviews, replicating our basic effect. However, among those who read about the value of emotions, proximate reviews were seen as just as helpful as distant reviews.

Across field and laboratory studies, reviews shared soon after purchase were perceived as much less impactful than the same reviews shared at more distant points, because they made the reviewer seem too emotional to be taken seriously. These findings provide nuanced insight into consumers’ value in reviews: reasoned, thought-out opinions (even when shared quickly) are more persuasive than rather than sharing one’s initial emotion-based reactions. They also reveal that including temporal information in reviews can critically affect the persuasiveness of the review, and can strengthen its impact if the temporal relation matches the product. While firms may want to facilitate the reporting of temporal information, consumers themselves may strategically consider their use of temporal information to heighten their persuasiveness. Positive reviews might be bolstered by emphasizing the reviewer’s distance, just as negative reviews might be assuaged by emphasizing the reviewer’s proximity.

Positively Useless: Irrelevant Negative Information Enhances Positive Impressions

EXTENDED ABSTRACT

The current research examines the desirability and impact of irrelevant information, focusing on unhelpful online reviews. Positive and helpful user reviews typically increase evaluations and sales (Chevalier and Mayzlin 2006; Zhu and Zhang 2010). While negative reviews can increase product awareness (Berger, Sorensen, and Rasmussen 2010) and negative information can be beneficial in two-sided communications and reviews (Eisen 2006; Schlosser 2011), less is known about the effect of irrelevant information in the context of word of mouth and reviews. We suggest that unhelpful reviews can have a positive effect— if they are presented as being negative.

Online reviews are usually written by strangers, making it difficult to assess their value and relevance (Schlosser 2011). We propose that when consumers are uncertain of the best choice, they turn to the small number of available negative reviews, due to the perception that negative information is more diagnostic and valuable (e.g., Rozin and Royzman 2001). Irrelevant negative reviews do not provide the expected diagnostic value, so they are perceived as unhelpful, yet they lead consumers to infer that the worst is known and the product really is as good as advertised. This boosts the perceived usefulness of the positive information, resulting in more positive evaluations.

Past research has demonstrated that irrelevant information can have positive effects if it is valued by consumers (Carpenter, Glazer, and Nakamoto 1994), but also that it can reduce product evaluations if not valued (Brown and Carpenter 2000) or dilute the impact of more relevant information (e.g., Meyvis and Janiszewski 2002). We build on this research and suggest that the way irrelevant information is presented can determine its impact. We predict that when irrelevant information, such as an unhelpful review, is framed negatively, it can lead to higher product evaluations and purchase intentions.

More specifically, we hypothesize that evaluations will be more positive when a review set includes an unhelpful review that is framed negatively rather than positively, and compared to sets without an unhelpful review. This hypothesis is confirmed in a series of five studies.

In study 1, participants evaluated an espresso machine and were assigned to one of three conditions: a set of four positive reviews only (control) or the same reviews with an additional unhelpful review, framed with either a positive or a negative rating (1 or 5 stars). This review provided general information about coffee rather than the specific espresso machine. As predicted, evaluations differed across conditions ($F_{1,54} = 3.56, p < .05$). They were significantly higher when the review set included a negatively framed unhelpful review ($M = 5.81$) compared to the positive frame ($M = 5.04$, $t_{40} = 2.61, p < .05$) and control conditions ($M = 5.0$, $t_{40} = 2.41, p < .05$). The latter two conditions did not differ significantly.

Study 2 showed that the effect is moderated by familiarity with the reviewers. Student participants read comments about an elective course, supposedly provided by either friends or strangers. Once again, there were four identical positive comments and one unhelpful comment, framed either positively (“recommended”) or negatively (“not recommended”). The comment (that it fit the commenter’s schedule) was not perceived as useful by the participants. The expected 2-way interaction ($F_{1,40} = 5.80, p < .05$) emerged: when the reviewers were strangers, evaluations were significantly higher if the set included a negatively framed unhelpful comment ($M = 5.68$) rather than a positive one ($M = 5.0$, $t_{40} = 2.35, p < .05$). When the reviewers were friends, the framing did not impact evaluations ($t < 1$). Bootstrapping analysis showed that the effect was mediated by greater perceived usefulness of the review set overall.

Study 3 sought to rule out two-sided persuasion as an alternative explanation, by showing that our effect derives from lack of negative diagnostic value rather than the inclusion of negative information. We added a condition with a weak but helpful negative review. As expected, we found a significant difference in evaluations of a camera ($F_{1,100} = 4.71, p < .05$). Evaluations were significantly higher in the negative-unhelpful condition ($M = 5.76$) compared to the positive-unhelpful condition ($M = 5.15$, $t_{100} = 2.32, p < .05$) and the weak-negative condition ($M = 4.97$, $t_{68} = 2.91, p < .01$).

Study 4 demonstrated that the effect occurs when a negative review is personally irrelevant but not if it is relevant (and thus, truly negative). Participants read reviews of running shoes comprising either four positive reviews or the same reviews with an additional one-star review, which contained information relevant for women but not for men. The expected gender × review set interaction emerged ($F_{1,40} = 10.39, p < .01$). Men were willing to pay more for the shoes when the review set included the additional (irrelevant) review ($M = 86.97$) compared to when they saw only the four positive reviews ($M = 71.90$, $t_{40} = 2.14, p < .05$). Women, however, were willing to pay less when the additional (relevant) review was included ($M = 74.70$) than when it was not ($M = 89.68$, $t_{40} = 2.45, p < .05$).

In an additional study, participants chose a short video to watch as part of the experiment, based on user comments about each option. All participants actually saw the same video; however, those who chose a video that had an unhelpful negative review were more satisfied with their choice ($M = 5.38$) than those who did not ($M = 4.52$, $t_{62} = 2.73, p < .01$). This shows that the effect of unhelpful negative reviews extends into post-decision satisfaction.
The findings demonstrate that unhelpful reviews can have a positive effect on evaluations, and that they can boost the impact of positive reviews— if they are presented with a negative frame. Lack of negative diagnosticity, rather than the mere inclusion of negative information, is of key importance, making seemingly irrelevant information quite relevant with regard to evaluation and purchase decisions. While consumers and sellers may find some types of reviews and information unhelpful and irrelevant, these can nonetheless have unexpected positive effects.

**Does Sharing Lead to Sharing? Evidence from Free Product Settings**

**EXTENDED ABSTRACT**

Modern technology enables consumers to share product-related information, opinions, and experiences via platforms accessible to millions (social networks, retailer websites, review databases, blogs, etc.). As a result, online word-of-mouth (WOM) has come to represent a distinct communication channel, profoundly affecting consumer information search and decision making, while offering new challenges and opportunities for marketers (Chevalier and Mayzlin 2006; Schulze, Schöler, and Skiera 2014; Zhu and Zhang 2010). From a consumer and a practitioner standpoint, helpful WOM depends crucially on the willingness of consumers to share with one another; therefore, it is critical to understand the motivations underlying sharing behavior, so that such behavior can be facilitated, managed, and made sustainable.

Existing research on motivation for product-related WOM has focused almost entirely on retail WOM platforms and paid product settings (e.g., Dellarocas, Gao, and Narayan 2010; Lovett, Peres, and Shachar 2013). WOM in these settings is traditionally attributed to a self-focused, impression management motivation, whereby consumers seek to signal to others their expertise, status, conformity, uniqueness, etc. (Berger 2014). In contrast, our research examines drivers of consumer WOM in a setting where products are available for no (monetary) cost. This setting applies to a variety of modern marketplaces, especially in the technology arena, where ‘freemium’ business models are common (Niculescu and Wu 2014), and groups of enthusiasts produce high-quality goods and services for public consumption (e.g., smartphone apps, open-source software, webzines). Will WOM for free products follow the same social dynamics as for paid products, or will underlying motivations and sharing behavior differ?

Our primary argument is that an other-focused, reciprocity mechanism (Cialdini and Goldstein 2004; Gouldner 1960) is a prominent driver of WOM in free product markets. Our logic is based on the application of social exchange norms to producer-consumer relationships. In traditional (costly) product settings, buyers exchange monetary payment for the value that they derive from the products they consume. In free product settings, however, buyers must seek nonmonetary methods of compensating to avoid violating the norm of exchange. Given the limited options for doing so, we predict that consumers will view the provision of ‘helpful’ WOM as a practical and effective means of reciprocation.

To test our hypothesis, we investigated a real-world, online review platform for free digital products (e.g., open-source software). To investigate our reciprocity mechanism and disentangle it from alternative accounts, we explored how the sharing behavior of prior consumers affected the sharing behavior of later consumers. In order for WOM to provide an effective means of reciprocating producers, consumers must infer that it provides meaningful value over existing WOM. Therefore, we predicted that likelihood of posting a review would depend on the quantity and dispersion of existing reviews. Specifically, when the quantity of prior WOM is low (i.e., there are few existing reviews) or the dispersion of prior WOM is low (i.e., the content of existing reviews is similar), the perceived value of additional sharing for reciprocation will increase, resulting in a greater likelihood of posting. When the quantity or dispersion of prior WOM is high, the perceived value of additional sharing will decrease, resulting in a lower likelihood of posting. Importantly, these predictions contrast with the behavior implied by the ‘herding’ motivation often assumed in traditional review settings (Berger 2014; Moe and Schweidel 2012).

The basis for our natural experiment was a series of platform-wide reforms that resulted in the removal of a portion of existing reviews from the platform. Exploiting this exogenous shock, we used a difference-in-difference approach (Chevalier and Mayzlin 2006) to examine how changes to review distributions across products impacted sharing by subsequent customers. Because we could not directly observe individual posting behavior before and after the reform, we focused on the product level, and use changes to the quantity of posts as evidence that the intensity of posting motivation had changed. The sampling period began six months before the review system reform and ended seven months afterwards.

Analyses were performed via a series of conditional fixed-effect Poisson regressions. Results revealed consistent support for our hypotheses regarding reciprocity motivation. Contrary to the ‘herding’ prediction that a large quantity of WOM would invoke more sharing, we found that individuals became more likely to post a review as the quantity of existing reviews became smaller. Specifically, estimated coefficients suggested that a 10% reduction in the number of existing reviews would be expected to increase subsequent posting by seven to nine percent. Also supporting predictions, results indicated that propensity to share was impacted by the dispersion of prior reviews, such that greater dispersion (“mixed opinions”) reduced sharing. Specifically, estimated coefficients suggested that an increase of one standard deviation in existing review valence would be expected to decrease subsequent posting by twenty to twenty-seven percent. Offering further support for our model, follow-up analyses showed that the effects of both quantity and dispersion on posting were attenuated when there were other opportunities for reciprocation were available (e.g., a separate user feedback forum was present).

Together, our theory and findings contribute to current understanding of WOM by providing evidence for a heretofore understudied, reciprocity-based motivation. Moreover, they suggest potential means by which retailers, third-party forums, etc., might encourage customer conversations without resorting to pecuniary incentives that undermine trustworthiness (Stephen et al. 2013). For example, by framing a review request in terms of ‘giving back,’ and by highlighting specific aspects of existing product discussion (e.g., quantity or dispersion), platforms may be able to directly evoke reciprocity motivation among new users, increasing the likelihood that they will contribute to the discussion.

**REFERENCES**


