

Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites

Shu-Chuan Chu

DePaul University

Yoojung Kim

The University of Texas at Austin

As more and more marketers incorporate social media as an integral part of the promotional mix, rigorous investigation of the determinants that impact consumers' engagement in eWOM via social networks is becoming critical. Given the social and communal characteristics of social networking sites (SNSs) such as Facebook, MySpace and Friendster, this study examines how social relationship factors relate to eWOM transmitted via online social websites. Specifically, a conceptual model that identifies tie strength, homophily, trust, normative and informational interpersonal influence as an important antecedent to eWOM behaviour in SNSs was developed and tested. The results confirm that tie strength, trust, normative and informational influence are positively associated with users' overall eWOM behaviour, whereas a negative relationship was found with regard to homophily. This study suggests that product-focused eWOM in SNSs is a unique phenomenon with important social implications. The implications for researchers, practitioners and policy makers of social media regulation are discussed.

Introduction

In recent years, social media have become a new hybrid component of integrated marketing communications (IMC) that allow organisations to establish strong relationships with their consumers (Mangold & Faulds 2009). As defined by Kaplan and Haenlein (2010, p. 61), social media are 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and

exchange of User Generated Content'. Social media encompass a variety of online information-sharing formats including social networking sites (SNSs) (e.g. Facebook, MySpace and Friendster), creativity works-sharing sites (e.g. YouTube and Flickr), collaborative websites (e.g. Wikipedia) and microblogging sites (e.g. Twitter) (Mangold & Faulds 2009). Among the various types of social media, SNSs have received mounting attention from researchers, educators, practitioners and policy makers (boyd & Ellison 2008; Ellison *et al.* 2007; Thelwall 2008, 2009; Valenzuela *et al.* 2009). With high levels of self-disclosure and social presence (Kaplan & Haenlein 2010), SNSs have recently outpaced email as the most popular online activity (Nielsen Online 2009), and have enabled consumers to connect with others by exchanging information, opinions and thoughts about products and brands. Given the collaborative and social characteristics of SNSs, this study focuses on SNSs as an emerging venue for consumer-to-consumer conversations, namely brand-related word-of-mouth (WOM).

The significance of WOM in influencing consumer decision making has been well recognised in marketing and advertising literature (Engel *et al.* 1969; Gilly *et al.* 1998). WOM is defined as the act of exchanging marketing information among consumers, and plays an essential role in changing consumer attitudes and behaviour towards products and services (Katz & Lazarsfeld 1955). Because WOM is created and delivered by a more trustworthy source of information about products and brands than company-generated persuasive messages (Feick & Price 1987), consumers often rely on it when they search for information on which to base their purchase decisions. The emergence of Internet-based media has facilitated the development of WOM online – that is, electronic word-of-mouth (referred to as eWOM hereafter). Hennig-Thurau *et al.* (2004) defined eWOM 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' (p. 39). eWOM occurs on a wide range of online channels, such as blogs, emails, consumer review websites and forums, virtual consumer communities, and SNSs (Phelps *et al.* 2004; Thorson & Rodgers 2006; Dwyer 2007; Hung & Li 2007). Prior empirical investigations have examined the impact of eWOM on product sales (Chevalier & Mayzlin 2006; Goldsmith & Horowitz 2006), consumers' decision-making processes (De Bruyn & Lilien 2008), and attitude towards the brand and the website (Lee *et al.* 2009).

SNSs represent an ideal tool for eWOM, as consumers freely create and disseminate brand-related information in their established social networks composed of friends, classmates and other acquaintances (Vollmer & Precourt 2008). According to a recent report by the Pew Internet & American Life Project (Lenhart *et al.* 2010), more than 70% of online users between 18 and 29 years old use SNSs, with Facebook (73%) being the most popular social networking website, followed by MySpace (48%) and LinkedIn (14%). Advertising on SNSs enables consumers to engage in some kind of social interactions by commenting, liking or passing along to their social connections (Interactive Advertising Bureau 2009). Through these interactions, consumers voluntarily display their brand preference along with their persona (e.g. name and picture), which can engender eWOM communication. Nonetheless, even though SNSs have the capacity to facilitate and shape eWOM in the marketplace, why and how eWOM takes place in the online social sphere has not yet been examined. An understanding of eWOM mechanisms in SNSs can enhance our knowledge of drivers of eWOM and provide valuable insights into Internet advertising strategy.

Thus, an investigation of SNSs as an online tool for eWOM is timely and needed. Given that social relationship building and maintenance is the primary activity among SNS users, this study attempts to identify social factors that influence consumers' engagement in eWOM in the online hangout place. The objective of this study, therefore, is to develop a conceptual framework that assists our theoretical understanding of consumers' use of SNSs as a vehicle for eWOM. Specifically, the present study empirically tests a proposed model that delineates social ties, homophily, trust and interpersonal influence as key precursors of eWOM via SNSs. This study offers theoretical insights into the links between social relationships and eWOM in SNSs, and substantially contributes to the literature on advertising on social media. Managerially, understanding social relationship variables that affect consumers' eWOM behaviours in SNSs could help marketers to identify influential individuals in social networks and to effectively incorporate social media as an integral part of IMC. More importantly, because consumer conversations in social media involve a high level of voluntary self-discourse among users (e.g. profile data such as names and affiliations), an empirical investigation of the determinants of eWOM delivered via SNSs could provide potential

implications for policy makers to develop effective social media regulations on consumer privacy.

Conceptual framework and hypotheses

eWOM in SNSs

Because of the potential of SNSs for online branding, advertising spending on SNSs has undergone tremendous growth. According to eMarketer (2008), advertising spending on SNSs in the US is expected to reach \$2.6 billion by 2012. eWOM in SNSs occurs when consumers provide or search for informal product-related advice through the unique applications of these sites. For example, consumers can associate themselves with brands explicitly by becoming a friend or fan. Voluntary exposure to brand information in SNSs is important because consumers are seeking ways to interact with brands and other consumers, which enables truly interactive eWOM. Another important characteristic that makes SNSs unique from other eWOM media is that users' social networks are readily available on these sites. SNS contacts are members of consumers' existing networks and may be perceived as more trustworthy and credible than unknown strangers, which leads SNSs to become an important source of product information for consumers, and tremendously facilitates and accelerates eWOM.

Conceptually, eWOM in SNSs can be examined through three aspects: *opinion seeking*, *opinion giving* and *opinion passing*. Past research has frequently viewed opinion seeking and opinion giving as two important dimensions of offline WOM. Consumers with a high level of opinion-seeking behaviour tend to search for information and advice from others when making a purchase decision (Flynn *et al.* 1996). On the other hand, individuals with a high level of opinion-giving behaviour, known as opinion leaders, may exert great influence on others' attitudes and behaviours (Feick & Price 1987). In cyberspace, however, interactivity enables dynamic and interactive eWOM where a single person can take on the multiple roles of opinion provider, seeker and transmitter. As the line between the roles becomes further blurred, online consumers' search for brand information, creation of content and willingness to share content with others is extremely useful in increasing brand engagement and

relevance. In SNSs, opinion seekers may regard recommendations by friends or classmates as credible and reliable, and thus may rely on SNSs as a place to obtain information for their purchases. On the other hand, a socially extensive environment provides opinion leaders with greater opportunities to share product-related thoughts and opinions with other consumers. Another important yet overlooked dimension of Internet-based eWOM is opinion-passing behaviour (Norman & Russell 2006; Sun *et al.* 2006). Sun *et al.* (2006) suggest that online forwarding/passing is an important behaviour consequence of eWOM that facilitates the flow of information. Opinion-passing behaviour is more likely to occur in an online social context, as the unique characteristics of the Internet can facilitate multidirectional communication, and with a few clicks of the mouse, consumers can 'spread the word' on a global scale (Dellarocas 2003; Norman & Russell 2006). Thus, opinion-passing behaviour is an enhanced dimension of eWOM in SNSs, which warrants careful examination.

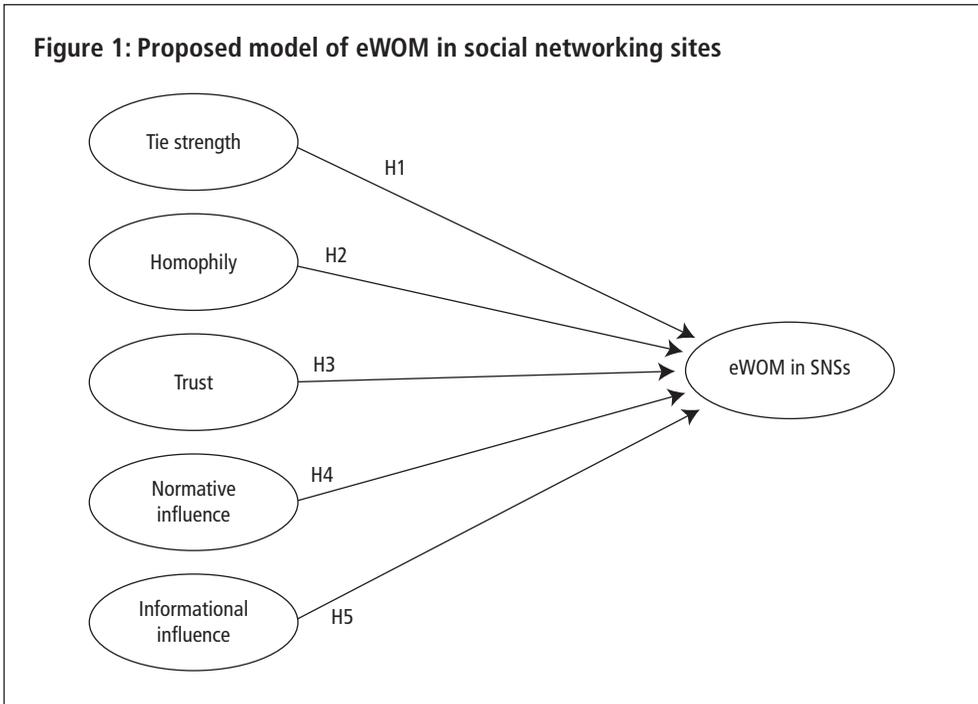
Social relationships and eWOM in SNSs

eWOM behaviour within SNSs may be initiated because of the users' desire to establish and maintain social relationships within their personal networks. By sharing useful product information and experience, SNS users can help their social connections (e.g. friends) with purchase-related decisions. Given that social connectivity is at the core of SNSs, social relationship-related variables are crucial in comprehending the underlying eWOM process, as these variables provide insights into the properties of social relations by which eWOM behaviour transpires. Indeed, a few studies have related social relationship constructs to WOM referral behaviour in both offline and online settings (Brown & Reingen 1987; Gilly *et al.* 1998; Reingen & Kernan 1986; Smith *et al.* 2007). From the literature on WOM, eWOM and social network study, tie strength (Brown & Reingen 1987), homophily (Gilly *et al.* 1998), trust (Nisbet 2006) and interpersonal influence (Bearden *et al.* 1989) have been determined to be focal dimensions that characterise the nature of social relationships and influence WOM dynamics. These four variables have been identified in the marketing and consumer behaviour research regarding their role in WOM behaviours (e.g. Brown & Reingen 1987; Brown *et al.* 2007).

Steffes and Burgee (2009), for example, investigated how social ties relate to online WOM among college students, with a focus on RateMyProfessor.com, an eWOM forum. Under the situation that students use the forum to make choices of both course and professor in the university setting, Steffes and Burgee (2009) found that tie strength of information sources affects students' decisions about which professor to take. While previous studies suggest that strong ties are more influential than weak tie sources of information on decision making, their study found that weak tie sources such as acquaintances and strangers are rated as more influential than strong tie information sources (e.g. close friends and family members). In terms of homophily, Brown *et al.* (2007) suggest that it is an important dimension that influences the evaluation of product information, and explains how eWOM influences consumers' decision making and attitude. Trust in social contacts is another dimension that affects information sharing. For example, Dellarocas (2003) examined online feedback mechanisms (i.e. eBay) and found that such an online medium, where buyers and sellers can meet, is an important communication channel for building consumer trust, which facilitates eWOM. Lastly, interpersonal influence is a widely studied social construct that plays an important role in consumer purchase behaviours. Thus, it is argued that these four social relationship variables should help researchers comprehend the social aspects of SNSs and how product-related eWOM takes place therein. In the proposed model, tie strength, homophily, trust and two types of interpersonal influence – normative influence and informational influence – are identified as key determinants of eWOM via social media, particularly SNSs. Three aspects of eWOM behaviours are examined, as SNSs enable an individual to seek, give and pass information simultaneously. Thus, the conceptual model presented in Figure 1 is developed to explicate the potential relationships among the hypothesised variables.

Tie strength

Using a network analysis framework, Brown and Reingen's (1987) foundational study examined tie activation in social networks and demonstrated the impact of social tie strength on WOM propagation. Tie strength refers to 'the potency of the bond between members of a network' (Mittal *et al.* 2008, p. 196). According to Granovetter (1973), social ties can be classified



as strong or weak. Strong ties, such as family and friends, constitute stronger and closer relationships that are within an individual's personal network and are able to provide substantive and emotional support (Pigg & Crank 2004). Weak ties, on the other hand, are often among weaker and less personal social relationships that are composed of a wide set of acquaintances and colleagues, and facilitate information-seeking on diverse topics (Pigg & Crank 2004). Brown and Reingen (1987, p. 350) found that at the macro level (e.g. flows of communication across groups), weak ties demonstrated a crucial bridging function, allowing information to disseminate and spread among distinct groups. At the micro level (e.g. flows within dyads or small groups), however, strong ties were more likely to be activated for the flow of referral behaviour.

With readily available personal networks in SNSs, consumers' product choices may be influenced by both stable and intimate 'strong tie' interactions and randomly or remotely connected 'weak ties' (e.g. mere acquaintances). Although strong ties exert a more significant impact at the individual and small group level, the asynchronous and connective characteristics of SNSs allow weak ties to expand their potential influence

by extending consumers' personal networks to external communities or groups. This accelerates eWOM conversations throughout a large-scale network. The perceived tie strength based on both strong and weak ties developed via SNSs stimulates consumers to communicate with one another and disseminate product-related information, thereby encouraging eWOM behaviour. Therefore, the first hypothesis is formulated to explore the impact of intensity of tie strength on SNS-facilitated eWOM:

H1: SNS users' perceived tie strength with their contacts is positively related to their engagement in eWOM behaviours in SNSs.

Homophily

Another relational concept that merits investigation in the study of eWOM in SNSs is homophily. Homophily refers to the degree to which individuals who interact with one another are congruent or similar in certain attributes (Rogers & Bhowmik 1970). Prior studies have concluded that friends and members of social networks tend to be similar in socio-demographic characteristics such as gender, race and age, as well as in perceptual attributes such as beliefs and attitudes (Festinger 1957; Gilly *et al.* 1998). Because individuals tend to socialise with those who share similar characteristics, often termed social homophily (Mouw 2006), interpersonal communications are more likely to occur between two individuals who are alike – that is, homophilous (Lazarsfeld & Merton 1954). As a result, exchange of information most frequently occurs between individuals who share some qualities in common (Rogers 1995; Rogers & Bhowmik 1970). Because the more similar communicators are, the more the perceived ease of communication increases, homophily can facilitate the flow of information in consumers' external searches (Price & Feick 1984). Thus, consumers with a higher level of perceived homophily may be more likely to engage in eWOM with each other when making product choices.

Despite the diversity of Internet users in general, consumers online are able to freely select their exposure to certain topics and participation in virtual communities, and thus can steer their social interactions towards consumers similar to themselves (Best & Krueger 2006). Wang *et al.* (2008) investigated whether users exhibit different evaluative mechanisms in utilising health information presented on websites versus online discussion

groups. The results of their study suggest that homophily plays a significant role in determining credibility perceptions and influencing the persuasive process on both websites and online discussion groups. In the SNS context, similar demographic characteristics, such as age and education, characterise users on these sites (Solman 2007). Thelwall's (2009) recent study on homophily in SNSs found that although gender homophily does not exist, homophily for other attributes such as age and attitude are reasons for joining MySpace. Accordingly, SNSs may excel in attracting homophilous consumers, and this phenomenon increases the likelihood of those consumers' engagement in eWOM behaviour. Given the above discussion, the second hypothesis is presented as follows to increase our understanding of social influences on eWOM:

H2: SNS users' perceived homophily with their contacts is positively related to their engagement in eWOM behaviours in SNSs.

Trust

Trust in contacts in social networks is another related construct that is worth consideration in the conceptualisation of consumers' decisions to engage in eWOM in SNSs. Trust is defined as 'a willingness to rely on an exchange partner in whom one has confidence' (Moorman *et al.* 1993, p. 82). Numerous studies have suggested that trust plays a vital role in information exchange and knowledge integration, as it allows individuals to justify and evaluate their decision to provide or attain more useful information (e.g. Pigg & Crank 2004). In the online environment, trust has been found to be essential to virtual community members' intention to exchange information with other members (Jarvenpaa *et al.* 1998; Ridings *et al.* 2002).

As Mangold and Faulds (2009) suggested, consumers perceive social media as a more reliable source of information about brands than marketer-generated content communicated via the traditional promotional mix comprising advertising, sales promotion and public relations (p. 360). Along the same lines, compared to comments from anonymous or unfamiliar sources via other eWOM formats (e.g. product review sites and forums), connections in SNSs are embedded in consumers' existing networks and may therefore be perceived as more credible and trust-

worthy than unknown sources or advertisers with vested interests. With consumers' mutual agreement to become friends and join each other's social networks in SNSs, this 'friending' procedure requires consumers to go through profiles, which may increase the credibility of their contacts and inspire high levels of social trust. Further, since SNSs enable the users to articulate and maintain real-world relationships (e.g. friends and family) and easily exchange information with them, the established trust may extend to the other contacts in networks in general, thereby improving the overall sense of trust in the environment. Such enhanced trust in SNS contacts may substantially impact consumers' willingness to engage in eWOM via these sites. Hence, the following hypothesis is outlined to gauge the relationship between trust in network members and eWOM:

H3: SNS users' perceived trust in their contacts is positively related to their engagement in eWOM behaviours in SNSs.

Interpersonal influence

A considerable number of studies have suggested that WOM may become the most powerful source of information when consumers are susceptible to interpersonal influence (Bearden *et al.* 1989). Interpersonal influence is a social factor that plays an important role in influencing consumer decision making (e.g. D'Rozario & Choudhury 2000; Park & Lessig 1977) and new technology adoption (Muk 2007). Two dimensions of interpersonal influence have been identified in the literature, namely *normative* and *informational influences* (Bearden *et al.* 1989). Normative influences, referring to the tendency to conform to the expectations of others, affect attitudes, norms and values (Burnkrant & Cousineau 1975). Informational influences, on the other hand, denote the tendency to accept information from knowledgeable others and be guided in product, brand and store search (Bearden *et al.* 1989; Deutsch & Gerard 1955).

Accordingly, consumer susceptibility to interpersonal influence is another construct that is useful to explain the social implications of eWOM in SNSs. In SNSs, both normative and informational influence may drive users' eWOM behaviours. SNS users who are subject to informational influence are predicted to display a higher need to acquire information and guidance from knowledgeable contacts when searching

for and contemplating purchase options, which will facilitate their engagement in eWOM in SNSs. On the other hand, consumers who are susceptible to normative influences are more likely to adhere to the expectations of significant others, and seek social approval through the acquisition and use of the products and brands their significant others view as acceptable. Consequently, they may actively seek opinions from their contacts in social networks. Such behaviours are associated with the social influence of eWOM, where users of SNSs view their contacts as an important source of product information. From this perspective, it is reasonable to argue that consumer susceptibility to both normative and informational influence will affect their engagement in eWOM in SNSs. Thus, the following hypotheses are put forth to examine such a phenomenon:

- H4:** SNS users' susceptibility to normative influences is positively related to their engagement in eWOM behaviours in SNSs.
- H5:** SNS users' susceptibility to informational influences is positively related to their engagement in eWOM behaviours in SNSs.

Method

A self-administered online survey was conducted to test the hypothesised relationships among the key variables in the proposed model of eWOM in SNSs. College students make up the largest segment of the SNS user population, with 75% of online adults between the ages of 18 and 24 using SNSs (Ellison *et al.* 2007; Lenhart 2009). Additionally, males and females aged 18 and older are equally likely to use SNSs, with the majority of users having two or more different SNS profiles (Lenhart 2009; Lenhart *et al.* 2010). Young college students are said to be a demanding consumer population that facilitates the acceptance of social media in an era of consumer control (Mangold & Faulds 2009). Thus, the use of a college student sample in this study was deemed appropriate.

Sample and procedure

A total of 400 undergraduate students registered in campus-wide, elective advertising courses at a large Southwestern university participated in the

study. Participants completed the study either for extra course credit or as a requirement of the class. All participants were also entered into a draw for a \$10 gift card towards purchases at the university bookstore. Of the 400 voluntary participants, the final sample of 363 respondents was used for data analysis after eliminating incomplete responses. The sample consisted of 46.6% males and 53.4% females. Participants' ages ranged from 18 to 46 ($M = 21$). Thus, the sample was deemed to be representative of the SNS user population (Lenhart 2009). The sample encompassed a variety of majors. The majority of the subjects were Caucasian (58.1%), followed by Hispanic Americans (14.3%), Asian Americans (12.1%) and African Americans (5.2%). More than 32% of the participants were juniors, followed by 28.4% seniors, 25.9% sophomores and 13.2% freshmen.

Measures

At the beginning of the survey, respondents were first asked to indicate the SNS that they visit most frequently from a top SNS list (Nielsen Online 2009). Next, the questions included measures of the duration, frequency and amount of the respondents' use of the site on an average day. Third, respondents were asked about the activities they engaged in and the topics they discussed. A seven-point Likert scale ranging from 'very infrequently' to 'very frequently' was used to examine the activities that respondents engaged in on the site of their choice. Sample items included 'Search existing friends' and 'Posting comments on the wall'. Respondents were further asked to indicate the topics that they usually talk about on their favourite site, from the following list: music, fashion, news, rumours and gossip, products or brands, political issues, school stuff, social events, and other. Lastly, social relations with contacts were assessed by asking respondents the number of contacts they have on their 'friends' list of the following categories: family, relatives, close friends, acquaintances, classmates, neighbours and others (Brown & Reingen 1987).

Measures included key constructs in the proposed model that investigate eWOM and social relationship variables on SNSs. Items were borrowed from prior research and modified to fit the context of this study: social media. All constructs except tie strength and homophily were measured on a seven-point Likert scale, ranging from 'strongly disagree'

to 'strongly agree'. Tie strength and homophily were measured by using a seven-point semantic-differential scale.

Drawing from the measures of online WOM used in previous studies (Flynn *et al.* 1996; Sun *et al.* 2006), SNS users' engagement in eWOM was operationalised with three specific behaviours: *opinion seeking*, *opinion giving* and *opinion passing*. Specifically, Flynn *et al.*'s (1996) opinion seeking and opinion leadership scales were adopted. Opinion-passing behaviour was measured by adopting Sun *et al.*'s (2006) online forwarding scale. A six-item scale was used to examine opinion seeking, giving and passing behaviours respectively. The measures of tie strength were adopted from previous studies and included three statements about the respondents' frequency of communication, the importance attached to, and the closeness of the social relation (Brown & Reingen 1987; Norman & Russell 2006; Reingen & Kernan 1986). To examine homophily, four statements from McCroskey *et al.*'s (1975) measure were adapted to assess perceived similarity of contacts on the SNS. Specifically, respondents were asked to complete the sentence, 'In general, the contacts on my "friends" list on the SNS ...' with choices from the following pairs of statements: don't think like me/think like me; don't behave like me/behave like me; different from me/similar to me; and unlike me/like me. This study focused on perceived attitude homophily, as attitude has been recognised as one of the most important constructs in understanding consumer behaviour. Trust was measured through seven items adapted from interpersonal trust and social trust scales (Lin 2006; Mortenson 2009; Smith *et al.* 2005). Lastly, interpersonal influence was assessed by adopting items developed by Bearden *et al.* (1989). Eight items were used to measure normative influence, and four items were used to examine informational influence. The internal reliability of all measures was proven to be acceptable. Table 1 presents the factor loadings of the indicators for each latent variable and the goodness-of-fit indices.

Results

Prior to testing the proposed model, descriptive statistics were run to examine the general use of SNSs among the college student participants. The percentage of the top five SNSs respondents use, average scores for duration, frequency, amount of use, top five activities and topics and numbers of contacts in the 'friends' list are illustrated in Table 2.

Table 1: Measures, factor loadings, descriptive statistics and reliabilities

Factors	Indicators ^b	Unstd*	Std*
Tie strength (<i>M</i> = 4.77, <i>SD</i> = 1.14, α = 0.82)	Approximately how frequently do you communicate with the contacts on your 'friends' list on this SNS? (Never/Very frequently)	1.00 ^a	0.69
	Overall, how important do you feel about the contacts on your 'friends' list on this SNS? (Not at all important/Very important)	1.22	0.84
	Overall, how close do you feel to the contacts on your 'friends' list on this SNS? (Not at all close/Very close)	1.09	0.80
Homophily (<i>M</i> = 4.78, <i>SD</i> = 0.99, α = 0.85)	<i>In general, the contacts on my 'friends' list on the SNS:</i>		
	Don't think like me/Think like me	1.00 ^a	0.75
	Don't behave like me/Behave like me	1.12	0.87
	Unlike me/Like me	0.95	0.69
Trust (<i>M</i> = 4.26, <i>SD</i> = 1.06, α = 0.93)	I trust most contacts on my 'friends' list on the SNS	1.00 ^a	0.89
	I have confidence in the contacts on my 'friends' list on the SNS	0.91	0.92
	I can believe in the contacts on my 'friends' list on the SNS	0.78	0.84
Normative influence (<i>M</i> = 3.33, <i>SD</i> = 1.29, α = 0.94)	When buying products, I generally purchase those brands that I think others will approve of	1.00 ^a	0.85
	If other people can see me using a product, I often purchase the brand they expect me to buy	0.99	0.88
	I achieve a sense of belonging by purchasing the same products and brands that others purchase	0.96	0.84
Informational influence (<i>M</i> = 4.20, <i>SD</i> = 1.25, α = 0.84)	If I have little experience with a product, I often ask my friends about the product	1.00 ^a	0.82
	I often consult other people to help choose the best alternative available from a product class	1.12	0.92
	I frequently gather information from friends or family about a product before I buy	0.97	0.80
Opinion seeking (<i>M</i> = 3.28, <i>SD</i> = 1.21, α = 0.83)	When I consider new products, I ask my contacts on the SNS for advice	1.00 ^a	0.81
	I like to get my contacts' opinions on the SNS before I buy new products	1.10	0.87
	I feel more comfortable choosing products when I have gotten my contacts' opinions on them on the SNS	1.03	0.79
Opinion giving (<i>M</i> = 3.49, <i>SD</i> = 0.95, α = 0.68)	I often persuade my contacts on the SNS to buy products that I like	1.00 ^a	0.77
	My contacts on the SNS pick their products based on what I have told them	1.01	0.84
	On the SNS, I often influence my contacts' opinions about products	1.05	0.83
Opinion passing (<i>M</i> = 3.34, <i>SD</i> = 1.36, α = 0.93)	When I receive product related information or opinion from a friend, I will pass it along to my other contacts on the SNS	1.00 ^a	0.84
	On the SNS, I like to pass along interesting information about products from one group of my contacts on my 'friends' list to another	1.12	0.90
	I tend to pass along my contacts' positive reviews of products to other contacts on the SNS	1.07	0.83

Notes: 'Unstd' refers to 'unstandardised coefficient'; 'Std' refers to 'standardised coefficient'; *All coefficients are significant at $p < 0.001$ and generated from a final confirmatory factor analysis; ^aReference indicator; ^b These measures represent the first three high-loaded items for each of the variables in the model.

Goodness-of-fit statistics: χ^2 (224) = 341.08, $p < 0.001$, GFI = 0.93, AGFI = 0.90, CFI = 0.98, RMSEA = 0.04.

Table 2: General use of social networking sites

Top 5 SNSs	Frequency (n)	Percentage (%)*
Facebook	361	99.4
MySpace	252	69.4
LinkedIn	172	47.4
AOL Hometown	133	36.6
Windows Live Spaces	131	36.1
Duration of SNS use	About 3 years and 3 months	
Frequency of use on an average day	5 times (per day)	
Amount of use on an average day	1.7 hours (per day)	
Top 5 activities on SNSs	Mean**	Std deviation
Reading news feeds, comments on the wall	5.12	1.66
Posting comments on the wall	4.77	1.61
Chatting (e.g., Facebook chat)	4.31	1.96
Searching existing friends	4.26	1.74
Sending inbox messages	4.07	1.61
Top 5 topics on SNSs	Frequency (n)	Percentage (%)*
School stuff	303	83.5
Social events	299	82.4
Rumours/gossip	218	60.1
News	185	51.0
Music	174	47.9
Numbers of contacts in the 'friends' list	Mean	Std deviation
Family	5.16	9.39
Relatives	9.64	27.43
Close friends	50.74	97.43
Strong ties***	65.54	104.05
Acquaintances	274.02	330.41
Classmates	166.83	175.60
Neighbours	9.42	33.21
Others	3.68	29.44
Weak ties***	453.95	438.26
Total	519.49	485.87

Notes: * respondents chose multiple SNSs/topics; ** seven-point scale; *** the average number of *Strong ties* was obtained by summing up the average numbers of contacts in the family, relatives and close friends categories. The average number of *Weak ties* was obtained by summing up the average numbers of contacts in the acquaintances, classmates, neighbours and others categories.

Measurement model evaluation

Before testing the hypothesised relationships, analyses assessed if the scales achieved satisfactory levels of reliability and if factor loadings were significantly related to their corresponding constructs. The proposed

model was next tested and retested with AMOS 16, using the two-step model-building approach as specified by Anderson and Gerbing (1988); the measurement model, including the latent constructs and their respective observed variables, was first analysed, and then the structural model with the hypothesised relationships was tested and refined through a series of tests in an attempt to better explain the data. A final, modified model was determined as a result.

A confirmatory factor analysis of the full measurement model showed all of the indicators significantly loaded on their corresponding latent constructs ($p < 0.01$). With the use of existing scale items adapted from the literature for measuring latent variables, the observed variables in the model were hypothesised to load on only one factor, and the error terms were not allowed to co-vary (see Table 1 for the factor loadings). Table 3 presents correlations, covariances and variances of the latent constructs in the measurement model used in the development and refinement of the structural model. Overall, the results indicated that the scales assessed what they were intended to measure and were reliable.

Table 3: Correlation–variance–covariance matrix for latent constructs

	1	2	3	4	5	6	7	8
Tie strength	0.88**	0.31	0.59	0.23	0.21	0.31	0.28	0.28
Homophily	0.37**	0.79**	0.40	0.16	0.07	0.06	0.02	0.11
Trust	0.50**	0.45**	1.60**	0.45	0.25	0.37	0.34	0.36
Normative influence	0.19**	0.19*	0.27**	1.77**	0.75	0.45	0.38	0.42
Informational influence	0.18**	0.07	0.16**	0.46**	1.48**	0.37	0.32	0.25
Opinion seeking	0.35**	0.07	0.57**	0.73**	0.55**	1.49**	0.78	0.82
Opinion passing	0.30**	0.02	0.51**	0.59**	0.45**	1.11**	1.36**	0.74
Opinion giving	0.30**	0.19	0.53**	0.64**	0.35**	1.15**	1.01**	1.34**

Notes: * $p < 0.05$; ** $p < 0.01$; variances are on the diagonal; correlations are in the upper triangle, and covariances are in the lower triangle.

Structural model evaluation

When the structural model was tested, the results showed that, of the five hypothesised relationships between the latent constructs, two were statistically significant in the expected direction ($p < 0.05$), and one was marginally significant in the expected direction ($p < 0.1$). In addition, there was one significant relationship in the opposite direction ($p <$

0.05), and one partially significant relationship in the expected direction ($p < 0.05$). Specifically, in examining the relationship between tie strength and eWOM, tie strength appeared to have a significant, positive impact on opinion seeking ($\beta = 0.15$) and opinion passing ($\beta = 0.15$). Further, tie strength was found to have marginally significant influence on opinion giving ($\beta = 0.12, p = 0.08$). Thus, H1 was partially supported. In testing the effects of homophily on eWOM, homophily was found to have a significant, negative impact on opinion seeking ($\beta = -0.15$) and opinion passing ($\beta = -0.19$). A non-significant relationship was found between homophily and opinion giving ($\beta = -0.09$). These results, therefore, disconfirmed H2. In support of H3, trust appeared to have a positive, significant impact on opinion seeking ($\beta = 0.24$), opinion giving ($\beta = 0.24$), and opinion passing ($\beta = 0.26$). As predicted in H4, normative influence was found to have a significant, positive effect on opinion seeking ($\beta = 0.30$), opinion giving ($\beta = 0.32$), and opinion passing ($\beta = 0.25$). When the impact of informational influence on eWOM was examined, informational influence was found to have a significant, positive effect on opinion seeking ($\beta = 0.18$), and opinion passing ($\beta = 0.15$). However, the impact of informational influence on opinion giving was not significant ($\beta = 0.04$), and thus H5 was partially supported.

The goodness-of-fit indices suggest the model did fit the data fairly well; $\chi^2 = 354.94, df. = 227, p < 0.001$; GFI = 0.92; AGFI = 0.90; NFI = 0.94; CFI = 0.98; RMSEA = 0.04. In order to refine the model and achieve parsimony, the non-significant relationships were tested in the second phase of the analysis by systematically relaxing a restriction and examining the resultant change in chi-square. That is, chi-square values of alternative models without the non-significant relationships were re-estimated and compared to the proposed model. The path from informational influence to opinion giving was freed because homophily limits individuals' social circles and tends to share important discussion topics with the similar people in a group (Marsden 1987; McPherson *et al.* 2001). Another path from homophily to opinion giving was freed because the nature of informational influence focuses on obtaining information from others rather than giving (Bearden *et al.* 1989). The paths from (1) informational influence and (2) homophily to opinion giving did not yield significant changes in chi-square of the model fit: (1) $\chi^2_{\text{difference}} = 0.45, df. = 1, p > 0.05$; (2) $\chi^2_{\text{difference}} = 2.12, df. = 1, p > 0.05$. As a result, both paths,

which did not significantly contribute to the improvement of the model fit, were eliminated from the model.

The modified model, which was more parsimonious, was chosen as the final model. The path coefficients were re-estimated and are presented in Table 4. Except for the relationship between tie strength and opinion giving ($\beta = 0.10$, $p > 0.1$), all linkages were statistically significant. Overall, this final model accounts for the data in a similar way to the originally proposed model: $\chi^2 = 357.51$, $d.f. = 229$, $p < 0.001$; GFI = 0.92; AGFI = 0.90; NFI = 0.94; CFI = 0.98; RMSEA = 0.04. While the modified model does not improve the fit to the desired level, the final model demonstrates significant relationships among the key variables in the eWOM process in the SNS context, which should serve as a useful basis for further model development in future research.

Table 4: Parameter estimates and model-fit statistics

Relationship From → To	Original model		Modified model	
	Unstd	Std	Unstd	Std
H1 Tie strength → Opinion seeking	0.20*	0.15	0.18*	0.14
	0.15 ^a	0.12	0.13	0.10
	0.18*	0.15	0.17*	0.14
H2 Homophily → Opinion seeking	-0.21*	-0.15	-0.13*	-0.10
	-0.12	-0.09	–	–
	-0.25**	-0.19	-0.18*	-0.14
H3 Trust → Opinion seeking	0.24**	0.24	0.22**	0.23
	0.22**	0.24	0.20**	0.22
	0.24**	0.26	0.22**	0.24
H4 Normative influence → Opinion seeking	0.27**	0.30	0.28**	0.31
	0.28**	0.32	0.30**	0.34
	0.22**	0.25	0.23**	0.26
H5 Informative influence → Opinion seeking	0.18**	0.18	0.15**	0.16
	0.04	0.04	–	–
	0.14*	0.15	0.12*	0.12
<i>Goodness-of-fit indices</i>				
χ^2 (df)	352.94 (227)**		357.51 (229)**	
Goodness-of-fit index (GFI)	0.92		0.92	
Adjusted GFI (AGFI)	0.90		0.90	
Comparative fit index (CFI)	0.98		0.98	
RMSEA	0.04		0.04	

Notes: 'Unstd' refers to 'unstandardised coefficient'; 'Std' refers to 'standardised coefficient'; ^a $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; all other coefficients are not significant, $p > 0.1$.

Discussion and conclusion

As Internet-based WOM transmitted through social media has become a determining factor that drives return on investment (ROI) (WOMMA 2010), eWOM branding via SNSs is seen as a necessary element in the promotional mix. In this study, a conceptual framework that identifies social relationship factors and their relations with eWOM in SNSs was tested. Note that the operationalisation of eWOM in this study focused on product aspects and carried the advertising implications. Results from the structural equation model indicate that trust, normative influence and informational influence are positively associated with SNS users' overall eWOM behaviour on their favourite site. Tie strength is positively associated with eWOM behaviour, including only opinion seeking and passing. On the other hand, a negative relationship was found between homophily and eWOM in SNSs.

One question that is of concern in the present study is whether or not tie strength links to consumers' engagement in eWOM in SNSs. The results showed that perceived tie strength is positively related to consumers' intention to seek and pass product-focused information in the online social media. With distinct levels of intensity of social relationship among SNS users, however, how close and important a consumer feels to the source of the information can have a considerable influence on that consumer's decision to search and pass opinions on SNSs. It is interesting to note that tie strength is not significantly related to consumers' intention to give information in SNSs. One explanation for this could be that when giving information in SNSs, consumers tend to share their product experience with all their contacts, which adds up to a great number of acquaintances (i.e. weak ties), instead of merely sharing the information with their close friends (i.e. strong ties). Another explanation may be that SNSs allow users to provide information easily and quickly without thinking carefully. Therefore, perceived tie strength does not have significant influence when consumers give product information to others in SNSs.

Interestingly, perceived homophily was found to be negatively related to opinion seeking and opinion passing behaviours in SNSs. While prior research has suggested that homophilous individuals tend to share information with one another (Rogers & Bhowmik 1970), in the context of online social websites, similarities in consumers' attitudes or psycho-

graphic attributes do not lead to eWOM behaviour. Granovetter (1973) argues that having weak ties with persons of diverse backgrounds can play a critical role in a wide range of information exchange and idea sharing. Homophily among SNS users may prohibit their capacity to access diverse information and knowledge from each other and thus discourage eWOM. Similarly, McPherson and Smith-Lovin (1987) contend that homophily limits individuals' social circle and exerts great impacts on information receiving, attitude formation and interpersonal interactions. While a non-significant relationship was observed between homophily and opinion giving, heterophilous communication seems to facilitate eWOM behaviours between diverse contacts in the online social network environment.

Trust is another social relationship construct found to impact eWOM in SNSs. That is, the higher the level of trust SNS users have in their contacts, the greater the likelihood they will engage in opinion seeking, opinion giving and opinion passing behaviour on SNSs. The present results corroborate those of Jarvenpaa *et al.* (1998) and Ridings *et al.* (2002), who also found a positive association between perceived trust and members' intention to exchange information via virtual communities. From social networking perspectives, trust serves as an important means for consumers to evaluate the source and value of information, and thus has a critical influence on eWOM transmitted via SNSs. As a result, when SNS users trust their social connections in their 'friends' list, their willingness to rely on those connections is enhanced because of the connections' perceived reliability and trustworthiness, which thereby increases eWOM behaviour via these sites.

Consumer susceptibility to interpersonal influence was also significantly associated with SNS users' engagement in eWOM on these sites. Previous research has suggested that individuals who are more susceptible to normative influences focus on the process of transmission and relationship building. On the other hand, individuals who are more amenable to informational influence emphasise the value of the information transmitted (Laroche *et al.* 2005). With the connectivity among SNS users, the need for psychological association with significant contacts (e.g. close friends) leads to users' acquisition of products and brands through eWOM activities. This information exchange process facilitates SNS users' development of cohesive social relationships and increases their social interactions and engagement in eWOM. Similarly, SNS users' tendency to gather

valuable information about products from others with knowledge of those products may also encourage users' eWOM behaviour on these sites. It is noticeable that interpersonal informational influence was not found to significantly relate to opinion giving. This finding might suggest that the nature of informational influence focuses on obtaining information from others rather than giving (Bearden *et al.* 1989). That is, when SNS users are susceptible to informational social influence, they are less likely to give information to others. Thus, the linkage between SNS users' susceptibility to informational influence and opinion giving was not confirmed.

Two theoretical implications are drawn from the results of this study. First, this study advances our understanding of product-related eWOM behaviours by delineating the eWOM process in an emerging online advertising medium: the SNS context. Second, the present research investigated empirically social relationship factors as an important antecedent for eWOM behaviour in SNSs. This finding highlights a notable difference between eWOM via social media and other online platforms such as product reviews and emails. That is, product-focused eWOM in SNSs is a distinct phenomenon with its own advertising and social implications. Through a theoretical and empirical investigation, overall, this study helps reveal the differential effect of social factors based on a conceptual framework and helps define the role of social relationships in explaining eWOM communications.

Findings from this study can also yield three significant managerial insights for Internet advertising strategy. First, this study echoes Mangold and Faulds' (2009) argument that social media play a hybrid role in IMC, as they enable companies to produce a unified consumer-centric advertising message to connect with their customers (characteristics of traditional IMC), while in a non-traditional sense, they enable customers to engage in consumer-to-consumer communications, namely eWOM. Second, SNSs provide an essential channel for building a consumer-brand relationship. Marketers should try to identify 'social influencers' in SNSs, encourage users of SNSs to spread positive eWOM regarding selected brands and discourage them from sharing negative information with their personal networks. Third, the interactivity of SNSs as a medium allows advertisers to reach a voluntary, segmented audience in a cost-effective way compared to other media. The results from this study suggest that advertisers must take social relationship factors into account and develop personalised

marketing communications strategies to fulfil SNS users' needs (e.g. gain their trust). For example, when targeting consumers who are susceptible to interpersonal influence, eWOM may be a good online advertising technique, as these SNS users are more likely to follow social influences.

This study offers, in addition, important implications for policy makers by providing valuable insights into social media regulations. Given that current online advertising privacy policies do not cover social media (Interactive Advertising Bureau 2009), developing privacy guidelines for social media is imperative. Relying on the results of this study, policy makers, for instance, could focus on consumers who are more likely to trust their social contacts and thus engage in eWOM in SNSs. By understanding when and how these consumers' profile information (e.g. name and demographic) and social connections data will be displayed and accessed through their eWOM behaviours, policy makers can develop promising regulations that help consumers and brands interact in a reciprocal manner and establish a long-term relationship. Another related issue is that the Federal Trade Commission recently developed a new guideline stating that celebrity endorsers of products must reveal any connection with advertisers when promoting a product on social media (Friel 2009). As endorsements on social media appear to be a powerful form of eWOM, the findings of this study provide policy makers with insights into determinants of consumers' eWOM behaviour in SNSs, and help the development and refinement of future advertising/promotional guidelines.

Although this study presents some of the first research examining eWOM in social media, a few limitations should be noted. While college students represent the majority of SNS users, they may not accurately reflect the perceptions of the total SNS population. As older demographics account for the greatest growth in SNS users in recent years (Nielsen Online 2009), future research could investigate how eWOM behaviour in SNSs varies across generations. Another limitation of this study is that it examines a limited set of determinants of eWOM communicated via SNSs. While this study focuses on social relationship variables due to the unique social nature of SNSs, other possible contributing factors, such as individual differences and motivational variables, may influence consumers' participation in eWOM. For instance, self-presentation and voluntary self-disclosure (Lee *et al.* 2008) may be psychological characteristic factors that lead to eWOM in social media. Future research could

examine these dimensions in greater detail. Additionally, the high correlation between some constructs in this study warrants caution for potential multicollinearity issues. There are some high correlations ranged from 0.75 to 0.82 between constructs. While there are some ways to offset the multicollinearity problem (e.g. increasing sample size, higher proportion of variance explained), the most important safeguard against the damaging effects of multicollinearity is to have measured constructs as reliably as possible (Grewal *et al.* 2004). In this study, among those constructs that have high correlations, Cronbach's α coefficients ranged from 0.68 to 0.93, which is acceptable given the minimum suggestions found in the literature (e.g. Davis 1964; Murphy & Davidshofer 1988). While the reliability of measures is acceptable in our study, it would be more desirable if it is higher, as Grewal *et al.* (2004) suggested. Therefore, future research could employ more reliable scales to avoid the problems associated with multicollinearity.

Furthermore, this study used a survey that would not be able to establish the causal relationships among the variables. It is suggested that future research could use an experiment to examine the direction of causal effects among the key variables. Another fruitful avenue for additional research is to investigate eWOM in different cultural contexts. As Li *et al.* (2009) suggest, 'the Internet is a global medium, but its content is local to each country' (p. 126). Such investigation will be valuable for our understanding of the universal phenomenon, product-focused eWOM in SNSs and the role of culture in online consumer behaviour. Lastly, Lee and Youn (2009) found that eWOM platforms have an impact on consumer product judgement. Future research could test the applicability of the current conceptual model in the context of other social media applications and platforms. For instance, microblogging sites such as Twitter have recently emerged as another form of eWOM that offers implications for advertising strategy (Jansen *et al.* 2009). This future research will not only enrich our theoretical knowledge about the determinants of eWOM in social media in general, but will also help IMC marketers to develop effective social networking advertising strategies and build strong consumer-brand relationships.

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About the authors

Shu-Chuan Chu is Assistant Professor of Advertising at the College of Communication, DePaul University. Her research interests include social media, user-generated content, electronic word-of-mouth (eWOM), cross-cultural consumer behaviour and consumer-brand relationships. Dr. Chu's work has been published or is forthcoming in the *Journal of Interactive Advertising*, *Journal of International Consumer Marketing*, *Journal of Marketing Communications* and *Chinese Journal of Communication*, among others. Her work has also appeared or is forthcoming in books such as *Handbook of Research on Digital Media and Advertising: User Generated Content Consumption* (Vol. I), *Computer-Mediated Communication across Cultures: International Interactions in Online Environments*, and *Advances in Advertising Research* (Vol. II).

Yoojung Kim is a doctoral candidate at the Department of Advertising, University of Texas at Austin. Her research interests are in the areas of social media, corporate social responsibility and cross-cultural consumer behaviour. Her current projects investigate how individuals adopt and use

social media and establish consumer-brand relationships via social media and how such behaviours are explained by psychological factors. Her work has appeared in *Computers in Human Behavior*, *Journal of Global Marketing* and *Information, Communication & Society*, among others. Prior to her graduate programme, she worked for a global advertising agency as a copywriter and a media planner. Her past clients include various multinational advertisers and local advertisers.

Address correspondence to: Shu-Chuan Chu, College of Communication, DePaul University, 1 E. Jackson Blvd., Chicago, IL, 60604, USA.

Email: SCHU7@depaul.edu.

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