

## 부정적 eWOM에 대한 이해 : 사회적 연대와 핵심 요인

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### Understanding Negative Electronic Word-of-Mouth(eWOM) : Social Ties and Key Determinants

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#### ■ Abstract ■

The Internet has generated a number of online review sites where dissatisfied consumers can easily articulate their opinions and comments on products or services. Little attention, however, has been directed to investigating the relationship between negative electronic word-of-mouth (eWOM) and its critical determinants that affect consumers' purchasing behaviors. This study attempts to explore the influence of the key determinants of consumers' negative eWOM behaviors, including their social relationships online. The results show that tie strength is positively associated with the proposed determinants, such as information credibility, external search efforts, and product involvement. Further, we find that perceived risk plays a mediating role in the relationship between consumers' intention to spread eWOM and its key determinants.

Keywords : eWOM, Social Ties, Credibility, Product Involvement, Perceived Risk

## 1. Introduction

Today the Internet has become a major vehicle

for facilitating the exchange of consumer experiences and opinions about products and services. Many Web sites enable consumers to dis-

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cuss matters of common concern, such as articulating their opinions and comments on products and services and seeking other consumers' assessment. Such a communication phenomenon has evolved into various types of electronic word-of-mouth communications (e.g. www.cnet.com, www.citysearch.com, and www.epinions.com). For example, Cnet.com not only provides professional reviews about products, but also allows consumers to post and share their own impressions on the products. Electronic word-of-mouth (eWOM) refers to "interpersonal communication among consumers" ([67], p. 697) concerning a company, product, or service through Internet-based technology. Prior studies examine the effect of eWOM on consumers' cognitive behaviors [36, 30, 58, 71]. Bickart and Schindler [7] find that consumers perceive eWOM more trustworthy and thus have a more powerful affect on their purchase behaviors than marketer-generated Web information.

Researchers (e.g., [16, 35]) address that eWOM can be easily and rapidly distributed to a huge volume of potential consumers. In particular, previous studies find that negative WOM is perceived as more diagnostic or informative than positive WOM [44] and that the effect of negative WOM on consumers' purchasing process, including brand evaluation and their loyalty toward a company, is more significant than that of positive WOM [34, 41, 43, 51]. Little attention, however, has been directed to investigating causal relationships in the negative eWOM communication process [83].

When consumers are dissatisfied with products or services and encounter the same negative information from various sources, they are

likely to accuse the product, service, or company of providing an inferior offering [67]. Even others' negative online reviews may affect the consumers' attitudes and behaviors toward products or services, even though they have never experience them yet [43]. Further, their attitudes and behaviors may be influenced by various factors, such as the information source and its credibility [37, 63], involvement [43], motivation to process information [31], and the information itself [14, 79]. In addition, interpersonal ties have a great influence over the consumers' WOM referral behaviors [9, 21-25]. Very little, however, is known about the role of interpersonal ties in the eWOM communication [75].

According to the elaboration likelihood model (ELM), motivation and ability to process a message play a crucial role in predicting the effect of persuasive arguments [61]. When people have sufficient motivation and the ability to process the messages, they may engage in thoughtfully processing the persuasive messages [61, 27]. The research questions we will address in the study are : *What are the critical determinants of the negative eWOM communication, particularly related to a consumer's behaviors of spreading eWOM? How do interpersonal ties relate to those determinants in the online context?*

The paper is organized as follows. First, we present a research model, corresponding to the two research questions identified above. This is followed by a list of hypotheses based upon the research model. Then, we describe our research methodology. Subsequently, we present the results and discuss our findings. We conclude the paper with a discussion of the limitations and the implications for future studies.

## 2. Research Model and Hypotheses

The research model, as depicted in <Figure 1>, consists of a number of research constructs related to eWOM and consumers' cognitive behaviors. Our research model encompasses the elaboration likelihood model (ELM) [61], as well as social ties [28]. According to the strength of weak ties theory [28], weak ties play a crucial role in explaining a wide range of social phenomena [9]. In the proposed model, we consider *tie strength* as the level of intensity of the *virtual* relationship between consumers.

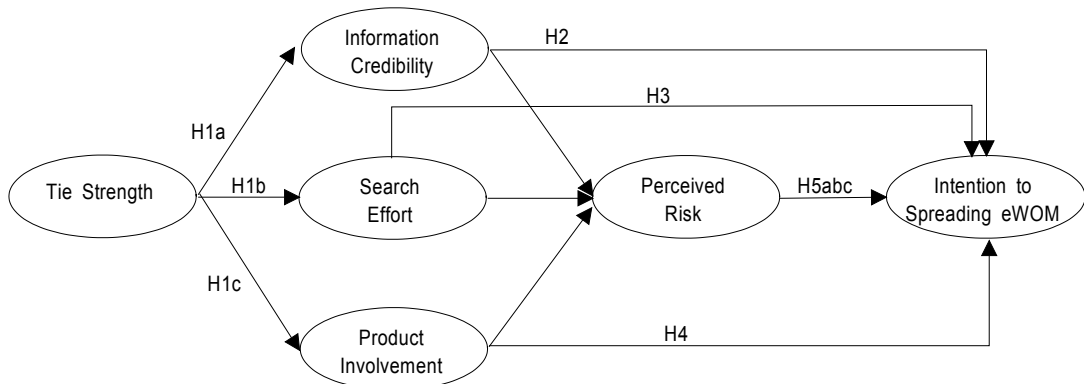
ELM specifies the conditions under which people elaborate on the message [27]. When people have sufficient motivation and ability to process the messages, they may engage in thoughtfully processing the persuasive messages (i.e., via central route). Otherwise, they may process the messages by relying on the non-content cues (i.e., via peripheral route) [61]. Our proposed model considers *product involvement* associated with consumers' motivation to process eWOM, *external search efforts* over the Internet related to their ability, as well as *infor-*

*mation credibility* as the degree to which consumers ascertain the eWOM arguments trustworthy.

In addition, researchers recognize *perceived risk* as a critical construct to explain consumers' purchasing behavior [50], particularly in the context of WOM communication [79]. *Perceived risk* refers to a consumer's pre-purchase uncertainty related to degree of expected loss resulting from the purchase and use of a product or service [54]. We will investigate the mediating effect of perceived risk on the relationship between intention to spread eWOM and the proposed constructs. In the subsequent section, we will hypothesize the casual relationship between these variables.

### 2.1 Tie Strength

eWOM is considered to be a social behavior, which involves exchanging, sharing, and disseminating individual information, opinions, or experiences with others over an online social network. Prior research indicates that social ties (e.g., work ties, friendship ties, etc.) are significantly related to the frequency and amount of



<Figure 1> Research Model

information exchange [33, 64], as well as the degree of WOM communications [8, 75, 84]. Tie strength is regarded as one of the critical factors in explaining WOM communications [13]. Tie strength varies greatly across a consumer's social network [28]. The stronger an individual perceives a social tie, the more information-flow he or she may become involved in [3, 9]. For example, if consumers know that their family or close friends have experience with a prospective product or service, they tend to ask them for the related information. If they have their own experiences, they are more likely to articulate their opinions about the products or services.

Information credibility reflects the degree to which a consumer perceives eWOM as accurate, true, and trustworthy [68, 81]. Previous studies find that credibility of the presented information is significantly associated with the information receiver's psychological perceptions of interpersonal ties, including similarity between information receiver and information source [25, 75] and membership to the online community [57]. Further, de Valck, van Bruggen, and Wierenga [15] find that virtual community (e.g., MySpace and Facebook) has a significant association with the consumer's assessment of credibility. Thus, we hypothesize that tie strength on the Internet has a significant impact on the consumer's perceived credibility of the negative eWOM information.

*H1a : A consumer's tie strength on the Internet is positively associated with information credibility on negative eWOM.*

Brown and Reingen [9] find that people, when deeply connected, are more likely to search for

information. When people engage in an online community, they may look for informational and instrumental values [15] from the information available. In addition, when encountering online opinions or reviews particularly from anonymous sources, people are more likely to initiate additional search efforts in order to prevent them from making undesirable decisions [84]. The different levels of tie strength may relate to the amount of information search efforts for explicating eWOM. Thus, we hypothesize,

*H1b : A consumer's tie strength on the Internet is positively associated with his/her external search efforts.*

Fogg and Tseng [22] assert that, with highly involved and relevant information, individuals tend to pay more attention and make a more cognitive effort. Further, Bickart and Schindler [7] show that consumer-generated online information significantly affects the information receivers' perceptions on the products or services. The different levels of interpersonal ties on the Internet may be associated with consumers' product involvement and concerns [40, 46]. Thus,

*H1c : A consumer's tie strength on the Internet is positively associated with his/her product involvement.*

## 2.2 Information Credibility, External Search Efforts, and Product Involvement

Information credibility involves a consumer's perceptions toward the eWOM source. The consumer's perceived credibility may impact his/

her decision processes [37] and actual behaviors based on the eWOM communications [63]. The factual information may be more effective than the subject information [12]. When the consumers review eWOM, they may first assess whether the presented information is truthful or not. If the information is perceived as credible, they may accept the eWOM content and will take their own action such as articulating their own opinions or making purchase decisions [11, 78]. Thus,

*H2 : A consumer's perceived credibility on negative eWOM is positively associated with his/her intention to spread eWOM.*

Consumers may look for the related information from various external sources to make sure their choice decisions are relevant. The external search efforts may make consumers accumulate more related information [73]. Beatty and Smith [5] argue that consumers' search efforts for the concerned information are a critical component in their decision processes. For example, Bansal and Voyers [3] empirically show that the message actively sought by a consumer is significantly associated with his/her purchase decisions. Further, Moe [52] finds that some online shoppers are very focused on searching for a product or service. Thus, we hypothesize that consumers' search behaviors may have a significant effect on articulating their own opinions.

*H3 : A consumer's external search efforts on the Internet are positively associated with his/her intention to spread eWOM.*

Product involvement refers to the degree which

a consumer perceives a product to be personally relevant [85]. Researchers (e.g., [65, 82]) find that highly involved consumers tend to generate more WOM, and its valence depends upon the level of their satisfaction [77]. Koufaris [39] addresses that product involvement plays a significant role in the online shoppers' behaviors. Further, researchers recognize a consumer's involvement as the primary antecedent of flow [55]. Thus, consumers' greater interest and knowledge on products or services is more likely to lead them to articulate more about the products or services than less motivated consumer groups [59].

*H4 : A consumer's perceived product involvement is positively associated with his/her intention to spread eWOM.*

## 2.3 Perceived Risk

Perceived risk has been widely used to predict consumers' decision and assessment on a product or service [50]. Dholakia ([18], p. 161) defines perceived risk as "subjective expectation of losses." Prior studies find that perceived risk plays a mediating role in the relationship between consumers' purchase intention and various constructs, such as their internet experiences and product presentation [6, 60].

The level of a consumer's perceived risk may depend upon the degree of credibility to which he/she believes the given information has [24]. Particularly when viewing negative WOM as credible, consumers are likely to perceive a higher degree of risk [29]. Further, consumers may extensively search for related information to reduce the level of perceived risks [20, 49].

Consistent with previous studies on the impact of perceived risk [38] on eWOM [26], this study posits that consumers who perceive a relatively high degree of risk are likely to have a greater intention to spread eWOM about the product or service.

In addition, prior studies show that involvement is significantly related to the level of perceived risk [3, 17]. When consumers are highly involved with a product, they are more likely to pay attention to related and detailed information [69]. Mårtenson [45] argues that the more a consumer is exposed to the experts' recommendations, the higher the degree of involvement that affects his/her risk propensity, which in turn leads to the change of his/her actual decision behavior. Thus, we hypothesize,

*H5a : A consumer's perceived credibility on negative eWOM is positively associated with his/her intention to spread eWOM, with his/her perceived risk mediating the relationship.*

*H5b : A consumer's external search efforts on the Internet are positively associated with his/her intention to spread eWOM, with his/her perceived risk mediating the relationship.*

*H5c : A consumer's perceived product involvement is positively associated with his/her intention to spread eWOM, with his/her perceived risk mediating the relationship.*

### 3. Research Methodology

The survey method was used to empirically test the hypotheses. First, we selected two ac-

tual messages (one related to the battery problem of a popular notebook, and the other related to the overcharge issue from an Internet Service Provider) from a review site (www.chosun.com), and refined them. The measurement items were developed by adapting items validated by the previous studies. The sample frame consisted of undergraduates and graduates at several major research universities in Korea. The questionnaire was developed in English and then translated into Korean. To reduce semantic discrepancy, the questionnaire was translated back into English and carefully revised. A pilot test was undertaken with undergraduates and graduates at a major research university in Korea, which resulted in some refinement to the questionnaire. In addition, we conducted the manipulation checks over the constructs since we used two different scenarios. From the pilot test, we collected 59 responses; 29 responses were based upon the first scenario, while the second was used for 30 responses. We conducted ANOVA for each construct, and we found that there was no significant statistical evidence between groups for each construct (see <Table 1>).

A total of 544 responses were collected. Out of the 544 responses, 42 have incomplete data and were eliminated from further analysis. As a result, 502 responses were used for data analysis. The respondents were asked to indicate the name of the department they belong to. The questionnaire also asked for basic demographic information of the respondents. The age of the respondents ranged from 18 to 34, and the average was 22.88 (S.D. = 2.33). 54% of the sample was male and 46% female. 98% of the sample had experienced buying products online.

〈Table 1〉 Manipulation Checks for Two Scenarios

	Means	S.D.	F value	P value
1. Intention to spread eWOM			0.83	0.37
Scenario 1	5.5	1.06		
Scenario 2	5.7	0.91		
2. Perceived Risk			0.04	0.84
Scenario 1	3.3	1.13		
Scenario 2	3.3	0.97		
3. Product Involvement			0.08	0.78
Scenario 1	3.6	1.52		
Scenario 2	3.5	1.64		
4. Information Credibility			0.54	0.47
Scenario 1	4.7	0.99		
Scenario 2	4.9	1.05		
5. External Search Effort			0.39	0.54
Scenario 1	4.6	1.35		
Scenario 2	4.4	1.39		
6. Tie Strength			0.07	0.80
Scenario 1	5.7	1.32		
Scenario 2	5.6	1.03		

Note : Sample size : Scenario 1 : N = 29; Scenario 2 : N = 30.

74.7% of the sample had experience with posting negative eWOM.

### 3.1 Measurement of Research Variables

The items for *intention to spread eWOM* were adapted from WOM measures given by Maxham and Netemeyer [47]. While three items adapted from the previous studies of Jarvenpaa and Tractinsky [38] were used to measure the level of *perceived risk*, the items for *information credibility* were adapted from Darley and Smith [12]. Also, the items for *product involvement* were adapted from Zaichkowsky's [85] multi-item scales, which have been widely used in prior studies. The items for *external search efforts* were adapted from Teo [80]. Finally, this study used the items of *tie strength*, which were adapted from Sun, Youn, Wu, and Kuntaraporn [76]. All of the measurement items had seven-

point Likert scales (see <Appendix 1>). The scale, for example, was anchored by "strongly disagree" (1) to "strongly agree" (7). <Table 2> reports the descriptive statistics and correlations for independent and dependent variables.

### 3.2 Model Assessment

Reliability for each construct is measured by using composite factor reliability (CFR). If CFR values are less than 0.70, the items may be unrelated or measuring more than one construct. The values of reliability measures that are above 0.70 (see <Table 2>; ranging from 0.82 to 0.94) are deemed acceptable [2, 23].

To ascertain convergent validity, we carry out an exploratory factor analysis. The results reveal that all the constructs are clearly delineated and that there is no cross loading above 0.40 (see <Table 3>). To assess discriminant

〈Table 2〉 Descriptive, CFRs, Correlations, and AVE values of Research Variables

	Means	S.D.	CFR	Correlations					
				1	2	3	4	5	6
1. Intention to spread eWOM	5.7	1.10	0.83	<b>0.85</b>					
2. Perceived Risk	3.3	1.08	0.89	-0.57**	<b>0.86</b>				
3. Product Involvement	3.5	1.70	0.92	-0.23**	0.080	<b>0.86</b>			
4. Information Credibility	4.8	1.17	0.82	0.16**	-0.25**	0.20**	<b>0.84</b>		
5. External Search Effort	5.4	1.53	0.94	0.15**	-0.17**	0.09*	0.22**	<b>0.92</b>	
6. Tie Strength	4.5	1.33	0.89	0.06	-0.11*	0.22**	0.22**	0.50**	<b>0.85</b>

CFR : Composite Factor Reliability; AVE : Average Variance Extracted; N = 502

Note) Boldface numbers on the diagonal are the square roots of the AVE values.

\* indicates  $p < 0.05$  and \*\* indicates  $p < 0.01$ .

validity, we examine the average variance extracted (AVE) to exceed 0.50, or the square root of AVE to be greater than the correlation between a construct and any other construct [23]. As can be seen in <Table 2>, the square root

of the AVEs (on the diagonal) is indeed greater than the corresponding correlations, which indicates discriminant validities.

We investigate common method variance that may cause any potential inflation problem, which refers to variance resulting from the use of a common method rather than from the construct itself [62]. We conduct Harman's single-factor test [62], in which all 17 items are analyzed by using a principal components factor analysis. We find six factors, and the first factor accounts for 27.23 % of the variance, which indicates that no general factor is apparent in the unrotated factor solution. The results indicate that common method variance is not a major problem in this study [70].

〈Table 3〉 Exploratory Factor Loading for Research Variables (N = 502)

	Factors					
	1	2	3	4	5	6
WM1	<b>0.84</b>	-0.34	-0.15	0.06	0.09	0.03
WM2	<b>0.86</b>	-0.32	-0.14	0.07	0.05	0.01
RS1	-0.19	<b>0.89</b>	0.07	-0.07	-0.01	-0.06
RS2	-0.25	<b>0.86</b>	0.03	-0.14	-0.15	-0.04
RS3	-0.17	<b>0.89</b>	0.01	-0.08	-0.05	-0.01
IN1	-0.16	0.04	<b>0.86</b>	0.04	0.05	0.07
IN2	-0.07	0.04	<b>0.94</b>	0.08	-0.01	0.09
IN3	-0.05	-0.01	<b>0.84</b>	0.11	0.05	0.08
IN4	-0.02	0.06	<b>0.89</b>	0.05	0.03	0.10
CR1	0.06	-0.10	0.13	<b>0.89</b>	0.12	0.11
CR2	0.05	-0.15	0.10	<b>0.90</b>	0.07	0.08
SE1	0.08	-0.07	0.02	0.04	<b>0.91</b>	0.23
SE2	0.02	-0.07	0.02	0.11	<b>0.90</b>	0.22
SE3	0.06	-0.06	0.06	0.07	<b>0.92</b>	0.25
TI1	0.01	-0.09	0.05	0.10	0.31	<b>0.85</b>
TI2	0.02	-0.04	0.14	0.07	0.22	<b>0.89</b>
TI3	0.01	0.01	0.14	0.06	0.17	<b>0.84</b>

### 3.3 Testing Research Model

We use AMOS 7 [1] to examine the research model through structural equation modeling. To assess the fit of the hypothesized model, several fit indices are used [32]. As shown in Table 4, all fit indices of the structural equation modeling estimation (normed Chi-square, RMSEA, GFI, CFI, TLI, and NFI) are desirably at or well



<Table 4> Goodness-of-Fit Indices for the Research Model

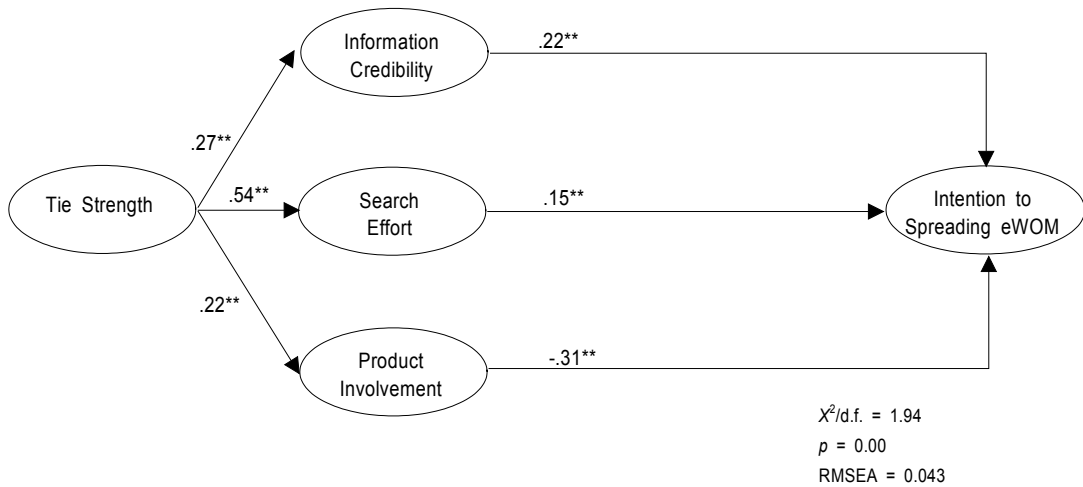
	Model 1 w/o <i>Perceived Risk</i> <Figure 2>	Model 2 with <i>Perceived Risk</i> <Figure 3>	Desired Levels
$\chi^2$	137.39	199.23	Smaller
d.f.	71	109	
$\chi^2$ /d.f.	1.94	1.83	< 3.0
<i>P</i>	0.00	0.00	
RMSEA	0.043	0.041	< 0.06
GFI	0.96	0.96	> 0.90
NFI	0.97	0.97	> 0.90
TLI	0.98	0.98	> 0.90
CFI	0.99	0.99	> 0.90

above the recommended threshold values. The estimation results of the research model are shown in <Figure 2> and <Figure 3>.

The set of H1 (H1a, H1b, and H1c) in Figure 1 posits that tie strength is positively associated with the key determinants of negative eWOM, such as information credibility, external search efforts, and product involvement. The estimation results support H1; information credibility

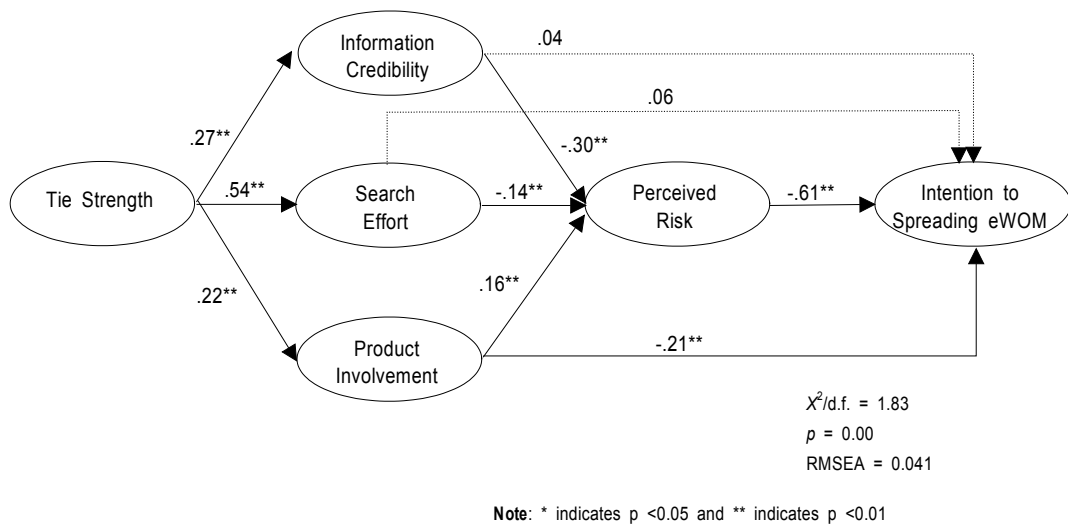
(H1a :  $b = 0.27, t = 5.08, p < 0.001$ ), external search efforts (H1b :  $b = 0.54, t = 11.23, p < 0.001$ ), and product involvement (H1c :  $b = 0.22, t = 4.52, p < 0.001$ ).

Our findings reveal that the determinants of negative eWOM have a strong impact on the consumers' intention to spread eWOM (H2, and H3 were supported; H2 :  $b = 0.22, t = 4.15, p < 0.001$ , and H3 :  $b = 0.15, t = 3.07, p < 0.01$ ) (see



Note: \* indicates  $p < 0.05$  and \*\* indicates  $p < 0.01$

<Figure 2> Testing Research Model without Perceived Risk



<Figure 3> Testing Research Model with Perceived Risk

<Figure 2>). We find that product involvement has a significant influence on the consumers' intention to spread eWOM, but in the opposite direction (H4 was not supported;  $H4 : b = -0.31, t = 6.17, p < 0.001$ ). Finally, to test the mediating role of perceived risk, we conducted several analysis suggested by Baron and Kenny [4]. First, we found a strong relationship between perceived risk and the intention to spread eWOM (coefficient =  $-0.57, p < 0.01$ ). Second, when perceived risk is included into the model, the effects of information credibility ( $b = 0.22, p < 0.01$ ) and external search efforts ( $b = 0.15, p < 0.01$ ) on the intention to spread eWOM reduce to 0.04 and 0.06, respectively. The influence of product involvement ( $b = -0.31, p < 0.01$ ) on the intention to spread eWOM, however, is still significant ( $b = -0.21, p < 0.01$ ). Lastly,  $R^2$  for the intention to spread eWOM is significantly improved when perceived risk is added to the model (the value of squared multiple correlations is changed from 0.157 to 0.481). Thus,

perceived risk plays a complete mediating role for information credibility and external search efforts (H5a and H5b were supported). We, however, find no support a mediation effect for product involvement (H5c :  $b = 0.16, t = 3.37, p < 0.01$ ) (see <Figure 3>).

## 4. Discussion

In this study, we set out to investigate the casual relationship between intention to spread eWOM and its key determinants, as well as the mediating effect of perceived risk on the relationship. As hypothesized, we find that tie strength on the Internet is positively associated with three key determinants of eWOM : information credibility, external search efforts, and product involvement.

Our findings are consistent with previous studies that a higher degree of tie strength is more influential on consumers' subsequent behaviors and attitude, such as assessing credi-

bility [10], seeking information actively [3, 76], and perceiving involvement [74]. Further, the results imply that the relational property may be useful to explaining the eWOM process, and that, when the consumers are connected with more people through the Internet, eWOM may be more effective in building up their perceptions toward a product or service.

Our results illustrate that the key determinants of consumers' eWOM behaviors are significantly related to their intention to spread eWOM, as supported by the findings of prior studies in the effect of online information credibility [11] and search effort [31] with their WOM behaviors. The results suggest that as consumers perceive the presented negative eWOM as reliable and are motivated to actively search for the related information, they are likely to articulate similar negative eWOM toward the product or service. Our finding, however, shows that product involvement is negatively associated with the intention to spread negative eWOM. This result may be explained by the prior study of Shang, Chen, and Liao [72]. They found that cognitive and affective involvement does not relate to a consumer's eWOM behavior. They also argued that, since anonymity in virtual community may decrease the social norm of reciprocity, even highly-involved consumers may not feel any obligation to repay others. And, the consumers may tend to be silent rather than to express negative opinions.

Finally, our results illustrate the mediating role of perceived risk on the relationship between intention to spread eWOM and its key determinants (i.e., information credibility and external search effort), consistent with previous studies in online context [53]. This study, how-

ever, does not find significant statistical evidence of the mediating impact of perceived risk on the relationship between intention to spread eWOM and product involvement. Prior studies indicate that the direction of the relationship between involvement and perceived risk may be difficult to formulate [17, 56]. Further inquiry may be required to investigate the relationship.

#### 4.1 Limitation

We have obtained interesting and insightful results. Our analysis, however, is based on cross sectional survey design and we need to exercise caution in making causal inferences. First, this study draws a convenient sample of students. In addition, the survey includes a sample only from Korea. While the preliminary findings hold great promise, generalization of the results may require further inquiries. Second, we collect data in the questionnaire form. The standard limitations of self-report data including self-selecting bias may apply to this research. The results of this study do not, however, seem to be contaminated by the single source bias, as indicated earlier in the results of the common method bias test. Finally, this study focuses on the relationship between intention to spread eWOM and its key determinants. While the findings from this study provide insightful guidelines, further investigation of how the other underlying factors in the online context influence the consumers' WOM behaviors may be beneficial.

## 5. Conclusion and Implications

Our study provides theoretical insights into

how consumers manage negative eWOM information. First, the paper investigates the relationship between consumers' social behaviors on the Internet, measured by tie strength, and their psychological perceptions on negative online reviews, measured by information credibility, external search efforts, and product involvement. Our findings suggest that tie strength may significantly influence the overall eWOM process, particularly when processing negative eWOM. Second, our study attempts to examine the negative eWOM process by adopting the ELM perspective. While prior studies find that source credibility can be a crucial factor to explaining consumers' behaviors [27, 29, 37, 63], our findings indicate that trustworthiness of online reviews may play a key role in the consumers' eWOM process. Third, our findings imply that perceived risk should be a vital component of understanding the negative eWOM process. Considering the fact that the primary purpose of consumers' participating in negative eWOM communication is to reduce uncertainty about the concerned products or services, perceived risk is likely to be a critical lens in understanding the relationship between various critical factors and consumers' purchasing behaviors.

The study also has interesting and potentially substantive implications for eWOM practice and public relation (PR) or marketing managers. First, our results imply that the impact of negative eWOM on consumers may vary depending on how the consumers perceive their social relationship with others through the Internet, being consistent with the prior studies that consumers are more likely to make purchase decisions by using information from similar sources than

from dissimilar sources [9, 75]. Second, an increasing number of potential consumers who have easy access to negative online reviews [35] may be problematic to most companies. Considering that most companies are afraid that their immediate responses to online complaints may escalate the issues [48], the adequate comprehension of the causal process of negative eWOM communications, as proposed in this study, may help a company formulate adequate strategies to deal with such online complaints accordingly. Further, this study suggests that PR or marketing managers may carefully monitor negative eWOM as well as other consumers' views, before taking proper actions on the negative events.

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## 〈Appendix 1〉 Instruments

### Intention to spread eWOM

WM1 : I would not recommend for this product to my friends.

WM2 : If my friends were looking to purchase this product, I would tell them not to try.

### Perceived Risk

How would you characterize the decision of whether to buy this product?

PR1 : Risky vs. Opportunistic

PR2 : Potential for loss vs. Potential for gain

PR3 : Negative vs. Positive

### Involvement

How do you perceive the product shown above? Please indicate how you think.

To me, the product is,

IN1 : Irrelevant vs. Relevant

IN2 : Unappealing vs. Appealing

IN3 : Worthless vs. Valuable

IN4 : Mundane vs. Fascinating

### Tie Strength

TS1 : Since getting on the Internet, I have become more connected to people like me.

TS2 : Since getting on the Internet, I have become more connected to people who share my hobbies/recreational activities through the Internet.

TS3 : I have become more connected to people in similar life situations (e.g., self-help groups, support groups) through the Internet.

### Credibility

CR1 : In the message you just heard, how truthful do you think the claims were?

Not at all truthful vs. Completely truthful

CR2 : Overall, how credible do you think the claims were?

Not at all credible vs. Completely credible

### External Search Effort (very little vs. very much)

SE1 : I spend a lot of time surfing the websites before I decide upon online purchase.

SE2 : I made a lot of visits to sites before the purchase of products online.

SE3 : I spend a lot of time surfing the websites for information about online products.