DOES NEGATIVE E-WOM AFFECT CONSUMER ATTITUDE NEGATIVELY OR POSITIVELY?

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ABSTRACT
This paper investigates that negative WOM may have positive effects on consumer behavior under condition that consumers refer to both positive and negative WOM simultaneously. As a result of ANOVA using consumer dataset with different ratios of positive to negative e-WOM (10:0, 8:2, and 6:4), different types of product (hedonic vs. utilitarian products), different levels of expertise (expert vs. novice consumers), and different types of reviews (attribute-centric vs. benefit-centric reviews), we found that positive effects of e-WOM on attitude toward the product mentioned in the website are higher when there is some negative e-WOM than none of it.

INTRODUCTION
Word-of-mouth (WOM) is defined as a form of person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, concerning a brand, a product, or service for sale (Arndt, 1967). With the advent of the Internet, a less personal but more ubiquitous form of WOM, viz. electronic word-of-mouth (e-WOM) consumer reviews, has come into vogue (Bickart and Schindler, 2001; Godes and Mayzlin, 2004). The effects of e-WOM cannot be neglected at the formation of consumer behavior. Rather, it is necessary for business to comprehend how e-WOM affects consumer attitude toward their products.

Previous research has shown that positive e-WOM has positive effects, while negative e-WOM has negative effects on consumer behavior (Herr, Kardes, and Kim, 1991; Luo, 2009). Additionally, regarding positive vs. negative WOM, it has been suggested that people tend to weight negative information more than positive information during evaluation (Herr, et al., 1991; Ahluwalia and Shiv, 1997). These studies, however, have assumed that consumers form their attitudes through referring to either positive or negative WOM, including the difficulty of not reflecting the fact that consumers refer to both positive and negative WOM simultaneously.

Thus, we investigate that negative WOM may have positive effects on consumer behavior under condition that consumers refer to both positive and negative WOM simultaneously. Also, we present a clear picture of how the effects of negative WOM vary with the type of product (hedonic vs. utilitarian products), the level of expertise (expert vs. novice consumers), and the type of reviews (attribute-centric vs. benefit-centric reviews) when the ratios of positive to negative messages are 10:0, 8:2, and 6:4 in turn.

THEORETICAL BACKGROUND AND HYPOTHESES
Sen and Lerman (2007) investigated negative effects of e-WOM for hedonic vs. utilitarian products on the basis of the affect-confirmation hypothesis (Adaval, 2001). Hedonic products are defined as the products which are primarily characterized by an affective and sensory experience of aesthetic or sensual pleasure, fantasy, and fun (Hirschman and Holbrook, 1982). In contrast, utilitarian products are defined as the products which are measured as a function of the products' tangible attributes (Drolet, Simonson, and Tversky, 2000). According to the affect-confirmation hypothesis, persons who base their product judgment on hedonic criteria give greater weight to attribute information when the information is consistent with their mood than when it is inconsistent with their mood. This should not be the case, however, when reading reviews for utilitarian products.

Consumers are likely to be in a positive mood when reading reviews for a hedonic product because they are looking forward to choosing a product that will make them feel good. As a result, they may discount negative reviews on the product as it is inconsistent with their current mood. Therefore, in the case of hedonic products, negative effects of negative e-WOM are extinguished.

Similarly, Ellis (1973) claimed that people seek optimal stimuli which are not too low or too high. People feel the most comfortable when they receive moderate stimuli, called optimal arousal. Assumed that negative messages can be seen as stimulation for consumers processing information to make purchase decision, they may regard a lower the ratio of positive to negative messages than 10:0 as an optimal stimulation. If so, consumer attitude is higher when there is some negative e-WOM than none of it. Thus, we propose hypothesis 1 as follows.

H1: In the case of e-WOM on hedonic products, positive effects of e-WOM on attitude toward the product are higher when there is some negative e-WOM than none of it.

Park and Kim (2008) focused on the role of both consumer and review characteristics and inquired how the level of expertise and the type of reviews influence the effects of e-WOM on consumer behavior. The level of expertise involves consumers' motivation and ability to process detailed information. Experts have both, while novices have either or nothing. Reviews are categorized into two types: attribute-centric (AC) reviews, which refer to the attributes of the products; and benefit-centric (BC) reviews, which refer to concrete benefits that the attributes will provide. Park and Kim investigated how AC and BC reviews influence experts and novices, respectively. The results showed that AC reviews had stronger effects on experts than BC reviews did, while BC reviews had stronger effects on novices than AC reviews did.

Similarly, Sussman and Siegal (2003) suggested that consumers with low expertise weight source credibility more than argument quality, while consumers with high expertise weight argument quality more than source credibility. According to Cheung, Lee, and Rabjohn (2008), information comprehensiveness containing both positive and negative sides has the strongest impacts on information usefulness in all components of argument quality. For expert consumers, AC reviews including some negative WOM have stronger impacts on their attitude toward the product than the reviews excluding negative WOM. Thus, we propose hypothesis 2 as follows.

H2: In the case of experts reading AC reviews, positive effects of e-WOM on attitude toward the product are higher when there is some negative e-WOM than none of it.

RESEARCH METHOD AND DESIGN

ANOVA was used to analyze the hypotheses proposed above. We investigated the difference in consumer attitude toward the product with different ratios of positive to negative e-WOM (10:0, 8:2, and 6:4), different types of product (hedonic vs. utilitarian products), different levels of expertise (expert vs. novice consumers), and different types of reviews (attribute-centric vs. benefit-centric reviews). A laboratory experiment with virtual e-WOM sites was utilized. These sites were about movie and comic as hedonic products and portable media player and digital camera as utilitarian products with various ratios of positive to negative e-WOM. Thirty-five undergraduate students in a school of business participated in each experiment had different levels of expertise regarding the product. They were asked to browse a series of e-WOM and answer the questions regarding their own evaluation on the product.

RESULTS

The results are summarized in table I and II. While the main effects of the ratio of positive to negative e-WOM (10:0, 8:2, or 6:4) were significant ($F=234.52$, $p<0.01$), two kinds of interactions−−interaction between the ratio of positive to negative e-WOM and the type of the product (hedonic or utilitarian) and interaction among the ratio of positive to negative e-WOM, the level of expertise (expert or novice consumers), and the type of reviews (AC or BC)−−were also significant ($F=6.40$, $p<0.01$; $F=4.24$, $p<0.05$, respectively).

Table I: Attitude toward the product--Means and standard deviations

		Mean (S.D.)		
		X_1 (Ratio of positive to negative e-WOM)		
		10:0	8:2	6:4
		0.55	0.49	–1.07
X_2 (Type of product)		10:0	8:2	6:4
Movie		0.34 (0.67)	0.69 (0.59)	–1.17 (0.83)
Comic		0.20 (0.68)	0.76 (0.56)	–0.90 (0.66)
PMP		0.82 (0.55)	0.34 (0.47)	–1.06 (0.67)
Digital camera		0.86 (0.38)	0.19 (0.67)	–1.14 (0.73)
X_3 (Level of expertise)	X_4 (Type of reviews)	10:0	8:2	6:4
Expert	AC (attribute-centric)	0.46 (0.54)	0.91 (0.45)	–1.35 (0.74)
Novice	AC (attribute-centric)	0.33 (0.68)	0.39 (0.52)	–1.05 (0.79)
Expert	BC (benefit-centric)	0.55 (0.66)	0.24 (0.66)	–0.90 (0.72)
Novice	BC (benefit-centric)	0.87 (0.60)	0.40 (0.62)	–0.99 (0.59)

Table II: ANOVA results

X_1 (Ratio of positive to negative e-WOM)	F= 234.52[a]
X_2 (Type of product)	F= 1.24
X_3 (Level of expertise)	F= 0.17
X_4 (Type of reviews)	F= 0.81
X_1 (Ratio of e-WOM) × X_2 (Type of product)	F= 6.40[a]
X_1 (Ratio of e-WOM) × X_3 (Level of expertise) × X_4 (Type of reviews)	F= 4.24[b]

Note. [a] significant at 0.01 level, [b] significant at 0.05 level. F statistics for overall model is 12.98 ($p<0.01$).

Figure I: Interactions between the ratio of e-WOM and the type of product

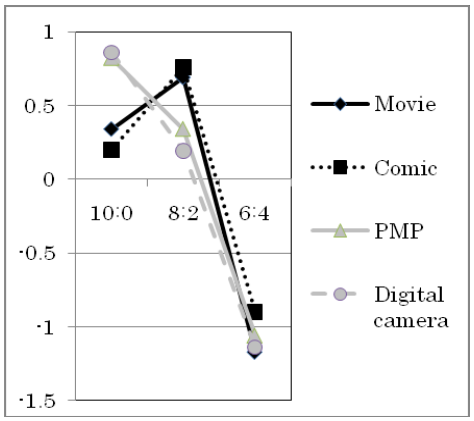

Figure II: Interactions among the ratio of e-WOM, the level of expertise, and the type of reviews

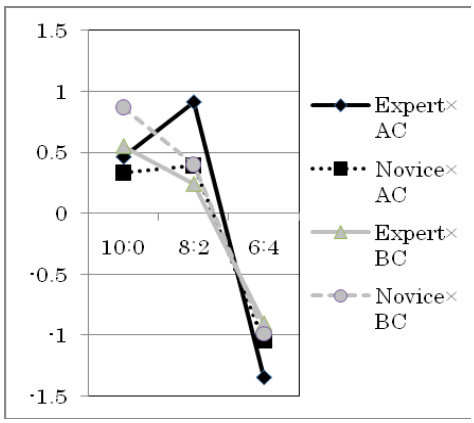

Figure I describes the former interaction—the interaction between the ratio of positive to negative e-WOM (10:0, 8:2, or 6:4) and the type of the product (hedonic or utilitarian). Regarding this type of interaction, the results show that, in the case where consumers read a series of e-WOM on each of the two utilitarian products, namely, portable music player and digital camera, the ratio of "10:0" gained the highest ranking

(0.82 and 0.86), followed by the ratio of "8:2" (0.34 and 0.19) and "6:4" (–1.06 and –1.14) in turn. However, in the case where consumers read a series of messages on one of the two hedonic products, i.e., movie and comic, the ratio of "8:2" gained the highest ranking (0.69 and 0.76, respectively), followed by the ratio of "10:0" (0.34 and 0.20) and "6:4" (–1.17 and –0.90) in turn. With a post hoc test, all comparisons showed significant differences. This indicates that the existence of negative e-WOM in a series of the messages can increase attitude toward the product if the product is a hedonic product rather than a utilitarian product. Thus, H1 is supported.

On the other hand, figure II describes the latter interaction—the interaction among the ratio of positive to negative e-WOM (10:0, 8:2, or 6:4), the level of expertise (expert or novice consumers), and the type of reviews (AC or BC). Regarding this type of interaction, the results show that, in case where experts and novices read BC reviews, the ratio of "10:0" gained the highest ranking (0.55 and 0.87, respectively), followed by "8:2" (0.24 and 0.40) and "6:4" (–0.90 and –0.99) in turn. Also, in case where novice read AC reviews, the ratio of "10:0" and "8:2" gained the highest ranking (0.33 and 0.39, respectively. These values have no significant difference), followed by "6:4" (–1.05). However, in the case where experts read AC reviews, the ratio of "8:2" gained the highest ranking (0.91), followed by "10:0" (0.46) and "6:4" (–1.35) in turn. With a post hoc test, all comparisons showed significant differences. This indicates that the existence of negative e-WOM in a series of the messages can increase attitude toward the product if the customers are experts rather than novices and if the reviews are attribute-centric rather than benefit-centric. Thus, H2 is supported.

DISCUSSION

There has been a great deal of discussion about e-WOM messages. Most researchers have shown that positive e-WOM has positive effects, while negative e-WOM has negative effects on consumer behavior. Also, they have assumed consumers who form their attitudes through referring to either positive or negative WOM. Contrary to this, assumed that consumers refer to both positive and negative e-WOM simultaneously in a single website, we found that the existence of negative e-WOM can positively affect consumer attitude toward the product mentioned in the website—in the case of e-WOM on hedonic products and/or in the case of experts reading attribute-centric reviews.

This study is somewhat limited. We should assume that AC and BC reviews coexist in a single website. We should also consider the ratio of AC to BC reviews when we conduct the farther research. This study, however, can be a research step to identify the conditions under which negative e-WOM positively affects consumer behavior.

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