

## How the Written Word Drives WOM

## Evidence from Consumer-Generated Product Reviews

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Consumer-generated product reviews are important sources of information for producers and consumers. This research includes two studies designed to investigate how language style, organizational structure, and other content features affect the perceived helpfulness of online product reviews. In study 1, researchers analyzed a data set of online product reviews regarding a consumer electronic device and identified content characteristics shared by helpful reviews. Study 2 used an experimental approach to probe the boundary conditions under which specific content features may or may not influence review helpfulness.

## INTRODUCTION

The phrase *word-of-mouth* (WOM) refers to “informal, person-to-person communication between a perceived noncommercial communicator and a receiver regarding a brand, a product, an organization, or a service” (Harrison-Walker, 2001). Compared to traditional marketing communication tools, WOM is perceived to be more trustworthy and relevant, is more likely to generate empathy, and can significantly reduce consumer resistance (Bickart and Schindler, 2001).

WOM has been described as “a dominant market force in the marketplace” (Mangold, Miller, and Brockway, 1999), and some researchers have suggested that WOM plays a significant role—often more than any other source—in influencing consumers’ perceptions of a firm (Allsop, Bassett, and Hoskins, 2007).

WOM advertising is a highly valuable tool for advertisers because WOM can serve both as a measure of advertising’s effectiveness and as a highly credible source of information about a new brand (Plummer, 2007). With the popularization of the Internet, WOM began to offer the promise of becoming an emerging advertising discipline (Plummer, 2007). Compared to traditional WOM, online WOM communication spreads at an unprecedented speed for a much lower cost. Moreover,

the Internet provides numerous venues for consumers to share their views and experiences.

Among many forms of online WOM communication, consumer-generated product reviews are growing in popularity for two reasons.

First, more and more consumers are willing to use their usage experience as grounds to offer advice and opinions about goods and services. A variety of motives drives such behavior, including the desire for social interaction, desire for economic incentives, the concern for other consumers, and the desire to enhance self-worth (Hennig-Thurau, Gwinner, Walsh, and Gremler, 2004). Research has shown that approximately one-third of broadband users have reviewed products or provided product ratings (Riegner, 2007).

The second reason for the growing popularity of online reviews is that an increasing number of consumers are using such online reviews as important information sources. According to an October 2008 survey, nearly 70 percent of Americans consult product reviews or consumer ratings before making a purchase (Ante, 2009). Research also has suggested that online reviews can shape consumer attitudes toward a product and, ultimately, influence sales (Chevalier and Mayzlin, 2006; Park, Lee, and Hall, 2007).

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WOM “adoption”—the attitude changes of a WOM receiver as a result of accepting what the communicator advocates—is an effective measure for WOM persuasiveness and is the most meaningful consequence of WOM communication for practitioners. Prior studies primarily have focused on either the consequences of WOM adoption (Chevalier and Mayzlin, 2006; Mangold et al., 1999) or the conditions under which consumers are likely to rely on WOM to make purchase decisions (Duhan, Johnson, Wilcox, and Harrell, 1997).

To date, scant attention has been paid to the content of WOM messages; few studies have investigated how message features influence WOM adoption. A possible explanation might be the lack of documented WOM discourse because traditional WOM communication occurs verbally and incidentally. Now that consumers use the Internet to communicate with one another in writing, marketers have many more opportunities to examine the nature and effects of WOM communication (Hung and Li, 2007).

The main purpose of this research, therefore, is to examine how the language style, organizational structure, and other content features of consumer-generated, online product reviews affect review adoption.

This research includes two studies:

- In study 1, the authors analyzed a data set of online product reviews regarding a consumer electronic device and identified the content features that positively or negatively influenced review adoption.
- Study 2 used an experimental approach to probe the boundary conditions under which some effects observed in study 1 may or may not have occurred.

Both studies used review “helpfulness ratings” as a proxy for review adoption

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and as the primary dependent variable, because the actual behavior of review adoption is not observable online, and prior research has suggest that perceived review helpfulness could predict review adoption effectively (Davis, 1989; Sussman and Siegal, 2003).

### **THEORETICAL FRAMEWORK**

The elaboration likelihood model (ELM) probably is the most influential theoretical framework in the persuasion literature because it integrates research findings related to source, message, recipient, and contextual effects (Petty and Cacioppo, 1986). According to the ELM, people’s motivation and ability to assess the central merits of a message can trigger qualitatively different processing styles.

When people are highly motivated and more able to assess a message, they are more likely to engage in effortful elaboration of the message so that the resulting attitude change largely depends on argument quality (know as the “central route”). As elaboration decreases, peripheral cues, such as source credibility and source attractiveness, become increasingly important in shaping the attitudes of the message receiver (known as the “peripheral route”).

Drawing upon the ELM, Sussman and Siegal in 2003 proposed an “information-adoption” model. They studied the adoption of administrative advice that was sent via e-mail and found that both argument quality and source credibility significantly influenced adoption intention, and these effects were mediated by the usefulness

of the advice perceived by information recipients.

Similarly, in studies of technology adoption, in 1989, Davis had found that perceived usefulness of a new technology was a key predictor for user-adoption intentions. Based on the information-adoption model (Sussman and Siegal, 2003), this research proposed that both argument quality and source credibility were positively related to perceived helpfulness of a review.

Although the persuasion literature has not directly addressed the issue of argument quality (Petty and Wegener, 1998), empirical studies in the domain of information systems have made substantial efforts to identify the factors that contribute to creating a cogent argument. Lacking a consistent definition, researchers measured argument quality on diverse dimensions, including argument accuracy, completeness/comprehensiveness, timeliness, relevance, reliability, consistency, and readability, among others (e.g., Aladwani and Palvi, 2002; DeLone and McLean, 1992; Sussman and Siegal, 2003). In addition to this inconsistency, these measures were fairly subjective in character because most studies directly asked users to rate these dimensions on a Likert scale or a semantic-differential scale (DeLone and McLean, 1992).

“Source credibility” refers to the perceived ability and motivation of a message source to provide accurate, truthful information (Kelman and Hovland, 1953). Credible information sources generally enhance the persuasiveness of a message

and induce more immediate attitude changes (e.g., Pornpitakpan, 2004). Most studies of source credibility have focused on two dimensions: source expertise and trustworthiness. Expertise refers to the perceived ability of the source to make correct assertions, and trustworthiness is more related to the motives of the source to provide information. Similar to argument quality, source credibility usually is measured by asking recipients to directly rate the perceived competence and trustworthiness of the source (e.g., Sussman and Siegal, 2003).

Because the existing measures for argument quality and source credibility cannot be properly applied to online-review analysis, the authors have developed a new set of measures for the two constructs based on the message features of product reviews. They primarily drew upon the communication literature to identify

meaningful message features, and also considered the constraints of text-based communication when designing the measures (See Figure 1).

#### ARGUMENT QUALITY

The authors' research identified four dimensions to measure argument quality:

- Ease of comprehension
- Evidence presence
- Opposing viewpoints
- Comprehensiveness.

#### Ease of Comprehension

Ease of comprehension is important for persuasion because comprehension is an antecedent to persuasion. Research suggests that ease of comprehension is positively related to acceptance of a recommendation (Eagly, 1974). Owing to online reading patterns, ease of comprehension is

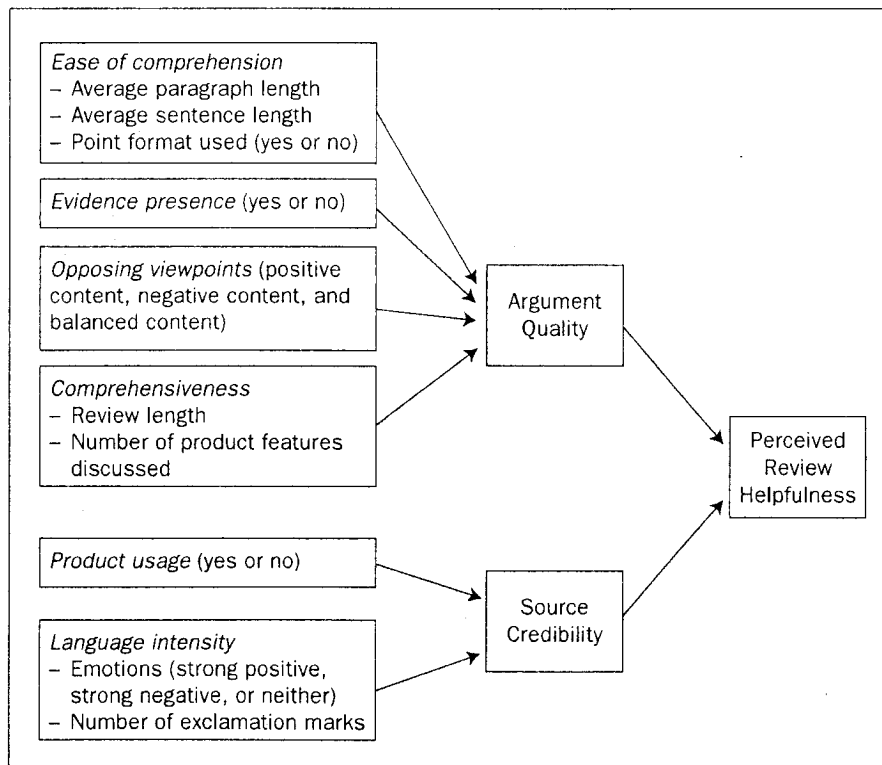
## Ease of comprehension is important for persuasion because comprehension is an antecedent to persuasion.

essential for online information processing. People rarely read Web pages word by word; instead, they scan the page and pick out individual words and sentences (Nielsen, 1997). Online users behave in this way because they are busy, multi-tasking, and overloaded with information, but they are also very task-oriented and focus on the question that they want to answer (Redish, 2007). As a result, ease of comprehension becomes a critical factor in determining the influence of any form of online, text-based communication.

Linguistic research shows that lengthy sentences with more complex grammatical structures are more difficult to understand and are less persuasive, and this effect is particularly strong with strong arguments (Lowrey, 1998). Moreover, longer messages are likely to decrease perceived message clarity and argument quality (Hamilton and Mineo, 1998). In addition to message length, the format of writing also affects the ease of comprehension. For instance, point-format is recommended for Web-page writing because it is easily scanned and eyes can move quickly across and between sections (Nielsen, 1997; Redish, 2007). Consequently, both message length and writing format can influence ease of comprehension.

#### Evidence Presence

Information credibility particularly is important for online-review readers



**Figure 1** Theoretical Framework

because they cannot clarify who is providing the information and whether the source can be trusted (Nielsen, 1997). Previous studies have suggested that evidence presence plays a crucial role when people assess information credibility in text-based communication (e.g., Reynolds and Reynolds, 2002). Based on a meta-analysis, as much as 26 percent of variance in persuasion could be attributed to the use of legitimate quotations (Reinard, 1998). Legitimate evidence is not limited to information cited from scientific articles, which rarely is seen in consumer-generated product reviews, but consists of relevant information that supports the reviewer's claims, such as anecdotal evidence related to a specific instance (Cox and Cox, 2001; Slater, 2002).

#### Opposing Viewpoints

Another important issue in message features concerns one-sided versus two-sided messages. A one-sided message presents information that supports only one side of an issue; a two-sided message considers both sides. For instance, a two-sided product review covers both the strengths and weaknesses of the product. Based on a meta-analysis, the persuasiveness of a two-sided message largely depends on whether or not the communicator clearly favors one side over the other (Allen, 1991). Across the literature, two-sided messages that indicated a clear preference were more effective than one-sided messages; two-sided messages that failed to indicate a specific opinion were less effective than one-sided messages. These findings suggest that, when consumers read product reviews, their evaluations of a review will be influenced by whether the reviewer clearly states his or her position.

#### Comprehensiveness

Comprehensiveness also is an important criterion for argument quality. The

measures for comprehensiveness, however, have been inconsistent and subjective. Most previous studies have relied on subjective user ratings of information comprehensiveness or sufficiency (DeLone and McLean, 1992; Sussman and Siegal, 2003). This current research used more observable and objective measures to evaluate the comprehensiveness of online product reviews.

#### SOURCE CREDIBILITY

##### Product Usage

Similar to argument quality, source credibility also can be measured by multiple dimensions. Prior research found that consumers use product-usage experience and product ownership to infer product expertise, which further influences source-credibility perception (Gilly, Graham, Wolfenbarger, and Yale, 1998). Review readers, therefore, can use a reviewer's self-disclosed product ownership or usage experience to assess the reviewer's usage experience with the product.

##### Language Intensity

Language intensity is associated with source trustworthiness. Although social cues about information sources are less accessible (or less salient) in a virtual community, past studies have suggested that people can infer source trustworthiness from stylistic features of messages.

For example, intense language that includes emotion-laden words (i.e., *excellent* and *horrible*) or specific, graphic language (*astronomical* and *completely*) can imply that the source holds an extreme position on an issue (Bowers, 1963). Showing an extreme position negatively impacts the perceived source competence and, consequently, reduces persuasive power, especially when the advocated position conflicts with the existing position of a recipient (Buller, Borland, and Burgoon, 1998).

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Psycholinguistic studies (e.g., Cliff, 1959; Jones and Thurstone, 1955) also have assessed the intensity value of some specific adverbs (e.g., "slightly" and "extremely"); adjectives (e.g., "pleasant," "disgusting"); and phrases (e.g., "best of all," "don't care for it"). These studies provide useful guidelines regarding how to identify intense language in the reviews.

#### STUDY 1: READER REVIEWS OF AMAZON'S KINDLE

##### Data and Measurement

The data consisted of online consumer reviews of the Amazon Kindle, which is a wireless eBook reader that allows users to download and read books, newspapers, and blogs.

Amazon.com introduced the Kindle to U.S. consumers in November, 2007. Since then, consumers have posted reviews and comments about the Kindle on Amazon.com. Up to February 25, 2008, the Web site had received 1,793 individual reviews. Each reviewer provided an overall evaluation using a 1- to 5-star scale and a qualitative product review. Readers also could evaluate the helpfulness of a review on a dichotomous scale ("Yes" or "No"), and they could post comments after the review as well (See Figure 2).

For study 1, only the reviews that had been evaluated by at least 50 readers (i.e., in the statement "*m* of *n* people found the following review helpful,"  $n \geq 50$ ) were selected, for a total of 737 reviews for analysis.

250 of 294 people found the following review helpful:

☆☆☆☆ **New paradigm**, November 19, 2007

By **Mark L. Whitehead** - [See all my reviews](#)

REAL NAME

I have been one of the beta testers for this product. At first I thought "Who needs this when you can read a book?" Wrong! I will never forget the Sunday evening when my wife and I (also a beta tester) were sitting in the living room when our brains shifted. This device represents a new way to access information. If it was only a "book reader" I doubt Amazon would have been interested. It downloads new material, books, newspapers, magazines, blogs, etc. nearly instantly. The search function reviews all the books on the device plus the web. I love it. I can read a book easily look up a word I don't know in the dictionary and then find other related material in my library or on the web. It is easy to use and light weight.

If you want a book reader it does this well, as does the Sony Reader and other devices. If you want to experience a new way of obtaining, reading, and accessing information, this is the new wave.

Help other customers find the most helpful reviews [Report this](#) [Permalink](#)

Was this review helpful to you?  Yes  No [Comment \(1\)](#)

## Figure 2 An Example of a Kindle Review

The Kindle data were particularly suitable for this research for three reasons:

- First, research has shown that consumers are more likely to consult other buyers' views when they consider purchasing a product that is more expensive and more complex to use, such as consumer electronics (Riegner, 2007). The Kindle is exactly such a product.
- Second, at the time of its launch, the Kindle was a revolutionary eBook reader. Although there were other similar products available in the market before the Kindle (e.g., Sony eBook Reader), the Kindle incorporated cutting-edge display technology (i.e., "electronic" paper), wireless access, and other innovative designs and functions. Because of the novelty of the product, potential buyers seeking opinions and knowledge tended to turn to those who have purchased or used the Kindle. In other words, product reviews from other consumers provided a particularly important information source in this case.
- Finally, the distribution of early product ratings was fairly balanced. Of the 737 reviews studied by the authors, 217 rated the Kindle with "five stars," 67 with "four stars," 78 with "three stars," 100 with "two stars," and 275 with "one star."

Study 1 involved intense content analysis. Two native-English speakers were recruited as independent judges. They were blind to the study purpose, and they were given extensive training before starting to work. They first familiarized themselves with the coding scheme and then received review samples for practice until their initial inter-judge agreement reached an acceptable level (Rust and Cooil, 1994).

To ensure work quality, the judges initially coded for the 100 most helpful reviews and the 100 least helpful reviews in the data set and then compared coding results and resolved disagreements before the start of the rest of their coding work. After the training, the two judges coded for the same variables but worked independently. When disagreements arose, the two judges reexamined the reviews and resolved disagreements through discussion.

The next section describes how each construct in Figure 1 was operationalized in study 1.

### Study 1 Measures for Argument Quality

**Ease of Comprehension.** Study 1 used three variables to measure ease of comprehension:

- Average paragraph length
- Average sentence length

- The use of a point format (e.g., bullet points or numbered list with 1 to 5), transitional words (e.g., "first," "second"), or separate paragraphs to organize the argument and to discuss distinct ideas.

The first two variables were average number of words in a paragraph and in a sentence, respectively, and were obtained by using the Word Count feature on computers. A natural log transformation was used to rescale both of them. The third variable was a dummy variable assessed by the two independent judges. Reviews containing either bullet points, number lists, transitional words, or separate paragraphs to discuss distinct ideas were coded as "1." Reviews without any of these features were coded as "0." The level of initial inter-judge agreement for the third variable was 76 percent, suggesting 72 percent reliability (Rust and Cooil, 1994).

**Evidence presence.** Evidence presence was a dummy variable defined by whether the reviewer presented evidence to support his or her positions. The level of initial inter-judge agreement was 93 percent, suggesting 93 percent reliability.

**Opposing Viewpoints.** Each review was categorized as "balanced" or

“unbalanced” based on whether the reviewer clearly stated his or her position. Specifically, a review was coded as balanced if the reviewer presented both favorable and unfavorable comments but did not indicate a clear preference or clear support for the product. Reviews that indicated a specific opinion were identified as unbalanced and were further categorized as either positive or negative, depending on whether or not the reviewer recommended the product.

Hence, the two judges coded the variable “opposing viewpoints” into three levels: positive content, negative content, or balanced content. The level of initial inter-judge agreement was 85 percent, suggesting 88 percent reliability.

Two dummy variables represented this categorical variable. The first dummy variable, “positive content,” was equal to 1 if the content was positive; otherwise, it was 0. The other dummy variable, “negative content,” was equal to 1 if the content was negative; otherwise, it was 0.

**Comprehensiveness.** Study 1 used two variables to measure the comprehensiveness of a review:

- Review length expressed in number of words
- Number of product features discussed in the review.

The first variable was simply word count. To identify the specific product features addressed, the research team read the 100 most helpful reviews in the data set and found all the product features that were discussed at least once. As a result, the authors listed 11 of the most frequently mentioned features and created a category named “others” that included all the features that were occasionally mentioned (see Appendix A).

The two judges identified which of the 12 features was mentioned in each review. The levels of initial inter-judge agreement ranged from 80 percent to 97 percent, with an average of 89 percent. The reliability levels ranged from 77 percent to 97 percent, with an average of 88 percent. Both of these two variables were rescaled via a natural log transformation.

#### Study 1 Measures for Source Credibility

**Product Usage.** A dummy variable was used to measure the reviewer’s self-disclosed Kindle usage experience. If a review articulated that the reviewer either owned a Kindle or had used someone else’s Kindle (e.g., owned by a friend or a family member), the review was coded as “1.” Otherwise, it was coded as “0.” Reviewers who did not articulate any usage experience were considered non-users. The two judges coded this variable, and the level of initial inter-judge agreement was 96 percent, suggesting 96 percent reliability.

**Language Intensity.** Three variables were used to identify intense language in the review:

- Number of exclamation marks used in the review
- Whether the reviewer showed strong positive emotions in the review
- Whether the reviewer showed strong negative emotions.

The first variable was direct count, which was rescaled via a natural log transformation. The second and the third were dummy variables coded by the two judges. The levels of initial inter-judge agreement were 93 percent and 83 percent, respectively, suggesting 93 percent and 81 percent reliability levels. Some example reviews are provided

in Appendix B to illustrate the coding scheme.

**Perceived Helpfulness.** For reviewed products, Amazon.com provides information about the number of readers who rated the review and how many of those readers rated the review as “helpful.” Perceived helpfulness, as an aggregate measure, was captured by the percentage of evaluating readers who rated the review as helpful.

In addition to a qualitative product review, reviewers also indicated an overall rating of the Kindle on a 5-star scale. These ratings were included in the model as a control variable after they were natural-log transformed. As a summary, the descriptive statistics for all the foregoing variables, including their transformations, are provided in Table 1.

#### Study 1 Model

The model tested whether the helpfulness of consumers’ reviews,  $\eta_i$ , was influenced by the independent variables, where  $i$  indexes the review ( $i = 1, \dots, 737$ ). The independent variables are written as  $x_j$  ( $j = 1, \dots, 13$ ), and they include the message features described above and the overall product ratings. Hence  $\eta_i$  is written as follows:

(Linear Predictor)

$$\eta_i = \beta_0 + \beta_1 x_{1i} + \dots + \beta_j x_{ji} = \sum_{k=0}^j \beta_k x_{ki}. \quad (1)$$

There is no direct measure for the helpfulness variable,  $\eta_i$ , so this variable is latent in the model. Instead, for the  $i$ th review, the percentage of people who found the review helpful can serve as the dependent variable. This variable ranges from 0 to 1 and is written as  $y_i$ . Associated with this dependent variable is the number of readers,  $a_i$ , who evaluated the review. In other words, for the  $i$ th review,  $y_i$  is the percentage of readers who rated the review as helpful, and  $a_i$  is the number

**TABLE 1**  
Summary Statistics for Variables in Study 1

	Count ( <i>n</i> = 737)	Mean	Median	Minimum	Maximum	Standard Deviation	Transformation for the Model
<b>Dependent Variables</b>							
Number of readers		143.039	75	50	14750	640.788	
Percentage of helpfulness		45.318	29.167	0	98.75	36.252	
<b>Independent Variables</b>							
Average paragraph length		65.299	52	4	80	260.068	Natural Log
Average sentence length		16.251	15.6	3	77	6.061	Natural Log
Review length (words)		245.703	151	4	2177	271.77	Natural Log
Number of features		3.313	3	0	11	2.349	Ln (Number of features + 1)
Number of exclamation marks		1.019	0	0	20	2.279	Ln (Number of exclamation + 1)
Overall rating		2.798	2	1	5	1.691	Natural Log
Point format used	203						
Evidence presence	705						
Positive content	248						
Negative content	422						
Kindle usage	308						
Strong positive emotions	65						
Strong negative emotions	181						

of evaluating readers. So  $a_i y_i$  is the total number of evaluating readers who found the  $i$ th review helpful. For the dependent variable, it is natural to model the number of successes  $a_i y_i$  as binomially distributed with  $a_i$  readers and probability of being helpful,  $p_i$ .

(Distribution Assumption)

$$a_i y_i \sim \text{binomial}(a_i, p_i), i = 1, \dots, 737. \quad (2)$$

Next, the relationship between the probability of being helpful,  $p_i$ , and the underlying helpfulness,  $\eta_i$ , needs to be specified. Intuitively,  $p_i$  (a latent variable that ranges from 0 to 1) should be an increasing function of  $\eta_i$  (a latent variable that ranges from  $-\infty$  to  $\infty$ ). In principle, many functions could have served but, because of its tractability,

a logit function is used to link  $p_i$  and  $\eta_i$ , which is commonly used with binomially dependent variables in this type of model (McCullagh and Nelder, 1989):

(Link Function)

$$p_i = \frac{e^{\eta_i}}{1 + e^{\eta_i}}. \quad (3)$$

Overall, equations (1), (2), and (3) describe the statistical model. The equation in (1) was estimated using the binomial case of the generalized linear model (McCullagh and Nelder, 1989). In the terminology of the generalized linear model, equation (1) is the linear predictor, equation (2) is the distributional assumption, and equation (3) is the link function. The estimation was done using the GLM

procedure in the software package R, version 2.4.0.1 (see Venables and Ripley, 2002, for an overview).

### Study 1 Results

The coefficient estimates are listed in Table 2.

#### • Impact of Ease of Comprehension

Average paragraph length was negatively associated with helpfulness perception ( $p < 0.001$ ). The other two measures of ease of comprehension—average sentence length and the use of point format—were not significant ( $p > 0.1$ ). One possible explanation for the lack of significant impact of sentence length is that most sentences in the reviews were moderate in length (see Table 1).

**TABLE 2**  
Parameter Estimates in  
Study 1

Independent Variables	Parameter Estimates <sup>a</sup>
(Intercept)	-3.757***
Average paragraph length	-0.244***
Average sentence length	-0.212
Point format used	0.120
Evidence presence	0.992**
Positive content	1.118***
Negative content	-0.107
Review length (words)	0.677***
Number of features	0.280**
Kindle usage	1.038***
Number of exclamation marks	-0.381***
Strong positive emotions	0.545**
Strong negative emotions	-0.358***
Overall rating	0.064
Null Deviance (736 degrees of freedom) <sup>b</sup>	66691
Residual Deviance (723 degrees of freedom)	12881

\*\*\* is significant at the 0.001 level; \*\* is 0.01 level; \* is 0.05 level

<sup>b</sup> The deviance is twice the log-likelihood ratio of testing a model (either the null model with only an intercept or the full model) against an unrestricted model. As a quasi-R-squared,  $1 - (\text{residual deviance}/\text{null deviance})$  is a good indicator of model performance and it is 0.807 in the authors' model, suggesting an acceptable level of goodness-of-fit. This statistic only provides a heuristic evaluation of the model because the formal properties of R-squared and related statistics do not hold or only hold as approximations.

**Although using existing data sets increased the external validity of the research, this approach left little room to test the boundary conditions for the observed effects to occur or to explore the underlying mechanism of these effects.**

Likewise, the length of more than 60 percent of reviews was fewer than 500 words, which may explain why the use of point format did not make a significant difference.

- **Impact of Evidence Presence**  
As expected, offering supporting evidence significantly made a review more helpful ( $p < 0.01$ ).
- **Impact of Opposing Viewpoints**  
The expectations for the impact of opposing viewpoints were partially supported. Consistent with prior studies, an overall positive review was more likely to be helpful ( $p < 0.001$ ) compared to a balanced review. However, negative reviews did not have higher helpfulness ratings than balanced reviews.
- **Impact of Comprehensiveness**  
Two variables that were used to measure comprehensiveness—review length and the number of Kindle features discussed—both were positive and significant at the 0.01 level, which indicated that a comprehensive review was more likely to be perceived as helpful by review readers.
- **Impact of Source Credibility**  
First, the reviewer's usage experience of the product was a significant factor ( $p <$

0.001), and readers gave more credit to reviewers who had used the Kindle.

Second, although readers were expected to prefer objective opinions and to discredit views contaminated with strong emotions, the results suggest the opposite: readers appreciated strong positive emotions shown in a review ( $p < 0.01$ ), and they discounted only information embedded in strong negative emotions ( $p < 0.001$ ). In addition, the use of exclamation marks impaired the perceived helpfulness in general ( $p < 0.001$ ).

The control variable (i.e., the product rating given by the reviewer) did not significantly affect perceived helpfulness in the model.

**Discussion of Study 1**

Study 1 explored which message features contribute to the helpfulness of product reviews using real-world reviews and helpfulness ratings.

The results indicate that helpful reviews exhibit five discernable characteristics:

- They were comprehensive and easy to read.
- They were provided by reviewers who have usage experience with the product.
- They presented supporting evidence for arguments.
- They provided positive information about the product.

- They may have contained strong positive emotions but not strong negative emotions.

## STUDY 2: REVIEWS OF A PERSONAL RESPONSE SYSTEM

Although using existing data sets increased the external validity of the research in study 1 of the Amazon Kindle, this approach left little room to test the boundary conditions for the observed effects to occur or to explore the underlying mechanism of these effects.

The purpose of study 2, therefore, was to complement study 1 by using an experimental approach because laboratory settings enable the authors to better control the conditions under which reviews are evaluated and, thus, provide a better understanding of the factors contributing to the observed effects.

Study 2 focused on two message features that affect review helpfulness: information valence and emotional strength. Study 1 found that review helpfulness was

- positively related to positive information and strong positive emotions, and
- negatively related to strong negative emotions.

Based on prior research, the authors identified two factors that may influence the effects of these two features on helpfulness ratings.

- Factor 1: The reader's *prior attitude* toward the product being reviewed.

Prior studies found that people receiving new information tended to prefer messages that confirmed their prior beliefs (Lord, Ross, and Lepper, 1979; Munro and Stansbury, 2009). One recent study shows that consumers exhibited such a confirmation bias when they processed product information.

Specifically, consumers who held positive brand attitudes prior to brand evaluation were found to perceive positive (as opposed to negative) information to be more relevant and helpful (Ahluwalia, 2002).

Prior positive attitudes, therefore, may lead review readers to evaluate positive comments more favorably. This may help explain why study 1 found that readers preferred positive Kindle reviews. Most consumers may not access product reviews unless they are considering the purchase of the product. In other words, most readers already may have developed positive attitudes toward the product before they started reading and, therefore, they assigned greater weight to information that confirms their prior beliefs.

- Factor 2: *Involvement*

Prior research suggested that sensing strong emotions in another person's opinion negatively affected source trustworthiness and competence (Bowers, 1963; Buller et al., 1998). Moreover, the ELM model suggested that recipients were more likely to form their perceptions based on source credibility when their motivation to process information is lower.

Taken together, these two research streams suggest that the negative effect of emotional strength on review helpfulness may depend on the involvement level of readers. When the involvement level is high, the negative effect of emotional strength is mitigated because highly involved readers tend to base their evaluations primarily on the information itself.

Interacting effects between prior attitudes and involvement also can be expected. In the literature, the most researched form of involvement

## In the literature, the most researched form of involvement corresponded to accuracy motivation.

corresponded to accuracy motivation. The intent of forming an accurate judgment was accompanied by a relatively impartial, open-end processing of information and, thus, reduced confirmation bias (Chen, Schechter, and Chaiken, 1996). Evidence indicated that the biasing effect of prior attitudes was attenuated when the involvement level was high (Ahluwalia, 2002).

Prior research, therefore, suggests a three-way interaction between involvement, prior attitudes, and information valence.

### Study 2 Design and Stimuli

Study 2 employed a 2 (involvement: high versus low) × 2 (prior attitude: positive versus negative) × 2 (information valence: positive versus negative) × 2 (emotional strength: weak versus strong) mixed design.

Involvement and prior attitude were between-subjects factors, and the other two were within-subjects factors. The authors used within-subjects design for messages to capture the actual experience of review readers in the real world. Participants were 104 university students from an American university.

The product was a hypothetical brand ("InterSmart") of an electronic personal response system (PRS). A PRS combines wireless hardware with presentation software to allow interactive activities between a speaker and individual audience members (e.g., a professor and his or her students within a classroom). Each

member of the audience uses a hand-held remote control to convey individual, private responses to questions, and the system records their answers for display on a computer screen that can be projected on a wall for the audience to view. The authors chose to use a hypothetical brand to make sure that prior attitude can be effectively manipulated.

They conducted several pre-tests to develop message stimuli. The final pre-test employed a 2 (information valence: positive versus negative)  $\times$  2 (emotional strength: weak versus strong) within-subjects design, and 57 students read the four messages in a randomized order (see Appendix C). They used a 7-point Likert scale to indicate the extent to which they agree with the two statements: "The review presents positive information" and "the review presents negative information" (reverse-coded).

The two items were highly correlated ( $\gamma$  ranges from 0.76 to 0.91,  $p < 0.001$ ), and the authors generated an index of information valence by averaging the scores of the two items. A repeated-measures analysis of variance (ANOVA) with the valence index as the dependent variable and with information valence and emotional strength as the explanatory factors revealed a significant main effect of information valence ( $F(1, 56) = 1322.45$ ,  $p < 0.001$ ) and a significant interaction between information valence and emotional strength ( $F(1, 56) = 29.71$ ,  $p < 0.001$ ).

Further analysis suggested that the presence of strong emotion polarized information valence; specifically, participants perceived a positive review as more positive and a negative one as more negative if strong emotions were present.

To test emotional strength, the authors selected six items from the positive and negative affect schedule scales (Watson, Clark, and Tellegen, 1988) and asked participants to indicate their agreement with

the statements "The reviewer is interested in/excited about/enthusiastic about InterSmart" for positive reviews and "The reviewer is upset about/hostile to/irritated by InterSmart" for negative reviews.

The authors formed an index of positive emotions (average  $\alpha = 0.76$ ) and an index of negative emotions (average  $\alpha = 0.65$ ) by averaging the scores. Results suggested that participants perceived significantly stronger emotions when emotions were strong (versus weak) regardless of valence (positive emotions:  $F(1, 56) = 121.24$ ,  $p < 0.001$ ; negative emotions:  $F(1, 56) = 40.03$ ,  $p < 0.001$ ).

### Study 2 Procedure and Measures

In the main study, participants first read general information about the PRS and saw a diagram that illustrated how the system worked. Next, they learned that there was a new brand of PRS available in the market, named "InterSmart."

At this point, the authors introduced the manipulation of prior attitude. Participants under the positive-attitude (versus negative-attitude) condition learned that InterSmart was much more (versus less) user-friendly than any of the older systems and that 90 percent of the professors who used InterSmart agreed that it significantly enhanced (versus impaired) classroom productivity.

The authors then measured the study participants' attitudes toward the product on a seven-point semantic differential scale: InterSmart is bad/good, unfavorable/favorable, dislike/like, useless/useful, and undesirable/desirable.

The authors next manipulated involvement by informing half of the participants (the high-involvement condition) that their university was considering using InterSmart and by informing the other half (the low-involvement condition) that InterSmart was available only in the European market and would not be available

in the United States in the near future. The authors adapted these manipulations from prior studies (e.g., Desai, Kalra, and Murthi, 2008; Petty, Cacioppo, and Schumann, 1983).

The next step was to ask all participants to read four product reviews allegedly written by InterSmart users and to answer the same set of questions after each review. To avoid order effects, the authors generated 24 message review orders for each of the 2 (prior attitude)  $\times$  2 (involvement) conditions.

In total, the study included 96 different reviews. After each review, participants provided helpfulness ratings ("the review is very helpful") and also rated source credibility on both expertise ("the reviewer is knowledgeable about InterSmart") and trustworthiness ("the reviewer is trustworthy"). All these measures used 7-point Likert scales.

At the end, the authors measured participants' involvement level with a seven-point semantic differential scale adopted from prior studies (e.g., Chakravarti and Janiszewski, 2003; Zhang and Markman, 2001). The measure had two parts and included eight items. The authors asked participants to think about their reading process and to indicate the extent to which they had been interested in the reading, had absorbed the information, and had thoroughly read the review. Participants were also asked to evaluate the review by indicating how important, relevant, interesting, involving, and valuable the information was.

### Study 2 Results

The authors first generated an attitude index ( $\alpha = 0.93$ ) and an involvement index ( $\alpha = 0.89$ ) by averaging the scores, and conducted 2 (prior attitude)  $\times$  2 (involvement) ANOVA analyses to test if the manipulations worked as expected.

Results showed that the manipulations were effective. When the dependent

variable was the attitude index, only the main effect of prior attitudes was significant ( $F(1, 100) = 73.06, p < 0.001$ ) and, for the involvement index, only the main effect of involvement was significant ( $F(1, 100) = 5.75, p < 0.05$ ).

The authors then conducted a  $2 \times 2 \times 2$  multivariate analysis of variance (MANOVA) to test how these factors influenced helpfulness ratings (See Table 3). The results revealed a main effect of information valence and a main effect of emotional strength. More specifically, participants generally preferred positive reviews (mean<sub>positive\_review</sub> = 4.89, mean<sub>negative\_review</sub> = 4.63) and the reviews that did not contain strong emotions (mean<sub>neutral\_review</sub> = 5.06, mean<sub>emotional\_review</sub> = 4.46).

More important, a three-way interaction (i.e., involvement  $\times$  information valence  $\times$  emotional strength) was also significant. When the involvement level was low, only the main effect of emotional strength was significant ( $F(1, 54) = 20.18, p < 0.001$ ), suggesting that participants

perceived reviews containing strong emotions as less helpful (See Figure 3). When the involvement level was high, however, the effect of emotional strength was significant ( $F(1, 48) = 16.13, p < 0.001$ ); so was the effect of information valence ( $F(1, 48) = 6.88, p < 0.05$ ). Moreover, the interaction effect also was significant ( $F(1, 48) = 7.66, p < 0.01$ ), suggesting that the negative effect of emotional strength depends on information valence.

Specifically, when the involvement level was high, participants significantly lowered the helpfulness ratings if the review contained strong negative emotions, whereas they did not respond to strong positive emotions in the same way. In other words, highly involved readers exhibited much higher tolerance toward strong positive emotions compared to strong negative emotions (See Figure 3).

In addition, another three-way interaction, (i.e., prior attitude  $\times$  involvement  $\times$  information valence) was marginally significant. Under the low-involvement condition, prior attitude or information

valence did not show any impact on review helpfulness (all  $p$  values  $> 0.05$ ; See Figure 4). Under the high-involvement condition, however, positive reviews in general were perceived as more helpful compared to negative reviews ( $F(1, 47) = 6.83, p < 0.05$ ). Further analysis revealed that the main effect primarily was driven by readers with negative attitudes ( $F(1, 24) = 5.59, p < 0.05$ ). Planned tests also showed that, consistent with Ahluwalia (2002), participants with positive attitudes tended to prefer positive reviews over negative reviews across the two involvement levels ( $F(1, 50) = 4.45, p < 0.05$ ).

The results also replicated Ahluwalia's 2002 findings in that the biasing effect of positive attitudes was less pronounced under the high-involvement condition, as evidenced by a larger difference in helpfulness ratings under the low-involvement condition (4.83 versus 4.48) compared to the high-involvement condition (4.77 versus 4.58). Conversely, participants with negative attitudes did not show a preference for either positive or negative reviews across the involvement levels.

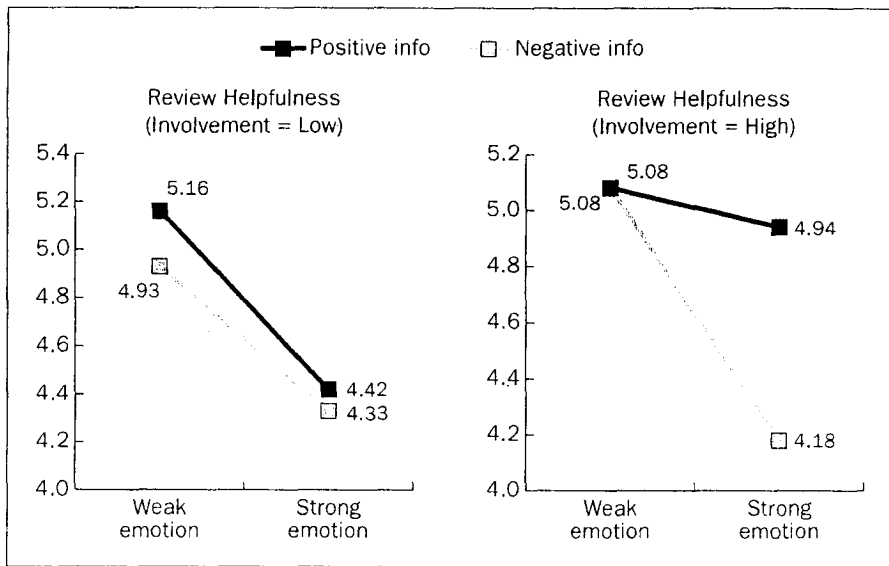
In all, these results suggest that the positive main effect of information valence was primarily attributable to the participants with positive attitudes and those with negative attitudes who were highly involved.

The authors also conducted a  $2 \times 2 \times 2$  MANOVA on the measures of source credibility. As noted in Table 3, only the main effect of emotional strength was significant for both expertise and trustworthiness. Consistent with prior studies, the results suggest that showing strong emotions significantly deteriorated source credibility.

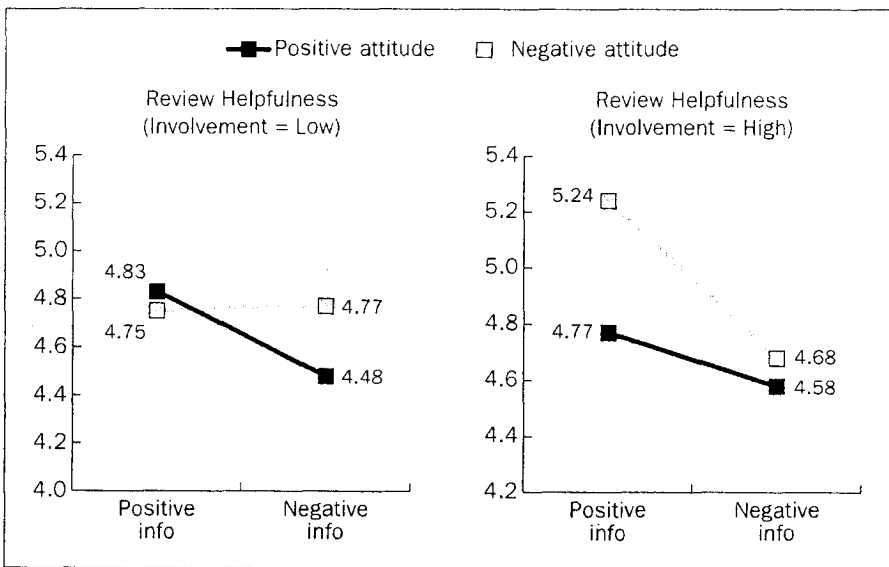
The authors generated an index for source credibility by averaging the ratings of expertise and trustworthiness, and then tested whether source credibility mediated the negative relationship between

**TABLE 3**  
MANOVA Overview

Dependent Variable: Perceived Helpfulness	F-value	p-value	Effect size (partial eta squared)
<b>Independent Variables</b>			
Information valence	6.94	=0.01	0.06
Emotional strength	35.92	<0.001	0.26
Prior attitude $\times$ Involvement $\times$ Information valence	3.27	<0.08	0.03
Involvement $\times$ Information valence $\times$ Emotional strength	5.02	<0.05	0.05
<b>Dependent Variable: Source Expertise</b>			
<b>Independent Variable</b>			
Emotional strength	33.94	<0.001	0.25
<b>Dependent Variable: Source Trustworthiness</b>			
<b>Independent Variable</b>			
Emotional strength	38.74	<0.001	0.28



**Figure 3** Three-way Interaction of Involvement x Information Valence x Emotional Strength



**Figure 4** Three-way Interaction of Prior Attitude x Involvement x Information Valence

emotional strength and review helpfulness. By following the steps recommended by Baron and Kenny in 1986, the authors found supporting evidence for the mediating role of source credibility (Sobel's test statistics = -5.62,  $p < 0.001$ ).

It is noteworthy that source credibility also mediated the relationship between emotional strength and review helpfulness when the involvement level was high (Sobel's test statistics = -2.52,  $p < 0.05$ ), suggesting that, even for highly involved

participants, inferred source credibility influenced their helpfulness ratings.

To estimate and compare the magnitude of the observed effects, the authors also calculated effect size (See Table 3). In an ANOVA, partial eta squared ( $\eta^2$ ) is a good indicator of effect size. According to the benchmarks set up by Cohen (1988), the effect is rated as *medium* if  $\eta^2$  is larger than 0.06 and rated as *large* if  $\eta^2$  is larger than 0.14.

The authors' results suggest that information valence had a medium effect on review helpfulness and that emotional strength exerted a much larger effect (i.e., four times the effect of information valence) on review helpfulness. Emotional strength also showed a very strong impact on perceived source credibility.

**Discussion of Study 2**

Study 2 focused on the effects of information valence and emotional strength on review helpfulness by using a laboratory experiment to explore how prior attitude and involvement level influence these effects. The results showed a general main effect of information valence.

Consistent with study 1, review readers judged positive reviews as more helpful than negative reviews. Further analysis indicated that this main effect primarily was attributable to two types of readers:

- Those with positive prior attitudes toward the product
- Those with negative prior attitudes and high involvement levels.

These findings replicate Ahluwalia's 2002 findings in that consumers preferred attitude-consistent positive information, and this preference was weakened when their involvement level was relatively high.

The authors are not aware of any prior research that has investigated the effect of

negative prior attitudes, but suspect that, in this study, highly involved participants with negative attitudes preferred positive information because such information explained why the university was considering the adoption of the system. It would be worthwhile to conduct future research to examine the underlying mechanism associated with the effect of negative attitudes.

In addition, study 2 indicated that showing strong emotions generally weakens source credibility, which, in turn, hurts review helpfulness. This negative effect disappeared, however, for strong positive emotions when review readers are highly involved.

As the authors already have argued, most consumers will not refer to product reviews unless they are considering the purchase of a product, so they are likely to be highly involved when they access the reviews. Although study 2 did not replicate the study 1 finding that showing positive emotions actually *increases* review helpfulness, evidence does suggest that readers respond much more favorably to strong positive emotions than to strong negative emotions, especially when the involvement level is high.

A possible explanation for the discrepancy is that study 1 involved real-world observations, so readers might have derived pleasure from the reading experience itself when the reviewer was passionate and provided upbeat comments. The induced positive mood may lead to higher evaluations of the review because a happy mood leads to more-positive judgments than a sad mood does (Schwarz and Clore, 2007). The mood effect may not have been noticed in the experiment (study 2) because the participants read only four reviews that were starkly different in emotional strength and, therefore, the effect of source credibility might have been more pronounced in their helpfulness judgments.

## GENERAL DISCUSSION

### Summary

How individuals exercise influence through communication is a question that has intrigued researchers for centuries. Although content features of discourse have been described as "one of the most intellectually exciting areas of the persuasion literature" (Dillard and Pfau, 2002), the content largely has been neglected in the WOM literature. This research, therefore, examined how language style, organizational structure, and other content features of online product reviews may affect perceived helpfulness of reviews and, thus, provide insight into the puzzle of how persuasion is accomplished in the virtual community.

Study 1 involved content analysis of online reviews regarding a consumer electronic device and found that, in general, review readers preferred a product review that was comprehensive and easy to read. They valued opinions from reviewers who had usage experience with the product, and they required supporting evidence for arguments. Readers also discounted reviews that contain strong negative emotions or that overused exclamation marks.

Conversely, readers appreciated strong positive emotions shown by the reviewers and preferred positive information about the product, which indicates that one of the motives of consumers to read online product reviews is to seek support for their purchase decisions.

Study 2 used an experimental approach to probe the boundary conditions under which the effects of information valence and emotional strength are more or less likely to occur. Results revealed a biasing effect of prior attitudes. Specifically, review readers with positive prior attitudes toward the product tended to prefer positive reviews over negative reviews, and readers with negative prior attitudes

## How individuals exercise influence through communication is a question that has intrigued researchers for centuries.

also evaluated positive reviews more favorably but only when they were highly involved.

In addition, readers generally discounted emotional reviews and were inclined to associate those reviews with less-credible information sources. Nevertheless, highly involved readers showed a much higher tolerance for strong positive emotions, and their helpfulness ratings remained unchanged as positive emotions became stronger.

Compared to study 2 results, the data in study 1 suggest that reviews with strong positive emotions may actually gain higher ratings, which can possibly be attributed to the difference in settings. In the real world, review readers may feel cheerful when reading emotionally expressive positive reviews, so their good moods might influence them to provide more favorable ratings.

### Marketing Implications

With the expansion of Internet technology and access, online consumer reviews are playing an increasingly important role in WOM advertising. Without a thorough understanding of how persuasive power is generated through online WOM, however, advertisers will encounter tremendous difficulty in practicing WOM advertising.

Traditional measures of information quality and source credibility primarily have relied on subjective ratings by message receivers, but such ratings were not available in most cases. Instead, this research developed a set of original, content-based measures that provided a new approach to assess the persuasiveness of WOM communication and, consequently, enabled marketers to predict the impact of a review and to identify the most helpful reviews on their Web sites.

Several reasons explain why marketers need a means to identify the most helpful reviews by themselves instead of simply relying on the helpfulness ratings from review readers. Unlike the Kindle used in this study, many products reviewed online do not receive as many active comments from review writers, nor do many product reviews get as many votes from review readers. For example, only 40 percent of more than 20,000 reviews of all MP3 player products on Amazon.com received three or fewer "helpfulness" votes (Kim, Pantel, Chklovski, and Penacchiotti, 2006). Newly written reviews also need considerable time to collect sufficient votes so that readers will pay attention to them. Moreover, less-popular Web sites may encounter more difficulties in obtaining helpfulness votes because review readers are less motivated to access those sites.

Facing these problems, marketers can benefit in at least two ways from the ability to assess the potential impact of consumer product reviews. On one hand, they can increase the usefulness of their Web sites as information sources for potential buyers by facilitating the process of obtaining the most useful information. For instance, they can arrange the reviews in the order suggested by the predicted helpfulness. On the other hand, because product reviews can provide valuable information about how to improve a product or

how to better communicate with the target market, marketers can learn from consumers more quickly and effectively by identifying the most influential voices in the community.

This research also can be used to improve other types of text-based WOM advertising, such as testimonial advertising. And more brands are using testimonial advertising to promote their products by having ordinary customers share their usage experience with others. When creating testimonial advertising for print media such as newspapers or magazines, advertisers face the challenge of presenting a testimonial that is perceived as useful and convincing by readers.

This research provides practicable advice to improve the persuasiveness of a testimonial statement:

- Use short sentences
- Offer evidence for claims
- Provide information on as many important features as possible
- Avoid the use of exclamation marks.

#### Limitations and Future Research

One limitation of this research concerns the representativeness of the helpfulness voters in the data set of study 1. They are not a randomly drawn sample from the reader population, so their helpfulness ratings do not necessarily represent the opinions of all readers.

Prior research suggested that a consumer group engaging in a particular WOM behavior was likely to exhibit specific characteristics. For instance, extremely satisfied and extremely dissatisfied consumers were more likely to initiate WOM transfers (Anderson, 1998). Therefore, those who provided votes were likely to be systematically different from other readers, but the authors cannot detect exactly what these differences were, based on the current data set. Though they call

for future studies to address this issue, the authors still believe that their mixed-method approach does provide strong support for their findings.

Another limitation relates to the lack of direct measures for the underlying constructs proposed in study 1. Because both argument quality and source credibility are not observable from online reviews, the Kindle data set did not allow the authors to conduct a confirmatory-factor analysis to test whether a certain message feature was loaded on the hypothesized factor (i.e., argument quality or source credibility). Although prior research findings lent support to the hypothesized relationships between specific features and underlying factors, future studies are needed to further test these relationships.

Finally, more research is needed to examine how two-sided arguments generate their persuasiveness power. The coding scheme used in study 1 did not provide sufficient information to answer this question, so future research should code the argument strength for both the positive and negative sides in a two-sided review and examine how the relative strength of opposing views may affect the persuasiveness of an argument statement. Alternatively, an experiment could be used to examine these effects by manipulating the relative strength of opposing views. With either approach, the persuasiveness of two-sided arguments provides a fruitful area for future investigation. **JAR**

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**APPENDIX A**

## The Kindle Features

<b>Features</b>	<b>Explanations</b>	<b>Examples</b>
<i>Price of Kindle</i>	Exact number or comments such as "expensive"	<ol style="list-style-type: none"> <li>1. You'll feel stupid paying \$400 for a device with these flaws.</li> <li>2. It doesn't help that the device is so expensive.</li> </ol>
<i>Price of content</i>	Price of e-books; cost of magazines, subscriptions, etc.	<ol style="list-style-type: none"> <li>1. Bestsellers are \$9.95, compared to \$16.95 Sony.</li> <li>2. Why do I have to pay nearly full price for an electronic book when I'm not paying for ink, paper, or distribution costs?</li> </ol>
<i>Amount of content</i>	Available Kindle e-books on Amazon; the subscriptions to magazines, newspapers, etc.	<ol style="list-style-type: none"> <li>1. Only up to 300 blogs.</li> <li>2. When you spend serious time looking at the Kindle store you'll be amazed really at how limited it is right now.</li> </ol>
<i>Body design</i>	Weight; design; screen color; whether the Kindle is easy to hold or not; Kindle cover or case; screen color	<ol style="list-style-type: none"> <li>1. It's uncomfortable to hold it without the book cover but I'll manage.</li> <li>2. Why is it white? Mine was dirty less than an hour after I got it.</li> </ol>
<i>Battery life</i>	The length of battery life, or how to make the battery last longer	<ol style="list-style-type: none"> <li>1. Battery life! This thing lasts much longer than your typical electronic device.</li> <li>2. The battery life indicator goes up and down at various rates depending on whether you are actively using the wireless.</li> </ol>
<i>Wireless connectivity</i>	Its coverage; its cost (free); comments on its convenience	<ol style="list-style-type: none"> <li>1. The download speed where I live is slower so I am not happy about this.</li> <li>2. The whispernet is fast and convenient; viewing my Gmail account took seconds.</li> </ol>
<i>Downloading speed</i>	Time length to download or comments such as "fast"	<ol style="list-style-type: none"> <li>1. I love how fast they download onto the Kindle itself.</li> <li>2. Entire books really do download in just a few seconds.</li> </ol>
<i>Format compatibility</i>	Document conversion; the ability of showing graphics; graphics quality	<ol style="list-style-type: none"> <li>1. The most common complaint seems to be lack of PDF support. Yeah, pretty dumb. But easily handled ...</li> <li>2. In the online versions of subscription content, I miss the extras like photos, comics, puzzles, letters to editor and such.</li> </ol>
<i>Readability</i>	Screen size; font (size, clarity); line space; brightness of screen; colorful view of magazines	<ol style="list-style-type: none"> <li>1. The crisp text and the variable font size all work together to make the experience while reading just fabulous.</li> <li>2. Why isn't there a backlight or built-in light?</li> </ol>
<i>Interface's ease of use</i>	Menu; tool-bar; keyboard layout; page-turning	<ol style="list-style-type: none"> <li>1. The interface is extremely intuitive and well-designed.</li> <li>2. The buttons are misplaced and extremely easy to hit by accident causing your page to flip unexpectedly.</li> </ol>
<i>Post-purchase service</i>	Experience in book purchases on Amazon; returning books on the Kindle; Kindle delivery; customer service calls	<ol style="list-style-type: none"> <li>1. I queried Amazon's very responsive Customer Service, and they responded (on a Sunday!) with this ...</li> <li>2. The Kindle store's shopping experience is very smooth, very transparent.</li> </ol>
<i>Other features</i>	Dictionary; email; MP3; Wiki; preview of books; digital rights management (DRM), and etc.	<ol style="list-style-type: none"> <li>1. The ability to preview a book is awesome. It's helped a lot in my buying decisions.</li> <li>2. Love the integrated Web and Wikipedia search.</li> <li>3. Happy about DRM? No, but now I will carry less weight when traveling and have more to choose.</li> </ol>

## APPENDIX B

### Review Examples for Some Variables

#### 1. OPPOSING VIEWPOINTS

##### (a) Positive content

I've had my Kindle 3 days, and I consider it perfect. I'm impatient with manuals, but Kindle let me blunder easily onto the correct responses to get what I want. The adjustable font size and the light weight are ideal for older readers, and the screen is easy to read. I hate reading things on my computer, but Kindle is so book-like I found myself starting to "turn the page" instead of clicking "next," automatically responding to what reads like a book.

I live in a forested area that doesn't get the cell signal, so I bought books via online, and when I went to town, it downloaded 5 books in a matter of seconds. Thanks Kindle!

##### (b) Negative content

###### *The Good:*

The screen is actually pretty nice on this device. This is one of those new style of paper screens that make it much easier to read on than on your PC, iPhone, or PDA. +1 points.

###### *The Bad:*

- Price. \$400 is way too much. -1
- The books you buy from Amazon are DRMed. This means that 10 years from now, you will probably not be able to read the books you buy. -1

###### *The Ugly:*

- No PDF support which makes it completely useless for most people who would like a device to review documents while traveling. -1
- This does not replace the book. What Amazon does not understand, is that I want something that could replace my

\*laptop\* so I can review work related PDF files without printing them out. I do not want something to replace my paperback novel which is cheaper, more durable, has infinite battery life, and I'll be able to read 20 years from now. -1

Starting with an assumed 5 stars: 5 + 1 - 1 - 1 - 1 - 1 = 2.

##### (c) Balanced content

I generally read reviews to get a better understanding of how an item is received by people who have first-hand experience with it. So when I read a review by someone who has not seen or touched the Kindle and limits his/her comments to only complaining about the price, I ask myself why is s/he wasting my time. He is not telling me anything I don't already know about the item. To mention the price in perspective with Kindle's attributes is OK. But to just whine about the price ... it makes a useless review.

I have had my Kindle now for 5 days. Here is what I like about it:

- Superb display
- Very easy learning curve
- Very easy to use.

Here's what I don't like about it:

- The fit and finish of the plastic parts is not very good, making it look kind of cheesy on close inspection.
- The balance in the hands leaves a bit to be desired. There is no place on the face where you know intuitively that's where you place your thumb(s) as you are reading.
- In the sales video Amazon show how a Kindle survives a fall. Looking at

the item I have difficulty believing it won't explode into many pieces if dropped.

#### 2. LANGUAGE INTENSITY

##### (a) Strong positive content

Flying on planes? No problem. Just a flip of a switch turns the wireless off, and your Kindle is safe to use on your flight. Plus, if you have the wireless off, your battery can last up to a MONTH!!! 2. This is that type of device that if you love reading, I think you will be pleasantly surprised at the investment!!! Recommended! 3. Oh, and did I mention that this Web access is FREE? I didn't, did I? Well, let me say it again. It's FREE. Yes, the device is \$400 bucks, but it includes FREE Web access. In a heartbeat. With no monthly access fees. And it works three times FASTER than my overpriced cell phone service. For FREE. No if, and's, or but's, no \$15 bucks worth of additional "taxes" and "access fees." FREE.

##### (b) Strong negative content

In the year of the iPhone (sleek and beautiful), why have they come out with something so utterly ugly? 2. What a stupid product to spend money on ... All you have to do is simply pick up the damn book and read it. Why spend \$400?? If you'll buy this, you'll pretty much buy anything! 3. This thing is a joke. it looks like it came from the 80s and the picture sucks. Black and white? COME ON!!! It's 2007 and it cost 400 bucks! I was angry after I used this for a day. I HATE IT! What a complete JOKE! 4. A horrendously ugly reader, overpriced, that requires charging every other day (batteries will start losing charging capacity, so it's going to need an everyday charge). Haha. I hope they didn't bet a lot on this one.

### 3. EVIDENCE PRESENCE

#### (a) Evidence is presented

This product is about the size of a book. Why not just bring the book? Are you going somewhere where you have no access to books for a length of time in which you would read 200 books? And whatever happened to the library? I love to read and actively build a library of

books that I read again and lend to friends. And I just like to have them as a record of my literary travels. I like the printed page. What you know about a book lent from a friend that is dog-eared and molested is that this book has been loved. It's the best kind of recommendation. My favorite books in my collection are held together by rubber bands. I support the

imagination of this idea, but other than a situation in which I have a book-sized area in which to pack 200 books, I can't imagine the point.

#### (b) Evidence is not presented

I figured I'd 5 star this to balance out all of the other idiots who gave it a 1 without owning it. I hate that.

## APPENDIX C

### The Messages Used in the Experiment

#### 1. MESSAGE WITH POSITIVE INFORMATION AND WEAK EMOTION

I like this new clicker better than the one I used before for a number of reasons.

It seems like the clicker works good in my small classes and my bigger classes (with hundreds of students). Either way, the clicker worked well. There are no delays in response time. This is nice because the professor gave us quite a few timed pop-quizzes, and they all went smoothly. I believe the clicker is also user friendly, as I could figure out how to use it easy. And FYI, I'm not a tech geek. Finally, the body of the clicker has a solid design. The buttons are easy to push. I have used it for multiple-choice questions, and always got the right buttons without problems. Overall, this is a good system for a college class.

#### 2. MESSAGE WITH POSITIVE INFORMATION AND STRONG EMOTION

Hey, when you press a button, you get points in class. It's AMAZING! This new clicker is MUCH MUCH MUCH better than what I used before!

It nicely fits into my hands, and my favorite part is the buttons! The buttons

are so well designed and easy to use. It is even easier than raising my hand!

It seems to me that the clicker can handle a MILLION responses at the same time! I used my device in many college classes—some small ones with about 30 students and some big ones with more than 100 students. It worked in all classes! Even if I submit my answer two seconds before the time limit, I never missed the point!

It is a GOD-SEND! You will absolutely LOVE it! I would definitely recommend this solution to any student.

#### 3. MESSAGE WITH NEGATIVE INFORMATION AND WEAK EMOTION

This new clicker does not work as well as I expected.

The clicker is very small, and it slips from my hands from time to time. The oval shape is not a good design, and I miss the square one I used before. The buttons are also too small and I've clicked the wrong buttons several times and lost points.

The system does not work well in a big class. I had a large class of 150 students – a physics class. Sometimes when all the class was trying to answer the quiz just before the time limit, the system stuck

there and did not respond. Sometimes it did respond, but with noticeable delay. Although how to use it appears quite straightforward, it is in fact not easy to use. For students who are tech challenged, the clicker is even more difficult.

#### 4. MESSAGE WITH NEGATIVE INFORMATION AND STRONG EMOTION WHAT A FREAKING SCAM!

In my history class of 100 students, it took FOREVER to respond to all class! It is so ridiculous! Did they design this only for a small class, of less than 25 students??? There were some tech challenged students in my history class, which made it a NIGHTMARE. They've NEVER got it!

Besides, I could not hold it! It's slipped from my hands several times already. It must be designed for kids, not college students! The buttons are SOOO small for me, and I've clicked the wrong buttons all the time and lost points. Sometime I did click the right buttons, but got no response. They are just too tight! So the timed pop quizzes just drove me crazy! DISAPPOINTED!!!

Anyways that's my rant. Enjoy your piece of crap device. I recommend it to NOBODY!

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