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# A study of factors that contribute to online review helpfulness

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## ABSTRACT

Helpfulness of online reviews is a multi-faceted concept that can be driven by several types of factors. This study was designed to extend existing research on online review helpfulness by looking at not just the quantitative factors (such as word count), but also qualitative aspects of reviewers (including reviewer experience, reviewer impact, reviewer cumulative helpfulness). This integrated view uncovers some insights that were not available before. Our findings suggest that word count has a threshold in its effects on review helpfulness. Beyond this threshold, its effect diminishes significantly or becomes near non-existent. Reviewer experience and their impact were not statistically significant predictors of helpfulness, but past helpfulness records tended to predict future helpfulness ratings. Review framing was also a strong predictor of helpfulness. As a result, characteristics of reviewers and review messages have a varying degree of impact on review helpfulness. Theoretical and practical implications are discussed. © 2015 Elsevier Ltd. All rights reserved.

### 1. Introduction

Product reviews have become an essential part of both electronic and traditional commerce. Google Scholar shows that there was much interest in product reviews in the literature (with 15,600 hits for "product reviews" and 13,200 hits for "online reviews"). Similarly ABI/INFORM shows 1015 articles for "product reviews" and 1442 articles for "online reviews" published in scholarly journals. Reading product reviews has been a popular step for consumers in pre-purchase information gathering. As a result, both retailers and manufacturers are paying an increased level of attention to online reviews as they can either be a threat or an opportunity for businesses (Anderson & Magruder, 2012; Chen & Xie, 2008; Chevalier & Mayzlin, 2006; Hu, Zhang, & Pavlou, 2009; Li & Hitt, 2010).

Many studies show that online product reviews and related factors significantly affect sales under certain conditions, and for some product categories (Chen, Dhanasobhon, & Smith, 2007; Duan, Gu, & Whinston, 2008; Forman, Ghose, & Wiesenfeld, 2008). Recent studies suggest that characteristics of reviews and

reviewers collected through variables such as reviewer identity, reviewer location, information quantity, and semantic factors (Cao, Duan, & Gan, 2011) may add more insights to the line of research. Since reviewer identity is difficult to come by when collecting reviews directly from publicly available sources (such as Amazon.com), Mudambi and Schuff (2010) suggest that future extensions of their work may focus on other forms of disclosed reviewer's status, such as Amazon's "top reviewer" designation.

Among the many variables associated with online product reviews, "review helpfulness" is particularly important, as it represents the subjective valuation of the review judged by others, and is also the aggregate perceived utility of the information contained in the review (Cao et al., 2011; Baek, Ahn, & Choi, 2012; Li, Huang, Tan, & Wei, 2013). A favorable helpful review adds perceived value to the product, but a critical review is also an opportunity to perform customer service. However, "helpfulness" is guite a complex concept as one would easily equate length (number of words) of review message to helpfulness, while others might consider message length as "effort" instead. Added to the complexity is that helpful messages are often lengthy fill with details, but the other way around may not be true (i.e., a lengthy message is not necessarily a helpful one). Even within helpful reviews, the effect of message length on helpfulness could diminish when it reaches a certain threshold. Beyond the threshold, it may not get read in detail. A straight relationship between helpfulness and message length is explored in a recent study (Mudambi & Schuff, 2010), where the authors reported a linear relationship between





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helpfulness and aspects of message and product (rating, product type, work count and total votes). Despite that past behavioral patterns might have an effect on review helpfulness, existing studies have not paid enough attention to them. An example of such pattern includes the effect of past review performance on future review quality. Past helpfulness ratings could become a form of incentive for those who have done good reviews before. As a result, we will be able to shed some light by including past review patterns to study review helpfulness.

In short, it is better for an online reviews study to take a more holistic view by incorporating aspects of messages, reviewers and other characteristics. Therefore, the purpose of this paper is to examine message length together with aspects of review patterns and reviewers for their joint effects on review helpfulness. As message length should not just be taken at the face value (too long or too short is not useful), part of our goal also extends to exploring a possible threshold for message length. Built on the relevant online review literature, six hypotheses were proposed (H1a, H1b, H2 through H5) to study factors relating to review helpfulness. Depending on the nature of the variables involved, two data sets were used to test the hypotheses. The first data set including 1375 reviewers (a.k.a., all reviewers) was employed to study how word count as hypothesized in H1a relates to the review helpfulness. The remaining hypotheses concern about what makes a top reviewer. Therefore, we collected the second data set consisting of 60 top ranking reviewers (hereafter called top reviewers) to test the rest of hypotheses. Reviews in this research were obtained for six focal products (cell phone, printer, camera, music player, music CD, and video game) that are popular in the consumer's market. Along with two data sets, our use of additional reviewer-related variables has developed new findings and conclusions, which offer a theoretical extension to existing literature as well as useful practical implications.

Theoretically, the results of the current research have contributed to relevant literature by providing further understanding of quantitative and qualitative predictors of online review helpfulness. More specifically, the paper takes a step further to uncover the threshold of word count that sheds light on the empirical relationship between this variable and review helpfulness. Additionally, the findings of the paper have extended the results found in existing research (i.e., Mudambi & Schuff, 2010) by looking at also the reviewer aspects of online reviews (i.e., reviewer experience, impact, cumulative helpfulness, and review sidedness) to see whether each of those aspects influences online review helpfulness. Practical implications are also discussed for marketers to incorporate the findings into their marketing strategies in attempt to make reviews more meaningful to their customers.

#### 2. Literature review

Online product reviews attract interest from several academic disciplines. From the marketing perspective, online product reviews can be a valuable tool for promoting products, collecting consumer feedback and boosting sales (Chu & Roh, 2014; Forman et al., 2008; Hu, Liu, & Zhang, 2008). As these studies show, there is a direct relationship between product ratings and sales. For example, online movie reviews and ratings significantly correlate with box office revenues (Liu, 2006), and online book reviews positively affect book sales (Chevalier & Mayzlin, 2006). However, the effects of online reviews vary significantly by category, location, and other factors (Mudambi & Schuff, 2010; Zhu & Zhang, 2010).

A growing body of research has paid attention to review helpfulness. Using Amazon.com data, Baek et al.'s (2012) study finds that both peripheral cues, including review rating and reviewer's credibility, and central cues, such as the content of reviews, influence the helpfulness of reviews. Cao et al. (2011), employing data from CNET Download, state that the semantic characteristics are more influential than other characteristics in affecting how many helpfulness votes reviews receive. Reviews with extreme opinions receive more helpfulness votes than those with mixed or neutral opinions. Based on Amazon.com data, Mudambi and Schuff (2010) conclude that review extremity, review depth, and product type affect the perceived helpfulness of the review. Review depth has a positive effect on the helpfulness of the review, but the product type (search or experience) moderates the effect of review depth on the helpfulness of the review. More recently, Li et al. (2013) conducted a study using Bulletin Board System and found that the source- and content-based review features have a direct impact on product review helpfulness. Consumers perceive customer-written product reviews as more helpful than those written by experts. A customer-written product review with a low level of content abstractness yields the highest perceived review helpfulness. Current research of review helpfulness and possible gaps in the literature are summarized in Table 1.

Although review helpfulness has become an important topic in marketing and information technology literature, little research has explored the effects of both quantitative and qualitative factors on review helpfulness. The current research is developed to bridge the gap in literature by shedding more light on this connection. In terms of quantitative factors, the current research uses word count as a predictor of review helpfulness. Additionally, the quality of information is extremely crucial in online reviews, since high quality information provides reliable, current and concise information (Arazy & Kopak, 2011; Yaari, Baruchson-Arbib, & Bar-Ilan, 2011). In the online review context, quality of information relates to the qualifications and credibility of reviewers (Li & Zhan, 2011; Sotiriadis & van Zyl, 2013). Qualifications and credibility usually take time to establish. This is the reason Amazon uses the total review helpfulness votes to determine the quality of reviewers. Top reviewers receive badges at one of the six levels to encourage them to continue contributing quality reviews. Therefore, the qualifications, credibility and other aspects of reviewer quality are embedded in the review helpfulness ranking for these top reviewers. Since there is currently no objective metrics to quantify qualifications, credibility and other similar factors, top ranking reviewers may be considered as a surrogate representation of a group of reviewers who possess the desired quality and credibility stated in the studies mentioned above. Other qualitative aspects of reviewers including reviewer experience, reviewer impact, and reviewer cumulative helpfulness are also used as qualitative factors in this present study.

#### 2.1. Review helpfulness and measurement

To maintain the value of online reviews and to address concerns about their credibility and quality (Cheung, Sia, & Kuan, 2012), some online review sites allow readers to "review the reviews." The most common approach is to rate a review as "Helpful" or "Not Helpful" (Baek et al., 2012; Li et al., 2013). A helpfulness score is then calculated as the percentage of "Helpful" votes among all votes. Such a check-and-balance measure provides a certain degree of quality assurance, and allows readers to more quickly find helpful reviews among the thousands that may exist. Reviews with a higher number of helpfulness votes were found to have a higher correlation with sales (Chen, 2013; Chen et al., 2007).

In addition to being a quality assurance tool, helpfulness can also be regarded as a subjective measurement of the potential value of the information contained in a review. A review that influences potential customers could logically lead to a purchase. Theoretically, one could calculate the net economic value of a review by summing the net financial outcomes for all consumers who Download English Version:

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