The Moderating Roles of Prior Attitude and Message Acceptance in Electronic Word of Mouth

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ABSTRACT
The purpose of this study is to examine how the effect of electronic word of mouth (eWOM) on consumer decisions can be moderated by the factors of prior attitude and message acceptance. The authors investigate different potential effects of the two factors on the persuasive impact of eWOM for different message valences: positive and negative eWOM. Through an experimental study, they test some hypothesis concerning the moderating effects in the context of consumers’ brand choice decisions. One of the key findings is that prior attitude significantly altered choice probabilities only when the subjects received positive messages. Conversely, the moderating effect of message acceptance was significant when subjects received negative messages, but it was not the case when they encountered positive messages. The results provide some important insights that are useful for anticipating the sales impact of eWOM.

Keywords: Electronic word of mouth; message valence; prior attitude; message acceptance
1. INTRODUCTION

Consumers’ participation in online activity is constantly increasing. At the same time, the development and dissemination of online environments have motivated consumers to explore product information extensively on the Internet. One of the popular research topics in recent years has been consumer knowledge-sharing through online media—such as online discussion forums, electronic bulletin board systems, newsgroups, blogs, review sites, and social network sites. A recent study has shown that many consumers actively use electronic word of mouth (eWOM) information delivered by anonymous people on shopping websites rather than friends’ recommendations on social media to facilitate purchase decisions (Erkan & Evans, 2016).

One issue that has received much attention is the effect of eWOM on consumer purchase decisions. eWOM is different from traditional word-of-mouth (WOM), which is defined as oral and interpersonal communication concerning a brand, a product, or a service, between a receiver and a communicator whom the receiver perceives as a non-commercial agent (Arndt, 1967). Furthermore, traditional WOM tends to rely on social interaction between the receiver and the communicator (Knapp & Daly, 2002). In contrast, eWOM is a new form of word-of-mouth communication, with unknown individuals and through online media, including social network services or online communities. Compared with its traditional counterpart, eWOM is more diverse, more anonymous, unconstrained by space and time, and less time-consuming when doing research (Goldsmith & Horowitz 2006).

The fact that a multitude of consumers gathers useful online product information and refers to other consumers’ experiences to avoid risks of potential wrong decisions has become a common phenomenon. Consequently, marketers should pay attention to this issue, because eWOM can affect consumer loyalty (Gruen et al., 2006). Thus, for effective marketing strategies, it is critical to better understand how consumers respond to various eWOM messages spreading across various online social media platforms (Kietzmann & Cahoto, 2013). Previous studies have pointed out that this understanding is useful for predicting consumer future behavior, and, therefore, the factors that potentially influence its effect should be investigated further (Hennig-Thurau et al., 2004; Park & Lee, 2009).
example, Yamamoto & Matsumura (2009) showed that similarities between the sender and the receiver can affect the acceptance of eWOM messages. In their study, Godes & Mayzline (2004) tried to explain how the amount of word of mouth can drive sales. Further, Ladhari & Michaud (2015) suggested that the eWOM generated on Facebook can influence consumers’ intention to book a hotel room, as well as affect consumers’ trust in the hotel, attitude toward the hotel, and perception toward websites. A study by Bataineh (2015) indicated that the effect of eWOM on purchase intention is mediated by the corporate image perceived by individuals.

This study examines how consumers’ responses to eWOM would be influenced by prior attitude and message acceptance in a framework that builds on the theory of reasoned action (TRA) (Fishbein, 1967). The theory has been widely recognized as a useful model for predicting the intention to perform a certain behavior based on an individual’s attitudinal and normative beliefs (Ajzen & Fishbein, 1977; 1980). In this study, we adopt TRA to explain how consumers decide to follow eWOM messages by investigating the interactions among message valence, prior attitude, and message acceptance. We aim to contribute to the literature by providing an understanding of behavioral patterns in the online environment, which is a topic that has not been addressed in previous studies.

Here, prior attitude is defined as the cognitive beliefs about the consequences of choosing a product or a brand, which are formed by consumers before they receive eWOM messages. Consumers may have gathered some information related to a product they consider buying prior to their encounter with eWOM. Depending on the content of the information, they may find the product favorable or unfavorable. The moderating effect is thought to stem from the congruence between message valence and prior attitude.

In addition, this research explores the role of the consumer’s message acceptance in influencing the eWOM’s effect. The role refers to the degree of the consumer’s intention to accept other people’s messages or opinions (here, his or her motivation to comply with online advice), which is expected to moderate the consumer’s response to the messages. Results of the analysis show that the moderating effects of prior attitudes and message acceptance are asymmetric between positive and negative eWOM. We find that the effect of eWOM on brand choice is significantly affected by prior attitudes only when subjects receive
positive messages. On the contrary, the effect of eWOM appears to be influenced by message acceptance only when subjects receive negative messages.

In the remainder of this paper, we first review the literature on both the theory of reasoned action (TRA) and the factors under consideration (eWOM message valence, prior attitude, message acceptance). Subsequently, we present our conceptual framework based on some findings from previous studies, and then state some hypotheses. We then describe our experimental design used to manipulate the factors and the subject decision task. Finally, we discuss the results and several managerial implications for marketing strategies.

2. THEORETICAL BASIS

Our investigation is based on TRA (Figure 1), which was proposed by Fishbein (1967) and is widely used today to explain an individual’s decision to conduct a certain behavior, assuming attitudinal and normative beliefs as its primary determinants.

![Figure 1. Components of Theory of Reasoned Action (TRA)](image)

Prior to creation of the theory, attitude had been used as the only explanatory variable of behavior, mediated by behavioral intention. However, there has been much evidence of a large discrepancy between attitude and behavior (Lapiere,
1934; Mittal, 1988). To address this gap and to predict consumers’ future behavior more accurately, the theory suggests one more determinant of behavioral intention called *subjective norms* (a social factor). It is premised that an individual’s behavioral intention and his/her actual behavior are likely to be influenced by that individual’s own judgment and by social pressure toward the behavior. That is, TRA looks at both the person’s attitudes toward that behavior, as well as the subjective norms of influential people or groups that could affect behavioral outcomes (Fishbein & Ajzen, 1975).

According to the theory, both attitude and subjective norm are constituted by salient beliefs. Attitude is determined by salient behavioral beliefs that consist of importance and evaluation of the behavior outcome. In contrast, subjective norm is determined by normative beliefs that consist of referent beliefs and the motivation to comply with others. Ultimately, behavioral intention is formed on the basis of a weighted average of attitude and subjective norm.

Drawing from TRA, we develop a conceptual framework in which the relations among factors are hypothesized (Figure 2). In this framework, the eWOM message is considered one of the referent beliefs sourced from an online referral group (unknown individuals who communicate information concerning a product or brand through a certain online community site). Accordingly, the eWOM message, the attitude, and the motivation to comply with others are expected to determine behavioral intention and, ultimately, consumer behavior. As stated by the theory, the extent to which an eWOM message influences behavioral intention will depend on its interaction with consumers’ attitudes and motivations to comply with others. Thus, it can be expected that the net effect of eWOM is not only affected by its content (positive or negative), but is also subject to the moderating effects of attitude and motivation to comply with others.

As shown in Figure 2, the determinants of behavior include three factors: eWOM message valence, prior attitudes, and message acceptance. Note that we consider brand choice behavior as a dependent variable. The use of actual behavior instead of behavioral intention is intended to rule out the potential gap between intention and behavior (Sheeran, 2002).
Prior attitude refers to cognitive beliefs about a product and is equivalent to attitudinal beliefs in TRA. It is formed through use experience or searching activities that take place prior to the encounter with eWOM. Depending on the type of information gathered, prior attitude can be either favorable (positive) or unfavorable (negative). Consequently, the direction of the eWOM can be congruent or incongruent with that of the prior attitude (see Table 1). It is arguable that the magnitude of the effect of a message on consumer behavior will depend on this congruency (Chang, 2005; Updegraff et al., 2007; White et al., 2003).

Finally, message acceptance is a surrogate of some aspects of motivation to comply with others. It measures the extent to which consumers rely on others’ opinions. Intuitively, it can be expected that the effect of eWOM messages will be greater for consumers who are highly dependent on others’ opinions than for those who are more confident about their own opinions (Gupta & Harris, 2010; Xu et al., 2010).
Table 1
Congruency Between Message Valence and Prior Attitude

<table>
<thead>
<tr>
<th>Prior Attitude</th>
<th>Positive Beliefs</th>
<th>Negative Beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Valence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive message</td>
<td>Congruence</td>
<td>Incongruence</td>
</tr>
<tr>
<td>Negative message</td>
<td>Incongruence</td>
<td>Congruence</td>
</tr>
</tbody>
</table>

In the next section, we state the hypotheses concerning these influencing factors, along with their interaction.

3. HYPOTHESES

eWOM may contain either positive messages from satisfied customers or negative messages from unsatisfied customers. In most cases, it is very difficult for firms to control such messages; thus, consumers can simultaneously encounter both favorable and unfavorable content about a product. The fact that the effect of WOM varies by its valence has been well documented in the literature (Arndt, 1967; Herr et al., 1991; Richins, 1983). In general, positive and negative information leads to opposite consequences (East, Hammond, & Lomax, 2008). In particular, a positive message prompts the individual to perform the recommended action, and a negative message works conversely. According to Arndt (1967), positive WOM can encourage consumers to buy a product, whereas negative WOM tends to make them refrain from making a purchase. Furthermore, a study by East et al. (2008) revealed that positive WOM tends to increase the choice probability of a brand, whereas negative WOM has the opposite effect. In fact, Cheung et al. (2008) showed that purchase probability increases when consumers receive positive eWOM messages, and vice versa.

Prior to their encounter with eWOM messages, consumers may have some knowledge about the product. Such knowledge can be obtained through use experience or external search. The literature on consumer behavior conceptualizes prior knowledge as a multi-dimensional construct encompassing familiarity, expertise, and experience (Alba & Hutchinson, 1987; Rao & Monroe, 1988), or
objective-subjective knowledge (Brucks, 1985). Johnson & Russo (1984) pointed out that consumers who have a higher level of knowledge are better able to focus on the product information under consideration. Furthermore, Brown & Reingen (1987) suggested that prior knowledge is one of the influential factors in consumers’ product selection.

Previous studies suggest that the level of prior knowledge can affect the way consumers gather and evaluate product information (Duhan et al., 1997; Park & Lessig, 1981). Therefore, consumers’ knowledge about a product can lead to the formation of attitudes. If consumers receive favorable (unfavorable) information about a product, then we can expect that they will have positive (negative) attitudes toward that product. Their responses can be actualized in terms of verbal or nonverbal cognitive, affective, or conative attitudes (Ajzen & Fishben, 1980).

Consistent with TRA, under certain conditions, the direction of prior attitude toward a product governs the decision to adopt it. If consumers have positive beliefs about the product, then the likelihood of choosing it will be higher, and vice versa (Ajzen & Fishben, 1977; Homer & Kahle, 1988). In an empirical study, Smith and Swinyard (1983) showed that attitudes formed through a product trial can accurately predict purchases. However, this might not be the case when attitudes arise from advertising exposure. A study by Laroche et al. (1996) confirmed that positive attitude toward a brand has positive correlation with the intention to purchase that brand.

3.1. **Message Valence and Prior Attitudes**

Research studies have shown the influence of a consumer’s own cognitions and attitudes toward product information produced by other parties. For example, a study in social psychology showed that people were more sensitive to messages promoting regular dental flossing when their motivational orientation matched the content (Updegraff et al., 2007). In a study investigating the credibility of messages informing the presence of risk, White et al. (2003) found that prior attitudes significantly moderated the effect of message valence on trust. In addition, Chang (2005) found that, when positive emotions were evoked by positive ad framing, people would respond more positively to the self-congruent ad.
The theory of reasoned action (TRA) asserts that behavioral intention results from the weighted combination of attitude toward acts and subjective norms. In this study, we examine potential interactions between consumers’ own attitudes and the subjective information about products from other unknown consumers (eWOM). Here, the message may contain positive or negative information about a certain brand or product. Similarly, an individual’s own attitude, measured before receiving eWOM information, can be positive (favorable) or negative (unfavorable). The congruency between prior attitudes and eWOM message valence is expected to be a significant variable that determines the probability of brand choice. A positive eWOM message would be more effective if it is received by consumers who have positive attitudes, and vice versa.

However, the influences are likely to be asymmetrical for different message valences because positive and negative messages appear to have different consequences. It should be noted that results from previous studies about message valence are conflicting. Some researchers argue that positive WOM has greater influence than negative WOM. For example, Keaveney (1995) found that positive WOM tends to be the main source of information when people consider adopting a new product. Another study pointed out that positive messages are likely to be more frequent than negative ones; thus, the impact of the former is generally greater than that of the latter (East et al., 2008). In addition, Fang and Yu (2017) showed that positive eWOM has a higher effect on consumer purchase intention than negative eWOM. In contrast, Skowronsiki & Carlston (1989) showed that consumers attach more weight to negative than to positive information when forming overall evaluations. This argument has considerable theoretical and empirical support in the literature (Arndt, 1967; Homer & Yoon, 1992; Park & Lee, 2009; Richins, 1983). In addition, based on the information richness theory, Liao et al. (2015) demonstrated that negative eWOM has a stronger effect in generating eWOM information richness than positive eWOM.

Given the conflicting results of previous studies, we consider it important to examine the moderating effect of each message valence, as follows:

**H1-1:** When receiving positive eWOM messages about a product, subjects who have a positive prior attitude about the product are more likely to select it than those with a negative prior attitude.
HI-2: When receiving negative eWOM messages about a product, subjects who have a negative prior attitude about the product are more likely to select another product than those with a positive prior attitude.

3.2. Message Valence and Message Acceptance

The influence of any information received from other people on the behavior of recipients depends on how they are motivated to accept it. Iyengar et al. (2015) classified this type of social contagion as informational and normative influence. *Informational influence* occurs when people change their beliefs about the true state of an object after receiving information about it from other people. *Normative influence* occurs when people are motivated to get a reward or avoid punishment because of the conformity of their act to the norm, or when they have a desire to be recognized as having accomplished their role. In relation to TRA, the latter is associated with the motivation to comply with others. In the context of the present research, we use the term *message acceptance*, which refers to the intention to behave in a determined way, according to the comments, recommendations, or suggestions of other community members (Luis et al., 2011). The term is similar to the concept of social conformity in the context of eWOM used by Fang & Yu (2017), but puts more emphasize on individual intention to accept messages.

Previous studies have shown that message acceptance determines the extent to which people process the information and behave in accordance with its content. Xu et al. (2010) pointed out that the effectiveness of an advanced traveler information system in improving traffic environment largely depends on travelers’ intentions to accept the information. Iyengar et al. (2015) found that acceptance of a peer’s advice can increase the adoption and repeat use of new drugs by physicians. Gupta & Harris (2010) showed that consumers who are willing to accept eWOM recommendations are likely to have higher motivations to process information and tend to choose optimal products. Similarly, Tsao et al. (2015) found that conformity, which is defined as tendencies in thinking and behavior aimed at gaining group approval and meeting group expectations, can affect consumers’ purchase intention. Therefore, we predict that the effect of eWOM will be moderated by the intention to accept its message. Analog to the previous
hypotheses, we test two others for positive and negative messages, respectively, to account for the asymmetric effect of different message valences.

**H2-1:** When receiving positive eWOM messages about a product, subjects who have a high intention to accept them are more likely to select the product than those with low intention.

**H2-2:** When receiving negative eWOM messages about a product, subjects who have a low intention to accept them are more likely to select the product than those with high intention.

4. **METHODOLOGY**

In this section, we discuss our experimental sample, the experimental procedures used, and our measurements.

4.1. **Experimental Sample**

We conducted an experiment to examine the interaction among message valence, prior attitude, and message acceptance. A total of 100 undergraduate and graduate students participated in the experiment. Each subject was given a gift card worth 1,000 yen and an experimental or dummy product of his or her choice. For the products, we chose two brands of facial cleansing products, both of different sizes and prices. A control was imposed, however, to rule out any potential bias that might arise from these differences. The dummy product was one that has been marketed for a long time and is the top-share brand in the category of facial cleansing products. We expected, therefore, that all of the subjects would recognize its brand name. In contrast, the experimental product is a relatively new one. Some of the subjects may have never heard of it. Therefore, eWOM was expected to be prominently influential in its adoption.

We also anticipated that some of the subjects may have used the experimental product, but we conjectured that eWOM would still affect the subjects’ decision to choose it instead of the dummy. The reason for our conjecture is that it usually takes time to learn from personal experience; hence, some consumers may rely on the judgment of other people when deciding whether to make repeat purchases (Iyengar et al., 2007). To control message valence, we used a consumer review site called @COSME (www.cosme.net), one of the most popular online community
sites for cosmetic products in Japan. The amount of eWOM messages on the cosmetic community site is comparatively similar for both products.

4.2. Experimental Procedure

This experiment was conducted at a computer lab in order to allow subjects to have immediate access to the @COSME website. It was conducted in two waves – the first, for the group exposed to positive messages; and, the second, for the group exposed to negative messages. In order to camouflage our true objective, we informed the subjects that we were investigating consumers’ perceptions and valuations of a new product. We told them that the experimental object was the one under consideration. We then asked them whether they knew and had already used the product. Subsequently, we performed the measurements of prior attitude and message acceptance by asking subjects to answer the questions shown subsequently in Table 2. After answering the questions, subjects were asked to access the @COSME site and find the page for the experimental product. Then, they were asked to write a summary, from the site, of as many consumer reviews concerning the product as possible in 15 minutes. Each group was required to summarize reviews of either message valence. We recognized that both positive and negative reviews could be displayed simultaneously on the PC monitor, but were convinced that the task allowed us to isolate reviews of one valence from the other by forcing subjects to concentrate on the reviews of the assigned message valence.

At the end of the experiment, all participants were asked to select between the object product and the dummy as their reward for participation. To rule out bias caused by product size differences, we exhibited pictures of both products, which were of the same size. We also randomized the order in which the pictures were shown in order to eliminate ordering bias.

4.3. Measurements

Table 2 shows the measurements of the variables under consideration. We asked about the subjects’ prior knowledge and use experience in Question 1. Prior attitude and message acceptance were measured by Questions 2 and 3.
Table 2
Measurements for the Experimental Procedure

<table>
<thead>
<tr>
<th>Questions</th>
<th>Mean</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q1. Product knowledge and use experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) I have already known this product. Yes / No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) I have already tried and used this product. Yes / No</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Q2. Prior attitude</strong></td>
<td>4.9</td>
<td>1.06</td>
</tr>
<tr>
<td>(1) This product can wash off dirt on your face efficiently.</td>
<td>5.1</td>
<td>1.21</td>
</tr>
<tr>
<td>(2) I feel comfortable when I use this product.</td>
<td>5.3</td>
<td>1.28</td>
</tr>
<tr>
<td>(3) I think this product can make me feel good.</td>
<td>4.9</td>
<td>1.49</td>
</tr>
<tr>
<td>(4) This product has possibility for causing skin troubles; therefore, I feel some anxiety when I use it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Considering the quality of this product, I think it is overpriced.</td>
<td>4.9</td>
<td>1.34</td>
</tr>
<tr>
<td><strong>Q3. Message acceptance</strong></td>
<td>4.8</td>
<td>1.66</td>
</tr>
<tr>
<td>(1) I always enjoy seeking information on online community sites.</td>
<td>5.3</td>
<td>1.29</td>
</tr>
<tr>
<td>(2) When I want to evaluate a product, online consumer reviews are really helpful.</td>
<td>5.4</td>
<td>1.26</td>
</tr>
<tr>
<td>(3) I always check the safety and quality of a product by reading online reviews.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) I am not likely to care about others` opinion when I select a product.</td>
<td>5.2</td>
<td>1.34</td>
</tr>
<tr>
<td>(5) I think that it is important to rate the quality of a product by myself.</td>
<td>2.9</td>
<td>1.43</td>
</tr>
<tr>
<td><strong>Q4. Message valence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group A (Positive eWOM message valence)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summarize as many positive evaluations of this product as possible on your survey sheet by using online consumer reviews from the following online community site (<a href="http://www.cosme.net">www.cosme.net</a>).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group B (Negative eWOM message valence)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summarize as many negative evaluations of this product as possible on your survey sheet by using online consumer reviews from the following online community site (<a href="http://www.cosme.net">www.cosme.net</a>).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**The control of product selection**
After finishing all experimental procedures, subjects were asked to select between the object product and the dummy as a reward for their participation.
Scale items to measure message acceptance were revised and developed by adopting several previous studies of message adoption (Cheng et al., 2009; Lee & Koo, 2012). They were rated on a 7-point Likert scale (1=strongly disagree, 7=strongly agree), and summed to get a single measure. The alpha coefficients of both scales were greater than 0.7; thus, internal validity was confirmed.

5. ANALYSIS AND RESULTS
This section discusses manipulation checks for message valence and describes our tests of research hypotheses.

5.1. Manipulation Checks
After the main experiment, we conducted manipulation checks for message valence. For review purposes, we recruited additional participants (21 people = 9 males, 12 females). All received website links of the online survey and were asked to participate in a survey about product strategy.

Based on the experiment survey sheets submitted by 100 experiment participants, we identified the five most frequent positive features and the five most frequent negative features about the object product (a cleansing foam). The five positive features included: lathers well, feels moist, feels refreshing, has great cost performance, and is easily accessible for purchase. The five negative features included: feels dry, has weak cleansing power, contains several harmful ingredients, is irritating to skin, and has too strong a scent.

For these manipulation checks, all participants received positive and negative explanations about the product and were asked: “How do these explanations describe the product? (5=positively described; 1=negatively described).” Results from the t-tests showed that participants rated positive features higher than negative features ($M_{positive}=4.57$, $M_{negative}=1.33$, $t(20)=19.31$, $p<0.00$). These results suggest that the manipulation was successful.

5.2. Hypotheses Testing
We tested data from the experiment by using logistic regression analysis. Here, a model without interaction effects and a model with interaction effects were both subjected to hypothesis testing. The dependent variable was indicator function, which takes value 1 if the object brand was chosen, and 0 if otherwise. The simple
main effects were tested by two explanatory variables: message valence (positive valence=1; negative valence=0), and prior attitude. The interaction effects were tested by two interacting variables: message valence versus prior attitudes, and message valence versus message acceptance. In addition, as control variables, we tested brand recognition and use experience.

Table 3 shows analysis results for the parameters. First, for the main effect, a coefficient of message valence is positively significant ($\beta=0.39$, $p$-value=0.05). This result shows that consumers who received positive word of mouth tended to select the object brand instead of the dummy brand, in contrast to consumers who received negative messages.

### Table 3
The Estimation Results of Logistic Regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>P-values</th>
<th>Coefficient</th>
<th>P-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.62</td>
<td>0.02</td>
<td>0.56</td>
<td>0.03</td>
</tr>
<tr>
<td>Message valence</td>
<td>0.42</td>
<td>0.05</td>
<td>0.39</td>
<td>0.05</td>
</tr>
<tr>
<td>Prior attitudes</td>
<td>0.58</td>
<td>0.01</td>
<td>0.53</td>
<td>0.02</td>
</tr>
<tr>
<td>Message acceptance</td>
<td>-0.12</td>
<td>0.42</td>
<td>-0.04</td>
<td>0.47</td>
</tr>
<tr>
<td>Message valence*prior attitudes</td>
<td></td>
<td></td>
<td>1.24</td>
<td>0.00</td>
</tr>
<tr>
<td>Message valence*message acceptance</td>
<td></td>
<td></td>
<td>-0.93</td>
<td>0.01</td>
</tr>
<tr>
<td>Brand recognition</td>
<td>0.07</td>
<td>0.38</td>
<td>0.02</td>
<td>0.42</td>
</tr>
<tr>
<td>Use experiences</td>
<td><strong>0.34</strong></td>
<td><strong>0.07</strong></td>
<td>0.25</td>
<td>0.12</td>
</tr>
<tr>
<td>AIC</td>
<td>130.26</td>
<td></td>
<td>127.18</td>
<td></td>
</tr>
</tbody>
</table>

Note: Bold fonts indicate the significant results.

Another explanatory variable of main effect, prior attitudes, also shows a statistically significant result ($\beta=0.53$, $p$-value=0.02). Consumers who had favorable prior attitudes about the object brand tended to select the object product,
in contrast to consumers who had unfavorable attitudes. Also significant are the coefficient of interaction effect, message valence with prior attitudes, and message valence with message acceptance. The moderating effects of prior attitudes and message acceptances were clarified.

Next, all experimental data was split into two parts by two different message valences to test hypothesis 1-1, 1-2, 2-1, and 2-2. We then repeated the analysis of logistic regression for different sub-data. Table 4 shows the analysis results. First, we found that, when participants received positive word of mouth, the prior knowledge positively influenced their brand choice ($\beta=2.71, p-value=0.05$). Here, consumers who showed congruency prior attitudes with message valence, tended to have high possibility on brand choice. This result shows that hypothesis 1-1 was supported. However, in case of negative messages, we found that the coefficient of prior attitudes was not significant ($\beta=1.28, p-value=0.17$). Therefore, in the case of negative word of mouth, brand choice probability appeared to be indifferent between objects who had favorable and unfavorable prior attitudes. Consequently, hypothesis 1-2 was not supported in this model.

Table 4

<table>
<thead>
<tr>
<th>Variables</th>
<th>Positive Valence</th>
<th>Negative Valence</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>P-values</td>
<td>Coefficient</td>
</tr>
<tr>
<td>Intercept</td>
<td>1.13</td>
<td>0.03</td>
<td>-0.97</td>
</tr>
<tr>
<td>Prior attitudes</td>
<td>2.71</td>
<td>0.05</td>
<td>1.28</td>
</tr>
<tr>
<td>Message acceptance</td>
<td>0.44</td>
<td>0.21</td>
<td>-1.68</td>
</tr>
<tr>
<td>Brand recognition</td>
<td>0.00</td>
<td>0.48</td>
<td>0.05</td>
</tr>
<tr>
<td>Use experiences</td>
<td>0.12</td>
<td>0.24</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Note: Bold fonts show the significant results.
Finally, we tested the interaction effect of message acceptance. In the case of positive messages, we found that the analysis result of its coefficient was not significant ($\beta=0.44$, $p\text{-value}=0.21$). This means that, when consumers received positive messages, brand choice behavior was independent of the extent of message acceptance. Thus, hypothesis 2-1 was rejected. However, in the case of negative word of mouth, we found that the negative effect of message acceptance was significant ($\beta=-1.68$, $p\text{-value}=0.04$), which supported hypothesis 4-2. Thus, when consumers received negative messages, those who had higher message acceptance were greatly affected, and as a result, had lower probabilities of choosing the object brand.

6. DISCUSSION AND IMPLICATIONS

In this section, we discuss the overall findings of our research and the important implications of the study.

6.1. Discussion

Investigating the effectiveness of eWOM to better understand consumer behavior is important from both theoretical and managerial points of view. In our research, we explored some aspects of eWOM effectiveness based on the theory of reasoned action (TRA) so as to derive some useful insights for marketers. We focused on the moderating roles of prior attitudes and message acceptance in the context of brand choice decision-making to clarify how eWOM received from unknown individuals influences a consumer's actual behavior. Using the proposed framework, we developed and tested four hypotheses concerning the main and moderating effects.

Previous studies have suggested that positive eWOM and positive prior attitude encourage consumers to choose a brand, whereas negative eWOM and unfavorable prior attitude have the opposite effect (Arndt, 1967; East et al., 2008). Our study confirmed that consumers who encounter favorable messages (positive eWOM) about a brand are more likely to choose it, whereas consumers who encounter unfavorable messages (negative eWOM) about a brand are likely to choose other brands. Similarly, consumers who have favorable prior attitudes toward a brand tend to select the brand rather than other brands, whereas consumers who have unfavorable attitudes toward a brand tend not to select it.

In this study, we predicted that congruency between these two variables (message valance and prior attitudes) will enhance the influence of eWOM. Our
results revealed that the congruency of prior attitudes with message valence governed the magnitude of the eWOM effects. However, the moderating effects were different for positive and negative message valences. For the case of positive eWOM, we found that its effect on brand choice decision was moderated by prior attitude. However, we found that the moderating effect was not likely to occur for negative eWOM, indicating the greater impact of negative eWOM over positive eWOM (Figure 3).

Figure 3. Moderating Effect of Prior Attitude

Finally, in this study, we diagnosed the interaction between eWOM message valence and message acceptance. The results revealed that, when consumers received negative messages about a product, their responses were significantly affected by their intention to accept the negative messages. However, we found that this was not true for positive messages (Figure 4). This finding implies that positivity overwhelmed the moderating role of message acceptance.

6.2. Implications

This study verified the moderating roles of prior attitude and message acceptance on the effectiveness of eWOM. An immediate implication is that firms
can anticipate how eWOM may affect their new products. Positive eWOM can help reduce risks pertaining to a new product and can encourage consumers to adopt it. This effect would be even greater for consumers who have a positive prior attitude. Thus, if firms know that most of their prospective customers evaluate their products favorably, then they can expect that the sales of a new product will increase with positive eWOM. However, the effect of positive eWOM would be less effective if most customers have unfavorable attitudes toward the product.

![Figure 4. Moderating Effect of Message Acceptance](image)

The second implication of the current research is related to the moderating role of message acceptance. When consumers receive negative eWOM about a product, the probability that consumers will choose it will be much lower for those with higher message acceptance, compared with those with lower message acceptance. Thus, negative eWOM would lead to greater damage if many consumers rely on others’ opinion in making their judgments. In this case, firms may need to be more cautious with negative eWOM and anticipate its negative impacts on the sales of their products. In contrast, consumers’ responses to positive eWOM appear to be unaffected by the extent of message acceptance. Therefore, although positive eWOM in itself can result in a favorable outcome such
as an increase in choice probability of the focal product, it is expected that the effect would be the same for all consumers regardless of their message acceptance.

7. CONCLUSION

In this study, we investigated the influence of prior attitude and message acceptance in determining the effectiveness of eWOM. We conducted an experimental design to test the moderating effects of the two variables in the context of brand choice decision. The results revealed that the moderating effects were asymmetric with respect to message valence. One of the key findings is that prior attitude significantly moderated choice probabilities only when subjects received positive messages (as opposed to negative messages). That is, choice probabilities were enhanced when subjects with favorable attitudes encountered positive eWOM. Conversely, the moderating effect of message acceptance was observed to be significant only when subjects received negative messages (as opposed to positive ones). That is, when subjects received negative messages, the choice probabilities of those with higher message acceptance were significantly smaller than those with lower message acceptance. We argue that these results can provide important insights that can be useful for anticipating the sales impact of eWOM.

Despite the important findings that it produced, this study has several limitations. First, only one product category (facial cleansing foams) was used in the experiment. Another product category may yield different results. For example, the moderating effects may be different for search goods and experience goods. Second, although there are many types of online media that generate eWOM messages, this study explored only one type of media platform (consumer reviews). Third, subjects who participated in the experiment were sampled from the student population, and thus may not well represent the overall consumer population.

In summary, further research is needed to improve the generalizability of the current study by using different product categories, different media platform, and a wider population group.
REFERENCES


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