

CONSUMERS' USE OF BLOGS AS PRODUCT INFORMATION SOURCES: FROM NEED-FOR-COGNITION PERSPECTIVE

MARIKO MORIMOTO, Sophio University

CARRIE S. TRIMBLE, Millikin University

This study investigated the potential influence of word-of-mouth (WOM) and need-for-cognition (NFC) on consumer information search in the blogosphere. This study, in particular examined how consumers perceive corporate and consumer-generated blogs as product/brand information sources. The results of an online survey indicated that NFC and susceptibility to WOM influenced consumer's information search process, ultimately leading to purchase intent. The findings also showed that while high NFC individuals showed more favorable attitudes toward consumer-generated blogs over corporate blogs as an information source, low NFC individuals did not have a specific preference for either type of blog. In addition, participants reported greater purchase intent for products addressed in consumer-generated blogs than corporate blogs. This difference in purchase intent existed even when their attitudes toward both types of blogs and the brands/products mentioned there were regarded similarly.

INTRODUCTION

Conventional wisdom holds that the first, second, and third rules for successful real estate sales are location, location, location (e.g. RealEstateabc.com 2003). A similar idea can apply to consumer decision making and its relationship with effective marketing communication planning. Placement of messages in an appropriate context/environment might also be the first, second, and third rules of all successful marketing communication (Sissors and Baron 2002). Marketers should not rely on marketing communication to activate or prompt consumers to initiate a product search; marketers should focus their communication efforts in places where already actively searching consumers look for information—which is increasingly in online media vehicles. Court *et al.* (2009) reports that two-thirds of the most important consumer interaction with product information, when the consumers are in an active search and \ alternative evaluations,

involved in word-of-mouth communications. Only one-third of that consumer interaction is said to take place through company-driven marketing efforts like traditional advertising and sales promotions. With regards to consumers' use of blogs, BlogHer's Social Media Matters Study (Collins 2011) reports that nearly half of adult consumers (47%) surveyed reported that they turn to recommendations found on Web logs or blogs for new ideas and trends instead of traditional promotions; over half (53%) of the same population reported buying a product that was recommended on a blog; those blog recommendations were also preferred over celebrity endorsements. These findings suggest that marketers would do well to concentrate on creating and maintaining communication vehicles of their own (*i.e.*, blogs, social media) that attract consumers when they are actively searching instead of merely placing traditional promotions amidst media that attracts consumers looking to be entertained.

Academics have also begun to explore the potential of this medium. Previous efforts in relation to advertising and blogs have been made mainly in the area of messages (Chu and Kamal 2008) and bloggers (individuals

maintaining blogs) as message senders (Chu and Kamal 2008; Huang, Shen, Lin and Chang 2007). However, very few attempts have been made to learn exclusively about the *audiences* of blogs and their motivations to use the medium as a source of product/brand information. More knowledge on consumers' intent to use blogs as an information source is called for in order to utilize the benefits of blogs as a marketing communication tool.

In this study, we examine how perceptions toward two different types of blogs as information sources, namely corporate and consumer-generated blogs, may differ based on individual personality traits. Specifically, the study pays attention to the roles of need-for-cognition (NFC) and susceptibility to personal influence as predictive factors of consumer information search using blogs. Because searching for online product information requires a certain degree of involvement, need-for-cognition may play an important role in identifying the types of consumers who may utilize blogs as product information sources. Susceptibility to personal influence is identified as another potential indicator of information search via blogs because consumers may regard blogs as more personal sources than other product information sources.

The findings from this study will not only help advertisers understand consumer perceptions on this new medium and develop effective communication strategies, but also provide researchers with insights for future research examining the effectiveness and potential of blog advertising and advertising on other user-generated media. Because blogs---particularly those written by consumers about their own experiences with products/services-- can be regarded as a closer-tie information source than other marketer-dominant sources including corporate blogs by other consumers, it is worthwhile to shed light on perceptions toward different kinds of blogs as product information sources and how such perceptions may be influenced by NFC and susceptibility to WOM influences.

LITERATURE REVIEW

Blogs as a Product Information Source and Types of Blogs

Blogs are diary-style web sites generally offering observations and chronologically listed news that allow readers to leave comments and place recommendation links and/or trackbacks (Johnson and Kaye 2004). As a part of user-generated media, blogs enable both marketers and consumers to express/communicate their ideas on products/brands; with trackback, links, and comment functions.

Classifications of blogs as product information sources can be made mainly in two types: corporate and consumer (-generated) blogs. Corporate blogs are owned and operated by marketers as a way to provide content to their customers. In contrast, consumer- blogs are not affiliated to marketers of the products being reviewed, but instead they are administrated by consumers and provide an arena for them to voice their opinions and experiences about brands and their associated products and services. While corporate blogs do offer consumers opportunities to express their opinions and share their product/service experiences with other customers online through trackbacks and comments, the ultimate control of information is in the hands of marketers because they are the administrator of such blogs.

Consumer Information Search on the Internet

Consumer information search has been a popular topic, and various studies have been conducted in hopes of better understanding the potential behavioral outcomes in the context of interpersonal communication and word-of-mouth (e.g. Gilly et al. 1998; Bloch et al. 1986), traditional market-dominant sources (e.g. D'Rozario and Douglas 2000), and online resources (e.g. Jepsen 2007). Information search can be classified into: 1) internal information search that involves memory and takes place prior to external search, such as

memory; and 2) external information search that relies on all other sources except memory, such as media, store visits, trials, and references (Peterson and Merino 2003).

A number of classifications of external information sources for product selection have been proposed. For example, Duhan et al. (1997) classified recommendation sources based on the proximity of a decision maker to the information source and defined strong-tie sources as sources that a decision maker personally knows well. Weak-tie recommendation sources, then, are merely acquaintances or those who do not know the decision maker. They stated that weak-tie sources can go beyond the social circle of the decision maker, and therefore, the decision maker can find more and better information about the product (Duhan et al. 1997). For Internet-related studies, the importance of weak-tie sources was found in the ability to create connections and close-knit social groups for people with limited or no personal interaction (Smith et al. 2007). In the context of blogs, readers may or may not personally know the bloggers behind the consumer-generated blogs; however, if consumers identify with an author of a consumer-generated blog as a "typical" consumer, these readers might feel as if they were in close proximity to the consumer-generated blog author. Although both types of blogs may be generally classified as weak-tie recommendation sources by the definition of Duhan et al. (1997), consumer-generated blogs may be regarded as stronger-tie information sources than corporate blogs.

On the other hand, corporate blogs can be regarded rather a weaker-tie source (than consumer blogs), and company-created sources can be seen as lacking the credibility of third-party sources (Duncan 2005). Perhaps it is the perceived authenticity that leads consumers to prefer online recommendations of other consumers over online recommendations of experts (Huang and Chen 2006). As sources of information without an overtly vested interest in the success or failure of a product or corporation, neutral and interpersonal sources

offer more believability. This believability, or third-party credibility, leads to more persuasive arguments. Bickart and Schindler (2001) found that consumers who used online discussion forums as a product information source showed greater interest in the studied product than those who relied on marketer-dominant sources to acquire product information. In the case of the current study, consumer-generated blogs are likely to be regarded as either neutral or interpersonal information sources with the associated credibility that is lacking in a marketer-dominant blog with its overt vested interests. In addition, consumer-generated blogs can be regarded as a stronger-tie information source compared to marketer-dominant blogs; stronger-tie information sources tend to influence consumer perceptions and behaviors than weaker-tie sources (Duhan et al. 1997). As a result, consumers' perceptions toward consumer-generated blogs may be more positive compared to corporate blogs and thus influence behavioral intentions such as purchase intent. Hence, the following set of hypotheses is proposed:

H_{1a}: Consumers' attitudes toward consumer-generated blogs as a product information source are more positive than corporate blogs.

H_{1b}: Consumers purchase intention is greater for products addressed in consumer-generated blogs than corporate blogs.

Predictors of Information Search (1): Susceptibility to Personal Influence and Word-of-Mouth

Various factors have been identified as influencers of information search, such as (but not limited to) search cost (Jepsen 2007), perceived risk (Perry and Hamm 1969; Mourali et al. 2005; Murray 1991), credibility of advertisers (Dabholkar 2006), consumer expertise (Gilly, et al. 1998; Mourali et al. 2005), and product involvement (Nelmapius et al. 2005; Park, Lee and Han 2007). In addition to these predictors, a few personality factors emerge as key indicators of attitudes and use of

blogs, such as susceptibility to personal influence (Bearden, Natemeyer and Teel 1989) and need-for-cognition (Cacioppo and Petty 1982).

Bearden and his colleagues (1989) defined susceptibility to personal influence as one's likelihood of learning about products and services through observations of others and/or search information from others (p.474). The concept consists of two elements: 1) *normative influence* as one's willingness to conform to expectations from others; and 2) *informational influence* as one's tendency to accept information from others (Burnkrant and Cousineau 1975; Bearden et al. 1989). The combination of these elements are said to influence consumer behavior including purchase (Burnkrant and Cousineau 1975) and information search (Park and Lessig 1977). In the current study, consumer susceptibility to information may explain one's likelihood of information search on blogs.

Information search on blogs can be regarded as a reflection of word-of-mouth (WOM). In marketing, WOM is referred to as the action of passing information verbally, such as recommendations, in an informal manner (Arora 2007), as well passing along e-mail to others (Phelps et al. 2004) and posting product reviews (Huang and Chen 2006). In blogs, the act of pass-along information takes place through linkage. Consumers' opinions can be connected to another blog entry via trackbacks, and other consumers may leave their opinions using comment functions. Considering this characteristic, the definition of WOM on the Internet suggested by Thorson and Rodgers (2006) and Graham and Havlena (2007) appears more applicable for blogs: statements made about products, organizations, or individuals that are widely available to the public online. Blog readers may not always initiate WOM; however, as the audience, they may consult with product information available on blogs. In conjunction with susceptibility to personal influence, one can argue that if this tendency is high, an individual will refer more to WOM on blogs as product information. In

other words, interpersonal influence such as susceptibility to personal influence can enhance the likelihood of behavioral intentions such as product information search based on consumers' opinions (Chu and Choi 2011).

Recent empirical research suggests that susceptibility to personal influence can affect both consumer attitudes and behavior, including one's tendency to search and accept product information online. For example, Bailey (2005) found that consumer susceptibility of informational influence has an impact on perceptions of product review Web sites; the higher the degree of susceptibility, the more positive one finds product review Web sites. Also, Thorson and Rodgers (2006) found electronic WOM on a political candidate's blog influenced the evaluation of the candidate's web site, impressions of the candidate, and voting intentions. Moreover, Graham and Havlena (2007) found that online WOM can generate offline brand advocacy. As these findings show, consumers' information search on blogs can be strongly related to the degree of individual's susceptibility to WOM on the Internet.

Predictors of Information Search (2): Need-for-Cognition and Consumer Information Search on Blog

While it appears that consumers' susceptibility to WOM may influence his/her product information search, WOM is also closely related to high-order cognition and effects (Brown, Broderick and Lee 2007). In this regard, need-for-cognition (NFC) emerges as an indicator of motivation for thinking (Cacioppo and Petty 1982).

NFC stems from the elaboration likelihood model (ELM) that specifies conditions in which persuasion will be mediated by the amount of message relevance to the thought that an individual undertakes (Petty and Cacioppo 1986; Karson and Korgaonkar 2001). In the case of blogs, individuals who tend to be engaged in information search are likely to be actively involved in the search amongst

numerous information sources available online, and therefore, they may process product information in blogs through the central route rather than the peripheral route. However, this tendency may vary by individuals, and NFC may be one possible explanation for the variance.

Essentially, NFC identifies differences among individuals in their likelihood of engaging in and enjoying thinking (Cacioppo and Petty 1982; Das et al. 2003). Lord and Putrevu (2006) identify five factors in this construct -- enjoyment of cognitive stimulation, confidence in cognitive ability, preference for complexity, commitment of cognitive effort, desire for understanding, and trust in the consequence of cognition -- and suggest that researchers can select the dimensions that are relevant to their research objectives to measure NFC, if not using all of the factors. In this study, three among five dimensions of NFC proposed by Lord and Putrevu (2006) -- preference for complexity, desire for understanding, and/or commitment of cognitive effort-- may serve better as an indicator of NFC because consumers face a tremendous amount of blogs, as well as other online communities addressing product reviews/experiences during the online search. One needs to be willing to find blogs with particular product/brand information among other blogs and Web sites. Such activities require willingness to understand issues and commitment for processing complex and multiple information sources.

NFC is also believed to predict one's preference for information types. Generally, a high NFC individual is supposed to prefer information-oriented media and tends to be more engaged in verbal over visual information processing (Martin, Sherrard and Wendzel 2005). In the context of the Internet, Das et al. (2003) found that as individuals' NFC increased, their attitudes toward the web as an information source became more positive. Also, individuals with higher NFC tend to be engaged in more extensive information search than those with lower NFC, because they enjoy and tend to process information more thoroughly

(Mourali et al. 2005). Therefore, such individuals may spend more time looking for blogs with product and/or brand information than those with lower NFC.

Additionally, because it requires more effort to find consumer-generated blogs with specific product/brand information as compared to corporate blogs (which are likely to be generally listed near/at the top of results in search engines), higher NFC individuals may be more committed to search product information via consumer-generated blogs than lower NFC individuals.

H₂: *Individuals with a high NFC will report more positive attitudes toward consumer-generated blogs than individuals with a low NFC.*

Similarly, when comparing corporate vs. consumer-generated blogs, higher NFC individuals may prefer consumer-generated blogs over corporate blogs, while lower NFC individuals may prefer corporate blogs over consumer-generated blogs to avoid excessive search effort. Therefore, the following set of hypotheses is proposed:

H_{3a}: *Individuals with a high NFC will report more positive attitudes toward consumer-generated blogs than corporate blogs.*

H_{3b}: *Individuals with a low NFC will report more positive attitudes toward corporate blogs than consumer-generated blogs.*

Consumer Information Search on Blogs and Attitude and Behavioral Changes

All of the key variables discussed here are known to influence consumer behavior. As stated earlier, NFC has been identified as a key predictor of extensive information search (Mourali et al. 2005).

H₄: *Consumers' level of NFC positively influences the likelihood of information search on blogs (BIS).*

In addition, high NFC individuals are also known to have more positive attitudes toward

ads with complex information (Putrevu et al. 2004; Lord and Putrevu 2006). Because blogs can provide rich information, the degree of NFC in general can positively affect evaluations of blogs. It is also known that individuals with high NFC favor implicit information compared to low NFC individuals (Sicilia, Ruiz and Munuera 2005; Kao 2007). NFC is also known to be related to favorite attitudes toward complex information/message (Putrevu, Tan and Lord 2004), and therefore, the degree of NFC positively affects attitudes toward blogs as information sources due to the medium's capability of delivering in-depth and complex information which is not necessarily simple to understand,

H₅: Consumers' level of NFC positively influences attitudes toward blogs as a product information source.

Additionally, susceptibility to WOM influence can enhance the development of product knowledge while affecting both consumer attitudes and behavior, including one's tendency to search and accept product information online.

H₆: Susceptibility to WOM positively affects the likelihood of information search on blogs (BIS).

Also, it is widely known that susceptibility to WOM can significantly influence behaviors such as product selection and purchase intent (e.g. Arora 2007; Das et al. 2003; Keller 2007), as well as voting intentions (Thorson and Rodgers 2006).

H₇: WOM influence positively influences purchase intentions of products/brands mentioned in blogs.

In terms of the relationship with information search and perceptions toward blogs, it is possible to argue that consumers who are actively engaged in information search via blogs may have a positive perception toward blogs, because information search through blogs may enhance the positive perception

toward the medium (Mathwick and Rigdon 2004). Also, attitudes toward ads is known to influence purchase intention of advertised brands (Mackenzie et al. 1986). Therefore, the following hypotheses are proposed:

H₈: Consumers' likelihood of information search using blogs (BIS) positively influences attitudes toward blogs as a product information source.

H₉: Attitudes toward consumer-generated blogs as a product/brand information source positively influences purchase intentions of products/brands mentioned in blogs.

Sample and Data Collection

For the current study, the population is defined as consumers between the ages of 18 and 30, as, according to the Pew Internet and Life Project, the majority of blog users (54%) fall under this category (Lenhart and Fox 2006). Anderson Analytics' study on Generation X to Z also shows that college students tend to blog four times more frequently than all adults online, and particularly, female college students tend to blog three times more than male college students (Marketing Vox 2008). This means that it is appropriate to collect data from the college student population. Also, college students are a prime consumer group for online businesses (McAllister and Turow 2002); Harris Interactive (2002) reports that it is estimated that college students' economic potential can be as high as \$200 billion, and with regards to direct marketing (which is often the method online marketers use), the National Mail Order Association (2009) also indicates that college students make up a market worth \$100 billion for direct marketers. Thus, the use of student sample is valid for the current study.

Undergraduate students in a large introductory mass communication class at a large state university in the Southeast were recruited for an online survey. A recruiter visited the class to explain the nature of the survey and provided the URL of the survey. With the consent from

the instructor, respondents were given extra credit as an incentive. The URL first directed participants to the consent form, and participants were then randomly assigned to one of the two kinds of questionnaires that asked about either 1) corporate or 2) consumer-generated blogs. Because the goal of the research was to study *general* perceptions toward blogs as information sources, no specific manipulation/blog was used as treatments for the study. Participants were asked to share their general opinions toward these two types of blogs without being exposed to any specific examples. Thus, the data collection method was not based on an experimental design. All of the items on the questionnaires were identical, the difference being that one version asked about corporate blogs and the other asked about consumer blogs. 99 responses were collected from the corporate blog questionnaire, and 102 responses were collected from the consumer-generated blog questionnaire. The questions on the survey focused on general perceptions associated with blogs as a product information source (corporate or consumer-generated blogs), direct marketing, Internet use, and psychological tendency of need-for-cognition and word-of-mouth.

The sample consists of 74 males (38 percent) and 121 females (62 percent). The average age is 20. Juniors are the largest group (34 percent) followed by sophomores (32 percent), seniors (19 percent) and freshmen (15 percent). They have been Internet users for approximately 9.1 years on average and use the Internet for about 3.2 hours per day. All participants have experience in reading blog entries written by others; approximately 70 percent of the respondents read blog entries written by other individuals on a regular basis.

Measures

Independent Variables:

Need for cognition (NFC) was measured by the seven-point Likert-type scale by Lord and Putrevu (2006) ($\alpha=.91$). From the scale with 18

items, six items were selected based on the results of exploratory factor analysis with a varimax rotation. The items include questions such as "Thinking is my idea of fun (*preference for complexity*)," "I find great satisfaction in deliberating hard and for long hours (*commitment of cognitive effort*)," and "I seek out situations where there is a likely chance I will have to think in depth about something. (*desire for understanding*)," and each item has a factor loading of .7 or above, which is regarded sufficient for convergent validity (Hair et al. 1998).

Consumer susceptibility to WOM was measured by the ten-item seven-point Likert-type scale created by Bearden et al. (1989) anchored by items such as "If I have little experience with a product, I often ask my friends about the product," and "I often consult with other people to help choose the best alternative available from a product class" ($\alpha=.81$). Similar to NFC construct, items with a factor loading greater than .75 were used to form this construct to assure convergent validity.

Dependent Variables:

Intention of blog information search (BIS) was measured by a modified Likert-type scale originally created by Moorman (1995) with 10 items such as, "product reviews on blogs enrich my basic understanding of products" and "the process of researching products on blogs really enlightens my understanding of consumer products" ($\alpha=.85$). Each item loaded highly ($>.73$). Attitudes toward blogs as a product information source was measured with a modified semantic differential scale originally created by MacKenzie and Lutz (1989) with the following items: "good/bad," "favorable/unfavorable," "interesting/not interesting," "informative/uninformative," "convincing/unconvincing," and "like/dislike" ($\alpha=.84$), and all items had high factor loadings greater than .7. In addition, purchase intention of products mentioned in blogs was measured by three items from a modified Likert-type scale of Putrevu and Lord's (1994) purchase intention

scale anchored with questions such as “it is very likely that I will buy a product/brand mentioned in blogs” ($\alpha=.84$). All items loaded highly ($>.8$).

The questionnaire first asked questions on general perceptions about shopping online, followed by attitudes toward corporate/consumer blogs in general and brands advertised on either type of blogs. Then the purchase intention about products addressed in corporate/consumer blogs was measured. Following these measurements, questions on perceptions toward product review on blogs, susceptibility to personal influence, and general perceptions toward product review websites were presented. At the end of the questionnaire, several variables on demographics, usage of the Internet and blogs and other media usage (including traditional media) were also included in the questionnaire.

RESULTS

Preliminary Analysis

Prior to hypothesis and model testing, several statistical procedures were undertaken. To test construct validity, a confirmatory factor analysis was performed for all of the constructs using a first-order confirmatory factor model. All of the items that loaded on each specified factor were highly significant ($p<.01$), and the goodness-of-fit indexes suggested a good fit: NFC (CFI=.961, NFI=.952), susceptibility to WOM (CFI=.952, NFI=.950), intention for information search (CFI=.964, NFI=.950), attitudes toward blogs (CFI=.987, NFI=.970) and purchase intent (CFI=.968, NFI=.961). The estimated correlation between these variables were lower than .85 ($r=.43$; $p<.01$), which met the criteria for discriminant validity of these variables (Kline, 2005). In addition, descriptive statistics of the key variables were also computed (Table 1). The standard deviations ranged from .86 to 1.18. (The low value of the standard errors for these variables—a range between .05 and .07—mitigates concerns about the size of the standard deviations.)

Hypothesis Testing

The first set of hypotheses compare consumers' perceptions toward corporate and consumer-generated blogs as information sources and purchase intent of products mentioned in such blogs. Three t-tests were conducted (Table 2). The results show that consumers' purchase intent of products addressed in blogs (H_{1b}) differs between consumer-generated ($M=3.85$) and corporate blogs ($M=3.38$, $t_{(184)}=3.29$, $p<.01$). However, there was no significant difference between consumer-generated and corporate blogs with regards to attitudes toward blogs as an information source (H_{1a}). Therefore, the data partially support H_1 .

To test H_2 - H_3 , a median split of NFC is used ($M=4.5$). High NFC is classified as the scores above 4.50, and low NFC is defined as scores below 4.49. To test H_2 , a t-test was conducted with responses on consumer-generated blogs. The independent variable is NFC median split, and the dependent variable is favorability toward consumer-generated blogs as an information source. There is no significant difference between high ($M=4.25$) and low NFC individuals ($M=4.27$) with regards to their attitudes toward blogs ($t_{(82)}=1.44$, $p>.05$).

H_{3a} was tested with a t-test using the cases from high NFC individuals, and the independent variable is blog types (corporate or consumer-generated blogs) and the dependent variable is attitudes toward blogs as an information source. The result shows that high NFC individuals tend to favor consumer-generated blogs ($M=4.74$) more than corporate blogs ($M=4.26$) as a product/brand information source ($t_{(84)}=2.25$, $p<.05$). Therefore, the data support H_{3a} . Likewise, focusing on low NFC respondents, another t-test was performed, but the result does not indicate a significant mean difference between corporate ($M=4.33$) and consumer-generated blogs ($M=4.13$) regarding attitudes toward these blogs as an information source ($t_{(78)}=1.04$, $p>.05$). Thus, H_{3b} is not supported by the data.

TABLE 1:
Descriptive Statistics

	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
Acceptance of WOM	4.40	.95	.06
NFC	4.90	.86	.05
BIS	3.63	1.02	.07
Attitudes toward Blogs	4.38	.88	.06
Purchase Intent	3.62	1.18	.07

TABLE 2:
Mean Scores and Results of H_{1a-c}

Dependent Variables	Consumer Blog Means	Corporate Blog Means	t	df	ρ
Attitudes toward Blogs	4.46	4.27	1.37	177	.17
Purchase Intent	3.85	3.38	2.69	184	.01*

*Significance at $\rho < .01$

A path analysis was conducted to test H₄₋₉, and model's fit using AMOS 7.0 with maximum likelihood estimation model. The exogenous variables were WOM and NFC, and the three endogenous variables were BIS, attitudes toward blogs as a product information source, and purchase intent of products featured in blogs.

In the initial analysis, five of six hypotheses were supported by the data. However, the model's fit was poor ($\chi^2=28.60$, $df=2$, $\rho < .01$; CFI=.83; NFI=.83; RMSEA=.26; AIC=64.60) because comparative fit index (CFI) and normed fit index (NFI) are both below .95 and too low to be considered a good fit (Bryne, 2001). Also, the root mean squared error of approximation (RMSEA) was greater than .08; in order to be considered a good fit, RMSEA should be lower than .08 (Bagozzi and Yi, 1988). Akaike Information Criterion (AIC) was 64.60.

According to the findings, individuals' willingness to accept WOM information positively affects his/her tendency to be engaged in product information search on blogs

(BIS), meaning that the more consumers are susceptible to WOM, the more likely that they will be engaged in information search on blogs (H₆). Likewise, individuals with high need-for-cognition are more likely to be engaged in product information search in blogs (H₄). NFC is not directly related to attitudes toward blogs as a product information source (H₅); however, WOM tends to influence purchase intentions of products mentioned in blogs (H₇). Information search tendency is positively related with attitudes toward blogs (H₈), and attitudes toward blogs as a product information source is positively associated with purchase intentions (H₉).

As an ad hoc analysis, three tests of mediation were conducting using the bootstrapping method using the SPSS macro developed by Preacher and Hayes (2008). First, the mediating effect of intention for information search on the relationship between NFC and attitudes toward blogs was tested. The result indicates that the indirect effect of NFC through information search (mediator) on attitudes toward blogs was .09 with a bootstrap SE of .04. The 95 percent confidence interval ranges from .03

TABLE 3:
Proposed Structural Model Estimation and Final Model Summary

	Independent Variable	Dependent Variable	Expected Sign	Unstand-ardized Weights	Standard-ized Weights	Stand-ard Errors	p
H ₄	NFC	BIS	+	.18	.15	.08	.03*
H ₅	NFC	Attitudes toward Blogs	+	.04	.04	.60	.55
H ₆	WOM	BIS	+	.37	.34	.07	.001**
H ₇	WOM	Purchase Intent	+	.36	.29	.08	.001**
H ₈	BIS	Attitudes toward Blogs	+	.42	.34	.06	.001**
H ₉	Attitudes toward Blogs	Purchase Intent	+	.51	.38	.08	.001**

*Significance at $p < .05$

** Significance at $p < .01$

(lower end) to .18 (upper end) If a zero is not between the lower and upper bootstrap confidence interval (95 percent), one can claim that the indirect effect is not zero, hence the mediation exists between the independent and dependent variables. In this case, intention for information search on blog mediates the relationship between NFC and attitudes toward blogs.

A similar test was performed on the mediation effect of information search on the relationship between WOM and attitudes toward blogs, and the result suggests that information search also mediates this relationship (indirect effect =.13; SE=.03; 95% LLCI=.07; ULCI=.20).

Additionally, the mediation effects of information search and attitudes toward blogging on the relationships between WOM and NFC were tested. While the relationship between WOM and purchase intent was mediated by information search (indirect effect =.16; SE=.04; 95% LLCI=.08; ULCI=.25) and attitudes toward blogs (indirect effect =.09; SE=.04; 95% LLCI=.003; ULCI=.12), the relationship between NFC and purchase intent was mediated only by information search (indirect effect =.05; SE=.04; 95% LLCI=.11; ULCI=.18), not by attitudes toward blogs (indirect effect=.002; SE=.01; LLCI=-.03; ULCI=.04).

DISCUSSION

The findings from the current study illustrate the positive influence of personal influence acceptance and NFC on information search. The results also show consumers' purchase intent of products differs between the blog types. As a practical implication, consumer-generated blogs have the potential to reach consumers with a high NFC (content-focused) and high susceptibility to personal influence (source-focused). In this time of niche markets and splinter media, the chance for advertisers to reach multiple personality types through one message and one media vehicle is a welcome anomaly. From the analysis, these key areas of findings emerge blog types and attitudes and antecedents of information search.

Attitudes toward Corporate and Consumer-Generated Blogs and Related Outcomes

Although there was not a significant difference in perceptions toward consumer-generated and corporate blogs, purchase intent of a product addressed in consumer-generated blogs was higher than in corporate blogs. Such disconnection between affect and behavior should be further explored, but does not negate the importance of the behavioral finding because consumers routinely seek out information online without making a purchase.

The disconnection between search and purchase suggests that a favorable opinion of online product information is not enough to ensure product purchase or purchase intentions. The non-significant attitudinal difference between consumer-generated and corporate blogs could be a result of search engine tendencies to provide both consumer and corporate blogs on the same display. As a result, respondents can be exposed to both types of blogs during information search and perceive them similarly. Additionally, corporate blogs, a form of marketer-dominant information source, are still novel enough to be seen as non-traditional and distinct from traditional one-way promotional media, which may give them the sense of credibility.

Effects of Susceptibility to Personal (WOM) influence and NFC on Blog-related Variables

Overall, the results confirmed the strong effect of susceptibility to personal influence on information search and purchase intentions for products introduced in blogs. Susceptibility to personal influence is also a stronger antecedent than NFC on these dependent variables. However, unlike the previous findings, NFC only directly predicted consumer information search on blogs. While high NFC individuals preferred consumer-generated blogs to corporate blogs, low NFC individuals did not show a preference for either corporate or consumer-generated blogs. This may be explained by the claim of Sicillia et al. (2006) indicating that in an online environment, the dual mediation hypothesis of ELM does not take effect unless an individual has an intrinsic nature to think. Because low NFC individuals do not necessarily prefer to think thoroughly, neither the peripheral nor central route of information processing takes place online (Sicillia et al. 2006). In the current study, because low NFC individuals may have not made an intensive effort to evaluate information sources over all, no preference for corporate blog may have been found. On the other hand, the effect of NFC became very apparent for individuals with high NFC because of their

tendency to enjoy more elaborated thinking via central route of persuasion. The influence of NFC on attitudes toward blogs was seen indirectly through the information search variable. Future research in an experimental setting with a specific product/brand would better clarify the effect of NFC on attitudes toward different types of blogs.

WEAKNESS AND SUGGESTIONS FOR FUTURE RESEARCH

Although the current study confirmed the effect of susceptibility to personal (WOM) influence and NFC on information search on blogs and related variables, more research is encouraged to further investigate consumers' use of blogs for product information. Some suggestions can be made based on this study. With regards to samples, even though the use of student sample for this study was considered appropriate due to their Internet usage patterns, different demographic or socioeconomic groups should be also examined in future studies as such factors may influence consumer information search online.

Another suggestion, as mentioned earlier in the discussion, is to investigate the effects of NFC and susceptibility to WOM on information search in an experimental setting using different product categories. Consumers' tendencies in product information search situations may depend on the level of product involvement. It will be worthwhile to examine how the influence of features available in blogs (e.g. interactivity, trackbacks etc.) may interact with product involvement in terms of information search on blogs, susceptibility to WOM, and NFC.

Also, it is recommended that future research include other types of online platforms, such as social networking services and product review Web sites and compare how information search behaviors may differ across a variety of online platforms. As these examples indicate, there is an unlimited possibility to extend this line of research in the context of Internet advertising,

and it is hoped that future research will pursue the effort to enhance the knowledge of online WOM.

IMPLICATIONS

Practical Implications

The results from the current study provide both practical and academic implications. From the practical perspective, the findings confirmed the clear effect of susceptibility to WOM influence on the use of blogs and purchase intentions. Thus, marketers can benefit from setting up blogs as a part of marketing communication efforts and provide consumers a forum to interact with other consumers to facilitate and encourage (possibly) positive WOM. In this way, marketers can refer to consumers' inputs and opinions with a minimum time lag to develop more effective advertising and/or communication campaigns and market research.

Also, in this study, consumers had stronger purchase intent of products mentioned in consumer-generated blogs compared to corporate blogs while attitudes toward either type of blogs did not differ. Hence, consumer endorsement by bloggers can be a potentially effective means of communicating about products/services.

These findings suggest that the recent changes in the U.S. Federal Trade Commission regulations may be justified. Some critics have argued that the revisions set a higher standard of disclosure for blogs and other social media than for traditional media like magazines. The FTC has expressly articulated that these revisions are necessary because the statements on blogs appear to be "word of mouth" (Goldman 2009) and are held to higher standards because average consumers would not expect bloggers to have relationships with advertisers like magazine publishers might (Booker 2009). Therefore, when consumers are more likely to accept WOM endorsements (and if the FTC is correct in assuming that consumers see blogs as WOM communication),

the increased ability to influence consumers through consumer-generated blogs could make it easier to deceive the average consumer. As the model in this study indicates, acceptance of WOM endorsements actually worked through three different paths to influence purchases intentions; this suggests that the influence of WOM should not be underestimated.

Theoretical Implications

This study confirms the strong relationship between susceptibility to WOM, information search, and purchase intentions in the context of blogs, as well as the effect of NFC on one's likelihood of information search. However, the findings also suggest that unlike other forms of media (including Internet media), the influence of WOM as well as NFC is not directly present for attitudes toward blogs as a product information source, which indicates that this medium may involve a different cognitive processing pattern in consumer information search. This calls for more research to add a new dimension of knowledge to consumer information search literature.

Confirmation of the effects of NFC and WOM on information search on blogs is also an important finding. Although replications and/or extensions are valued in social science, they are not usually published in advertising and consumer behavior journals (Berthon et al. 2003; Madden, Easley and Dunn 1995; Murgolo-Poore et al. 2002; Reid, Soley and Wimmer 1981). It should not be assumed that previous results concerning traditional media would automatically replicate in research on new media unless it is tested in a systematic manner. Successful replications/extensions can defend confidence in the consistency of the results and generalizability of the findings (Hubbard and Armstrong 1994). In this regard, this study contributes to the existing knowledge on information search.

CONCLUSION

The increase of blog use by consumers will continue in the future, and as an advertising

medium, blogs hold a great potential to be effective resources for both consumers and advertisers. The feature Internet offers an unlimited amount of opportunities for advertisers to reach consumers around the world, thus allowing consumers to communicate and interact with other consumers both domestically and internationally while sharing opinions about products/brands with ease. This means that blogs can generate international business opportunities for marketers. Therefore, it is crucial for both academics and advertisers to rigorously investigate motivational factors influencing blog use by consumers and the perceptions of blogs as a product information source. In this sense, is hoped that this study made one step toward understanding the potential of this new form of advertising.

REFERENCES

- Arora, Harsh (2007). Word of mouth in the world of marketing. *The Icfai Journal of Marketing Management*, 6(4), 51-65.
- Bagozzi, R. P. & Youjae Y. (1988). On the evaluation of structural equation models. *Journal of Academy of Marketing Science*, 16 (1), 72-82.
- Bailey, A. A. (2005). Consumer awareness and use of product review websites. *Journal of Interactive Advertising*, 6 (1), 90-108.
- Bearden, W. O., Netemeyer, R. G. & Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, 15 (1), 473-481.
- Berthon, J. P., Ewing, M., Pitt, L. & Berthon, P. (2003). Reframing replicative research in advertising. *International Journal of Advertising*, 22 (4), 511-530.
- Bickert, B. & Schindler, R. M. (2001). Internet forum as influential sources of consumer information. *Journal of Interactive Marketing*, 15 (3), 31-40.
- Bloch, P. H., Sherrell, D. L. & Ridgway, N. M. (1986). Consumer search: An extended framework. *Journal of Consumer Research*, 13 (June), 119-126.
- Booker, E. (2009 October 12). FTC: No Faux Social Messaging. *BtoB*, available at <http://www.highbeam.com/doc/1G1-209632407.html> (accessed September 17, 2011).
- Brown, J., Broderick, A. J. & Lee, N. (2007). Word of mouth communication within online communities: Conceptualizing the online social network. *Journal of Interactive Marketing*, 21 (3), 2-20.
- Burnkrant, R. E. & Cousineau, A., (1975). Informational and normative social influence on buyer behavior. *Journal of Consumer Research*, 2 (3), 206-215.
- Cacioppo, J. T. & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42 (January), 116-131.
- Chu, S. & Kamal, S. (2008). The effect of perceived blogger credibility and argument quality on message elaboration and brand attitudes: An exploratory study. *Journal of Interactive Advertising*, 8 (2), <http://www.jiad.org/vol8/no2/chu/index.htm>.
- Chu, S. & Choi, S. M. (2011). Electronic word-of-mouth in social networking sites: A cross-cultural study of the United States and China. *Journal of Global Marketing*, 24 (3), 263-281.
- Court, D., Elizinga, D., Mulder, S. & Vetvik, O. J. (2009). The consumer decision journey. *McKinsey Quarterly*, 3, 96-107.
- Collins, J. K. (2011). 2011 social media matters study. *BlogHer*, available at http://www.ketchum.com/files/BlogHer_2011_Social_Media_Matters_Study.pdf (accessed September 17, 2011).
- Dabholkar, P. A. (2006). Factors influencing consumer choice of A 'Rating Web Site': An experimental investigation of an online interactive decision aid. *Journal of Marketing Theory and Practice*, 14 (4), 259-273.
- Das, S., Echambadi, R., McCardle, M. & Lockett, M. (2003). The effect of interpersonal trust, need for cognition, and social loneliness on shopping, information seeking and surfing on the web. *Marketing Letters*, 14 (3), 185-202.
- D'Rozario, D. & Douglas, S. P. (2000). Effect of assimilation on prepurchase external information-search tendencies," *Journal of Consumer Psychology*, 8 (2), 187-209.

- Duhan, D. F., Johnson, S. D., Wilcox, J. B. & Harrell, G. B. (1997). "Influences on consumer use of word-of-mouth recommendation source. *Journal of the Academy of Marketing Science*, 25 (4), 283-295.
- Duncan, T. (2005). *Advertising & IMC*, New York: McGraw Hill Irwin.
- Gilly, M. C., Graham, J. L., Wolfinbarger, M. F. & Yale, L. J. (1998). A dyadic study of interpersonal information search. *Journal of the Academy of Marketing Science*, 26 (2), 83-100.
- Goldman, D. (2009, October 16). FTC targets bloggers, celebrities: Government says bloggers must disclose payment from ad companies and celebrities will be held to account for promotions," *CNN.com*, available at http://money.cnn.com/2009/10/06/news/companies/ftc_blogger_advertising_rules/index.htm (accessed October 16, 2009).
- Graham, J. & Havlena, W. (2007). Finding the "Missing Link": Advertising's impact on word of mouth, web searches, and site visits," *Journal of Advertising Research*, 47 (4), 427-435.
- Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (1998). *Multivariate Data Analysis with Readings*, 5th ed., Englewood Cliffs, NJ: Prentice Hall.
- Harris, I. (2002). *College Students Spend \$200 Billion Per Year*. available at http://www.harrisinteractive.com/news/all_newsbydate.asp?NewsID=480, July 29, (accessed on May 22, 2007).
- Huang, J. and Chen, Y. (2006), "Herding in online product choice. *Psychology & Marketing*, 23(5), 413-428.
- Huang, C., Shen, Y., Lin, H. & Chang, S. (2007). Bloggers' motivations and behaviors: A model," *Journal of Advertising Research*, 47 (4), 472-484.
- Hubbard, R. & Armstrong, J. S. (1994). Replications and extensions in marketing – rarely published but quite contrary. *International Journal of Marketing Research*, 11, 233-248.
- Hung, K. & 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), 485-495.
- Jepsen, A. L. (2007). Factors affecting consumer use of the internet for information search. *Journal of Interactive Marketing*, 21 (3), 21-34.
- Johnson, T. J. & Kaye, B. K. (2004). Wag the blog: How reliance on traditional media and the internet influence credibility perceptions of weblogs among blog users. *Journalism and Mass Communication Quarterly*, 81 (3), 622-642.
- Karson, E. J. & Korgaonkar, P. A. (2001). An experimental investigation of internet advertising and the elaboration likelihood model. *Journal of Current Issues and Research in Advertising*, 23 (2), 53-72.
- Kao, D. T. (2007). Conclusion explicitness in message communication: The roles of NFC and knowledge in attitude formation., *Social Behavior and Personality*, 35 (6), 819-826.
- Keller, E. (2007). Unleashing the power of word of mouth: Creating brand advocacy to drive growth. *Journal of Advertising Research*, 47 (December), 448-452.
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling*. 2nd ed., New York: The Guilford Press.
- Lenhart, A. & Fox, S. (2006). Bloggers: A portrait of internet's new storytellers," *Pew Internet Research & American Life Project*, Washington D.C.
- Lord, K. R. & Putrevu, S. (2006). Exploring the dimensionality of the need for cognition scale," *Psychology & Marketing*, 23 (1), 11-34.
- MacKenzie, S. B. & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context," *Journal of Marketing*, 53 (April), 48-65.
- MacKenzie, S. B., Lutz, R. J. & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, 23(2), 130-143.

- Madden, C. S., Easley, R. W. & Dunn, M. G. (1995). How journal editors view replication research. *Journal of Advertising*, 24 (4), 77-87.
- Marketing V. (2008). College women blog, use SocNet more. *Marketing Vox: The Voice of Online Marketing* December 5, available at <http://www.marketingvox.com/college-women-blog-use-socnets-more-042292/> (accessed on October 11, 2009).
- Martin, B. A. S, Sherrard, M. J. & Wentzel, D. (2005). The role of sensation seeking and need for cognition on web-site evaluations: A Resource-matching perspective. *Psychology & Marketing*, 22 (2), 109-126.
- Mathwick, C. & Rigdon, E. (2004). Play, flow, and the online search experience. *Journal of Consumer Research*, 31 (2), 324-332.
- McAllister, M. P. & Turow, J. (2002). New media and the commercial sphere: Two intersecting trends, five categories of concerns. *Journal of Broadcasting & Electronic Media*, 46 (4), 505-514.
- Moorman, C. (1995). Organizational marketing information processes: Cultural antecedents and new product outcomes. *Journal of Marketing Research*, 32 (2). 318-335.
- Mourali, M., Laroche, M. & Pons, F. (2005). Antecedents of consumer relative preference for interpersonal information sources in pre-purchase search.. *Journal of Consumer Behavior*, 4 (5), 307-318.
- Murgolo-Poore, M. E., Pitt, L. F., Berthon, P. R. & Ewing, M. T. (2002). Re-inquiring and progressing people as products: A research agenda for new media, new methods and new theories. *Journal of Marketing Management*, 18 (5-6), 463-480.
- Murray, K. B. (1991). A test of service marketing theory: Consumer information acquisition activities. *Journal of Marketing*, 55 (January), 10-25.
- National Mail Order Association (2009). Advertisers attract elusive 18-24 demographic using new interactive services on Experience.com. available at <http://www.nmoa.org/articles/dmnews/18-24yoldmarket905.htm> (accessed August 23, 2009)
- Nelmapius, A. H., Boshoff, C., Calitz, A. P. & Klemz, B. R. (2005). The impact of the information search variables, time pressure and involvement, on buying behaviours in a three-dimensional hypermedia computer-mediated environment. *South African Journal of Business Management*, 36 (3), 1-14.
- Park, C. W. & Lessig, V. P. (1977). Students and housewives: Differences in susceptibility to reference group influence. *Journal of Consumer Research*, 4 (2), 102-110.
- Park, D., Lee, J. & Han, I. (2007). The effect of on-line consumer reviews on consumer purchasing intention: The moderating role of involvement. *International Journal of Electronic Commerce*, 11 (4), 125-148.
- Perry, M. & Hamm, B. C. (1969). Canonical analysis of relations between socioeconomic risk and personal influence in purchase decisions. *Journal of Marketing Research*, 16 (February), 6-17.
- Petty, R. & Cacioppo, J. T. (1986). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*, New York: Springer-Verlag.
- Peterson, R. A. & Merino, M. C. (2003). Consumer information search behavior and the internet. *Psychology & Marketing*, 20 (2), 99-121.
- Phelps, J. E., Lewis, R., Mobilio, L., Perry, D. & Raman, N. (2004). Viral marketing or electronic word-of-mouth advertising: Examining consumer responses and motivations to pass along email. *Journal of Advertising Research*, 44, 333-348.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40 (3), 879-891.
- Putreve, S., Tan, J. & Lord, K. R. (2004). Consumer responses to complex advertisements: The moderating role of need for cognition, knowledge, and gender. *Journal of Current Issues and Research in Advertising*, 26 (1), 9-24.
- RealEstateabc.com (2003), "Location, location, location -- What does it mean?" *Real Estate & Mortgage Insights*, available at <http://www.realestateabc.com/insights/location.htm> (accessed February 10, 2012).

- Reid, L. N., Soley, L. C. & Wimmer, R. D. (1981). Replication in advertising research: 1977, 1978, 1979. *Journal of Advertising*, 10 (1), 3-13.
- Sicillia, M., Ruiz, S. & Reynolds, N. (2006). Attitude formation online. *International Journal of Market Research*, 48 (2), 139-154.
- Sicillia, M., Ruiz, S. & Munuera, J. L. (2005). Effects of interactivity in a web site. *Journal of Advertising*, 34 (3), 31-45.
- Sissors, J. Z. & Baron, R. G. (2002). *Advertising Media Planning*, 6th Edition, New York: McGraw-Hill.
- Smith, T., Coyle, J. R., Lightfoot, E. & Scott, A. (2007). Reconsidering models of influence: The relationship between consumer social networks and word-of-mouth effectiveness. *Journal of Advertising Research*, 47 (4), 387-397.
- Thorson, K. & Rodgers, S. (2006). Relationships between blogs as eWOM and interactivity, perceived interactivity, and parasocial interaction. *Journal of Interactive Advertising*, 6 (2), available at <http://www.jiad.org/vol6/no2/thorson/index.htm> (accessed September 17 2011).