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ABSTRACT

The rapid growth of Facebook has become an important channel of eWOM. Facebook users can openly illustrate their attitudes toward products to their friends, either by casually clicking a like or deliberately writing a comment on advertisements. This study explored how friends' involvement in advertisements and tie strength affected Facebook users' product attitudes, intentions to purchase, and intentions to click. Moreover, we investigated how product type moderates fWOM (eWOM on Facebook) effects. This study recruited 384 respondents to participate in a 2 (friends' involvement in advertisements: high/low, between-subject) × 2 (tie strength: strong/weak, between-subject) × 2 (product type: search/experience, within-subject) experimental design. The results showed that friends' involvement in advertisements positively influenced users' intentions to click. Tie strength of Facebook friends also positively affected users' product attitudes, intentions to purchase, and intentions to click. Lastly, product type moderated the effects of tie strength of Facebook friends on users' product attitudes and intentions to click; however, it did not moderate the effects of friends' involvement in advertisements on their attitudes and intentions.

Keywords: friends' involvement in advertisements, tie strength of Facebook friends, product type, product attitude, intention to purchase, intention to click

1. INTRODUCTION

Word-of-mouth (WOM) has been deemed one of the most important sources for consumers to search for product information. Word-of-mouth can be conveyed in two ways: traditional WOM and electronic WOM (eWOM). These type of WOM differ in terms of their diffusion mode, communication network, message storage, and information sources. First, the diffusion mode of traditional WOM is typically face-to-face communication, whereas eWOM transmits through online platforms such as blogs, chat rooms, forums, email, and online communities (Cheng & Zhou, 2010; Cheung & Lee, 2012; M. K. Lee, Cheung, Lim, & Sia, 2006). Second, the scope of traditional WOM is restricted to the local community; however, eWOM can reach far beyond the local community via the Internet (Hart & Blackshaw, 2006). Third, traditional WOM only stays in human memory, while eWOM is text-based and can be accurately stored for a long period of time (Hung & Li, 2007; Park & Lee, 2009). Fourth, the information sources of traditional WOM usually come from familiar people such as family members or friends, whereas those of eWOM can also come from strangers online, such as unknown former purchasers (Ratchford, Talukdar, & Lee, 2001). That is, eWOM has multiple channels of information exchange (Cheung & Lee, 2012; Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Hung & Li, 2007), larger communication networks (Cheng & Zhou, 2010), and can be easily stored at low cost and be spread faster than can traditional WOM. Conversely, people are more likely to trust information spread via traditional WOM than eWOM because the information sources of traditional WOM are familiar people. In another words, traditional WOM and eWOM have complementary advantages and disadvantages.

The emergence of online social network sites, such as Facebook, provides online users a new way of expressing their attitudes toward products. On Facebook, users can either click the like on the advertisements or deliberately type their comments about products on the advertisement posted by sellers. Then, the WOM on Facebook (called as fWOM hereafter) is spread to all of their Facebook friends. Interestingly, fWOM has the strengths of both traditional WOM and eWOM. Similar to typical eWOM, fWOM is text-based and can be easily stored and traced. Moreover, fWOM can also be spread faster and cheaper than can traditional WOM. The information sources of fWOM are Facebook friends who may also be offline friends. Therefore, fWOM can harness a higher level of trust than can typical eWOM. For this reason, Facebook becomes an important channel for spreading WOM.

Interestingly, fWOM has a unique advantage that not shared by traditional WOM or eWOM, which is the very low cost of generating WOM. Producing fWOM can be as easy as clicking the like on advertisements. Clicking the like is relatively easy, and shows a low level of involvement. On the other hand, users can also generate WOM on Facebook with a higher level of involvement by typing comments. Thus, there emerges a new characteristic of fWOM: the level of friends' involvement. Based on the Elaboration Likelihood Model (ELM), people with high involvement in advertisements are more interested in the content of advertisements (Petty & Cacioppo, 1981) and have more positive attitudes toward advertisements (McMillan, 2000) and product (Doh & Hwang, 2009) than do people who with low involvement in advertisements. Because clicking the like is a feature unique to

Facebook, it is interesting to investigate whether it has the same level of WOM effects as does typical WOM displayed in comments. That is, does the involvement level of friends affect readers of fWOM? Thus, the first objective of this study was to explore how the different degrees of friend involvement in advertisements on Facebook affect users' attitudes toward products, intentions to click the advertisement, and intentions to purchase.

As friends on Facebook are also friends offline, Facebook friends can also have different degrees of tie strength with each user, strong tie vs. weak tie (Granovetter, 1973). Previous research has indicated that people trust their friends with strong ties more than those with weak tie (Gilbert & Karahalios, 2009). However, weak tie friends usually outnumber strong tie friends on Facebook. Therefore, does the degree of tie strength also have the effects of fWOM? Hence, the second objective of this study was to examine whether different levels of tie strength of Facebook friends affect users' attitudes and intentions.

Previous research has shown that consumers would rely more on product recommendations for experience products than for search products because experience products are perceived to have higher risks than search products (Senecal & Nantel, 2004). Consumers can evaluate the attributes of goods or products prior to purchase for search goods whereas they can only do so for experience goods after consuming them (Nelson, 1970, 1974; Weathers, Sharma, & Wood, 2007). Therefore, consumers are much more skeptical of experience attribute claims than of search attribute claims (Ford, Smith, & Swasy, 1990). Brown, Pope, and Voges (2003) found that entertainment tickets (search product) were more likely to be purchased by respondents than was insurance (experience product). That is, different product types might affect whether consumers refer other people's opinion or not. Therefore, the third objective of this study was to investigate how product type (search vs. experience) moderates the effects of tie strength of Facebook friends and friends' involvement in advertisements on users' attitudes and intentions.

The remainder of this paper is organized as follows. Section 2 develops the hypotheses and research model and Section 3 demonstrates the method, with results presented in Section 4. Finally, Section 5 discusses managerial implications, limitations, and proposes future research.

2. HYPOTHESES DEVELOPMENT AND RESEARCH MODEL

2.1 EWOM Effects

EWOM is defined as "all informal communications directed at consumers through Internet-based technology related to the usage or characteristics of particular goods and services, or their sellers" (Litvin, Goldsmith, & Pan, 2008). EWOM can be spread faster and reach farther beyond the local community through the Internet. Furthermore, the information sources of traditional WOM are familiar people, whereas online consumer reviews come from unknown former purchasers (Ratchford et al., 2001). However, fWOM merges eWOM and traditional WOM and has the advantages of both. The information sources of fWOM are friends or family, just like traditional WOM, and it can spread far beyond the local area as with eWOM. Consumers can click one button to spread their opinions on Facebook, which is easier than typical eWOM and increases accessibility of information. Thus, fWOM could completely transmit the content of advertisements and the information would not be

distorted. These differences allow Facebook to be a good medium of advertisement. Given that Facebook is a channel of the advertisement, the question is, how can fWOM be properly applied to generate better effects?

There are many different eWOM effects such as product attitude (Doh & Hwang, 2009), consumers product judgment (M. Lee & Youn, 2009), purchasing behaviours (Chevalier & Mayzlin, 2006), and intentions to visit a web page (Zhang, Ye, Law, & Li, 2010). Because of the features of Facebook, the effects of fWOM manifest in terms of three different dimensions: attitude toward the product, intention to purchase, and intention to click. Product attitude is defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavour" (Eagly & Chaiken, 2007). Intention to purchase is defined as the probability or willingness to buy a product (Dodds, Monroe, & Grewal, 1991). Finally, intention to click is defined as occurring when people want to acquire more detailed information about the product by clicking the advertisements (Briggs & Hollis, 1997; Cho, 1999; RH, 1996). Hence, this study explored the effects of fWOM, which include product attitude, intention to purchase and intention to click as the dependent variables.

Facebook also allows people to receive advertisements from their friends via features such as like and share. If Facebook friends feel that an advertisement was interesting, they may click like or share it on their walls. However, adopting the features of like and share requires different degrees of cost. When people use the like feature, they merely need to click on the advertisement. When people employ the share feature, they must not only share the advertisement on their walls but also type comments about the advertisement. Because people have to expend their time typing comments, they may spend much cost on adopting the share feature. That is, clicking the like on the advertisements is easier and requires less effort than does sharing the advertisements on friends' walls. Thus, using the like and share features demonstrates different levels of friend involvement in advertisements.

According to the ELM, the extent of people's elaboration on message-relevant information in forming their attitudes can be divided into routes of persuasion: central route vs. peripheral route (Petty & Wegener, 1998). People process information in the central route when they have enough motivation and ability to do so. People need close and extensive scrutiny of message-relevant arguments (high elaboration) to help them construct their attitudes in the central route. On the contrary, in the peripheral route, people need less scrutiny of message arguments or scrutiny of fewer arguments (low elaboration) to form their attitudes. For this reason, the different degrees of friend involvement in advertisements may generate different fWOM effects. First, this study explored how the different levels of friend involvement in advertisements affect users' attitudes and intentions.

2.2 Friends' Involvement in Advertisements

Involvement refers to "the amount of time and effort consumers invest in the search, evaluation, and decision processes of consumer behavior" (Lamb, Hair, McDaniel, Boshoff, & Terblanche, 2004). In this study, friends' involvement in advertisements was defined as the amount of time and effort consumers invested in the advertising messages. For instance, clicking the like on Facebook is low involvement, whereas sharing something on the wall is high involvement. When people click the like, their attitudes were positive even they did not have to type comments about the advertisements. If they

shared and further commented on the advertisements, they had to spend much time typing their opinions and more clearly express their attitudes. Thus, there are more steps when people "share and comment" the advertisements than when they "click like." Thus, when people receive advertisements through their friends who share and comment on their walls, it shows higher involvement in the advertisements than clicking the like.

Previous research found that people with high involvement in advertisements were more interested in the content of the advertisements (Petty & Cacioppo, 1981) and had more positive attitudes toward the advertisements (McMillan, 2000) and the products (Doh & Hwang, 2009) than did people with low involvement in advertisements. If Facebook friends who provide advertisements have high involvement, they may have strong attitudes toward the advertisements. On the other hand, if people perceive their involvement in advertisements as low on Facebook, such as clicking the like, they may not be concerned with the advertisements. Therefore, we argue that friends' involvement in advertisement is positively related to fWOM effects, including intentions to purchase, product attitudes, and intentions to click. We propose the following hypothesis:

H1a: Friends' involvement in advertisements has a positive effect on users' product attitudes.

H1b: Friends' involvement in advertisements has a positive effect on users' intentions to purchase.

H1c: Friends' involvement in advertisements has a positive effect on users' intentions to click.

In addition, Facebook allows people to diffuse advertisements between their friends. Even though people have many friends on Facebook, their friends encompass different extents of tie strength. Based on previous research, people more trust (Gilbert & Karahalios, 2009) and are more influenced (Brown & Reingen, 1987) by their strong tie friends. That is, the different levels of tie strength of Facebook friends may also produce different fWOM effects. Second, this study examined how the different levels of tie strength of Facebook friends affect users' attitudes and intentions.

2.3 Tie Strength of Facebook Friends

Tie strength is defined as "a combination of the amount of time, the emotional intensity, the intimacy, and the reciprocal services which characterize the ties" (Granovetter, 1973). Tie strength ranges from weak to strong. Some differences exist from strong ties and weak ties such as frequent contact (Wellman & Tindall, 1993; Wellman & Wortley, 1990) and closeness (Lin & Dumin, 1986). Close friends and relatives are assumed to be strong ties, whereas neighbours, co-workers, acquaintances, or friends of friends are weak ties (Gilbert & Karahalios, 2009; Marsden & Campbell, 1984). Strong ties offer emotional support, enjoy helping each other, and provide companionship (Wellman & Wortley, 1990). Additionally, strong tie friends are trusted and their social circles tightly overlap with our own (Gilbert & Karahalios, 2009). Moreover, the friends of strong ties are similar in many respects and often more likely to know the same things (Granovetter, 1973, 1983). The information of WOM received by friends of strong ties is more influential than that by weak ties in decision-making (Brown & Reingen, 1987).

Weak ties serve as information bridges across cliques of strong ties and can offer people access to resources that are not found in their strong-tie relationships (Constant, Sproull, & Kiesler, 1996). The numbers of friends of weak ties are much higher than those of strong ties. Furthermore, the friends of

weak ties have more potential helpers (Friedkin, 1982) and provide diverse advice (Burt, Minor, & Alba, 1983) than those of strong ties. However, people may not trust weak ties as much as those of strong ties. In other words, if people receive an advertisement from weak ties, they may not trust all of their comments. Conversely, if people receive advertisements from strong ties, they may be more trusting of the information. That is, people may be more willing to have similar values and interests with strong ties. Thus, strong tie friends' recommendations are more attractive. In addition, as people perceive tie strength with their contacts, the greater the likelihood they will engage in eWOM behaviours on social network sites (Chu & Kim, 2011). Hence, we argue that tie strength of Facebook friends is positively related to fWOM effects, including intentions to purchase, product attitudes, and intentions to click, as hypothesized in H1:

H2a: Tie strength of Facebook friends has a positive effect on users' product attitudes.

H2b: Tie strength of Facebook friends has a positive effect on users' intentions to purchase.

H2c: Tie strength of Facebook friends has a positive effect on users' intentions to click.

In addition to information sources of advertisements, consumers rely on the different levels of product recommendations based on product types (Senecal & Nantel, 2004). Previous research revealed that product type is a moderator of eWOM effects (Mudambi & Schuff, 2010; Park & Lee, 2009). That is, product type may influence the effects of friend involvement in advertisements and tie strength of Facebook friends. Finally, this study investigated how product type moderates the effects of friend involvement in advertisements and tie strength of Facebook friends on users' attitudes and intentions.

2.4 Interaction Effect: Product Type as a Moderating Effect

Nelson (1974) argued that product type can be categorized as *search* and *experience.* Search products are defined as those that consumers can acquire full information about the goods before purchasing (Nelson, 1974). For example, household furniture, jewellery, paint, mirrors, and sporting goods are search goods (Leahy, 2005; Nelson, 1970). Experience product are defined as those that consumers cannot know full information on the "dominant" attributes until the purchase and use of the products; searches for information on these product types are more costly and difficult than gaining the product experience directly (Nelson, 1974). For instance, food, motorcycles, bicycles, wine, drugs, and perfume are experience goods (Leahy, 2005; Nelson, 1970).

Consumers plan to use the information from salespeople, consumer reports, or their friends, relatives, and acquaintances to purchase products (Price & Feick, 1984). Moreover, the type of product effects consumers' use of personal information sources and their choices (Bearden & Etzel, 1982; Childers & Rao, 1992; King & Balasubramanian, 1994). Because it is difficult to evaluate experience products before purchase, consumers rely more on product recommendations for these products than for search products (Senecal & Nantel, 2004). On the contrary, consumers selecting search products (e.g., a 35-mm camera) are more likely to adopt their own strategies than are consumers selecting experience products. Additionally, consumers selecting experience products (e.g., a film-processing service) rely more do on other and hybrid strategies (King & Balasubramanian, 1994). In other words, when people make a decision about search goods, they do not need other consumers' recommendations (King & Balasubramanian, 1994). Thus, if people want to buy experience goods, they are more likely to

reference other consumers' opinions than they do when buying search goods. Thus, other consumers' comments are important for people to make the decision about purchasing experience goods.

When people buy experience products, they may be more likely to refer other people's recommendations. If their friends have high involvement in an advertisement, such as share and comments on Facebook, they know that their friends are willing to spend time and effort on the advertisement. On the contrary, if their friends only spread advertisements by clicking the like, their friends may expend less time and effort than those with high involvement in advertisements. That is, high involvement friends may express more favourable attitudes than do low involvement friends. The positive recommendation may be influenced by the different levels of involvement, even when recommendations are from the same person. Thus, more positive content may have a greater affect on users' attitudes and intentions. In addition, when people purchase search products, they may not need to their friends' opinions to help them make the decision. That is, people may not benefit from the different levels of involvement. Hence, the effects of different level of friend involvement in advertisements works better for purchasing experience products than for purchasing search products. Based on the previous inference, we propose the following hypothesis:

H3: Product type (search vs. experience) moderates the positive effect of friend involvement in advertisements on product attitudes, intentions to purchase, and intentions to click.

H3a: The positive effect of friends' involvement in advertisements on product attitudes is stronger for the experience product condition than for the search product condition.

H3b: The positive effect of friends' involvement in advertisements on intentions to purchase is stronger for the experience product condition than for the search product condition.

H3c: The positive effect of friends' involvement in advertisements on intentions to click is stronger for the experience product condition than for the search product condition.

When people purchase the experience products, they need to search the product information to help them make a decision. People can find their friends' opinions, which is one information source on Facebook. Furthermore, people trust the recommendations of strong tie more than those of weak tie friends. That is, people may care for the advertisements from strong tie friends more do than those from weak tie friends in the experience product condition. Conversely, people may not demand other information to make decisions when they buy search products. Even if people can obtain the product information from their Facebook friends, they may not feel the benefits of these recommendations. In other words, the different levels of tie strength of information source may not affect users' attitudes and intentions in the search product condition. When people receive advertisements about experience products from the strong tie friends, it may generate more differences compared to receiving the information from weak tie friends concerning search products. Specifically, the recommendations may increase people's positive attitudes and intentions. Therefore, the difference between strong and weak ties may increase in the experience product condition. Based on this argument, we propose the following hypothesis:

H4: Product type (experience vs. search) moderates the positive effect of tie strength of Facebook friends on product attitudes, intentions to purchase, and intentions to click.

H4a: The positive effect of tie strength of Facebook friends on product attitudes is stronger for the experience product condition than for the search product condition.

H4b: The positive effect of tie strength of Facebook friends on intentions to purchase is stronger for the experience product condition than for the search product condition.

H4c: The positive effect of tie strength of Facebook friends on intention to click is stronger for the experience product condition than for the search product condition.
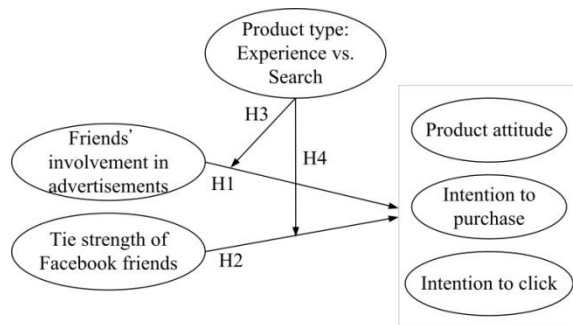

Figure 1.   Research model

3. METHODOLOGY

3.1.   Research Design

This study adopted the laboratory experiment method to test the proposed hypotheses. The three independent variables in this study included friends' involvement in advertisements (high vs. low), tie strength of Facebook friends (strong vs. weak), and product type (experience vs. search). This study conducted in a 2*2*2 design. Friends' involvement in advertisements and tie strength of Facebook friends were between-subjects design. Product type was within-subjects design. Therefore, there were four (2*2) scenarios in total.

3.2.   Pretest

To select the product type (search product or experience product), this study administered a pretest (*N* = 40) based on Weathers et al. (2007) before the formal experiment. First, this study chose 16 products that most people can afford to buy and that had a fan page on Facebook to conduct the pretest: soft drink, wine, book, magazine, sunglasses, disposable contact lens, bus ticket, exhibition ticket, chain restaurant, independent restaurant, vitamin, tea, USB flash drives, wireless router, CD/DVD, and 3D movie. To avoid order bias, products were presented in random order. Participants were asked to respond the questions in terms of experience qualities and search qualities (Weathers et al., 2007) using a 7-point Likert scale for every product. Third, we computed the average of the items of experience and search qualities for each product, and the difference between these measures (i.e., experience - search). According to the pretest results, we selected the products with the largest (experience) and smallest (search). Of note, the independent restaurant (2.18), with the largest mean, had service attributes that were different from the other products. Thus, the independent restaurant was not a suitable product in our experiment. In addition, most of our participants were students and they seldom bought sunglasses (M = 1.83; second largest) or wine (M = 1.66; third largest). Therefore, sunglasses and wine were also not suitable products. Finally, we decided that tea (M = 1.58; fourth

largest) as an experience product and bus ticket (M = -2.90; lowest) as search product in the formal experiment.

3.3. Testing Material

This study included three independent variables: friend involvement in advertisements, tie strength of Facebook friends, and product type. The operational definition of friends' involvement in advertisements is the amount of time and effort people engage in the evaluation process of a product. On Facebook, people need to spend more time and effort sharing comments than clicking the like. In other words, these ways might lead users to perceive different levels of friends' involvement in advertisements. Thus, in our experimental design, high friends' involvement in the advertisement scenario would provide an image that the advertisement was shared and commented on by a friend on Facebook. In contrast, low friends' involvement in the advertisement scenario would offer an image that the advertisement was liked by a friend on Facebook. Concerning tie strength of Facebook friends, strong tie friends were operationally defined as the people whose social circles tightly overlap with your own, who contact with you more often, and who provide emotional supports. Weak tie friends were on the contrary. This study found that users' friends list on Facebook were presented by the contact frequency and relationship. The friends who one contact more frequently in Facebook or belong to close friends were more likely to be at the top of the friends list. Hence, this study asked participants assigned to the strong tie scenario to write down the name of the friend who was first on their friends list and imagine that the advertisements were received from that friend. Compared to the strong tie scenario, participants assigned to the weak tie scenario were asked to write down the name of the friend who was last on their friends list and imagine that the advertisements were received from that friend. About product type, we adopted the pretest to select the suitable product: tea (experience product) and bus ticket (search product).

3.4. Measurements

The measurements of the constructs were scales adopted from past relevant studies. The measures of attitudes toward the products, intentions to purchase, and intentions to click were adopted from Sicilia, Ruiz, and Munuera (2005), Sundar and Kim (2005), and Cho (1999), respectively. The manipulation of both independent variables was checked using and modifying the scales of perceived involvement (Laczniak & Muehling, 1993), perceived tie strength (Gilbert & Karahalios, 2009; Levin & Cross, 2004; Mesch & Talmud, 2006; Pollet, Roberts, & Dunbar, 2011), and perceived product attributes (Weathers et al., 2007). This study used either a 7-point Likert scale, or 7-point semantic differential scale that ranged from (strongly disagree, or very dissatisfied) to 7 (strongly agree, or very satisfied). All items were adopted according to the online WOM situation. The sample items of all measurements are shown in Table 1.

Constructs	Items
Product attitude	I like it -- I do not like it
Intention to purchase	How likely is it that you would consider buying this product if you had enough money?
Intention to click	I will click the ad to further see detailed description of the ad.
Product type	I can evaluate the quality of this product simply by reading information about the product.
Friends' involvement with advertisement	How much attention did you think your friend pay to the written message in the <product> ad?
Ties strength	How close do you feel to your friend?

Table 1. The sample items of all measurements

3.5.   Participants

This study recruited 421 participants. We deleted data that, following a manipulation check, were not right by product type. Finally, 384 valid subjects were analyse, with 195 participants randomly assigned to the high involvement condition and 189 to the low involvement condition; and 194 randomly assigned to strong tie condition and 190 to the weak tie condition. Among the valid subjects, 158 (41.1%) were male and 226 (58.9%) were female; 95 (24.7%) were 20 years or younger, 279 (72.7%) between 21 and 30 years old, 8 (2.1%) between 31 and 40 years old, and 2 (0.5%) aged 41 years or older. Finally, 357 (93%) were students and 27 (6.7%) were non-students; 279 (72.4%) were undergraduate, 102 (26.6%) were graduate, and 4 (1%) were high school or others.

3.6.   Procedure

Participants were invited to our laboratory for the experiment. First, they were asked to fill out a written consent form, and then they were instructed on the experiment procedure. Second, participants were randomly assigned to one of the four scenarios. Third, they had to open their Facebook profile pages and were assigned to indicate the name of the first or last friend on their friend lists and tie strength scale according to that friend's name. Fourth, they were required to browse the product information that was sent by their listed friend by clicking the like or sharing the comments. After they finished browsing the information of each of experience and search product, they were asked to answer the questions in terms of their attitudes toward the products, intentions to purchase, and intentions to click. After reviewing the advertisements, participants responded to the questions regarding their perceptions of involvement and product attributes, which were used as manipulation checks later. Finally, they answered questions in terms of their demographic information. On average, the participants spent around 25 minutes to complete the whole study, and each received NT$50 as incentive for participation.

4   EMPIRICAL RESULTS

First, a manipulation check was performed for the constructs of friends' involvement in advertisements, tie strength of Facebook friends, and product type. Then, the statistical analyses of MANOVA and ANOVA were adopted to test the effects of friends' involvement in advertisements, tie strength of Facebook friends, and product type on people's product attitudes, intentions to purchase, and intentions to click.

4.1.   Manipulation Check

The manipulation of the independent variables and the moderator was checked. Participants perceived a higher degree of involvement in advertisements in the high friends' involvement condition than did their counterparts who in the low friends' involvement condition (4.58 vs. 4.14, $F(1,620) = 18.78$, $MSe = 1.65$, $p <.0001$). Moreover, participants assigned to the strong tie group reported a significantly higher degree of perception of tie strength than did those assigned to the weak tie group (5.21 vs. 2.31, $F(1,397) = 697.4$, $MSe= 1.20$, $p < .0001$). The difference between the average items of experience and search products (experience-search) for tea was 2.60 and bus ticket was -2.70. Therefore, the manipulations of the independent variable and the moderator were successful.

4.2. MANOVA and ANOVA Analyses: Involvement, Tie Strength, and Product Type

A three-way MANOVA was used to test the relationships between friend involvement in advertisements, tie strength of Facebook friends, product type, and three independent variables (attitudes toward the product, intentions to purchase, and intentions to click). The MANOVA showed significant multivariate main effects for tie strength ($\Lambda = 0.96$, $F(3,232) = 3.16$, $p = .0255$) and product type ($\Lambda = 0.47$, $F(3,232) = 87.21$, $p < .0001$).

This study also examined univariate effects (ANOVA). On average, participants in the high friends' involvement condition had a significantly higher level of intention to purchase than did their counterparts in the low friends' involvement condition (3.81 vs. 3.54, $F(1, 380) = 4.17$, $MSe = 2.29$, $p = .0419$). However, no significant differences exists for product attitudes (4.57 vs. 4.57, $F(1, 380) = 0.6$, $MSe = 1.27$, $n.s.$) or intentions to click (3.99 vs. 3.77, $F(1, 380) = 2.52$, $MSe = 2.72$, $n.s.$) between the groups. Hence, Hypothesis 1c was supported, but Hypotheses 1a and 1b were not supported by the empirical results. Furthermore, participants in the strong tie condition had significantly higher degrees of product attitude (4.63 vs. 4.44, $F(1, 380) = 3.7$, $MSe = 1.27$, $p = .0552$), intentions to purchase (3.84 vs. 3.51, $F(1, 380) = 6.36$, $MSe = 2.29$, $p = .0121$), and intentions to click (4.08 vs. 3.69, $F(1, 380) = 6.36$, $MSe = 2.72$, $p = .0056$) than did their counterparts in the weak tie condition. Thus, Hypotheses 2a, 2b, and 2c were also supported. Moreover, participants in the search product condition had significantly higher levels of product attitudes (5.17 vs. 3.90, $F(1, 234) = 230.06$, $MSe = 0.85$, $p < .0001$), intentions to purchase (4.49 vs. 2.86, $F(1, 234) = 173.17$, $MSe = 1.83$, $p < .0001$), and intentions to click (4.86 vs. 2.9, $F(1, 234) = 191.98$, $MSe = 2.39$, $p < .0001$) than that reported in the experience product condition. Therefore, users' product attitudes, intentions to purchase, and intentions to click in the search product condition were higher than that in the experience product condition.

In addition to the main effects, Figure 2 and 3 illustrate consistent pattern of interaction effects. The interaction effects of friend involvement and product type on product attitude ($F(1, 234) = 0.22$, $MSe = 0.85$, $n.s.$), intentions to purchase ($F(1, 234) = 0.06$, $MSe = 1.83$, $n.s.$), and intentions to click ($F(1, 234) = 0.07$, $MSe = 2.39$, $n.s.$) were not significant (see Figure 2). That is, Hypotheses 3a, 3b, and 3c were not supported. Furthermore, the results revealed highly significant interaction effects of tie strength and product type on product attitudes ($F(1, 234) = 3.47$, $MSe = 0.85$, $p = .0637$) and intentions to purchase ($F(1, 234) = 3.95$, $MSe = 1.83$, $p = .027$) (see Figures 3a and 3b).

Participants in the experience product condition reported higher levels of product attitudes (4.09 vs. 3.71, $F(1, 340) = 10.891$, $MSe = 1.149$, $p < .001$) and intentions to purchase (3.10 vs. 2.54, $F(1, 340) = 14.129$, $MSe = 1.894$, $p < .0001$) when obtaining information from strong tie friends than did those in the experience product condition from weak tie friends. However, the differences of product attitudes (strong: 5.11 vs. weak: 5.13, $F(1, 280) = 0.17$, $MSe = 1.059$, $n.s.$) and intentions to purchase (strong: 4.49 vs. weak: 4.45, $F(1, 280) = 0.45$, $MSe = 2.394$, $n.s.$) between strong tie and weak tie friends were not significant for participants in the search product condition. In other words, receiving information from strong tie friends works better for participants in the experience product condition than for participants in the search product condition in terms of increasing product attitudes and intentions to

purchase. Thus, the empirical results supported Hypotheses 4a and 4b. However, the interaction effect of tie strength and product type on intentions to click was not significant ($F(1, 234) = 2.57$, *MSe* = 2.39, *n.s.*) (see Figure 3c). Hence, the empirical results did not support Hypotheses 4c.
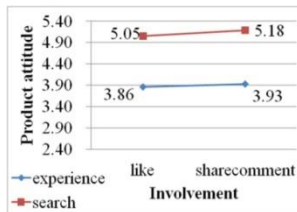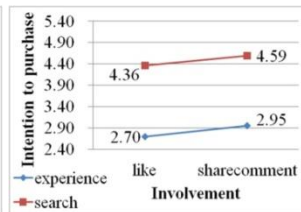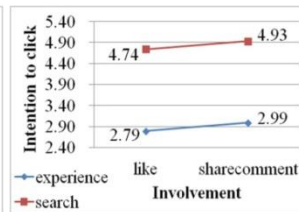

Figure 2a   Figure 2b   Figure 2c

Figure 2.   *Effects of friends' involvement on product attitude, intention to purchase, and intention to click for participants in the search product condition vs. participants in the experience product condition*
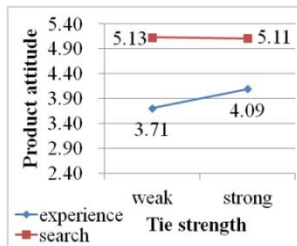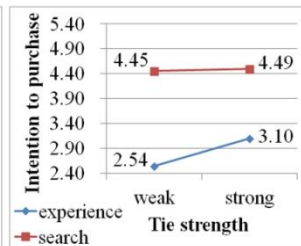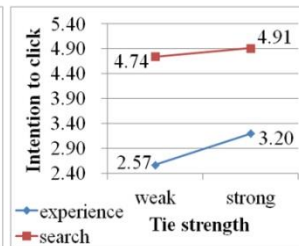

Figure 3a   Figure 3b   Figure 3c

Figure 3.   *Effects of tie strength on product attitude, intention to purchase, and intention to click for participants in the search product condition vs. participants in the experience product condition*

5   CONCLUSION, MANAGERIAL IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

This study examined the relationship between friends' involvement in advertisements, tie strength of Facebook friends, and the fWOM effects of as product attitudes, intentions to purchase, and intention to click. The results showed that advertisements from friends with different levels of involvement was only significant for intentions to purchase, but did not affect users' product attitudes and intentions to click. The data revealed that clicking the like and sharing the comments on Facebook have the same effects on users' product attitudes and intentions to click. In other words, receiving product messages by clicking the like is enough for people to form favourable attitudes toward the products. Corresponding to ELM, when people do not have motivation and ability, they could use less scrutiny of message arguments or scrutiny of fewer arguments (low elaboration) to construct their attitudes. That is, advertisements on Facebook may adopt the peripheral route to influence users' attitudes. Furthermore, the results revealed that when the advertisements were received from strong ties, people generated more positive product attitudes, higher intentions to purchase, and higher intentions to click. Therefore, the source of advertisements was important for people to judge whether it was trustful and worth considering. When people received the advertisements, they first considered who sent them and the content of the information. Until people consider purchasing, they might refer their friends' comments, thus, the level of friends' involvement in advertisements would influence their intentions to purchase.

In addition, product type did not significantly moderate the relationship between friend involvement in advertisements and three fWOM effects, which differed from our prediction. The reason might be that

the information about experience products from a low involvement friend was still valuable to refer to. The difference between high and low involvement in advertisements was not as much as we predicted. On the contrary, we found that product type moderated the relationship between tie strength and product attitudes and intentions to purchase, but not intentions to click. The advertisement about experience products generated more product attitudes and intentions to purchase in the strong tie condition than in the weak tie condition. This result fit our hypotheses and past research (King & Balasubramanian, 1994; Senecal & Nantel, 2004). When people make purchasing decision about experience products, comment from strong ties are more credible to reference than are comments from weak ties. Interestingly, the two tie strengths generated similar differences in intentions to click between experience products and search products. The reason for this finding might be that intention to click is a behaviour that can easily be influenced; therefore, regardless of the advertisement received from strong ties or weak ties, it generated similar results. Therefore, there was no interaction between tie strength and product type on intentions to click.

Because of the increase of Facebook users, fan pages on Facebook have become important channels to promote product. According to the results, we proposed some advice on managing fan pages on Facebook. First, clicking the like is sufficient for users to construct favourable attitudes toward the product because of the peripheral route of ELM. Moreover, clicking the like is an advantage of Facebook because it is lower cost and faster spread than is traditional WOM and typical eWOM. Therefore, adopting the "click the like" strategy could promote the products effectively. Second, the person who spreads the advertisements is important. Encouraging users to click like or share the advertisement on Facebook is useful to promotion especially when the one clicking like or sharing is someone else's strong tie. Third, if advertisements are about search products, it is more useful to increase people's attitudes and intentions on Facebook. However, the effect of experience products generates a higher effect on product attitudes and intentions to purchase only when the advertisement is from strong ties.   Lastly, if the user who shares the advertisements has comments, it would advance the receiver's intentions to purchase.

This study only focused on Facebook fan pages, other social network sites, such as Google+ or Twitter, should also be tested. In addition, this study only adopted one product as experience or search product; therefore, these current findings might not apply to all products in its product type. Moreover, the difference between two products might not only be different product types, but also include other factors such as brand awareness, etc. Comparing with clicking like, this study only provided positive comments when people shared the advertisements. We did not consider the differences of positive and negative comments. Further research can advance to explore the effects of positive and negative comments. Other possible factors may also influence fWOM effect such as media richness of advertisements or the number of likes or shares. For more advanced research, future studies can focus on (1) how different media richness of advertisement contents influence fWOM effect or (2) whether the number of likes or time an advertisement is shared increase people's interest and generates higher intentions to purchase or click? By including other possible factors, the frame of the advertisement affects fWOM effects can be more complete.

References

Bearden, W. O., & Etzel, M. J. (1982). Reference group influence on product and brand purchase decisions. Journal of consumer research, 9(2), 183-194.

Briggs, R., & Hollis, N. (1997). Advertising on the web: Is there response before click-through? Journal of Advertising Research, 37(2), 33-45.

Brown, J. J., & Reingen, P. H. (1987). Social ties and word-of-mouth referral behavior. Journal of consumer research, 14(3), 350-362.

Burt, R. S., Minor, M. J., & Alba, R. D. (1983). Applied Network Analysis: A Methodological Introduction. Sage Publications, Beverly Hills.

Cheng, X., & Zhou, M. (2010). Study on effect of ewom: A literature review and suggestions for future research.In Proceedings of the Management and Service Science (MASS), 2010 International Conference on,p. 1-4, IEEE.

Cheung, C. M., & Lee, M. K. (2012). What drives consumers to spread electronic word of mouth in online consumer-opinion platforms. Decision Support Systems, 53(1), 218-225.

Chevalier, J. A., & Mayzlin, D. (2006). The effect of word of mouth on sales: Online book reviews. Journal of Marketing Research, 43(3), 345-354.

Childers, T. L., & Rao, A. R. (1992). The influence of familial and peer-based reference groups on consumer decisions. Journal of consumer research, 19(2), 198-211.

Cho, C.-H. (1999). How advertising works on the WWW: Modified elaboration likelihood model. Journal of Current Issues & Research in Advertising, 21(1), 34-50.

Chu, S.-C., & Kim, Y. (2011). Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. International Journal of Advertising, 30(1), 47-75.

Constant, D., Sproull, L., & Kiesler, S. (1996). The kindness of strangers: The usefulness of electronic weak ties for technical advice. Organization science, 7(2), 119-135.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. Journal of Marketing Research, 28(3), 307-319.

Doh, S.-J., & Hwang, J.-S. (2009). How consumers evaluate eWOM (electronic word-of-mouth) messages. Cyberpsychology & Behavior, 12(2), 193-197.

Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. Social Cognition, 25(5), 582-602.

Ford, G. T., Smith, D. B., & Swasy, J. L. (1990). Consumer skepticism of advertising claims: Testing hypotheses from economics of information. Journal of consumer research, 16(4), 433-441.

Friedkin, N. E. (1982). Information flow through strong and weak ties in intraorganizational social networks. Social Networks, 3(4), 273-285.

Gilbert, E., & Karahalios, K. (2009). Predicting tie strength with social media.In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (K. Hinckley, M. R. Morris, S. Hudson & S. Greenberg, Eds.),p. 211-220, ACM, Boston, MA, USA.

Granovetter, M. S. (1973). The strength of weak ties. American Journal of Sociology, 78(6), 1360-1380.

Hart, C., & Blackshaw, P. (2006). Internet Inferno-One customer can take down your company, but you can turn the potential nightmare into a boon. Marketing Management, 15(1), 18.

Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? Journal of Interactive Marketing, 18(1), 38-52.

Hung, K. H., & Li, S. Y. (2007). The influence of eWOM on virtual consumer communities: Social capital, consumer learning, and behavioral outcomes. Journal of Advertising Research, 47(4), 485.

King, M. F., & Balasubramanian, S. K. (1994). The effects of expertise, end goal, and product type on adoption of preference formation strategy. Journal of the Academy of Marketing Science, 22(2), 146-159.

Laczniak, R. N., & Muehling, D. D. (1993). The relationship between experimental manipulations and tests of theory in an advertising message involvement context. Journal of advertising, 22(3), 59-74.

Lamb, C., Hair, J., McDaniel, C., Boshoff, C., & Terblanche, N. (2004). Marketing. Cape Town: Oxford.

Leahy, A. S. (2005). Search and Experience Goods: Evidence from the 1960's and 70's. Journal of

Applied Business Research, 21(1), 45-52.

Lee, M., & Youn, S. (2009). Electronic word of mouth (eWOM) How eWOM platforms influence consumer product judgement. International Journal of Advertising, 28(3), 473-499.

Lee, M. K., Cheung, C. M., Lim, K. H., & Sia, C. L. (2006). Understanding customer knowledge sharing in web-based discussion boards: an exploratory study. Internet Research, 16(3), 289-303.

Levin, D. Z., & Cross, R. (2004). The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer. Management Science, 50(11), 1477-1490.

Lin, N., & Dumin, M. (1986). Access to occupations through social ties. Social networks, 8(4), 365-385.

Litvin, S. W., Goldsmith, R. E., & Pan, B. (2008). Electronic word-of-mouth in hospitality and tourism management. Tourism Management, 29(3), 458-468.

Marsden, P. V., & Campbell, K. E. (1984). Measuring tie strength. Social Forces, 63(2), 482-501.

McMillan, S. J. (2000). Interactivity is in the eye of the beholder: Function, perception, involvement, and attitude toward the web site.In Proceedings of the American Academy of Advertising (M. A. Shaver, Ed.),p. 71-78, Michigan State University.

Mesch, G., & Talmud, I. (2006). The quality of online and offline relationships: The role of multiplexity and duration of social relationships. The Information Society, 22(3), 137-148.

Mudambi, S. M., & Schuff, D. (2010). What makes a helpful online review? A study of customer reviews on Amazon. com. MIS quarterly, 34(1), 185-200.

Nelson, P. (1970). Information and consumer behavior. The Journal of Political Economy, 78(2), 311-329.

Nelson, P. (1974). Advertising as information. The Journal of Political Economy, 82(4), 729-754.

Park, C., & Lee, T. M. (2009). Information direction, website reputation and eWOM effect: A moderating role of product type. Journal of Business Research, 62(1), 61-67.

Petty, R. E., & Cacioppo, J. T. (1981). Issue involvement as a moderator of the effects on attitude of advertising content and context. Advances in Consumer Research, 8(1), 20-24.

Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), The Handbook of Social Psychology (pp. 323-390). New York, NY, USA: McGraw-Hill.

Pollet, T. V., Roberts, S. G., & Dunbar, R. I. (2011). Use of social network sites and instant messaging does not lead to increased offline social network size, or to emotionally closer relationships with offline network members. Cyberpsychology, Behavior, and Social Networking, 14(4), 253-258.

Price, L. L., & Feick, L. F. (1984). The role of interpersonal sources in external search: an informational perspective. Advances in Consumer Research, 11(1), 250-255.

Ratchford, B. T., Talukdar, D., & Lee, M.-S. (2001). A model of consumer choice of the Internet as an information source. International Journal of Electronic Commerce, 5(3), 7-22.

RH, D. (1996). Advertising value and advertising the web. Journal of Advertising Research, 36(5), 21-35.

Senecal, S., & Nantel, J. (2004). The influence of online product recommendations on consumers' online choices. Journal of Retailing, 80(2), 159-169.

Sicilia, M., Ruiz, S., & Munuera, J. L. (2005). Effects of interactivity in a web site: The moderating effect of need for cognition. Journal of advertising, 34(3), 31-44.

Sundar, S. S., & Kim, J. (2005). Interactivity and persuasion: Influencing attitudes with information and involvement. Journal of Interactive Advertising, 5(2), 6-29.

Weathers, D., Sharma, S., & Wood, S. L. (2007). Effects of online communication practices on consumer perceptions of performance uncertainty for search and experience goods. Journal of Retailing, 83(4), 393-401.

Wellman, B., & Tindall, D. (1993). Reach out and touch some bodies: How telephone networks connect social networks. Progress in Communication Science, 12, 63-94.

Wellman, B., & Wortley, S. (1990). Different strokes from different folks: Community ties and social support. American Journal of Sociology, 96(3), 558-588.

Zhang, Z., Ye, Q., Law, R., & Li, Y. (2010). The impact of e-word-of-mouth on the online popularity of restaurants: A comparison of consumer reviews and editor reviews. International Journal of Hospitality Management, 29(4), 694-700.