A Cautious Pursuit of Risk in Online Word-Of-Mouth: the Effect of Truncated Distribution on Consumer Decisions

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Combining field and experimental data, we investigate word-of-mouth (WOM) based consumer decisions in four studies. Contrary to traditional reference-dependent predictions, high WOM dispersion is preferred among options with high WOM average. This pattern is driven by truncation of WOM distribution and elongation bias.

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EXTENDED ABSTRACT

Understanding how consumers respond to risk in a word-of-mouth (WOM) setting has become more important than ever—modern day consumers often evaluate products based on others’ WOM (e.g., product reviews on Amazon.com). Because the same product may receive positive and negative WOM from different reviewers, decision makers need to integrate different potential outcomes and handle risk. While there is growing interest in the influences of WOM on consumer decisions in general (Chevalier and Mayzlin 2006; Tang, Fang, and Wang 2014; Yadav and Pavlou 2014), few scholars have examined how consumers react to risk in the WOM setting.

Unlike risk studied in prior research, risk embedded in consumer WOM is unique in three important aspects. First, consumer WOM is typically characterized by multiple outcomes while choice options used in traditional risk studies mostly involve only two or three different outcomes (Kahneman and Tversky 1979; Thaler 1985). In order to collect and display consumer WOM, online retailers ubiquitously adopt a star-rating review system that captures at least five different potential outcomes of product experience (e.g., 1-5 stars on Yelp.com, 1-10 stars on IMDB.com, with more stars reflecting greater satisfaction). Since there are more outcomes to consider, the decision-making process becomes more cognitively challenging. Consequently, people may resort to certain information cues in order to reduce cognitive effort (Payne, Bettman, and Johnson 1993).

Second, consumers who rely on WOM often evaluate a product by interpreting risk from a WOM frequency distribution. Information technology adopted by online retailers and social media gives consumers easy access to abundant WOM. Due to their sheer volume, product reviews are often summarized in graphical forms, highlighting the distribution of WOM. Despite of being important topics, risk perception of frequency distribution and its influence on consumer decisions have received little attention.

Third, consumers do not have information regarding outcomes and probabilities of product performance, but have to draw inferences from others’ consumption experience conveyed in WOM. Since people who provide WOM may share very different tastes, consumers may attribute variation in WOM to taste dissimilarity instead of risks in product performances. In contrast to past investigations on this specific issue (Chen and Lurie 2013; He and Bond 2015a), our research will hold reviewer taste constant and assume that WOM variation is largely attributed to uncertainty in product performances.

Drawing on research on WOM dispersion (Clemons, Gao, and Hitt 2006; West and Bronarczyk 1998) and visualization (Lurie and Mason 2007; Wedel and Pieters 2007), we propose that consumers would use visual cues when evaluating a product review. The use of such visual cues will trigger elongation bias (Raghubir and Krishna 1999; Wansink and Ittersum 2003) such that longest bars in a graphical WOM distribution will get more attention. Therefore, a product will look more appealing if its WOM distribution is truncated at the positive part and less appealing if its WOM distribution is truncated at the negative part. As a result, the interaction effect between WOM average and WOM dispersion on consumer choices predicted by prospect theory will be attenuated for truncated WOM distribution.

Four studies are designed to test these ideas. Analysis of field data collected from Amazon.com (Study 1) and a controlled lab experiment (Study 2) show that contrary to prospect theory predictions, a high-variance product is preferred as average rating increases.

Study 3 extends study 2 by purposefully manipulating the truncated feature of extreme and non-extreme WOM distribution. Our results show that when the WOM average is extreme but the WOM distribution is non-truncated, the choice pattern for a high-dispersion option is consistent with prospect theory. However, when the WOM average is non-extreme but the WOM distribution is truncated, the opposite choice pattern is revealed.

Study 4 provides further evidence for the findings from studies 1-3 by directly manipulating truncation of WOM distribution. Our findings suggest that truncation feature of a WOM distribution can exaggerate consumers’ perception on the most salient bars (i.e., elongation bias)—depending on it occurs at the lower or higher end of a scale—so that they may either underestimate or overestimate the rating of the choice option. Accordingly, this misperception can affect their choices for high-dispersion options negatively or positively.

Our research offers several contributions. First, this paper helps reconcile long-standing mixed findings in the research of consumers’ preference for WOM dispersion (Clemons et al. 2006; Moe and Trusov 2011), in which WOM dispersion is found to lead to positive, negative, or unclear consumer responses. Our research aims to consolidate these findings by taking into account the role of WOM distribution feature and suggests that whether WOM dispersion is preferable as the average rating of WOM increases depending on the truncated feature of WOM distribution. Second, this research adds important nuance into the reference-dependent approach (e.g., prospect theory) by factoring in visual cues in the decision-making process, which enriches our understanding of decisions made with graphical display of risks. Managerially, our research provides important insights for online retailers and web designers who seek ways to harness the power of WOM and to put their business on the fast track in social media.

REFERENCES


