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Attachment styles and electronic word of mouth (e-WOM) adoption on social networking sites

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ABSTRACT

It becomes more and more important for marketers to understand why individuals adopt electronic word-of-mouth (e-WOM) on social networking sites. This paper aims to understand the social networking sites users e-WOM adoption based on the attachment theory. Attachment avoidance, attachment anxiety, and their interaction effects are tested to understand the direct effect on e-WOM adoption. Moreover, the mediating effect of self-surveillance and social surveillance between attachment styles and e-WOM adoption has also evaluated. The results indicated that attachment avoidance has an adverse effect on e-WOM adoption; attachment anxiety and the interactive effect have a positive effect on e-WOM adoption. Self-surveillance and social surveillance have a mediating effect between two attachment dimensions (avoidance and anxiety) and e-WOM adoption, and the interaction of anxiety and avoidance mediated by social surveillance.

1. Introduction

Electronic word-of-mouth (e-WOM) is becoming an important marketing tool in the social media era. Consumers are accustomed to sharing information with others on social networking sites (SNSs), such as Facebook or Twitter. e-WOM is defined as “any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet” (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004, 39).

Prior e-WOM related studies are classified into two levels: market-level analysis and individual-level analysis (Lee & Lee, 2009). The objective panel data (e.g., amount of consumer reviews) were used in the market-level analysis to measure the impact of e-WOM on product sales (Chen & Xie, 2005; Chevalier & Mayzlin, 2006). Subjective personal factors (e.g., source credibility and consumer knowledge) were used in the individual-level analysis (Cheung, Luo, Sia, & Chen, 2009; Park & Kim, 2009). Individual-level analysis based e-WOM studies focus on four main elements in social communication: communicator (source), stimulus (content), receiver (audience), and response (main effect) (Cheung & Thadani, 2012). Communicators share or generate the contents for receivers, and receivers respond to the communicators.

As referred by Cheung and Thadani (2012), e-WOM adoption is one of the most important response variables in e-WOM research. Existing e-WOM adoption studies overly depend on the information adoption model and only focus on the communicator and contents role but neglect the receiver's role. The information adoption model was widely used in prior studies and showed that e-WOM credibility and information usefulness have a direct positive effect on e-WOM adoption (Cheung et al., 2009; Liu & Zhang, 2010; Ong & Yap, 2017). e-WOM credibility is related to the communicator's expertise and trustworthiness; information usefulness is tied to the content-related characteristics such as positive or negative view and volume. Moreover, receiver's prior knowledge and involvement in the product/service are proved to have a moderating effect on the e-WOM adoption (Doh & Hwang, 2009; Park & Kim, 2009).

However, e-WOM adoption also depends on how likely individuals are to rely on others' opinions on social networking sites. Peer influence influences customers' social motivation of consumption and understanding of consumption symbolism (Bachmann, John, & Rao, 1993; Wiedmann, Hennigs, & Langner, 2010). Some individuals like to shop with friends and want to get more advice from them; some others prefer to shop alone and adhere to their ideas (Ismail, 2015). In social networking sites, individuals are tight connected to each other; perceived information quality and credibility depend on their relationship with connectors.

This study proposes that peer influence is also a major factor of e-WOM adoption. Attachment which is originally formed from childhood has often been used to study interpersonal interaction and relationships (Bowlby, 1969; Shaw & Sullivan, 2013). However, no study uses

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individual attachment styles to understand information adoption. Thus, the purpose of this study is to examine the relationship between a receiver's attachment style and e-WOM adoption response. We believe that receivers' different attachment styles have a substantial effect on their e-WOM adoption on SNSs; it is the precondition for considering the communicator and content. Thus, attachment theory is used in this study to examine what kinds of individuals will adopt e-WOM information on SNSs. In addition, this study also uses the dual process theory to explain how the normative influences make different attachment styles have different effects on e-WOM adoption. On social networking site, social surveillance refers to observing others' behavior, and self-surveillance refers to managing one's behavior on online social networking sites to in line with online social norms (Park, Shin, & Yong, 2015; Tokunaga, 2011). Thus, social surveillance and self-surveillance are used as mediating constructs of the relationship between attachment styles and e-WOM adoption behavior.

2. Theoretical background and hypotheses

2.1. e-WOM adoption and attachment

e-WOM adoption is considered to be the adoption and uses of information on online social communities to make purchase decisions (Cheung et al., 2009). Previous studies indicated that information usefulness and e-WOM credibility have a positive effect on e-WOM adoption (Cheung et al., 2009; Liu & Zhang, 2010). Filieri and McLeay (2013) adopted the elaboration likelihood model to identify why travelers adopt online information to make decisions. They found that product ranking, information accuracy, information value-added, information relevance, and information timeliness are significant predictors of information adoption. Alhidari, Lyer, and Paswan (2015) indicated that personal level characteristics such as involvement and risk-taking would also influence information adoption.

However, people's attachment styles as an important personal level characteristics, there is no study focusing on it. There are several reasons for explaining attachment style as a factor worth studying. First, attachment theory indicated that a person's view of self and view of others might jointly influence their information adoption behaviors. Second, attachment has been widely studied mostly in the relationship between infants and caregivers, the attachment would also transfer and adapted to the relationship with friendship, romantic relationship, brands, place, etc. Thus, attachment would influence person's self-esteem, coping strategy which provides a unique perspective on understanding individuals' information adoption behavior. Third, the attachment was focusing on the close relationship, the close relationship in social networking sites is different from traditional definition, and every person is connected tightly more than an offline close relationship, this will also provide a different understanding of information adoption behavior.

2.2. Attachment theory

Attachment theory attempts to explain the affectionate bonds formed between infants and their primary caregivers (Bowlby, 1969) and how it transfers to other interpersonal relationships later in life (Ainswworth, Blehar, Waters, & Wall, 1978). The early relationship between infants and caregivers can help a child develop an internal working model, which can guide the child's thoughts, behaviors, and affect other relationships (Weimer, Kerns, & Oldenburg, 2004). These relationships not only include romantic relationships and friendships (Bowlby, 1969) but also include the attachment to possessions, brands, sports teams, stores, and business partners (Cho, Kim, & Kim, 2015; Grinstein & Nisan, 2009; Kleine, Robert, Kleine, & Allen, 1995; Shin & Park, 2014).

Attachment styles can be formed from two dimensions: attachment avoidance and attachment anxiety (Brennan, Clark, & Shaver, 1998). The avoidance dimension refers to the degree that an individual's view of others is positive or negative, whereas the anxiety dimension relates to the extent that an individual's view of self is positive or negative. The avoidance dimension is related to the extent that individuals have a need for self-reliance, fear of depending on others, distrust of partners, and tend to keep an emotional and cognitive distance away from partners (Brennan et al., 1998; Collins & Read, 1990; Hazan & Shaver, 1987). Avoidantly attached individuals have a high degree of self-reliance and desire for autonomy, avoid intimacy in relationships, and tend to form less stable, short-term relationships (Bartholomew & Horowitz, 1991; Mikulincer, Shaver, & Pereg, 2003). They tend to distrust the relationship and rely less on external information (Zhang & Hazan, 2002).

The anxiety dimension is related to the degree that individuals worry that partners might not be available in times of need as well as fear of rejection by others (Brennan et al., 1998; Hazan & Shaver, 1987). Anxiously attached individuals always doubt whether they are worthy of love (Mikulincer et al., 2003). They tend to monitor the environment for signs of partner availability and are highly sensitive to ambiguous cues (Collins, 1996). Moreover, they might be particularly concerned with managing their self-presentation, designing their behaviors to reinforce the relationship, and seeking social norms and social support (Mikulincer & Shaver, 2007). Individuals with high attachment anxiety are lower in self-esteem and prefer to use external help to enhance their self-worth (Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006). Thus, it is hypothesized as follows:

H1. Attachment avoidance negatively affects e-WOM adoption.

H2. Attachment anxiety positively affects e-WOM adoption.

2.2.1. Interaction of anxiety and avoidance

Based on the interaction of the anxiety dimension and avoidance dimension, a four-category model of attachment styles has been established (Bartholomew & Horowitz, 1991): secure individuals are low in both anxiety and avoidance; preoccupied individuals are high in anxiety and low in avoidance; dismissing individuals are high in avoidance and low in anxiety, and fearful individuals are high on both anxiety and avoidance. Fearful individuals have been studied in various studies because of their particular situation that they desire a close relationship but fear adverse consequences in an interpersonal relationship. People in this style are for avoidance strategy to resolve the uncertain situation (Collins & Feeney, 2004). However, we believe this will be different in online context because of the asynchronous nature. Individuals' behavior in an online environment is more controllable and malleable than in face-to-face interpersonal relationships (Walther, 1996). Moreover, the visual anonymity in an online environment (Joinson, 2001) may enable individuals to participate in social networking sites more openly and reduce their fear of getting negative influence by others. Thus, we expect fearful users have the highest tendency of e-WOM adoption in social networking sites compared to other users. Thus, it is hypothesized as follows:

H3. The interaction effect of attachment anxiety and attachment avoidance positively affects e-WOM adoption.

2.3. The mediating effect of self-surveillance and social surveillance

In prior studies, information usefulness and e-WOM credibility emphasized as the main mediating variables to connect the relationship with e-WOM adoption (Liu & Zhang, 2010; Park & Kim, 2009). In this study, we will focus on the social-related motivation constructs in SNSs to understand the reason why attachment orientation is related to e-WOM adoption.

Self-surveillance is a behavior for an individual to monitor, control, and manage his/her self-presentation and expressive behavior, and the

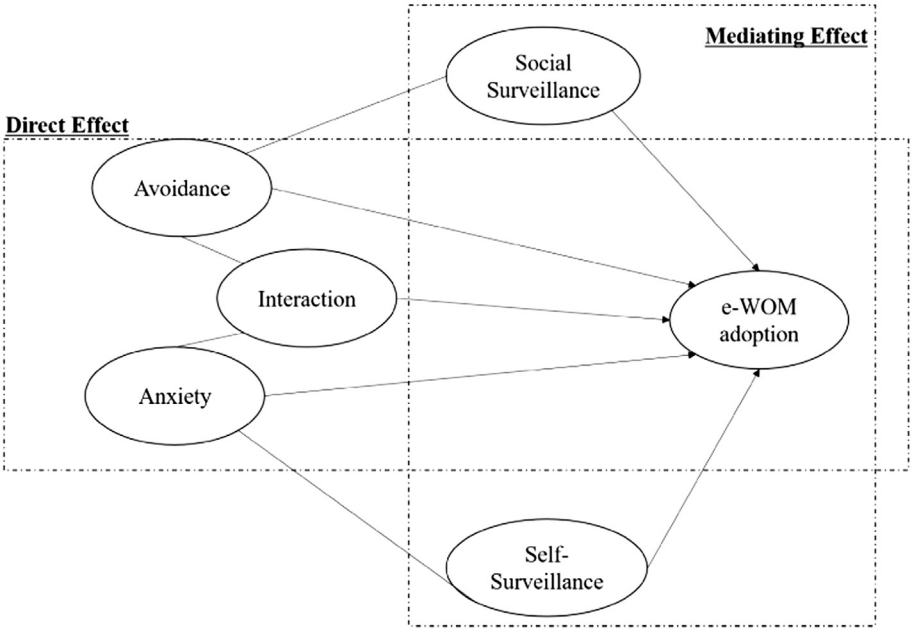

Fig. 1. Conceptual framework.

purpose of this behavior is to achieve social appropriateness in a given situation (Snyder, 1974). It relates to the concept of self-monitoring, self-control, and self-maintenance. Individuals who have high self-surveillance tendency are sensitive to external environment situations and prefer to use others' behavior as guidelines for regulating and controlling their self-presentation, whereas low self-surveillance individuals prefer to use their internal affective states and attitudes to decide their self-presentation (Snyder, 1979). That is, high self-surveillance individuals rely more on social environments and prefer to post positive information about themselves to present a positive self-view on their online social networks. In addition, high self-surveillance individuals appear to have a heterogeneous friendship network, they choose friends based on whoever has the specific activities or skills that can help them learn how to fit better into special social situations, and low-self surveillance individuals appear to have a homogeneous friendship network; they prefer to choose those who have similar attitudes, interests, feelings in some specific things as them (Park, Shin, & Yong, 2014; Snyder & Gangestad, 1982; Snyder & Smith, 1986). Therefore, high self-surveillance people would like to connect with various people to learn more social skills and get social support for making appropriate behaviors.

Social surveillance is a behavior where individuals track others' actions, beliefs, and interests and collect other persons' data or information (Lampe, Ellison, & Steinfield, 2006). Social surveillance is one of the most important motivations for users to use SNSs, and can help individuals increase their online social network sizes, and can help them find specific people who have offline connections with them and increase knowledge about people in their offline social networks (Joinson, 2008; Lampe et al., 2006). Social surveillance can also promote the awareness of others and strengthen “digital intimacy” with others. Intimacy with others will arouse individuals' thinking of reciprocity that when I receive much information, then I should create some information to seek a peace of mind. Social surveillance also can be used for discovering social cues that indicate the group norms to help them do appropriate actions (Lampe et al., 2006).

The dual-process theory is widely used in e-WOM research and focusing on receivers' psychological process, which indicated that individuals' judgment would be influenced by informational and normative influences (Deutsch & Gerard, 1955; Filieri, 2015). Informational influence is the quality of information that includes information relevancy, source credibility, and information quantity. Normative influence is related to the individual's conformity to the norms/expectations of others; normative influence includes online customer reviews, product rankings, and customer ratings. These elements could be the social cues for individuals. In social networking site, social surveillance and self-surveillance are the necessary constructs to understand online social networking sites users' behavior and how to follow the online social norms (Park et al., 2015; Tokunaga, 2011). Thus, different degrees of social surveillance and self-surveillance in online social networking sites will be influenced differently by normative influences. Therefore, we predict that high social surveillance individuals would like to use SNSs to search for specific offline friends and connect with them online, monitor them continuously so that can strengthen or maintain tie strength, and create contents to create a reciprocity environment. Thus, it is hypothesized that:

H4. Self-surveillance mediates the relationship between attachment styles and e-WOM adoption.

H5. Social surveillance mediates the relationship between attachment styles and e-WOM adoption.

3. Methodology

3.1. Conceptual framework

Fig. 1 is the conceptual framework of this study. There are two parts of this study. First is the direct effect between attachment styles and e-WOM adoption. Second is the mediating effect of social surveillance and self-surveillance. In direct effect, two types of attachment style: avoidance and anxiety will be examined. Also, the interaction of avoidance and anxiety will be tested. Also, social surveillance and self-surveillance will be tested whether have mediating effect between attachment style and e-WOM adoption.

3.2. Sample and data collection

The data collected through survey questionnaires in South Korea and the main target population of this study was heavy SNS users who are 20–30 years old. There are two main parts in the survey. First, it includes seven-point Likert scale items of each construct; second, the demographic and SNS-using questions. All questionnaires initially developed in English, and a back translation procedure was employed

Table 1
Demographic information.

Contents	Items	Percentages (%)
Gender	Male	55.1
	Female	44.9
Age	20–25	82.4
	26–30	17.6
SNSs used	Facebook	83.3
	Twitter	29.5
	Me2Day	10.1
	Google Plus	1.8
	Contact with friends	84.5
Motivation of using SNSs	Record personal daily life	23.8
	Record interest contents	13.1
	Meet new friends	3.3
	Education/workplace networking	3
	Contact with family	2.1
	Date	2.1
	Game	1.2
	Others	1.5

(Cavusgil & Das, 1997). A total of 400 questionnaires distributed from offline, and 357 surveys returned. There are 21 responses were eliminated from analysis because these respondents indicated they have no SNSs use experiences. The results of the demographic information shown in Table 1.

3.3. Measures

We adopted the scale items of each construct from previous studies and adapted them to this research. Attachment anxiety and attachment avoidance measures were obtained and modified from Mende and Bolton (2011) and Brennan et al. (1998). Self-surveillance measures were adapted from Snyder (1979) and Snyder and Gangestad (1982). Social surveillance measures were adapted from Kaye (2005) and Tokunaga (2011). e-WOM adoption measures were obtained from Cheung et al. (2009). The items used 7-point Likert scales ('1' = strongly disagree to '7' = strongly agree). All the final items of each construct listed in Appendix A.

4. Data analysis and results

Measurement model analysis

An exploratory factor analysis was conducted first to assess their dimensionality, factor structure, and measurement properties. Some items are eliminated because of cross-loadings and low coefficients. Factor analysis can be used as a tool to determine the number of latent variables and the scale unidimensionality of variables before a more in-depth analysis. A measurement item loads highly if its loading coefficient is above 0.6 and does not load highly if its loading coefficient is below 0.4 (Hair, Black, Babin, Anderson, & Tatham, 2005). This study eliminated all the items loading below 0.6. Table 2 shows the exploratory factor analysis results of final 17 items. These five constructs accounted for 68.4% of total variance. The Cronbach's alpha of each construct is range from 0.72 to 0.85 and above 0.7 (Nunnally, 1978).

Second, the structural equation modeling (SEM) approach was used to validate the research model. This method was chosen because of its ability to test causal relationships between constructs with multiple measurement items (Jöreskog & Sörbom, 1993). Confirmatory factor analysis (CFA) was conducted by using LISREL 8.8 to test the measurement model. It can be utilized as a tool to determine whether observed items are highly correlated with the latent construct. The CFA results demonstrate good measurement model fit: χ^2 (108) = 268.08 ($p < 0.001$), goodness of fit index (GFI) = 0.91, incremental fit index (IFI) = 0.95, comparative fit index (CFI) = 0.95, Normed Fit Index (NFI) = 0.92, and root mean square error of approximation (RMSEA) = 0.067. The model fit parameters are in the acceptable range (Baumgartner & Homburg, 1996).

Table 2
Results of exploratory factor analysis.

Constructs	Items	Components					Cronbach's alpha
		1	2	3	4	5	
ANX	ANX1				0.73		0.72
	ANX2				0.74		
	ANX3				0.65		
	ANX4				0.81		
AVO	AVO1					0.79	0.75
	AVO3					0.80	
	AVO4					0.72	
SOS	SOS1		0.81				0.84
	SOS3		0.86				
	SOS6		0.84				
SES	SES1	0.82					0.82
	SES2	0.64					
	SES3	0.66					
	SES4	0.87					
e-WOMA	e-WOMA1			0.81			0.85
	e-WOMA2			0.74			
	e-WOMA3			0.83			
Eigenvalue		4.74	2.61	1.70	1.49	1.08	
Variance %		27.96	15.32	9.98	8.77	6.36	

Note: ANX = attachment anxiety; AVO = attachment avoidance; SOS = social surveillance; SES = self-surveillance; e-WOMA = e-WOM adoption.

Moreover, convergent validity and discriminant validity were assessed to validate the measurement model. Convergent validity indicates the various observed variables of one latent construct are theoretically related to each other; all constructs should have an average variance extracted (AVE) higher than 0.50 and composite reliability (CR) should > 0.70 (Fornell & Larcker, 1981). As for showing in Table 3, all AVE and CR values of the constructs are in a good range. Therefore, the model internal consistency is acceptable. Discriminant validity was assessed to ensure whether the construct is different from others. In this measurement, the square root of the AVE for each factor should be higher than the correlations between the construct and other constructs (Fornell & Larcker, 1981). As shown in Table 4, the square roots of AVE, which are in bold, demonstrate the adequate discriminant validity of all constructs.

Table 3
Results of confirmatory factor analysis.

Variables	Items	Standard factor loading	Standard deviation	t-Value	AVE	CR
ANX	ANX1	0.65	0.47	11.27	0.51	0.81
	ANX2	0.66	0.43	9.66		
	ANX3	0.74	0.37	12.99		
	ANX4	0.6	0.42	10.29		
AVO	AVO1	0.6	0.45	8.25	0.53	0.77
	AVO3	0.77	0.38	12.11		
	AVO4	0.69	0.42	11.05		
SOS	SOS1	0.71	0.50	13.98	0.65	0.85
	SOS3	0.88	0.23	18.51		
	SOS6	0.82	0.32	17.00		
SES	SES1	0.62	0.51	11.50	0.52	0.81
	SES2	0.65	0.48	12.27		
	SES3	0.67	0.56	12.56		
	SES4	0.85	0.28	17.08		
e-WOMA	e-WOMA1	0.91	0.17	20.44	0.67	0.86
	e-WOMA2	0.85	0.28	18.52		
	e-WOMA3	0.68	0.54	13.60		

Note: ANX = attachment anxiety; AVO = attachment avoidance; SOS = social surveillance; SES = self-surveillance; e-WOMA = e-WOM adoption; AVE = average variance extracted; CR = composite reliability.

Table 4
Discriminant validity.

Variable	Mean	S.D.	AVO	ANX	SES	SOS	e-WOM
AVO	3.64	1.16	**0.73**				
ANX	2.68	1.08	0.32	**0.71**			
SES	3.67	1.27	− 0.15	0.09	**0.72**		
SOS	4.45	1.37	− 0.08	0.13	0.41	**0.81**	
e-WOM	3.64	1.37	− 0.20	0.07	0.68	0.54	**0.82**

Note: Bolded diagonal elements are the square root of average variance extracted for each construct. The numbers below the diagonal elements are the correlations between constructs. AVO = attachment avoidance; ANX = attachment anxiety; SES = self-surveillance; SOS = social surveillance; PUP = public participation; S.D. = standard deviation.

4.2. Results of hypotheses testing

In order to test the hypotheses, a unmediated model which is the direct effect between independent variable (attachment style) and dependent variable (e-WOM adoption) and the mediated model which is including self-surveillance and social surveillance as mediators between independent variable and dependent variable have been tested by creating a structural equation model (SEM) in LISREL. The interaction variable of attachment avoidance and attachment anxiety included in the analysis of unmediated model and mediated model. Ping's (1995) two-step approach was adopted to assess the interaction effect. First, the measurement model without interaction effect conducted, and the factor loadings and error estimates for observed variables of attachment avoidance and attachment anxiety were obtained. Second, calculate the single indicant of interaction construct's loading and error estimate with the value obtained from the first step, and use the calculated value to conduct the structural model analysis.

The unmediated model with interaction effect is analyzed first, and the model fit provides a good fit to the data ($\chi 2$ (df) = 176.99(71), GFI = 0.93, IFI = 0.97, CFI = 0.97, NFI = 0.95, RMSEA = 0.066). The results indicated that attachment avoidance has a significant negative effect on e-WOM adoption ($\beta = -0.26$, $t = -3.78$, $p < 0.001$), the attachment anxiety has a significant positive effect on e-WOM adoption ($\beta = 0.15$, $t = 2.15$, $p < 0.05$), and the interaction effect of attachment avoidance and attachment anxiety has a positive effect on e-WOM adoption ($\beta = 0.11$, $t = 2.19$, $p < 0.05$). As showing in Table 5, the unmediated model analysis support the H1, H2, and H3. Moreover, the positive interaction effect on e-WOM adoption means the fearful users (M = 4.43) who are high in both attachment avoidance and attachment anxiety are more likely to adopt the product/service review in social networking sites than secure users (M = 2.28, $p < 0.05$), preoccupied users (M = 2.78, $p < 0.05$), and dismiss users (M = 2.45, $p < 0.05$).

To assess the mediated effect of self-surveillance and social surveillance, the mediated model with direct effect and mediate effect is analyzed, the model fit also provides a good fit to the data ($\chi 2$ (df) = 435.39(153), GFI = 0.89, IFI = 0.95, CFI = 0.95, NFI = 0.93, RMSEA = 0.074). Table 5 shows that when the two mediators (self-surveillance and social surveillance) added to the model, the direct effect between attachment styles and public participation are not significant. However, the attachment avoidance has a negative effect on self-surveillance ($\beta = -0.21$, $t = -3.71$, $p < 0.001$) and social surveillance ($\beta = -0.11$, $t = -1.97$, $p < 0.05$), the attachment anxiety has a positive effect on self-surveillance ($\beta = 0.16$, $t = 2.81$, $p < 0.01$) and social surveillance ($\beta = 0.20$, $t = 3.59$, $p < 0.001$), and self-surveillance ($\beta = 0.59$, $t = 16.39$, $p < 0.001$) and social surveillance ($\beta = 0.28$, $t = 7.82$, $p < 0.001$) positively affect the e-WOM adoption. Moreover, the interaction effect of attachment avoidance and attachment anxiety has a positive effect on social surveillance ($\beta = 0.11$, $t = 1.99$, $p < 0.05$) but no effect on self-surveillance ($\beta = -0.06$, $t = -1.05$, $p > 0.05$). This result indicated that self-surveillance and social surveillance mediate the attachment avoidance, attachment anxiety, and the interaction of attachment avoidance and attachment anxiety with e-WOM adoption except for the mediation effect of self-surveillance between interaction variable and e-WOM adoption. The Sobel test (Sobel, 1982) of each mediator also conducted to ensure each mediate variable has a significant mediation effect between attachment style and e-WOM adoption. As the results showing in Table 6, self-surveillance has a significant full mediation effect on the path from attachment avoidance to e-WOM adoption ($z = -3.43$, $p < 0.001$) and attachment anxiety to e-WOM adoption ($z = 3.28$, $p < 0.01$), but there is no significant mediation effect between the interaction variable and e-WOM adoption ($z = -1.20$, $p > 0.05$). And, social surveillance has a full mediated effect on attachment avoidance ($z = -1.98$, $p < 0.05$), attachment anxiety ($z = 2.59$, $p < 0.01$), and attachment interaction ($z = 2.15$, $p < 0.05$) to e-WOM adoption. The results show that social surveillance mediates the effect of attachment avoidance, attachment anxiety, and interactive of avoidance and anxiety on e-WOM adoption. Moreover, self-surveillance mediates the effect of attachment avoidance and attachment anxiety on e-WOM adoption but no mediating effect on the relationship between the interaction effect and e-WOM adoption. It partially supports H4 and fully supports H5.

Table 5
Test of the unmediated model and mediated model.

Path	Unmediated model		Self-surveillance and social surveillance as mediators	
	Coefficient	t-Value	Coefficient	t-Value
AVO → e-WOMA	− 0.26***	− 3.78	− 0.09	− 1.76
ANX → PUP	0.15*	2.15	− 0.01	− 0.38
AVO*ANX → PUP	0.11*	2.19	− 0.01	− 0.16
AVO → SES	–	–	− 0.21***	− 3.71
ANX → SES	–	–	0.16**	2.81
AVO*ANX → SES	–	–	− 0.06	− 1.05
AVO → SOS	–	–	− 0.11*	− 1.97
ANX → SOS	–	–	0.20***	3.59
AVO*ANX → SOS	–	–	0.11*	1.99
SES → e-WOMA	–	–	0.59***	16.39
SOS → e-WOMA	–	–	0.28***	7.82
Model fit				
$\chi 2$ (df)	176.99(71)		435.39(153)	
GFI	0.93		0.89	
IFI	0.97		0.95	
CFI	0.97		0.95	
NFI	0.95		0.93	
RMSEA	0.066		0.074	

* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

5. Discussion

In this study, we tried to understand personal e-WOM adoption in social networking sites through attachment styles and sought to know

Table 6
Sobel test of the mediation effect.

Path	Self-surveillance as mediator		Social surveillance as mediators	
	z-Value	*p*-Value	z-Value	*p*-Value
AVO → e-WOMA	− 3.43	< 0.001	− 1.98	< 0.05
ANX → e-WOMA	3.28	< 0.01	2.59	< 0.01
AVO*ANX → e-WOMA	− 1.20	> 0.05	2.15	< 0.05

why they adopt the product/service reviews in social networking sites. Attachment styles have demonstrated that have a significant effect on e-WOM adoption on social networking sites in this study. Self-surveillance and social surveillance have been shown as the reasons why users adopt reviews in the social networking sites, especially, social surveillance as the main cause for fearful users to adopt e-WOM actively.

We used individuals' interpersonal attachment styles to understand the e-WOM adoption in social networking sites. Avoidance individuals are less likely to get social support on social networking sites, and anxiety individuals are more likely to seek opinions social networking sites actively. It is consistent with the traits that avoidance individuals see others as negative and depend on self-reliance, and anxiety individuals are view self as negative and dependent on others. So that, seek more opinions can facilitate anxiety individuals to verify their existence, and refuse to adopt others support in social networking sites can facilitate avoidance individuals to avoid the adverse effects from others. Through the interactive of avoidance and anxiety, we found that high anxiety and high avoidance individuals (fearful) are more enjoy participating in social networking sites actively. This result is different from previous research results that the high anxiety and high avoidance individuals prefer avoidance strategy when dealing with some relationships. As we assumed that, the online environment is a virtual world and easy for users to communicate with others than face-to-face communication so that fearful users are eager to get more social support in social networking sites more than other three group users.

Moreover, we focused on self-surveillance and social surveillance to understand why users are trying to adopt e-WOM in social networking sites actively. The results indicated that attachment avoidance negatively affect the public participation because of the adverse effect on self-surveillance, such that, avoidance individuals will have less intention to control their self-presentation or image and prefer to show their real self to others in the online environment. Anxious individuals are actively participating in social networking sites because of they have a positive effect on both self-surveillance and social surveillance. The negative view of themselves makes them unconfident and dependent on others. Thus, they would like to use self-surveillance and social surveillance strategy to control their online behavior and to learn the social norms in social networking sites to get support from others when they need. Compare the self-surveillance and social surveillance, individuals with high attachment anxiety are more likely to use social surveillance strategy than self-surveillance, such that, others behavior are more important for them to guide their behaviors. The relationship between the interactive effect of the anxiety and avoidance and public participation has demonstrated to mediated by social surveillance instead of self-surveillance. It means fearful individuals are more likely to use anxiety strategy to seeking others' behaviors in social networking sites. This is worth to notice that fearful individuals prefer to use avoidance strategy to stay a distance from others in face to face interpersonal relationship but in an online environment, they are more positively to use anxiety strategy to seek other information and actively interact with others.

Appendix A. Constructs and items

Constructs	Items	Sources
Attachment anxiety (ANX)	1. I worry about being abandoned by others. 2. I worry that others don't really like me. 3. I worry about that others don't care about me as much as I care about them. 4. Others change how they treat me for no apparent reason.*	Mende and Bolton (2011) and Brennan et al. (1998)
Attachment avoidance (AVO)	1. It is not a comfortable feeling to depend on others. 2. I am not comfortable having a close relationship with others.* 3. It is not easy for me to feel warm and friendly toward others. 4. It helps to turn to others in time of needs. [R]	
Social surveillance (SOS)	1. I visit my friends' social network site pages often. 2. I am generally aware of the relationships between my friends and his/her social network site friends.* 3. I try to read comments my friends post on mutual friends' walls. 4. I try to monitor my friends' behaviors through his/her social network site pages.* 5. I know more about my friends' everyday life by looking at his/her social network site pages.* 6. I explore my friends' social network site pages to see if there is anything new or exciting.	Kaye (2005) and Tokunaga (2011)
Self-surveillance (SES)	1. I try to express my real status in social network sites. [R] 2. I try to know what my social network sites friends' interests. 3. I always think carefully before upload pictures or write something in my social network sites. 4. I am comfortable talking about my private life with social network sites friends. [R]*	Snyder (1979) and Snyder and Gangestad (1982)
e-WOM adoption (e-WOMA)	1. I try to establish new connections in social network sites. 2. I try to create and share contents (photos, videos, etc.) in social network sites. 3. I try to communicate (chatting, leave comments, etc.) with others in social network sites.	Cheung et al. (2009)

Note: *Items are eliminated because of low factor loadings or cross loading during exploratory factor analysis.

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