



What Drives Electronic Word-Of-Mouth On Social Networking Sites? Perspectives Of Social Capital And Self-Determination

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Abstract

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a b s t r a c t

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Keywords:

eWOM
Electronic word-of-mouth
Social networking site
Social capital
Self-determination

1. Introduction

Electronic word-of-mouth (eWOM) is the exchange of product or service evaluations among people who meet, talk, and text each other in the virtual world (King et al., 2014; Yoon, 2012; Barreto, 2014). eWOM differs from traditional or personal word-of-mouth (WOM, Katz and Lazarsfeld, 1955) in various aspects, as summarized in Table 1: (1) eWOM messages are typically anonymous, (2) several customers can receive the same message, which can be accessed from anywhere at any time (Hennig-Thurau et al., 2004), and (3) eWOM is more persistent and measurable than its traditional counterpart (Cheung and Thadani, 2012). E-businesses offer a wider variety of products and services than do traditional businesses. Because the product choices available on the Internet overwhelm consumers, eWOM has become increasingly crucial in enabling consumers to make purchase decisions. Nielson demonstrated that 92% of 28,000 Internet users in 56 countries rely on the recommendations of friends and family, and 70% of them rely on online consumer reviewers (Chaney, 2012). eWOM is emerging as a more influential marketing tool than traditional WOM because of its speed, convenience, amplitude, and absence of face-to-face human communication and pressure (Phelps et al., 2004; Lee et al., 2013).

Table 1
Electronic word-of-mouth vs. word of mouth.

Aspects	eWOM	WOM
Setting	Online and Virtual	Offline and Physical
Message Source	More from anonymous sources	More from acquaintances
Duration	Longer, in the electronic form	Shorter, from ear to ear
Accessibility	Higher, no geographic and time limitations	Lower, from ear to ear
Feedbacks	Usually is open and more measurable	Usually is limited and short-lived

1.1. Motivations for the study

Managing eWOM as a marketing tool and influencing consumer-to-consumer communication to yield positive purchase decisions are difficult tasks (Kozinets et al., 2010; Kleina et al., 2015). One major challenge is the poor understanding of the effectiveness of evolving eWOM channels, including independent sources (e.g., social networking sites [SNSs], personal blogs, and online customer reviews) and company-controlled sources (e.g., customer testimonials on a corporate site) (Meuter et al., 2013). An additional challenge is the complexity of measuring eWOM effectiveness because of the multitude of motivations involved (e.g., direct customer experiences, attractive messages, celebrity endorsements, and consumer involvement) (Bughin et al., 2010; Dwyer, 2007).

Social media have become among the most prevalent eWOM channels because of their ubiquity, mobility, and interactivity (French and Read, 2013; Zmuda, 2013). These attributes enable social media users to communicate and connect with each other more frequently and more closely (Laroche et al., 2013; Kleina et al., 2015). For instance, Pepsi has used social media platforms, including Twitter and Facebook, to promote products and marketing events since 2012 (Zmuda, 2012). Despite the benefits of using social media to improve eWOM effectiveness, the effects of network closeness and network strength on the diffusion of eWOM remain unclear.

Relevant studies have investigated key drivers (Cheung and Lee, 2012; Chu and Kim, 2011) of eWOM and their impacts on sales (Chevalier and Mayzlin, 2006), the consumer decision-making process (De Bruyn and Lilien, 2008), and attitude toward brands and websites (Lee et al., 2009). However, few studies have investigated the role of social network features and their impacts on the formation and spread of eWOM. To close the research gap, the present study used social capital theory to explore the potential influence of online social network characteristics on eWOM. Social capital theory posits that connections and linkages among members of a social group facilitate and form relational resources, thus, yielding social capital. Social capital is a “productive resource” (Tsai and Ghoshal, 1998, p. 464) because it can facilitate value creation and knowledge contribution at the business-unit (Johnston et al., 2013; Tsai and Ghoshal, 1998) and community levels (Chiu et al., 2006; Wasko and Faraj, 2005). Extending this line of research, this study examined the influence of social capital on the eWOM diffusion process at the individual level.

Social capital comprises three distinct dimensions: structural, relational, and cognitive (Nahapiet and Ghoshal, 1998). The present study examined the interrelationships among these three dimensions in an online social network context. Individual motivations are crucial conditions for facilitating the influence of social capital on information exchange (Wasko and Faraj, 2005). Drawing from self-determination theory, this study also examined voluntary self-disclosure and innovativeness as individual motives and whether they affect the ability of people to engage in product information exchange.

The next section discusses social capital, self-determination motives, and their relationships with eWOM. The literature review is followed by descriptions of the research model, research methodology, and data analysis results. Theoretical and managerial implications are drawn from the findings to conclude this study.

2. Literature review

2.1. Social capital in structural, relational, and cognitive forms

Social capital has network value because structural, relational, and cognitive resources are inherent in a social network and can help group members gain personal benefits and achieve common goals (Nahapiet and Ghoshal, 1998). The structural resources of social capital refer to the connections between people (Bolino et al., 2002). Structural resources include network characteristics such as social interaction ties, tie strength, and centrality (Chiu et al., 2006; Wasko and Faraj, 2005). An actor with specific network ties may access valuable information before others do, obtain referrals, and enhance information value (Nahapiet and Ghoshal, 1998).

The relational resources of social capital refer to “the kind of personal relationships people have developed with each other through a history of interactions” (Nahapiet and Ghoshal, 1998, p. 244). According to Coleman (1990), relational resources encourage members to take action and achieve group goals by helping each other. A key relational resource, trust refers to the “willingness to rely on an exchange partner in whom one has confidence” (Moorman et al., 1993, p. 82) and represents a relationship attribute (Tsai and Ghoshal, 1998).

The cognitive resources of social capital refer to a shared paradigm and are defined as “those resources providing shared representations, interpretations, and systems of meaning among parties” (Nahapiet and Ghoshal, 1998, p. 244). A shared set

of terms or jargon facilitates effective communication and mutual understanding. Social network members may develop myths, stories, and metaphors comprehensible only by people in the same group with the same language and codes. Thus, shared language can help group members understand their group goals and behave properly in their social system (Tsai and Ghoshal, 1998).

2.2. Measuring social capital of WOM behavior

Word-of-mouth behavior refers to interconsumer communication through which consumers exchange product- and brand-related marketing information (Kozinets et al., 2010). One type of cognitive resource of social capital is WOM because it conveys mutual interest or shared language about specific products/services discussed among interest groups. Shared language is collectively spread to members in online communities through messages and has a strong effect on the purchase decisions of specific products/services (King et al., 2014).

Word-of-mouth is effective in influencing the purchase decisions of customers (Engel et al., 1969; Brown et al., 2007; De Bruyn and Lilien, 2008) because the product information is exchanged among people who trust each other (Kozinets et al., 2010). Interpersonal trust is a relational resource and members depend on each other to share accurate product/service-related information. Competence and benevolence-based trust are instrumental in the information/knowledge sharing process. Word-of-mouth is an information sharing process because message recipients feel confident sharing particular product/service information with others whom they trust.

Advancements in social media have transformed the WOM communication process because they enable many users to exchange product information with each other at anytime from anywhere. Managing eWOM is complex because, in online social networks, consumers act as coproducers of the meaning and value of marketing messages and information (Chung and Koo, 2015; Kozinets et al., 2010). eWOM also involves the third element of opinion passing in the communication process, in addition to opinion-giving and opinion-seeking activities often observed offline. Although the ubiquity and mobility of the Internet enable consumers to spread eWOM to numerous recipients immediately after experiencing a product or service (Sun et al., 2006), strong ties among network members play critical roles because members with strong ties to each other share credible information with each other more frequently than members with weak ties do (Gilbert and Karahalios, 2009).

Because members collectively produce and share cognitive (what), relational (who), and structural (where) resources in the eWOM process, social capital can be extended to and measured at both individual (Tsai and Ghoshal, 1998) and group levels (Coleman, 1990). For instance, social interaction centrality, trust, and norms are group-based measures (Coleman, 1990), whereas the availability and accessibility of these resources are individual-based measures (Flap, 2002).

2.3. Self-determination perspective of social commerce

Self-determination theory (SDT) asserts that intrinsic motivations or tendencies are more effective than extrinsic motivations (e.g., coercion and reward) in promoting positive behavior, improving performance, and increasing psychological well-being (Moller et al., 2006). Three major intrinsic motivations identified by SDT are autonomy, competence, and relatedness (Deci and Ryan, 2000). Autonomy is the desire to have the ability to control one's own behavior. When given a sense of control over one's own behavior, people are highly motivated to behave in their best interests. Competence is a person's belief that he/she has the ability to interact with others and achieve the desired outcome (Vallerand and Ratelle, 2002). Relatedness is a person's desire to care for and associate with others (Deci and Ryan, 2000).

In the context of social commerce, users who are not related to each other are often reluctant to make efforts in endorsing certain products. Although some vendors try to encourage users to provide positive comments on their purchase experiences by offering them tangible benefits (e.g., coupons, rebates) and penalties (e.g., deadlines, restrictions), these extrinsic approaches are often ineffective because of the lack of autonomy (Deci, 1971). However, successful social commerce generally relies on eWOM by giving users volitional control to express personal opinions based on their experiences. Because information recipients perceive that senders have no vested interest in the product or service, they are more likely to accept information and engage in a meaningful discussion (Herr et al., 1991). As product information becomes credible and transparent, the process of making purchase decisions can be eased (Bone, 1995).

Word-of-mouth proliferation is a two-stage process, requiring the acknowledgment and acceptance of information exchanged between sender and recipient (Sweeney et al., 2014). The more information accepted as credible to assist in the purchasing process, the more motivated and confident senders are to help others. Relational resources (e.g., trust) can thus be established as a result of the recurring benefit process. Because of these intrinsic factors or autonomous motivations, eWOM has proven to be a more effective approach than providing tangible benefits to customers (Sweeney et al., 2014).

2.4. Research gap

Several studies have examined the influence of social capital on knowledge sharing and exchange behavior (Tsai and Ghoshal, 1998; Wasko and Faraj, 2005; Chiu et al., 2006). Empirical results generally support a positive relationship between social capital and information exchange. However, most of these studies have investigated the relationship in an offline, organizational context (Tsai and Ghoshal, 1998; Wasko and Faraj, 2005). Some recent studies have extended this research

line to an IT-oriented online setting (Chiu et al., 2006), but whether research findings in organizational and technological contexts can be generalized to a social commerce setting, in which consumers generally initiate information-exchange behavior without extrinsic rewards, remains unclear. Consequently, consumers have absolute freedom in deciding whether to disseminate product-related knowledge and information through social media (Shin, 2013). Considering these challenges in managing eWOM in social media, the first task is to understand the key drivers of eWOM adoption from social and individual perspectives.

3. Material and methods

3.1. Research framework

The successful use of social media as an eWOM tool relies on understanding the social interaction behavior between individual consumers and their motivations (Turri et al., 2013). eWOM has two key attributes: information valence and volume. Information valence is the nature and quality of the shared content, and information volume is the quantity of the shared content. As the quality and quantity of the shared content increase, they become useful resources or social capital that facilitate the purchase decisions of potential consumers. Social capital is the “sum of actual and potential resources embedded within, available through and derived from the network of relationships” (Nahapiet and Ghoshal, 1998, p. 243). Obtaining insights into the use of online social networks as a social capital creation tool can improve the understanding of key drivers of eWOM adoption.

Social capital comprises structural, relational, and cognitive dimensions. Social network ties are a key facet of the structural dimension. These ties influence how users obtain and exchange information in a network to benefit each other. The relational dimension encourages members to take action and achieve group goals by helping each other (Coleman, 1990). Trust is one of the most widely examined key factors (Wu, 2013; Kim and Park, 2013) in the relational dimension. Trust is conducive to healthy network growth because it can promote intermember cooperation and social exchanges (Nahapiet and Ghoshal, 1998). The cognitive dimension is “embodied in attributes like a shared code or a shared paradigm” (Tsai and Ghoshal, 1998, p. 465). A shared language serves as a foundation for people to communicate and enhance mutual understanding. These three dimensions are associated with each other, collectively facilitate the information exchange process (Tsai and Ghoshal, 1998), and are indispensable to the successful operation of social networks. However, the relationships among these dimensions and their relative importance in the context of using social media to enhance eWOM activities remain unclear.

Information-exchange activities are promoted when people are motivated to be involved in such exchanges (Wasko and Faraj, 2005). Among the motivation factors, innovativeness and self-disclosure are the two most prominent influences on information-exchange activities, according to SDT, which posits that people have basic psychological needs for autonomy, competence, and relatedness.

The need for competence reflects a desire to interact effectively with the environment, and prevent undesired events (Deci and Ryan, 2000; White, 1959). The need for autonomy refers to the desire of a person to self-organize experiences and behavior and to experience psychological freedom by acting with a sense of volition. In the present study, the need for competence was represented by innovativeness and the need for autonomy was operationalized as voluntary self-disclosure. The social capital factors discussed earlier were representations of the need for relatedness.

The literature indicates that different motivations empower consumers to express themselves through online consumer-opinion platforms (Hennig-Thurau et al., 2004). For instance, self-expression motivation can result in interaction-oriented

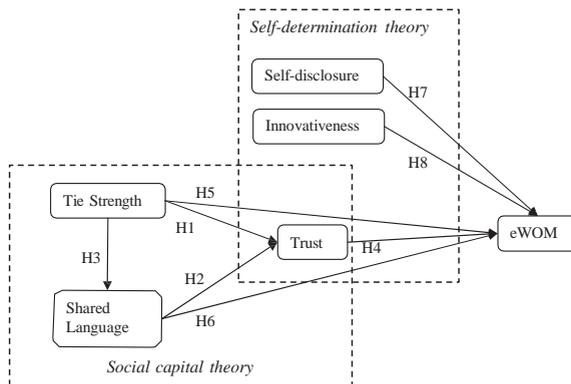


Fig. 1. Research framework.

blogging behavior (Huang et al., 2007). Similarly, the two psychological traits of innovativeness and voluntary self-disclosure can motivate members to engage in eWOM on social networks.

Fig. 1 presents the proposed theoretical model based on the above discussion and literature review. The model illustrates eight hypothesized relationships.

3.2. Interrelationships among the three dimensions of social capital

3.2.1. Linking the structural and relational dimensions

Social interactions grow into trusting relationships (Granovetter, 1985). The structural dimension of social capital manifested as the tie strength or the time that people spend interacting with each other increases (Tsai and Ghoshal, 1998). The greater the tie strength is, the higher the trust between members in a network (Nelson, 1989). Close and frequent communication between two individuals in a network enables them to know each other, share information, and develop a common viewpoint (Law, 2008). Thus, social network members who interact with one another more often and have close relationships perceive each other to be more trustful (Law, 2008) and trustworthy (Pan and Chiou, 2011). Therefore, tie strength and trust were hypothesized to have a positive relationship in social networks:

H1. The perceived tie strength of social network users is positively related to the level of their perceived trust.

3.2.2. Linking cognitive and relational dimensions

Because organization members are not motivated to pursue self-interests that can hurt other members, they are willing to trust one another if they share collective goals and values (Tsai and Ghoshal, 1998). As a tool for shaping group goals, a shared language may stimulate common values and encourage the development of trusting relationships. Incompatible terms and codes hinder the communication process, thus separating people (Nahapiet and Ghoshal, 1998). The positive correlation between shared language and trust is also evident in online social networks. Improving the access of social network members to the information of other members can contribute to their mutual understanding and establish trusting relationships. Therefore, the following hypothesis was proposed:

H2. The degree of shared language among social network users is positively related to the level of their perceived trust.

3.2.3. Linking structural and cognitive dimensions

From a structural perspective, intensive social interaction is fundamental to the successful operation of a social network (Tsai and Ghoshal, 1998). Online social networks provide users with a channel for searching, passing, and posting themed content, information, and activities. Members in the same established network often share unique jargon, enabling them to understand common ideas and interact with other members effectively (Reysen et al., 2010). As ideas and languages are increasingly shared, the network tie strength between members who interact and communicate with each other grows. Therefore, the following hypothesis was proposed:

H3. The tie strength of social network users is positively associated with the degree to which they use a shared language.

3.3. Impacts of the three social capital dimensions on eWOM

3.3.1. Trust and eWOM

Trust is conceptualized as a person's willingness to rely on the statement or opinion of someone in whom they have confidence (Moorman et al., 1993; Schurr and Ozanne, 1985). Trust has a positive effect on information exchange and knowledge sharing in an interpersonal communication context (Chiu et al., 2006; Chai et al., 2011). When two individuals begin to trust each other, they become more willing to share their resources without fear of being exploited by their counterpart. Trust also influences whether consumers engage in interpersonal communication in virtual communities and online social networks (Chiu et al., 2006; Chu and Choi, 2011). Furthermore, trust is a significant predictor of a member's desire for information exchange in virtual communities (Ridings et al., 2002).

An increasing number of consumers rely on the messages posted and shared by others in social networks when making purchase decisions. One major reason for this is the real-name requirement for creating a social network user account, which encourages users to believe that the information posted on social networks is more credible and reliable than company-generated content and anonymous feedback. Moreover, the online social networks of users overlap partially with their real-life social networks. Thus, eWOM, through the spread of product and service information from person to person through online social networks, is considered credible (Chu and Kim, 2011) because members of the same social network tend to trust each other more than they trust people outside the network. Thus, the following hypothesis was proposed:

H4. The perceived trust of social network users in other members is positively related to their engagement in eWOM in social networks.

3.3.2. Tie strength and eWOM

Tie strength refers to “the potency of the bond between members of a network” (Mittal et al., 2008, p. 196). The connections with family members and close friends are tighter and stronger than those among acquaintances, colleagues, and classmates. Previous studies have indicated that weak ties provide a bridging function at the macro level (Brown and Reingen, 1987), whereas strong ties are more likely to activate information diffusion and referral behavior at the micro level (Jacobs, 1965; Granovetter, 1973). Therefore, strong and weak ties are crucial in information-exchange activities.

Tie strength has been investigated in research on WOM behavior (Brown and Reingen, 1987; De Bruyn and Lilien, 2008). When a person requires product information, a weak tie may provide a novel source of information on products (Granovetter, 1973). By contrast, a strong tie offers credible product information. Thus, the tie strength, as perceived by social network members, can increase the interest of consumers in communicating with each other and spreading product-related information, thereby increasing eWOM.

H5. The perceived tie strength of social network members with others is positively related to their engagement in eWOM in social networks.

3.3.3. Shared language and eWOM

Meaningful communication requires parties to share information (Boland and Tenkasi, 1995). Shared language, which refers to “the acronyms, subtleties, and underlying assumptions that are staples of day-to-day interactions” (Lesser and Storek, 2001, p. 836), is a critical device that facilitates information exchange. Such a communication device empowers users to access other people and their information effectively (Nahapiet and Ghoshal, 1998). A shared language enables efficiently expressing common knowledge that is essential for information flow in online social networks. Thus, shared language may motivate social network users to actively engage in purchase-related eWOM. Therefore, the following hypothesis was proposed:

H6. The perceived degree of shared language of members is positively related to their engagement in eWOM in social networks.

3.4. Impacts of individual motivations on eWOM

3.4.1. Voluntary self-disclosure and eWOM

According to SDT, people with higher levels of self-determination adopt compensating mechanisms to enforce their determination more frequently than do people with lower levels of self-determination (Wehmeyer, 1999). Self-disclosure is an autonomous act of revealing personal information to others and was noted as a central mechanism in developing relationships (Altman and Taylor, 1973). In an interpersonal communication context, self-disclosure lowers stress, builds intimacy in relationships, and increases social approval of a person’s ideas. A research segment reports that the self-disclosure of nontransactional personal information, such as interests, beliefs, and future purchase intentions, is voluntary (Robertshaw and Marr, 2005, 2006). Many consumers voluntarily disclose personal information online without explicit reward (Joinson, 2001). A longitudinal analysis of 133 online posts affirmed that the majority (more than 80 posts) disclosed personal information (Rosson, 1999) and supported the ideas of other people. Active and autonomous members of social networks often exhibit a high level of self-disclosure (Kaplan and Haenlein, 2010). People are more likely to self-disclose personal information through online platforms than in face-to-face interaction (Rheingold, 1993). Hence, the following hypothesis was proposed:

H7. The voluntary self-disclosure of members is positively related to their engagement in eWOM in social networks.

3.4.2. Innovativeness and eWOM

Innovativeness refers to a person’s inherent level of novelty seeking and represents his or her personality and tendency toward innovation (Okazaki, 2009). Innovative consumers are more likely to view new technology favorably and be motivated to use such products (Dabholkar and Bagozzi, 2002). Previous studies have indicated that people with high levels of innovativeness are more likely to search for information about new products and share their findings with others. Certain studies have indicated that positive relationships exist between innovativeness and opinion leadership (Flynn et al., 1996; Sun et al., 2006) and between innovativeness and information seeking (Rogers, 1995).

A study based on SDT shows that autonomous extrinsic motivation (e.g., the desire to keep up with the latest technology and information) can augment intrinsic motivation (Lee et al., 2015). This finding corroborates prior research that suggests that individuals who are susceptible to new ideas are heavy users of interpersonal communication, which is the immediate intrinsic motivation to engage in WOM activity (Bayus et al., 1984). One major reason is that engaging in eWOM on SNSs may give members unexpected positive feedback from others on innovative tasks they are undertaking, thereby further increasing their intrinsic motivation to complete those tasks (Deci, 1971).

Therefore, the present study posited that innovativeness can positively influence eWOM as follows:

H8. The degree of innovativeness of members is positively related to their engagement in eWOM on SNSs.

3.5. Research methodology

An online-based survey was conducted to collect cross-sectional data. Sample candidates were recruited among students of a major research-oriented university in Taiwan. The questionnaire items were adapted from relevant studies to ensure the content validity of the constructs. Before deploying the survey, two academic researchers were consulted to further review the modified items. A subsequent pilot study with 20 experts and students revealed that the modified instruments were easy to understand and only minor improvements were suggested and applied to the questionnaire items.

Respondents received a link to an online questionnaire comprising three parts. The first part contained survey instructions and expressed the authors' appreciation to the participants. The participants then identified the online social network that they use the most frequently and answered questions about their social networking experiences. The second part of the survey contained measurement items of all constructs used in this study. Prior literature indicates that common method variance (CMV) is not a problem for technology-related topics such as that in the present study (Malhotra et al., 2006), but some effort was still exerted to reduce the effects of CMV (Podsakoff et al., 2003). The respondents were assured of their anonymity and told that there were no right or wrong answers. The measurement items were arranged to hide the name of the constructs and their relationships. The final part of the survey contained demographic questions.

The respondents were required to answer all questions in the questionnaire, and a manual data screening did not identify any survey with monotone answers. Therefore, all returned responses were retained for analysis. A final sample of 238 responses was used for model testing. Concerning the issue of the appropriate sample size of this model, we referred to the suggested ratio of 20:1 per construct in the research model (Hair et al., 2009). There are six constructs in our research model; therefore, a sample size of more than 120 was deemed appropriate.

Table 2 shows that most of the respondents were female (63%), were Facebook users (95%), were aged between 21 and 30 years (76.1%), and had used SNSs for 3–4 years (53.5%). Most online users are aged between 18 and 24 years (Chu and Kim, 2011). Overall, the sample represents a young, educated group that exhibits characteristics typical of the online population (Assael, 2005). Facebook, the most widely used social network, first targeted college students before gaining mainstream success. According to a recent report by Smith (2014), SNS users tend to be women, be young, and have at least a bachelor's degree. Therefore, this sample was appropriate for the present study.

The eWOM construct was operationalized as a formative construct with three reflective first-order dimensions: opinion giving, opinion seeking, and opinion passing (Chu and Kim, 2011). These eWOM items were adapted from Chu and Kim (2011) and Sun et al. (2006). Four items were adapted from prior studies to assess perceived trust among social network users (Chu and Choi, 2011; Chu and Kim, 2011). Four items were modified from the survey instruments used in Chu and Kim (2011) and Levin and Cross (2004) to measure tie strength. Three items of shared language were adapted from Chiu et al. (2006). Voluntary self-disclosure was assessed using questions adapted from Chu (2011). Innovativeness was measured using four items from Sun et al. (2006). The appendix contains the details on and sources of these items. The constructs were measured on a 7-point Likert scale (1 = *totally disagree*; 7 = *totally agree*).

The research model was tested using a partial least squares (PLS; Fornell and Bookstein, 1982) analysis because it enables a small sample size and latent constructs to be modeled as formative constructs. Although our data constitute an adequate sample size, one of the constructs, eWOM, is formative. The covariance-based structural equation modeling (SEM) is thus not suitable for the present study (Hair et al., 2013). An additional benefit of PLS-SEM is that it is nonparametric; thus, assumptions such as normality and independence are unnecessary (Chin and Newsted, 1999). We used the software SmartPLS 2.0 (Ringle et al., 2005) to empirically validate the research results.

4. Results

4.1. Data analysis

The data were analyzed in two phases. The measurement model was first assessed through path modeling by using PLS analysis. All items except eWOM were modeled as reflective indicators; eWOM was operationalized as a second-order formative construct with three dimensions, and a composite value of eWOM was generated for path modeling in the second step (Lowry and Gaskin, 2014).

Several tests were conducted to examine the convergent validity of all reflective constructs. The loadings of the constructs and Cronbach's alpha were investigated. Table 3 reveals that all items of reflective constructs had loadings exceeding 0.7 and loaded on one factor. Table 3 indicates that the Cronbach's alpha of all constructs ranged from 0.792 to 0.906, exceeding the recommended minimum convergent validity value of 0.7. All average variance extracted (AVE) values exceeded 0.5, and composite reliability scores exceeded 0.8, lending additional support for the convergent validity of the reflective constructs (Fornell and Larcker, 1981).

To assess the discriminant validity of constructs, the square roots of the AVE scores were compared with the correlations between constructs. Table 4 shows that the AVE scores on the diagonal exceed the scores of the interconstruct correlations. The lowest AVE value of the shared language construct (0.707) was substantially higher than the largest squared correlation between constructs (0.49), confirming that the constructs had discriminant validity.

Table 2
Sample demographics.

Demographic and Control Variables	Category	Frequency	Percentage
Gender	Male	88	37
	Female	150	63
Age	20 and below	35	14.7
	21–30	181	76.1
	31–40	19	8
	Above 40	3	1.2
Education	High School Degree	14	5.9
	Associate's Degree	10	4.2
	Bachelor's Degree	89	37.4
	Master's Degree	114	47.9
	Doctorate	11	4.6
Income (Monthly USD)	No Income	64	26.9
	Less than 500	70	29.4
	501–1000	59	24.8
	1001–1500	19	8
	1501–2500	9	3.8
	2501–3500	7	2.9
Work Experience (Years)	Above 3500	10	4.2
	No	64	26.9
	<1	6	2.5
	1–3	108	45.4
	4–7	40	16.8
	7–10	14	5.9
SNSName	>10	6	2.5
	Facebook	226	95
SNS experience (Months)	Other	12	5
	Less than 12	16	6.7
	13–24	22	9.2
	25–36	50	21.1
	37–48	77	32.4
	49–60	45	18.9
	61–72	17	7.1
	73–84	5	2.1
Above 85	6	2.5	
Computer Skills (1:poor; 7 excellent)	1	2	0.8
	2	3	1.3
	3	6	2.5
	4	57	23.9
	5	88	37
	6	62	26.1
	7	20	8.4

Harman's one-factor test was used to detect CMV. The results showed that no single factor could explain more than 50% of the variance, indicating that CMV was less likely to be a problem in the present study.

4.2. Path modeling results

A PLS analysis was conducted to test the hypothesized relationships among the constructs. Fig. 2 presents the research model results. Bootstrapping was used to obtain t values. The R-squared values indicate how the proposed drivers contributed to the dependent variables including trust, shared language, and eWOM. The results of the analysis indicated that tie strength and shared language explained 50.6% of the variance in trust. Tie strength and innovativeness explained 49.2% of the variance in eWOM intention.

Hypotheses 1, 2, and 3, which tested the relationships among the three dimensions of social capital, were supported (Fig. 2). Tie strength was positively and significantly associated with trust (coefficient = 0.647, $p < 0.001$) and shared language (coefficient = 0.430, $p < 0.001$). Shared language positively and significantly affected trust (coefficient = 0.128, $p < 0.05$). These results indicate that these three generic social capital dimensions remain relevant and crucial in online social networks.

Hypotheses 4, 5, and 6 examined the positive impacts of social capital dimensions—trust, tie strength, and shared language—on eWOM. Hypothesis 5 was supported because tie strength significantly and positively affected eWOM (coefficient = 0.253, $p < 0.001$). However, the direct impacts of shared language (coefficient = -0.054, $p > 0.05$) and trust (coefficient = 0.092, $p > 0.05$) on eWOM were nonsignificant. Thus, H4 and H6 were not supported. The direct effects of

Table 3
Correlations of individual items to constructs.

	Shared language	Trust	Tie strength	Innovativeness	Self-disclosure
SL1	0.799	0.315	0.378	0.191	0.207
SL2	0.868	0.347	0.331	0.089	0.243
SL3	0.854	0.361	0.371	0.110	0.220
TR1	0.308	0.868	0.545	0.187	0.305
TR2	0.363	0.921	0.663	0.250	0.370
TR3	0.309	0.908	0.610	0.253	0.339
TR4	0.442	0.822	0.644	0.204	0.330
TS1	0.417	0.541	0.806	0.271	0.388
TS2	0.340	0.645	0.888	0.299	0.372
TS3	0.399	0.678	0.907	0.357	0.414
TS4	0.306	0.507	0.791	0.444	0.476
IN1	0.138	0.233	0.409	0.879	0.405
IN2	0.170	0.194	0.389	0.865	0.395
IN3	0.169	0.269	0.323	0.835	0.344
IN4	0.058	0.185	0.249	0.865	0.409
SD1	0.276	0.376	0.482	0.459	0.933
SD2	0.188	0.347	0.410	0.376	0.879
SD3	0.263	0.327	0.432	0.401	0.941

Bolded elements are corresponding items for each constructs.

Table 4
Correlations, AVE, CR, And Cronbach's Alpha Values.

	Mean	Std. Dev.	AVE	CR	Cronbach's Alpha	Trust	Tie strength	Shared language	Self-disclosure	Innovativeness
Trust	4.32	1.39	0.776	0.93	0.903	0.881				
Tie strength	4.00	1.38	0.722	0.91	0.870	0.702**	0.850			
Shared language	4.73	1.18	0.707	0.88	0.792	0.406**	0.430**	0.841		
Self-disclosure	3.70	1.50	0.842	0.94	0.906	0.383**	0.483**	0.266**	0.918	
Innovativeness	2.78	1.44	0.741	0.92	0.884	0.255**	0.402**	0.156*	0.452**	0.861

Diagonal elements (Bolted) in the correlation matrix are squared roots of AVE.

* Correlation is significant at the 0.05 level.

** Correlation is significant at the 0.01 level.

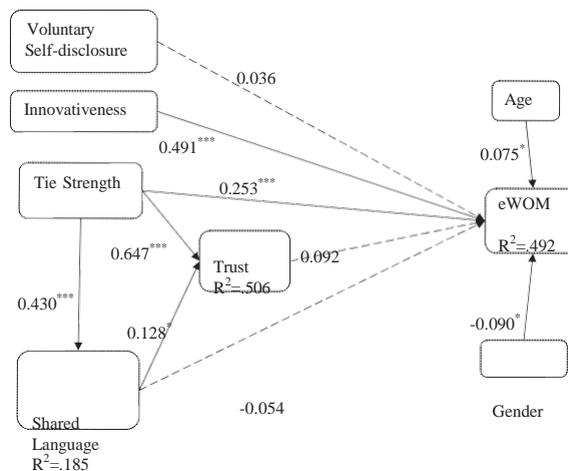


Fig. 2. Research model results. ***Significant at $p < 0.001$, **Significant at $p < 0.01$, *Significant at $p < 0.05$.

voluntary self-disclosure and innovativeness on eWOM as described in H7 and H8 were also examined. Contrary to expectations, voluntary self-disclosure was not positively associated with eWOM (coefficient = 0.036, $p > 0.05$). Thus, H7 was not supported. However, innovativeness significantly influenced eWOM, exhibiting a positive coefficient of 0.491 ($p < 0.001$) and supporting H8.

Seven control variables were tested: gender, age, education, income, work experience, and computer skill. Only age and gender affected eWOM engagement. The results suggest that female and older users are more likely to engage in eWOM.

5. Discussion

This study examined the impacts of social capital and individual factors on eWOM in a social network context. The social capital factors were tie strength, trust, and shared language, and the individual factors were voluntary self-disclosure and innovativeness. A research model based on social capital and self-determination theories is proposed for investigating the relationships among these factors.

The findings of this study indicate that the proposed model provides satisfactory explanatory power for eWOM in social networks. The analysis results indicate that tie strength positively influences levels of trust and shared language, and that shared language positively influences trust. These findings corroborate those of [Tsai and Ghoshal \(1998\)](#), who reported that the three social capital dimensions are correlated with each other, and such a relationship remains in a social media context. Tie strength is a crucial driver for the two other dimensions. A unit increase in tie strength can generate a 0.702-unit increase in trust and a 0.43-unit increase in shared language.

Of all three social capital dimensions, only tie strength had a significant direct influence on eWOM. Tie strength positively influences the intention of consumers to engage in eWOM in social networks. This result is consistent with the [Wirtz and Chew \(2002\)](#) finding that consumers with stronger ties are more likely to generate product-related information flow than consumers with weaker ties. Social network users tend to seek advice from those with closer ties, such as friends and family members, and are more willing to share useful brand-related information with their close friends than with acquaintances. This finding extends those of prior research in organizational and work-related contexts ([Tsai and Ghoshal, 1998](#); [Chiu et al., 2006](#)) to product information exchange in a social network context.

Contrary to expectations, no significant influence of trust on eWOM was identified. This finding could be attributed to the willingness of people to share knowledge and information with members with whom they are close regardless of the degree of trust between them ([Chiu et al., 2006](#)). Product-related information may be perceived to be less risky, thus rendering trust a less crucial factor in eWOM engagement. The analysis results provide no support of shared language directly affecting eWOM. This finding indicates that shared language alone does not provide sufficient motivation for network members to engage in eWOM behavior. Shared language is a commonly accepted communication protocol and thus does not affect the intention to engage in eWOM.

Individual motivations facilitate information-exchange behavior ([Wasko and Faraj, 2005](#)). The empirical analysis revealed that innovativeness positively influences eWOM. Innovative people are likely to engage in eWOM behavior in social media. However, voluntary self-disclosure did not influence eWOM. The nonsignificant effect of voluntary self-disclosure on eWOM may be attributed to policies of online social networks. The real-name policy of major social networks may discourage people who have a weak intention to disclose personal information from joining. Thus, the potential influence of voluntary self-disclosure on eWOM becomes nonsignificant.

5.1. Theoretical and managerial implications

This work contributes to the literature in several ways. First, this study examined the formation of social capital as a resource for driving individual eWOM behavior in social networks. This study extended social capital theory to an online consumption context and provides empirical evidence demonstrating that social capital can influence and facilitate product-related information exchange among consumers. This study also applied a multidimensional framework to a social network context and investigated interrelationships among the structural, relational, and cognitive aspects of social capital. These three dimensions exhibit various influences on social network users' eWOM. This study is the first to examine the direct effect of each dimension on the intention of users to engage in eWOM in a social media environment. Among these three dimensions, the structural dimension appears to be the most influential driver for eWOM behavior in social networks.

Second, this study provides empirical evidence that online network features influence the consumption behavior of users. The network structure directly influences the search for, dissemination and offer of eWOM. The structural aspect of social networking can be used as an environmental cue for promoting eWOM.

Third, individual motives can enhance eWOM. The results of this research indicate that innovativeness is the most crucial motive for user engagement in eWOM behavior in social networks. By contrast, self-disclosure tendency does not significantly influence eWOM.

This research also provides managerial insights into business practices. Social media have been used effectively to promote eWOM because of their ability to connect users and strengthen online interpersonal relationships. Strong interpersonal relationships can generate social capital ([Tsai and Ghoshal, 1998](#)) and improve the quality and value of content on social networks. Therefore, social capital accumulation is essential to the success of social media ([Zhao et al., 2012](#)).

Online social networks enable members to access social capital that facilitates information exchange and thus fosters eWOM. Social network managers can promote this social benefit to members and create a virtuous cycle that can increase usage and involvement. Marketers should consider the influence of the structural features of online networks on eWOM when interacting with potential and existing customers on social media. The findings suggest that the relational and cogni-

tive dimensions of the social capital generated in online social networks influence eWOM only marginally. Enhancing the structural dimension is crucial. For example, SNS companies can organize events to increase interaction among users. Such a positive structural environment can promote eWOM behavior. Innovative people are willing to post and share product-related information in online social network settings. Firms can encourage innovative members to promote their products and maintain a high-quality relationship with them. The members may form a critical group that can help initiate eWOM activities and promote products and services. In addition, empirical evidence reveals that older people and female groups exhibit higher tendencies to engage in eWOM and thus constitute a potential market segment for firms.

5.2. Limitations and future research suggestions

This study used social capital and self-determination theories to examine key drivers of eWOM. Future research can investigate the key drivers of negative eWOM behavior that have a significant undesired impact on firms. A limitation of this research is the Taiwan-specific sample of social network user behavior. Generalizing the findings of this study to another collective culture requires cautious interpretation. Researchers may wish to replicate this study by using respondents from other cultures and assess whether the findings vary. The success of eWOM on social networks depends heavily on individual motivations to promote products and services without tangible rewards. This study used SDT to examine only two individual motives: voluntary self-disclosure and innovativeness. Future research could examine other individual motives for eWOM behavior, such as altruism and warning. With the growing consumer acceptance of mobile devices, eWOM behavior is increasingly mobile; thus, the eWOM in such mobile environments is another promising research topic.

6. Conclusion

Considering eWOM or social media referrals when making purchase decisions has become a personal consumption norm. However, numerous companies fail to promote eWOM behavior in online social networks effectively. This study provides insights into the five key antecedents to the effective use of eWOM from the perspectives of social capital and self-determination. Tie strength and user innovativeness are social capital and personal factors that strongly influence eWOM engagement in social networks. Trust, shared language, and voluntary self-disclosure influence eWOM only marginally. An effective eWOM marketing strategy should prioritize increasing the tie strength between social network members and identifying innovative members as opinion leaders to promote eWOM behavior.

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Appendix A. Summary of measurement questions

eWOM (adapted from [Chu and Kim, 2011](#); [Sun et al., 2006](#))

Opinion giving

- (1) I often persuade my contacts on social networks to buy products that I like
- (2) My contacts on social networks pick their products based on what I have told them
- (3) On social networks, I often influence my contacts' opinions about products
- (4) My friends tend to ask my advice about products on social networks
- (5) Compared with my circle of friends on social networks, I am more likely to be asked about products

Opinion seeking

- (1) When I consider new products, I ask my contacts on social networks for advice
- (2) I like to get my contacts' opinions on social networks before I buy new products
- (3) I feel more comfortable choosing products when I have gotten my contacts' opinions on them on social networks
- (4) I tend to consult other people on social networks to help me choose new products I buy
- (5) I tend to seek out or search for others' opinions or comments on social networks regarding what new products to buy
- (6) I like to seek out negative reviews about new products on social networks before I make a decision to buy them
- (7) On social networks, I tend to seek the advice of my friends regarding which products I should get

Opinion passing

- (1) When I receive product related information or opinion from a friend, I will pass it along to my other contacts on social networks
- (2) I like to pass along interesting information about products from one group of my contacts on my 'friends' list to another on social networks

eWOM (adapted from Chu and Kim, 2011; Sun et al., 2006)

(3) I tend to pass along my contacts' positive reviews of products to other contacts on social networks

(4) I tend to pass along my contacts' negative reviews of products to other contacts on social networks

Social Capital Constructs

Relational: Trust (adapted from Chu and Kim, 2011 and Chu and Choi, 2011)

(1) I trust most contacts on my 'friends' list on social networks

(2) I have confidence in the contacts on my 'friends' list on social networks

(3) Generally speaking, most contacts on my "friends" list on social networks can be trusted.

(4) I feel confident about having discussions with the contacts on my "friends" list on social networks

Structural: Tie strength (adapted from Chu and Kim, 2011; Levin and Cross, 2004)

(1) I communicate very frequently with the contacts on my "friends" list on my social network

(2) Overall, I feel very important about the contacts on my "friends" list on social networks

(3) Overall, I feel very close to the contacts on my "friends" list on social networks

(4) To a very great extent I typically interact with each person

Cognitive: shared language (adapted from Chiu et al., 2006)

(1) Social network users from my 'friends list' use common terms or jargons on the SNS

(2) Social network users from my 'friends list' use an understandable communication pattern during discussions

(3) Social network users from my 'friends list' use an understandable narratives forms to post messages or articles

Individual Motivation Constructs

Voluntary Self-Disclosure (adapted from Chu, 2011)

(1) I disclosed my facts to my 'friends' on social networks

(2) I disclosed my emotions to my 'friends' on social networks

(3) I disclosed my thoughts to my 'friends' on social networks

Innovativeness (adapted from Sun et al., 2006)

(1) On social networks, I am among the first in my circle of friends to buy some products when they appear

(2) On social networks, I am among the first in my circle of friends to know the names of the latest new products

(3) I will obtain a new product online even though I haven't tried it yet

(4) I like to obtain new products online before other people do

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