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Advertising Effectiveness on Social Network Sites: An Investigation of Tie Strength, Endorser Expertise and Product Type on Consumer Purchase Intention

Completed Research Paper

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Abstract

Social network sites (SNSs) can create new marketing opportunities by leveraging on members’ online social networks. In particular, such sites can produce a new type of product endorser – “friend endorser”, whose effectiveness remains unknown as compared to other types of product endorsers. This paper investigated the impact of three critical factors on advertising effectiveness of different types of product endorser on SNSs - tie strength, endorser expertise, and product type. A 2 × 2 × 2 factorial design was used to test the interaction effects among the three variables. The results indicate that, for hedonic products endorsed on SNSs, strong-tie endorsers are more effective than weak-tie endorsers, regardless of their expertise on the endorsed products; but for utilitarian products endorsed on SNSs, high-expertise endorsers, as compared to low-expertise endorsers, result in higher consumers’ purchase intention, regardless of their tie strength with consumers. Based on these results, theoretical and practical implications were discussed, and suggestions for future research in social network advertising were also provided.

Keywords: Social network sites, product endorser, tie strength, expertise, hedonic product, utilitarian product, purchase intention
Introduction

Social network sites (SNSs) such as Facebook are increasingly attracting the attention from both practitioners and researchers. For practitioners, as SNSs have rapidly become most visited web places for quite a number of Internet users, they have begun exploring opportunities that can leverage on the popularity of SNSs to market their companies, products and services. In particular, there is a huge potential for SNS advertising. According to an eMarketer report, worldwide ad spending on SNSs is set to grow from $445 million in 2006 to $3.6 billion by 2011 (Williamson 2007). However, despite the bright prospect for social network sites, there are reports that have indicated unexpected low advertising sales on SNSs (Delaney et al. 2008). More effective advertising strategies are needed to be studied for these sites in order to leverage on their fast-growing popularity. On the other hand, in the research field, although researchers have started examining SNSs, most of them placed their interests in impression management and friendship performance (e.g., Walther et al. 2008), networks and network structure (e.g., Liu et al. 2006), online/offline connections (e.g., Lampe et al. 2006), and privacy issues (e.g., Jagatic et al. 2007). SNS advertising effectiveness as well as the extent to which findings from prior research on web advertising effectiveness can apply in the SNS context, has never been systematically studied before. Therefore, this paper intends to close the gap by examining the effectiveness of SNS advertising, and in particular, from the perspectives of product endorsement on SNSs.

Using endorsers to present positive testimonials for products is a common practice in marketing, and it has been extended to the online context (Wang 2005). Product endorsement could be an effective way for SNS advertising based on unique SNS characteristics. On one hand, with SNS profile page utility, endorsers can construct an online representation of self. They might include information such as profession and interests in the profile page, and express their own opinions and experiences through notes in the profile page as well. Besides, endorsers can talk about the product and interact with others through SNS communication utilities such as walls or message boards (Boyd and Ellison 2007). Hence when consumers find an advertisement that features an endorser’s testimonial, they can go to the endorser’s SNS profile to learn more about the endorser. Therefore, consumers’ perception toward the endorser through SNS is possibly more vivid than other online media, and hence it may be a most significant factor that would impact their responses to the advertisement.

On the other hand, SNSs can foster a new yet powerful type of endorser online – “friend endorser”. Participants on most SNSs are not necessarily “networking” or looking to meet new people; instead, they are primarily communicating with people who are already a part of their extended social network (Boyd and Ellison 2007; Coyle and Vaughn 2008). In other words, SNS users’ online connections and relationships on SNSs resemble their offline social networks. This unique characteristic makes the links between users on SNSs more meaningful and trusted than other forms of online communities such as chat site or forum. In addition, it makes users sticky to SNSs as they are there with friends. Prior marketing research in the offline context has discovered that friends (or strong ties as in research term) are more influential in receiver’s decision-making than acquaintances and strangers (or weak ties as in research term) (Brown and Reingen 1987). Companies have also designed referral programs to explore such powerful resources. But consumers might not be willing or able to spread the word through their social network due to large amount of time and effort involved. With SNSs, such problems could be mitigated because they can publish the information online to their social networks simultaneously. Thus tie strength denotes an irresistible element for SNS advertising.

From the preceding discussions of SNS advertising’s unique features, the consumer’s perception toward endorser expertise and the tie strength between the consumer and the endorser are meaningful and important factors affecting product endorsement effectiveness on SNSs. Furthermore, the effects are likely to be influenced by the type of the endorsed product, as different product cues impact consumers’ evaluation processes. Therefore, this study aims to explore how the three underlying factors - the tie strength between the consumer and the endorser, the consumer’s perception toward endorser, and the product type – interact with each other. In addition, the paper intends to find the combination of these factors that could achieve the optimum balance, which infers the effective product endorsement on SNSs.

Literature Review

Past research on product endorsement mainly studied relationships underlying three embedded elements: the endorser, the product, and the consumer (e.g., Biswas et al. 2006; Friedman and Friedman 1979; Roobina 1990).
Likewise, this paper, by considering the unique characteristic of SNSs, proposes to examine the effect of three factors underlying the relationships in the triad: tie strength (the consumer-the endorser), perceived endorser expertise (the endorser-the product), and perceived product type (the consumer-the product). By addressing these three major issues, this study also offers some practical suggestions on how marketers can make use of SNS as an effective advertising medium.

From advertisers’ point of view, the ultimate goal of an advertisement is persuasion (Barry 1987; Braun-Latour and Zaltman 2006). There are three aspects involved in persuasion process: cognition, affect and conation (Vakratsas and Ambler 1999). However, conation, which refers to behavior and is commonly measured by purchase intention, is believed by practitioners and academics to provide better insights than other aspects in understanding advertising effectiveness. Therefore, in this study, purchase intention serves to be the dependent measure of the advertising effectiveness on SNS.

**Tie Strength**

Tie strength refers to the closeness of the relationship between the endorser and the consumer (Brown and Reingen 1987; Duhan et al. 1997). The tie strength of a relationship is defined as strong if the consumer knows the endorser. For instance, close friends of the consumer, if offering endorsement for certain product, are considered strong-tie endorsers. Tie strength is defined as weak if the endorser is merely an acquaintance or one who the consumer does not know at all.

The influences of strong-tie source and weak-tie source have been examined in several marketing studies regarding Word-of-Mouth referral (e.g. Brown and Reingen 1987; Duhan et al. 1997; Frenzen and Nakamoto 1993). In terms of referral effectiveness, Brown and Reingen (1987) found that in general strong ties were perceived by consumers as more influential than weak ties in consumer decision-making. However, they did not offer decisive evidence support to explain the finding. To explain the referral behaviors from referrer’s point of view, Frenzen and Nakamoto (1993) demonstrated that economic considerations dominate weak tie exchange behavior, but it is not the case for strong tie; consumers are likely to share all types of information with strong ties (including both high- and low-value information). However, when the referral behavior is backed up by rewards, consumers perceive greater potential social and psychological costs and benefits when referral is to strong ties (Ryu and Feick 2007). To investigate the use of recommendation sources from consumers’ point of view, Duhan et al (1997) found that consumers rely on both types of strong-tie sources and weak-tie sources during decision making; they rely on strong-tie sources when perceived task difficulty is high, but when importance of instrumental evaluative cues increases they tend to rely on weak-tie sources. These studies offer great insights on the effectiveness of strong-tie endorser and weak-tie endorser since relevant studies on using these sources for advertising is lacking.

**Endorser Expertise**

Endorser expertise is defined as the ability of the endorser to make valid claims, as perceived by the audience (Hovland et al. 1953). An endorser is more likely to be perceived as an expert if he or she possesses relevant skills, competency, and knowledge (Pamela and Lynn 1990). An endorsement by a high-expertise endorser can be considered as an expert endorsement, while low-expertise endorser endorsement can be seen as a typical consumer endorsement.

According to endorsement literature, the effects of these two types of endorsers were distinguished upon their two different source characteristics: credibility and perceived similarity to the audience (Friedman 1984; Wilson and Sherrell 1993). Friedman and Friedman (1979) proposed that expert endorsers influence through the process of internalization, suggesting that expert endorsers persuade through the credibility dimension; typical consumer endorsers fall between internalization process and identification process, and their effectiveness results from similarity with consumers. Thus they argued that a particular endorser type would not be equally effective for all types of products. Expert endorsers should be more effective for products high in financial, performance, and/or physical risk, while typical consumer endorsers are more effective for everyday, low-risk products. Recently, Wang (2005), through examining the effects of expert and consumer endorsement on audience response, discovered the power of consumer endorsers as compared to expert endorser for experiential products (e.g. movies), Biswas, Biswas and Neel (2006), by comparing expert endorsers and celebrity endorsers, found that expert endorsers are more effective for high technology-oriented products than the other type of endorsers. Despite that the previous
studies on endorsers have found many ‘match-ups’ between endorsers and products, the comparison between expert endorsers and friend endorsers has never been addressed.

**Product Type**

Product type can be perceived by consumers, as utilitarian or hedonic based on consumers’ purchase motivation or usage experience. Utilitarian products are ones whose consumption is more cognitively driven, instrumental, goal oriented and accomplishes a functional or practical task (e.g., microwaves, minivans, personal computers, etc.), whereas hedonic products are ones whose consumption is primarily an affective and sensory experience of aesthetic or sensual pleasure, fantasy, and fun (designer clothes, sports cars, luxury watches, etc. Dhar and Wertenbroch 2000; Hirschman and Holbrook 1982; Ryu et al. 2006; Strahilevitz and Myers 1998). Besides, few products are purely utilitarian or hedonic in nature because consumers are known to have both considerations when evaluating products and functionalities (Batra and Ahtola 1990; Dhar and Wertenbroch 2000). Many products involve both utilitarian and hedonic dimensions to varying degrees, and we can still characterize some as primarily utilitarian and others as primarily hedonic. Primarily utilitarian products are mainly evaluated based on utilitarian values such as savings, convenience, and product quality, and primarily hedonic products are mainly assessed according to its hedonic values, such as entertainment, exploration, and self-expression (Ailawadi et al. 2001; Chandon et al. 2000). Therefore, theories on utilitarian/hedonic products are also applied to primarily utilitarian/primarily hedonic products.

Researchers have pointed out that the underlying distinctions between utilitarian products and hedonic products lead to different psychological processes when consumers evaluate a product (Hirschman and Holbrook, 1982). The evaluation process for utilitarian products tends to be more cognitively driven, and thus consumers focus primarily on the objective and tangible attributes of the product. On the other hand, the evaluation process for hedonic products tends to be highly subjective and affect driven, implying that cognitively based processes is less important.

**Social influence Theory**

One of the most pervasive determinants of an individual’s behavior is the influence of other people (Burnkrant and Cousineau 1975). Thus it is not surprising that social influence theory can provide possible explanations for the effectiveness of different types of endorsers. The development of this study will be guided by this theory.

More specifically, Deutsch and Gerard (1955) identified two types of social influence: informational social influence and normative social influence. In informational influence, individuals use the information provided by others as a source of the true value of the object under consideration. Normative influence, on the other hand, refers to the individual’s assumed need to align their attitude with that of some valued others, be it a single person or a reference group. Social influence can be mapped to one or more distinct processes: internalization, identification and compliance (Kelman 1961). Internalization occurs when the consumer accepts influence because they believe in the substance of the new attitude or behavior. Identification occurs when individuals conform to the attitude or behavior advocated by another person because the behavior is associated with a satisfying self-defining relationship to the other. Compliance is said to occur when the individual conforms to the expectations of another in order to receive a reward or avoid a punishment mediated by that other.

An informational social influence may be accomplished through internalization. It is pointed out that the type of source which will most readily lead to internalization is the source perceived as being credible (Kelman 1961; McGuire 1969). A credible source is one which is believed to be an expert or very knowledgeable person on the topic under discussion (McGuire 1969). A normative social influence may be accomplished through either the process of compliance or identification. Those referents who are in consumer’s immediate social network, or socially proximal referents, as compared with socially distant referents (Cocanongher and Bruce 1971), are more likely to draw normative influences as they allow for a significant amount of interaction with consumers (Childers and Rao 1992). In other words, strong-tie endorsers (corresponding to socially proximal referents) are more likely to exert normative social influence than weak ties (socially distant referents). Besides, different processes can be used by different types of endorsers to exert influence on consumer decision making (Friedman and Friedman 1979).
Hypotheses

Previous studies basically focused on the main effects of tie strength, or the some effects between endorser expertise and certain products. It would be important to combine the three factors together and examine the effectiveness of different types of endorsers in order to discover the effective advertising on SNS. Based on social influence theory, tie strength may be a trigger for normative social influence, while endorser expertise could evoke informational social influence. Under different types of social influence, there are likely to be interactions between endorser type and product type. In other words, there could be an interaction between tie strength and product type, and an interaction between endorser expertise and product type. Focusing on this, this study developed four hypotheses as explained in the following sections.

Tie Strength and Product Type

When the endorsed product is primarily hedonic, it is more likely to evoke consumers’ need to be liked than the need to be right since such products’ consumptions are primarily an affective and sensory one. Under normative social influence, consumers, using identification or compliance processes, are more likely to align their attitudes toward the product with strong-tie endorsers than with weak-tie endorsers. It is because, firstly, strong-tie endorsers are more valued by consumers than weak-tie endorsers, and thereby consumers want to comply with strong-tie endorsers in order to be liked by them; secondly, consumers can better identify the affective and sensory consumption of the hedonic product under strong-tie endorser situation as they share similar tastes with them (Duhan et al. 1997). Besides, as SNS is a medium that facilitates self-representation and value expression (Boyd and Ellison 2007), such normative social influence would be more salient than other online media. Thus, the following hypothesis is proposed:

H1(a): For hedonic product endorsement appeared in social network site, strong-tie endorser, as compared to weak-tie product endorser, results in higher level of purchase intention.

When the endorsed product is primarily utilitarian, it is more likely to evoke consumers’ need to be right than the need to be liked because utilitarian products are functional and requires cognitive process. Internalization process is needed for evaluating such products, however, strong-tie endorsers and weak-tie endorsers do not differ on informational social influence dimension. Therefore they possess similar persuasive effectiveness on the consumer. Some may argue that strong-tie endorser may be more trustworthy than weak-tie endorser, and therefore they should be more credible sources and exert more influence than weak-tie endorser (Brown and Reingen, 1987). However, weak-tie endorsers can serve as the “structural hole” and possess knowledge that one’s close social circle may lack, and they should more likely be sought for recommendations the greater the importance of instrumental evaluative cues (Duhan et al, 1997). Both arguments seem logical and valid, but they are likely to offset each other. As a result, the effectiveness of strong-tie endorsers and weak-tie endorsers do not differ from each other. What’s more, because SNS design nature, consumers can browse the weak-tie endorsers’ profile page and also interact with the endorser, therefore, it is expected that the trustworthiness of weak-tie endorsers will be increased. In summary, the following hypothesis is proposed:

H1(b): For utilitarian product endorsement appeared in social network site, strong-tie product endorser, as compared to weak-tie product endorser, results in the same level of purchase intention.

Endorser Expertise and Product Type

When the endorsed product is primarily hedonic, consumers’ evaluation process for the product tends to be highly subjective and affect driven. Experts may not be an effective endorser type for such products because they are most likely to result in internalization process underlying informational social influence which is not necessary for such products. Besides, consumers have idiosyncratic tastes over such products (Dean and Biswas 2001) and they could have different experience or sense when consuming such products. Therefore, their needs may not be congruence with that of an expert or a novice. On the other hand, consumers were more skeptical of experience attribute claims than they were of search attribute claims (Ford et al. 1990) and consumers might not follow an expert or a novice especially if they appeared in advertisements. Therefore, endorser expertise may not be a crucial element to influence consumer’s decisions for hedonic products. For these reasons, the following hypothesis is proposed:
**H2(a):** For hedonic product endorsement appeared in social network site, high-expertise product endorser, as compared to low-expertise product endorser, results in the same level of purchase intention.

When the endorsed product is primarily utilitarian, the evaluation process would tend to be more cognitively driven, and thus consumers focus primarily on the objective and tangible attributes of the product. Under such situation, consumers will tend to believe more in experts than typical consumers as they incur internalization process. Past research found that expert endorser is most effective for products high in performance risk (Friedman and Friedman 1979) or high technology-oriented products (Biswas et al. 2006). Most of these products are primarily utilitarian rather than hedonic. On the other hand, when exposed to an endorsement, consumers can perceive endorser’s expertise either based on their prior knowledge about the endorser, or the given available endorser information if consumers are not familiar with the endorser. The latter information can be facilitated by SNSs utilities such as profile and interaction wall. Therefore, the trustworthiness of the endorser, especially for those who are unknown to the consumer, will be increased, which further helps increase the persuasive effectiveness. Based on these reasons, the following hypothesis is proposed:

**H2(b):** For utilitarian product endorsement appeared in social network site, high-expertise product endorser, as compared to low-expertise product endorser, results in higher level of purchase intention.

Combining the concepts of tie strength and perceived endorser expertise produces the following four types of possible endorsers on SNS: (1) strong-tie high-expertise endorser, (2) strong-tie low-expertise endorser, (3) weak-tie high-expertise endorser, and (4) weak-tie low-expertise endorser. Based on the discussions so far, advertising effectiveness of each type of endorsers, as moderated by the type of endorsed product, is presented in Table 1.

### Table 1. Advertising Effectiveness by Endorser Type and Product Type

<table>
<thead>
<tr>
<th>Endorser Expertise</th>
<th>Product Type</th>
<th>Strong Tie</th>
<th>Weak Tie</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Expertise</td>
<td>Advertising Effectiveness</td>
<td>Utilitarian Product: Weak</td>
<td>Hedonic Product: Weak</td>
</tr>
<tr>
<td>High Expertise</td>
<td>Advertising Effectiveness</td>
<td>Utilitarian Product: Strong</td>
<td>Hedonic Product: Weak</td>
</tr>
</tbody>
</table>

Past studies have shown that attitudes influence actions (Petty and Cacioppo 1981). In an interactive medium such as the Web, attitude toward website should be expected to have an important effect (Chen and Wells 1999). It is found that website context effects have an impact on attitude towards banner ads and purchase intention (Stevenson et al. 2000). Besides, as defined by Lutz (1985), attitude toward advertising in general is “a learned predisposition to respond in a consistently favorable or unfavorable manner to advertising in general.” In his framework, Lutz viewed attitude toward advertising in general as being directly influenced by general perceptions of advertising. If a person’s reactions to a specific ad are, indeed, shaped by preexisting attitudes toward advertising, it would seem useful to know more about attitudes toward-advertising-in-general. To account for the effects of these uncontrolled factors, both “attitude toward website” and “attitude toward advertising in general’ were measured during the experiment. Figure 1 summarizes the overall research model developed for product endorser effectiveness on SNSs.

![Figure 1. Conceptual Research Model](image-url)
Research Methodology

Research Design

Experimental methodology was adopted to test the hypotheses as it gives more control of the situation and its high internal validity can provide precision of measurement and convincing support for causal claims. A 2 (endorser expertise: high vs. low) × 2 (tie strength: strong vs. weak) × 2 (product type: hedonic vs. utilitarian) between-subjects factorial design was used for hypotheses test. Compared to within-subjects designs, a participant’s score in between-subjects designs is not influenced by order effects which include practice effects, fatigue effects, sensitization and carryover effects. In this study, order effects might exert large influence over consumers’ decision making, and therefore between-subjects factorial design was chosen rather than within-subjects designs. Subjects were randomly assigned to the eight treatments in the experiment.

Experimental SNS page design

During recent years, a variety of social network sites have appeared and become popular across the world. They have different designs, functionalities as well as target user groups. These variations are extremely difficult to control and yet they will not be studied in this study. Besides, due to the privacy settings of most social network sites, it is almost impossible to access experiment participants’ accounts. Therefore, it was decided to use fictitious social network site in the experiment so that the experiment context in each treatment would be more controlled. Facebook, one of the most popular social network sites, was chosen as SNS page template for the experiment. The major reason for choosing Facebook was that it is the most popular website among university students. Therefore, it was expected that most of the subjects would be familiar with its functionalities.

For the actual experiment, each subject was given two customized Facebook pages to read: the subject’s home page and the product endorser’s profile page. Facebook home pages usually appear when Facebook users log in their accounts, displaying recent Facebook activities that their friends have performed in a reverse chronological order and some system messages (such as advertisements) sent by Facebook. For the experiment, there were some filler entries that described friends’ activities and comments between each other in the home page. It was also the place where the product endorsement message appeared. In addition, all product endorsement messages were placed under a “sponsored” box, indicating that it was an advertisement. In the endorser’s profile page, it was the place where endorser expertise was manipulated. To resemble the real SNS context, each subject was required to complete a pre-experiment questionnaire, based on which the experimental pages were customized for every subject.

Pre-experiment Questionnaire

After subjects completed the online experiment registration, they were given an online pre-experiment questionnaire. In the questionnaire, subjects were required to list five of their closest friends, and among the five friends, list the most knowledgeable person and the least knowledgeable person for each product indicated in the questionnaire (products are results from product type pretest). These questions helped manipulate tie strength and endorser expertise in the experiment pages, which would be discussed in the following respective sections.

Product Type

A pretest was conducted to select four products (two utilitarian and two hedonic) whose advertisements would be used in the experiment. Two products, rather than one product, were selected for each product type because it was hoped that the result would be more stable and generalized. Twelve products were chosen for the pretest: vacuum cleaner, perfume, blue jeans, designer clothes, laser printer, luxury watches, microwave oven, beer, sunscreen, candy bar, music albums and headache medicine. These products had appeared in previous studies regarding utilitarian and hedonic products (e.g., Dhar and Wertenbroch 2000; Ryu et al. 2006) and therefore were considered more reliable for the pretest. Sixteen undergraduate students (8 females and 8 males) rated each of the twelve products on scales which measures utilitarian-hedonic characteristics (see Appendix A for Constructs Measures). Besides, participants’ familiarity with the products was also measured to control possible confounding effects (Kent and Allen 1994) (see Appendix A for Constructs Measures).
Researches indicated that different levels of brand familiarity would influence advertising effectiveness to different extent (e.g., Kent and Allen 1994; Campbell and Keller 2003). Hence, fictitious brand names were designed for the four products that were used in the experiment in order to eliminate possible confounding effects of brand names. The four fictitious brand names were: Telicious candy bar, Morgeous designer clothes, KomfortU headache medicine, and Dirzweeper vacuum cleaner. “Product Type” and “Product Familiarity” were also included in the actual experiment questionnaire to ensure that the manipulations and controls for covariate were appropriate.

**Tie Strength**

Tie strength was manipulated by using one of the participant’s closest friends for strong tie, and using a stranger for weak tie (Duhan et al, 1997). The information regarding participant’s friend was obtained through pre-experiment questionnaire. For example, under “strong-tie high-expertise endorser for hedonic product (e.g. designer clothes)” treatment, the closest friend that the subject had indicated as “the most knowledgeable person for designer clothes” was used as the endorser. Similarly, under “strong-tie low-expertise endorser for hedonic product (e.g. designer clothes)” treatment, the closest friend as “the least knowledgeable person for designer clothes” was used as the endorser. On the other hand, for “weak-tie” treatments, fictitious names were used for endorsers. Based on Frenzen and Davis (1990), a 4-item, 7-point semantic differential scale was adopted to assess the level of tie strength in the actual experiment questionnaire (see Appendix A for Constructs Measures).

**Endorser Expertise**

As mentioned above, pre-experiment questionnaire information was used to manipulate endorser expertise for “strong tie” treatments. On the other hand, for “weak-tie, high-expertise” treatments, it was stated in the advertisement that the endorser had a profession that was related to the product, as suggested by Pamela and Lynn (1985). On the contrary, for “weak-tie low-expertise” treatments, the endorser had an unrelated profession to the product. For example, a neurologist was more likely to be considered as an expert than an IT specialist for headache medicine.

Besides, the expertise of the product endorser was mainly operationalized by manipulating the product endorser’s fictitious Facebook profile page and the level of professional language used in the page. More professional opinions and experience were demonstrated in the advertisement and the endorser’s profile for “high-expertise” manipulation than “low-expertise” manipulation. For example, “high-expertise” endorsers for headache medicine might be very interested in attending events about headache organized by headache authority (e.g., Headache Society of Singapore); they established their knowledge toward headache medicine a long time ago either through learning or experience; they could compare several types of headache medicine; and they could well handle others’ enquiries regarding the product. Besides, one-sided messages rather than two-sided messages were used to avoid possible confounding effects (Crowley and Wayne 1994). The effects of the wording were examined during a pilot study and necessary modifications were made based on the feedback. In the actual experiment, the manipulation of communicator expertise was checked through a 5-item, 7-point semantic differential scale developed by Roobina (1990) (see Appendix A for Constructs Measures).

**Pilot Test**

A pilot test was conducted on eight undergraduates in order to check for manipulation and other problems that could appear in the actual experiments. Respondents first completed the pre-experiment questionnaire. Based on the information that they provided, experimental SNS pages were customized and respondents were required to browse those pages and complete a final questionnaire. Feedback and suggestions were obtained afterwards. Generally all the respondents thought the treatments had been successfully operationalized. Other major suggestions and adjustments include the phrasing of questions and the design of the experimental SNS pages.

**Participants**

Two hundred and one participants took part in this study, and their responses were recorded and analyzed. Participants were students at a major Singapore university. The sampling of this study’s participants was appropriate because college students are typical SNS users and represent the population this study purports to represent.
Procedures

Upon completing the online registration, each participant was required to fill up the online pre-experiment questionnaire. They were then randomly assigned to a treatment condition, and their experimental pages were customized based on the information they provided. During the actual experiment, each participant was asked to sit in front of the designated computer where their customized pages were installed. Instructions were communicated to the participants before they viewed the pages. After viewing the pages, subjects would precede to answer to the final questionnaire which measured their purchase intention toward the product as well as other measures for manipulation and covariate control. Each session lasted about 30 minutes. To motivate the subjects to participate the experiment seriously, a token payment was given on completion of the questionnaire.

Results

All statistical tests were carried out at a five percent level of significance.

Data Cleaning

Data cleaning was conducted to identify outliers, missing data and other entry errors. As we summarize the data and make inferences from them, it is doubly important that the data be accurate (Grover and Vriens 2006). After tabulating the experiment data, it was found that there were no missing data or entry errors such as providing more than one answer for a question. Outliers are respondents whose answers appear to be inconsistent with the rest of the data set. Although there are no set conventions for defining outliers in terms of standard deviations, a reasonable approach is to call a score an outlier if it falls more than two standard deviations away from its distribution’s mean; that is, if its z-score is greater than 2 in magnitude (Weinberg and Abramowitz, 2008). By using this approach, there were seven outliers identified that were two standard deviations away from the dependent variable. These seven outliers were deleted, resulting in 194 valid data points in total.

Sample Profile

Gender of the 194 subjects was about equally divided, with the percentage of male students (52.1%) slightly higher than the percentage of female students (47.9%). The average age of the subjects was 22 years old. Besides, among the 194 subjects, the majority (88.1%) had been used social network sites for more than 1 year. Only 2 subjects (1%) did not have any social network site account, most of other subjects had registered for more than one social network site. In total 71.1% of the subjects claimed that they checked their accounts daily. These findings showed that the subjects had an overall high level of experience for social network sites.

Validity and Reliability Tests

A principle-component analysis with varimax rotation was conducted using SPSS, yielding 8 factors (see Appendix B for complete factor analysis results). All measure items loaded on the target factors respectively and scored above 0.68, indicating very good construct validity (Cook and Campbell 1979). Cronbach’s alpha coefficient is used to measure reliability (see Table 2). As a rule of thumb, researchers consider a measure to have adequate inter-item reliability if Cronbach’s alpha coefficient exceeds .70 (Leary 2007). According to the theory, the results showed that all the measurement items in this study had achieved high reliability.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number of items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Type-Utilitarian</td>
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<td>0.879</td>
</tr>
<tr>
<td>Product Type-Hedonic</td>
<td>4</td>
<td>0.929</td>
</tr>
<tr>
<td>Tie Strength</td>
<td>4</td>
<td>0.916</td>
</tr>
<tr>
<td>Endorser Expertise</td>
<td>5</td>
<td>0.918</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>3</td>
<td>0.887</td>
</tr>
<tr>
<td>Product Familiarity</td>
<td>3</td>
<td>0.907</td>
</tr>
<tr>
<td>Attitude toward the site</td>
<td>5</td>
<td>0.826</td>
</tr>
<tr>
<td>Attitude toward advertising</td>
<td>3</td>
<td>0.928</td>
</tr>
</tbody>
</table>
**Control Checks**

The Univariate Analysis of Variance (ANOVA) was used to check whether the effects of the identified covariates had been neutralized through randomization process. Results showed that “product familiarity” and “experience with social network site” did not have significant effects \( (p > 0.05) \) on the dependent variable, indicating they were well controlled. However, there existed significant effects \( (p<0.05) \) for “attitude towards website” and “attitude towards advertising in general” on the dependent variable. Therefore, these two factors should be included in the hypotheses analysis later as the covariates in order to account for the uncontrolled effects on the dependent variable.

**Manipulation Checks**

The manipulation of the independent variables was verified using manipulation check. For each independent variable, the results show a significant difference between the means for different levels of treatment (see Table 3). Therefore, the manipulation of tie strength, endorser expertise and product type appears to be successful.

**Hypotheses Tests**

All tests of hypotheses were conducted at a 5% level of significance. The ANOVA full factorial model was adopted to test the main effects of independent variables and covariates, as well as the interaction effects of the independent variables (see Table 4). The results show significant two-way interactions between tie strength and product type, and between endorser expertise and product type. To further explore the interaction effects, simple main effect analysis was employed.

**Table 3. Manipulation Checks**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Levels</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>T-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tie Strength</td>
<td>Strong</td>
<td>97</td>
<td>5.52</td>
<td>0.97</td>
<td>( t = 15.642 )</td>
</tr>
<tr>
<td></td>
<td>Weak</td>
<td>97</td>
<td>3.06</td>
<td>1.23</td>
<td>( p &lt; 0.01^{**} )</td>
</tr>
<tr>
<td>Endorser Expertise</td>
<td>High</td>
<td>98</td>
<td>4.96</td>
<td>1.12</td>
<td>( t = 5.843 )</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>96</td>
<td>4.02</td>
<td>1.11</td>
<td>( p &lt; 0.01^{**} )</td>
</tr>
<tr>
<td>Product Type: Utilitarian Measure</td>
<td>U_Product(^1)</td>
<td>94</td>
<td>5.42</td>
<td>1.06</td>
<td>( t = -7.011 )</td>
</tr>
<tr>
<td></td>
<td>H_Product(^2)</td>
<td>100</td>
<td>4.37</td>
<td>1.03</td>
<td>( p &lt; 0.01^{**} )</td>
</tr>
<tr>
<td>Product Type: Hedonic Measure</td>
<td>U_Product(^1)</td>
<td>94</td>
<td>3.37</td>
<td>1.19</td>
<td>( t = 13.215 )</td>
</tr>
<tr>
<td></td>
<td>H_Product(^2)</td>
<td>100</td>
<td>5.40</td>
<td>0.95</td>
<td>( p &lt; 0.01^{**} )</td>
</tr>
</tbody>
</table>

\(^{**} p<0.01\)

1 Utilitarian products selected for the experiment include headache medicine and vacuum cleaner.

2 Hedonic products selected for the experiment include candy bar and designer clothes.

**Table 4. ANOVA Results**

<table>
<thead>
<tr>
<th>Treatment Variable</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude towards Website</td>
<td>1</td>
<td>12.680</td>
<td>.001**</td>
</tr>
<tr>
<td>Attitude towards Advertising in General</td>
<td>1</td>
<td>17.717</td>
<td>.001**</td>
</tr>
<tr>
<td>Tie Strength</td>
<td>1</td>
<td>21.608</td>
<td>.001**</td>
</tr>
<tr>
<td>Endorser Expertise</td>
<td>1</td>
<td>.883</td>
<td>.349</td>
</tr>
<tr>
<td>Product Type</td>
<td>1</td>
<td>.664</td>
<td>.416</td>
</tr>
<tr>
<td>Tie Strength × Endorser Expertise</td>
<td>1</td>
<td>1.760</td>
<td>.186</td>
</tr>
<tr>
<td>Tie Strength × Product Type</td>
<td>1</td>
<td>4.722</td>
<td>.031*</td>
</tr>
<tr>
<td>Endorser Expertise × Product Type</td>
<td>1</td>
<td>4.964</td>
<td>.027*</td>
</tr>
<tr>
<td>Tie Strength × Endorser Expertise × Product Type</td>
<td>1</td>
<td>.044</td>
<td>.835</td>
</tr>
</tbody>
</table>

Dependent Variable: Purchase Intention

\(^{*} p<0.05\), \(^{**} p<0.01\)

In terms of tie strength and product type interaction, the result indicated that under hedonic product condition, purchase intention is significantly higher \( (F=15.71, p<0.01) \) for strong-tie product endorser \((N=51, \text{Mean}=4.43, \text{SD}=1.17)\) than weak-tie product endorser \((N=49, \text{Mean}=3.50, \text{SD}=1.28)\). Therefore, hypothesis 1(a) is supported. On the other hand, under the utilitarian product condition, the difference between strong-tie product endorser and weak-ties product endorser is not significant \( (F=2.84, p=n.s.)\). Hence hypothesis 1(b) is also supported.
For endorser expertise and product type interaction, under hedonic product condition, there are no significant differences on purchase intention ($F=1.84, p=n.s.$) between high-expertise product endorser and low-expertise product endorser. In this sense, hypothesis 2(a) is supported. On the other hand, under utilitarian product condition, purchase intention is significantly higher ($F=11.78, p<0.01$) for high-expertise product endorser ($N=46, \text{Mean}=3.97, \text{SD}=1.03$) than low-expertise product endorser ($N=48, \text{Mean}=3.27, \text{SD}=1.14$). Therefore, hypothesis 2(b) is supported as well.

Besides, as proposed earlier, combining tie strength and endorser expertise produces four possible types of endorsers on SNSs: STHE: Strong-Tie High-Expertise endorser; STLE: Strong-Tie Low-Expertise endorser; WTLE: Weak-Tie Low-Expertise endorser; and WTHE: Weak-Tie High-Expertise endorser. A test on ANOVA (Table 5) reveals that there is interaction effect between endorser type and product type ($F=3.186, p<0.05$), which is again consistent with the four hypotheses proposed earlier. Table 6a and 6b show the descriptive statistics for four types of product endorsers under hedonic products condition and utilitarian products condition, and figure 2 shows the graphical representation of results for endorser type and product type.

**Table 5. ANOVA Results for Endorser Type and Product Type**

<table>
<thead>
<tr>
<th>Treatment Variable</th>
<th>Df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude towards Website</td>
<td>1</td>
<td>12.680</td>
<td>.000**</td>
</tr>
<tr>
<td>Attitude towards Advertising in General</td>
<td>1</td>
<td>17.717</td>
<td>.000**</td>
</tr>
<tr>
<td>Endorser Type</td>
<td>3</td>
<td>8.218</td>
<td>.000**</td>
</tr>
<tr>
<td>Product Type</td>
<td>1</td>
<td>.664</td>
<td>.416</td>
</tr>
<tr>
<td>Endorser Type × Product Type</td>
<td>3</td>
<td>3.186</td>
<td>.025*</td>
</tr>
</tbody>
</table>

Dependent Variable: Purchase Intention

* $p<0.05$, **$p<0.01$

**Table 6a. Descriptive Statistics for Hedonic Products**

<table>
<thead>
<tr>
<th>Endorser Expertise</th>
<th>Tie Strength</th>
<th>Mean (N, SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>Low</td>
<td>3.78 (23, 1.06)</td>
<td>4.44 (25, 1.04)</td>
</tr>
<tr>
<td>High</td>
<td>3.26 (26, 1.42)</td>
<td>4.42 (26, 1.31)</td>
</tr>
</tbody>
</table>

**Table 6b. Descriptive Statistics for Utilitarian Products**

<table>
<thead>
<tr>
<th>Endorser Expertise</th>
<th>Tie Strength</th>
<th>Mean (N, SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>Low</td>
<td>3.19 (26, 1.38)</td>
<td>3.36 (22, 0.79)</td>
</tr>
<tr>
<td>High</td>
<td>3.68 (22, 0.81)</td>
<td>4.24 (24, 1.15)</td>
</tr>
</tbody>
</table>

**Figure 2. Graphical Representation of Results for Endorser Type and Product Type**
Discussions and Implications

Discussion

This study investigated the advertising effectiveness on social network site in terms of product endorsement. Based on the unique characteristics of SNS, tie strength and endorser expertise are considered as meaningful and important factors for the focal examination. Besides, product type is proposed to moderate the effects of the two factors on consumer purchase intention. The interaction effects between tie strength and product type and between endorser expertise and product type are hypothesized based on the social influence theory, and they are supported by the experiment results.

This study demonstrates that for hedonic products, the intention to purchase is strong when strong ties endorse the product on SNSs. Hedonic products’ consumptions are primarily an affective and sensory one. As predicted, consumers are more subject to normative social influence as exerted by strong ties in order to make their value beliefs and self-concept congruent with their valued ones. Besides, such normative social influence is discounted when endorsed products are utilitarian, indicating that tie strength is not an important factor on consumers’ purchase intention for such products. As the nature of utilitarian products is goal-oriented and problem-solving, informational influence would be more important than normative influence. And because both strong ties and weak ties can exert informational influences, their effects on consumers’ purchase intention do not differ significantly.

The current research also provides evidence that consumers’ intention to purchase utilitarian products is strong when high-expert endorser promotes the product on SNSs. This is consistent with the prediction that endorser expertise would be the dominant factor for utilitarian products. Such products are functional oriented and follow informational influence which is more likely to be exerted by experts (Kelman 1961; McGuire 1969). On the other hand, as expected, endorser expertise is not a crucial factor for hedonic products. The consumption of hedonic products is primarily affective and multisensory (Hirschman and Holbrook, 1982), and different people have different experiences consuming such products. Therefore informational influence exerted by experts is less likely to be effective for hedonic products.

Implications for Theory

Built mainly on social influence theory, this paper has developed a conceptual theory in the research area of social network site advertising effectiveness. In advertising research, most of the findings about product endorsement were based on the assumption that the product endorser is an entity that the general audiences do not personally know, such as a celebrity, a professional expert, a typical consumer or a third-party institute. As the popularity of social network sites increasingly makes consumers’ social networks visible to the advertisers and thereby enables “friend endorser” become a reality, research on advertising effectiveness of product endorsement should no longer limit itself to traditional advertising forms. It is believed that close friends have more influence on consumers’ purchase intention than strangers. This agrees with what Granovetter (1982) and Brown and Reingen (1987) have called the “strength of strong ties”. Thus in the context of social network site advertising, the use of strong ties as endorsers featured in advertisement becomes one important variable that has not been systematically examined in the past advertising research.

In social influence research, although the effect of tie strength has been studied (Brown and Reingen 1987), the strong-tie influence was shown to be salient only under hedonic product conditions in this study. This paper also demonstrates that the strong-tie endorsers and weak-tie endorsers do not differ in their effectiveness for utilitarian products. The effectiveness of functional-oriented product endorsement was found to be affected by other factors such as the perceived endorser expertise about the product in this study. The result substantiated the contextual construct – product type – moderates the influence from strong tie endorsers and weak tie endorsers.

On the other hand, this study is consistent with prior research on the match-up between endorser expertise and product type: high-expertise endorsers are more persuasive than low-expertise endorser when the products are functional-based, or involve high risks (Friedman and Friedman 1979). In addition, while several studies guessed that endorser expertise may not be effective for experiential consumption (Dean and Biswas 2001; Goldsmith et al. 2000; Wang 2005), this study complements the literature by systematically examining the endorser effectiveness for
hedonic products and found that the level of endorser expertise does not make a difference on consumer purchase intention for such products.

This is an initial study that examined the interaction of tie strength, endorser expertise, and product type simultaneously. As evidenced by the two two-way interactions between tie strength and product type and between endorser expertise and product type, product type has different impacts on the use of product endorsers on consumer purchase intention. More interestingly, there seems to be a “fit” between hedonic product type and strong normative social influence as exerted by friends, and a “fit” between utilitarian product type and strong informational social influence as exerted by experts.

Lastly, this study concluded with the advertising effectiveness of four types of endorsers - strong-tie high-expertise endorser, strong-tie low-expertise endorser, weak-tie high-expertise endorser and weak-tie low-expertise endorser – for utilitarian products and hedonic products. The breakthrough attempt not only offers new insights for the product endorser research but also provides practical guide for interested practitioners as discussion in the next section.

**Implications for Practice**

The findings of this study have significant practical implications for advertisers who want to leverage on the popularity of SNSs to promote their products, and for social network site designers who want to build useful utilities to attract business patrons.

**For Advertisers**

The proposed model in terms of endorser type and product type has a practical guide for determining what type of endorsers to select. For hedonic products that elicit multisensory experience, such as designer clothes, perfume and candy bars, advertisers should use ordinary consumers to be the endorsers and persuade them to advertise to their social circles. Advertisers can encourage the endorsement by giving endorsers rewards, such as discount of purchase, membership, and etc. Such activities are hard to be guaranteed in offline Word-of-Mouth context because the intended endorsers may not spread the word due to the time, reach and effort involved. As social network sites enable a consumer to simultaneously publish message to his or her social circle, less effort would be required from the endorser and the advertising control can be managed by the advertisers. Therefore, SNSs might be an effective place for online WOM activities.

On the other hand, for utilitarian products that is functional and goal oriented, advertisers should select experts to endorse the products. The endorsement message can be published either to the endorser’s social circle or to a broader audience as long as his expertise could be perceived by others. For the latter “weak-tie high-expertise” endorsers, advertisers should think of ways to help audience to perceive the endorser’s product expertise. Social network sites can help address this concern. Through identity utilities such as “profile page”, which usually includes personal information such as profession, interests and hobbies, and communication utilities such as “wall”, which is a section in the profile where others can write messages, consumers can learn more about the endorser and lessen the skepticism toward the endorser. Advertisers should encourage the openness of such endorser information to general audience.

**For social network sites developers**

This study can also be used as a guide to design some utilities for business patrons. One of the possible utilities may be social endorsement platform, which helps endorsers to deliver their endorsement messages to their social circle. Some SNSs have already implemented some initiatives similar to this. For example, Facebook has “fan page” utility which allows consumers to become endorsers for certain brand. When one “fans” certain brand or product, the message will be published to the person’s social circle on that SNS. Other SNSs may borrow this idea, or they can create customized application or their business patrons. The application should make the endorser characteristics and product characteristics salient in order to better utilize this study’s results. The application should also facilitate endorsement process in case companies might want to incorporate rewarding procedures into it. In addition, as the results indicate that the advertising effectiveness of the four types of endorsers differs for different products, it is imperative for developers to design searching and segmentation utilities to help companies locate SNS users who fit each category.
Limitations and Future Research

One of the limitations of this study relates to the tie strength manipulation. Many scholars embrace the idea that tie strength is a continuous concept with the closest relationship at one end, acquaintance in between and strangers at the other end. Similar to some studies examining the role of tie strength in the online context (Dhar and Wertenbroch 2000), our study has adopted the two ends in order to facilitate contrast of tie strength conditions. However, through this way, ties that are in between of the continuum are not captured. More levels of ties should be included in future to enhance the understanding “social network” related endorser effectiveness. Besides, one concern about the current tie strength manipulation is that the profile of a stranger is invisible to the users on Facebook and therefore it is infeasible for a user to evaluate a stranger’s product expertise. Future studies may focus on evaluating tie strength among a user’s friends and focusing on friend product endorsement.

As this paper focuses on examining dyadic relationship between the endorser and the consumer, all the factors are from an individual’s point of view. It is also highly possible that “network structure” would be a significant factor that may impact endorsement effectiveness. For example, consumers can form a complex social network through social network sites. While this paper only considers the focal user’s friends as endorsers, endorsers could also be the focal user’s friend’s friend. The tie strength between the endorser and the consumer, as in the new case, would be stronger than if they are strangers. The perception of the endorser’s expertise can also be significantly affected by the opinion of their common friends. In the future, studies may be conducted on examining the role of “network structure” on advertising effectiveness in social networking sites.

In addition, our outcome- rather than process-oriented methodology does not examine the thoughts that subjects spontaneously generate when exposed to the endorsement and this individual differences are predicted to mediate the experiment outcomes. Further research could examine from the target consumer’s characteristics to provide additional support for the existence and effect of differential elaboration in product endorser effectiveness.

Another limitation to this study is the online environment used for the experiment stimuli. Due to technical restrictions, the SNS pages used in the experiment are static rather than interactive. Although the pages mimic the layout of the real pages, the lack of interactivity may impact subjects’ responses. In the future, interactive or real SNSs environment should be used to better examine consumers’ responses towards advertising on SNSs.

Although this paper has examined three relationships among the entities, it is of little doubt that there are many other factors which may impact endorsement effectiveness. Examining various factors that are applicable to social network sites would help enhance the understanding of the product endorsement in that context.

Celebrity Endorsement, Third Party Organization Endorsement

Although not examined in this study, celebrity and third party organization (TPO) endorsements are common topics in product endorsement literature (e.g., Dean and Biswas 2001; McCracken 1989). Celebrity endorsers are known to different consumers to a different degree, which resembles the concept of “tie strength”. Third party organizations are primarily treated as experts. Future studies on product endorser effectiveness can include these two types of endorsers to test whether the model underlying this study can apply to them and find out the best strategies for their endorsement.

Product Involvement, Brand Equity

It would be interesting to test whether the outcome we obtained is due solely to the intrinsic properties of hedonic and utilitarian goods or whether the effect can extend to other product features. Two possible important product features are product involvement and brand equity. According to the elaboration likelihood model (Petty et al. 1983), for high involvement product, consumers would be motivated to pay attention to product related information and exert more cognitive effort in understanding them. On the other hand, consumers are less willing to expense effort to seek and process information for low involvement products. Brand equity is the differential effect of brand knowledge on consumer response to the marketing of brand (Keller 1993). Consumers are more likely to be familiar with high-equity brands than low-equity brands, and they may have greater willingness to allocate attention to product information in ads for familiar versus unfamiliar brands (Kent and Allen, 1994). Therefore, these factors may have interaction effects with endorser types or consumer types. Future research can be directed from this angle.
User-Initiated Endorsement

SNSs allow and facilitate the creation and sharing of consumer-generated content, including user-initiated marketing activities. For example, as mentioned earlier, in Facebook, there are “pages” designed for users or companies to set up profiles and communicate with each other. Companies such as Coca Cola have drawn millions of “fans” endorsing its products under its page in Facebook (Collier 2009). Different from the endorsement we discussed in the study, this type of endorsement is initiated by users rather than advertisers. Are they a better strategy for product endorsement on SNSs? It would be insightful for the product endorsement literature if this new type of endorsement is examined in the future.

Conclusion

As social network sites (SNSs) continue to gain popularity and user engagement, it is imperative for advertisers to gain insights into what type of advertising work best in such new media environments. While SNSs enable members to connect to their social networks, a new type of endorser – “friend endorser” – can be created. Advertisers can leverage on this new powerful resources to exert influence over consumers’ purchase intention. On the other hand, previous research has suggested the effectiveness of using experts to impact consumers’ decisions. With both new and existing types of endorsers, a question may rise for marketers as to which type of endorsers would be more effective on SNSs.

This study provided marketers with a few possible solutions: for hedonic products, it is more effective to use strong-tie endorsers, regardless of their expertise on the products; for utilitarian products, it is better to choose experts to be the product endorsers. This study also contributed to literature in several aspects. First, it examined the tie strength construct in the web advertising context for the first time by introducing a “friend endorser” concept. Secondly, it demonstrates that the contextual factor - product type – moderates the effects of tie strength and endorser expertise on consumer purchase intention. Thirdly, the proposed model that is built upon social influence theory is a new attempt which might contribute another perspective into product endorsement literature.

Contrary to industry practitioners’ interest for SNS advertising, there are few scholars examining the effectiveness of SNS advertising. It is hoped that the findings from this study would spark off interest in the research of product endorsement as well as other types of SNS advertising in future.

References


Walther, J. B., Van Der Heide, B., Kim, S. Y., and Westerman D. "The Role of Friends' Appearance and Behavior on Evaluations of Individuals on Facebook: Are We Known by the Company We Keep?" Human Communication Research (34:1), 2008, pp. 28-49.


## Appendix A Measures for Constructs

<table>
<thead>
<tr>
<th>Construct</th>
<th>Source &amp; Scale</th>
<th>Measure</th>
</tr>
</thead>
</table>
| Tie Strength               | Frenzen and Davis (1990)                | 1. There are some people in our daily lives with whom we are willing to share personal confidences. How likely would you be to share personal confidences with the product endorser? *Extremely unlikely* (1) / *extremely likely* (7)  
2. There are some people in our daily lives with whom we would gladly spend a free afternoon socializing. There are others with whom we would rather not spend our free time. How likely would you be to spend some free time socializing with the product endorser? *Extremely unlikely* (1) / *extremely likely* (7)  
3. How likely would you be to perform a LARGE favor for the product endorser? Examples of “LARGE” favors are lending the person your laptop for a few days, typing a paper for this person because he/she is too ill, going on a blind date with his/her roommate, etc. *Extremely unlikely* (1) / *extremely likely* (7)  
4. How close are you to the product endorser. *Not close at all* (1) / *Extremely close* (7) |
| Endorser Expertise         | Roobina (1990)                          | 1. Not an expert (1) / an expert (7)  
2. Unknowledgeable (1) / knowledgeable (7)  
3. Inexperienced (1) / experienced (7)  
4. Incompetent (1) / competent (7)  
5. Unqualified (1) / qualified (7) |
2. The product is practical.  
3. The product is useful.  
4. The product helps achieve a goal.  
5. The product is pleasant.  
6. The product is fun.  
7. The product is enjoyable.  
8. The product appeals to senses. *Strongly disagree* (1) / *strongly agree* (7) |
| Purchase Intention         | Mackenzie et al. 1986                   | 1. How likely are you going to purchase the product? *Extremely unlikely* (1) / *extremely likely* (7)  
2. How willing are you going to purchase the product? *Extremely unwilling* (1) / *extremely willing* (7)  
3. Do you plan to purchase the product? *Absolutely no* (1) / *absolutely yes* (7) |
| Attitude towards Website   | Chen and Wells (1999)                   | 1. This website makes it easy for me to build a relationship with my friends.  
2. I would like to visit this website again in future.  
3. I am satisfied with service provide by this website.  
4. I feel surfing this website is a good way for me to spend my time.  
5. Compared to other websites, I would rate this as one of the best. *Strongly disagree* (1) / *strongly agree* (7) |
| Attitude towards Advertising in General | Muehling (1987) | 1. Bad (1) / Good (7)  
2. Negative (1) / Positive (7)  
3. Unfavorable (1) / Favorable (7) |
| Product Familiarity        | Kent and Allen (1994)                   | 1. very unfamiliar (1) / very familiar (7)  
2. very inexperienced (1) / very experienced (7)  
3. not at all knowledgeable (1) / very knowledgeable (7) |
### Appendix B Factor Analysis Results

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fa_1</td>
<td>-0.017</td>
<td>0.057</td>
<td>0.032</td>
<td>0.048</td>
<td>0.164</td>
<td>-0.025</td>
<td><strong>0.902</strong></td>
<td>0.063</td>
</tr>
<tr>
<td>Fa_2</td>
<td>0.065</td>
<td>0.141</td>
<td>0.08</td>
<td>0.051</td>
<td>0.1</td>
<td>0.079</td>
<td><strong>0.893</strong></td>
<td>0.05</td>
</tr>
<tr>
<td>Fa_3</td>
<td>0.075</td>
<td>0.051</td>
<td>0.049</td>
<td>0.019</td>
<td>0.072</td>
<td>0.116</td>
<td><strong>0.911</strong></td>
<td>-0.027</td>
</tr>
<tr>
<td>U_1</td>
<td>0.032</td>
<td>-0.074</td>
<td>0.006</td>
<td>-0.086</td>
<td><strong>0.866</strong></td>
<td>0.054</td>
<td>0.118</td>
<td>0.075</td>
</tr>
<tr>
<td>U_2</td>
<td>0.01</td>
<td>-0.117</td>
<td>-0.009</td>
<td>-0.029</td>
<td><strong>0.864</strong></td>
<td>-0.027</td>
<td>0.092</td>
<td>0.039</td>
</tr>
<tr>
<td>U_3</td>
<td>0.05</td>
<td>-0.106</td>
<td>-0.055</td>
<td>0.089</td>
<td><strong>0.837</strong></td>
<td>-0.045</td>
<td>0.063</td>
<td>-0.122</td>
</tr>
<tr>
<td>U_4</td>
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| Eigenvalues | 7.158 | 3.856 | 3.286 | 2.805 | 2.324 | 1.930 | 1.651 | 1.275 |
| Cumulative % | 23.090 | 35.527 | 46.128 | 55.176 | 62.672 | 68.898 | 74.224 | 78.336 |

Note: Fa – Product familiarity; U – Utilitarian; H – Hedonic; TS – Tie Strength; Ex – Expertise; Pl – Purchase Intention; AW – Attitudes towards Website; AA – Attitudes towards Advertising.