

# FACEBOOK ADVERTISING: AN EXPERIMENTAL INVESTIGATION OF GOAL-DIRECTED AND GENERAL BROWSING EFFECTS

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## ABSTRACT

An experimental ( $N=298$ ) assessment of Facebook advertising revealed that awareness of Facebook advertising (goal-directed versus general browsing) and receptiveness toward advertising affected a series of cognition and affective dimensions of advertising effects. Goal-directed searching leads to significantly higher advertising recall (e.g., advertised product, brand, type, advertising features) and positive attitudes toward advertisements. Participants who were allowed general browsing, without specific instruction to attend to the advertisements, rarely recalled specifics about ads appearing on their Facebook page and rarely noticed social advertising cues. Participants' receptiveness toward Facebook advertising also positively impacted their attitudes and reflective thinking. Results suggest that advertisers on a variety of social networking site (SNS) need to do more to reach their target audiences whose main purpose is to communicate with members of their social network while visiting SNSs in order to achieve advertising effectiveness.

## INTRODUCTION

The emergence of the Internet created considerable uncertainty in the advertising industry. In fact, some scholars argued that "Advertising is on its deathbed and it will not survive long, having contracted a fatal case of new technology" (Rust & Oliver, 1994, p. 76). Nearly twenty years removed from this bold prediction, we now know clearly that advertising is not dead. In fact, some may argue that the advertising industry is more vibrant than ever, having seized considerable opportunities in the online media environment. However, the online environment continues to change and develop, requiring advertisers to adapt from early forms of banner advertising to the latest emergence of social media advertisements tailored to the social network revolution.

The presence and popularity of SNSs has changed the online advertising landscape. Since its emergence in 1994, online advertising spending has continued to grow. It is estimated that the spending has reached \$39.5 billion in 2012 and may reach \$62 billion in 2016 (eMarketer, 2012).

Its potential in providing information and persuading consumers generated numerous studies on the subject. Facebook is one of the most discussed SNSs with estimated 800 million active users (Facebook, n.d.). The unique social advertising feature allows advertisers to tailor their advertising messages to potential consumers and using “friend endorser” to increase advertising effectiveness.

Few studies have examined the interplay of social advertising awareness and participants’ perceptions of Facebook advertising on Facebook advertising effectiveness among college students. While scholars have started to examine factors that impact social network advertising effectiveness (e.g., Chatterjee, 2011; Lipsman, Mudd, Rich & Bruich, 2012; Nelson-Field, Riebe & Sharp, 2012; Taylor, Lewin & Strutton, 2011), other factors that may affect cognitive and affective dimensions of SNS users is relatively unknown. The goal of this exploratory study is to examine whether goal-directed versus general browsing of Facebook advertisements, in addition to participants’ prior attitudes toward Facebook advertising, would influence cognitive (e.g., recall of the number of ads seen on their profiles, recall of the brand, identification of social advertising cues, and reflective thinking in an online environment) and affective (e.g., cumulative attitudes toward Facebook advertising, online advertising efficacy) dimensions of Facebook advertising effects.

## **BACKGROUND AND REVIEW OF LITERATURE**

### **Theoretical Foundation**

For more than three decades, advertising researchers (e.g., Brown & Stayman, 1992; Lutz, MacKenzie, & Belch, 1983; Mitchell & Olson, 1981; Schlosser, Shavitt, & Kanfer, 1999; Shimp, 1981) have asserted that recipients of an advertisement develop an attitude toward the ad (AAD), which then influences cognitive, affective, and conative effects resulting from exposure to the advertisement. In fact, a meta-analytic investigation of 43 research articles reveals significant relationships between advertisement attitudes and antecedent and criterion effects (Brown & Stayman, 1992). For example, AAD influences antecedent variables such as feelings and cognitions about the advertisements and consequences such as brand-related cognitions, brand attitude, and future purchase intentions. Thus, the literature suggests that direct and mediated effects result from exposure to advertisements (e.g., Brown & Stayman, 1992; Lutz et al., 1983). In general terms, the AAD theoretical model assumes that advertisement cognitions influence advertisement attitudes, which in turn influence brand cognitions and brand attitude. Brand cognitions also influence brand attitude, which ultimately influences purchase intentions.

As expected, as advertisers moved to the Internet, AAD studies began to compare general advertising and online advertising AAD effects (e.g., Schlosser et al., 1999). Despite the fact that research participants are less likely to report favorable attitudes toward online advertising (38%

favorable), survey results suggest a divide in respondents' views of the informativeness of Internet ads or their utility for purchase decisions (Schlosser et al., 1999).

In an effort to advance the research on AAD, this study aims to explore AAD constructs in the social media environment. We explore traditional attitudes toward brand and product, and explore reflective thinking, receptiveness toward Facebook advertising and a new construct we developed, advertising information efficacy, as potential variables for AAD effects.

## **Research on Attitudes Toward Online Advertising**

The relationship between advertising attitudes and advertising effectiveness is well-explored in the area of advertising research (e.g., MacKenzie & Lutz, 1989; Mehta, 2000; Soh et al., 2009). With burgeoning revenue growth in online advertising, scholars have extended their focus from the traditional mass media advertising research to online advertising (e.g., Ducoffee, 1996a; Goldsmith & Lafferty, 2002; Schlosser et al., 1999).

For an extended review of the discussion of differences between “Internet” and “online” advertising, we direct you to a range of sources (Ducoffee, 1996a; Ha, 2008; Strauss & Frost, 2001). Ha (2008, p. 31) preferred the term “online advertising” and defined it as “deliberate messages placed on third-party websites including search engines and directories available through Internet access.” This definition excludes corporate websites used for promotional and non-promotional purposes, email marketing and Internet shopping sites. In addition, it also is consistent with the industry online advertising expenditure data, which exclude corporate websites or email marketing (Ha, 2008). This paper follows the definition conceptualized by Ha (2008) and will only use online advertising from now on.

## **Factors That Impact Online Advertising Effectiveness**

The passive audience assertion from the traditional advertising research does not apply to the context of online advertising in that consumers are no longer passive audiences, but rather active users who have a greater control over online advertising exposure (Schlosser et al., 1999). Because users are active online, they essentially have control over their extent of online advertising exposure and intention to click through the advertisements, both of which in turn affect their purchase intention and behavior. Overall research suggests that positive advertising attitudes have a positive relationship with the effectiveness of online advertising (for a review, see Ha, 2008). Those with a positive attitude toward advertising also recall a significantly higher amount of advertisements (Mehta, 2000).

It is important to note that the link between attitudes and perceived advertising effectiveness is affected by a number of factors, including antecedents of attitudes, user characteristics and online advertising message content and structure. Antecedents of attitude toward advertising have been found to significantly impact online advertising effectiveness (e.g., Brackett & Carr, 2001; Bruner & Kumar, 2000; Ducoffee, 1996b; Havlena & Graham, 2004). This line of research generally, but not always, adapts attitude toward the advertisement (AAD) framework (MacKenzie & Lutz, 1989) to measure online advertising effectiveness. With the theoretical foundation based on the theory of reasoned action (Fishbein, 1967), AAD has been used to predict advertising effectiveness and sales in traditional and online advertising research.

The investigation of the underlying structure of online AAD generally replicates consistent dimensions discovered in the traditional advertising research. Ducoffee (1996b) found that perceived entertainment and information in online advertisements is positively associated with perceived values of the advertisement. Perceived irritation, on other hand, is negatively related to the perceived values of the advertisements. In general, online users' perceptions of advertising value, credibility of the advertisers, levels of entertainment, informativeness and irritation are linked to consumers' attitude toward advertising. A similar result also was obtained by Zafar and Khan (2011). Finally, users' characteristics (e.g., demographics, level of involvement, user motives, audience type) also are related to AAD, attitude toward online shopping, purchase intention and recall (Danaher & Mullarkey, 2003; MacInnis, Moorman, & Jaworski, 1991). For example, the Elaboration Likelihood Model (ELM) posits that incorporating involvement in advertising strategies could affect consumers' attitudes (Petty & Cacioppo, 1983).

While there are similarities in comparing traditional vs. online AAD, it is important to note that the unique advertising structure and placement in an online setting may vary the degree of perceived advertising effectiveness (e.g., favorability, attitudes toward the site). Studies have shown that medium credibility, online advertising features (i.e. interactivity, incentives, ad size, ad placement, message appeals, information, animation speed, and message length), brand familiarity and product types all affect perceived effectiveness (For a review, see Ha, 2008). Other researchers questioned the rate of decay for online advertising effects (Havlena & Graham, 2004), but found that most metrics indicate brand awareness and advertising awareness are not significantly influenced by time of exposure to advertisements. However, purchase intent and brand favorability were improved in cases where advertisement exposure was more recent.

Although researchers find that online advertisements can produce a similar set of cognitive and affective outcomes when compared to traditional advertisements (Campbell, Pitt, Parent, & Berthon, 2011), important differences also emerge. For example, in their study of YouTube advertisements and user comments regarding the ads, Campbell et al. report that online discourse rarely addresses aspects of brands. In fact, "discussion in most examples was not around the brand, but instead of other issues, such as the creators of the ad, the music in the ad, the larger social themes such as international justice, globalization, poverty, and corporate social responsibility" (Campbell et al., 2011, p. 98). Brand recognition is typically a considerable strategic goal for advertisers, but these scholars caution against overt "point of view" ads (e.g.,

Dove's "Real Beauty" campaign) since it is likely that some consumers will be alienated by strong points of view. The online media environment also creates an opportunity for advertisers to join in the discussion, either as overt or covert representatives of the brand. Wisdom suggests that any covert means by advertisers to join discussion forums or threads about their products or brands be approached carefully as the entire brand could be jeopardized if an advertiser is caught attempting to covertly manipulate discussion about the brand. Finally, the authors caution about attempts to control perceptions of the approximate 10% of online ads that are consumer generated. While advertiser control of message is a fundamental priority and benefit of paid advertising, advertisers must not appear defensive in the multidirectional, networked advertising environment.

### **Social Network Sites: Definition and Research**

SNSs and their popularity among youth have attracted scholars' attention in recent years. Using the definition from Boyd and Ellison (2007), SNSs are defined as web-based services that provide individuals with the following functions, including (a) constructing an online profile within the SNSs, (b) viewing and interacting with users who may share a similar interest or connection, and (c) maintaining an ongoing relations for various social or personal reasons (Boyd & Ellison, 2007). While some scholars disagree with Boyd and Ellison (2007) that SNS users do not engage in "networking" (Beer, 2008), the shared connection among SNSs users seem to suggest that users are "primarily communicating with people who are already a part of their extended social network" (Boyd & Ellison, 2007, p. 211).

Indeed, once users establish an online SNS account, they are able to search for and identify others in the same system with whom they share a relationship (Boyd & Ellison, 2008). Uses of SNSs, such as LinkedIn and Facebook, include to build and to maintain relationship through information sharing, maintaining contact and seeking entertainment (Tuten, 2008). Ellison, Steinfield and Lampe (2007) found that users use Facebook to continue their interactions with their offline relationships in an online setting. For example, users can post photos and share links on their Facebook profile to engage with their friends. Facebook users also can provide detailed, personal information (e.g., birthday, address, phone numbers, education, habits, interests) on their profiles. They could interact with their friends through posting messages on their friends' wall or writing private messages. When friends post information, users also could interact with their friends by clicking "like," posting and/or responding to "comments" or "sharing" with other friends. Other SNSs, such as Flickr, enable users to share photos. LinkedIn, which could be described as a "networking" site designed for professionals, fulfills career building and advancement purposes.

## Social Network Advertising

With growing memberships and popularity among users, SNSs provide advertisers an excellent opportunity to market to users. It is estimated that marketers spent \$920 million on SNS advertising in 2007, including online display advertising and brand profile pages (eMarketer as cited in Tuten, 2008).

Despite the fact that consumer generated online advertisements, just by their nature, suggest the user's implicit acceptance of online advertising, data indicate that only 22% of users view social media advertising favorably while an additional 8% indicated wholesale abandonment of social media as a result of advertising invasiveness ("AdReaction," 2010). In fact, survey research demonstrates support for the argument that increases in invasiveness of advertisements lead to more negative attitudes about the invasive ads (Taylor et al., 2011).

The underlying assumption for the potential effectiveness of SNS advertising is to have a "friend endorser" reach out to other potential users. SNS users tend to trust their friends, according to a recent Nielsen Global Online Consumer Survey ("Global advertising," 2009). Ninety percent of the 25,000 Internet users surveyed said that they trusted online recommendations from people they know. In addition, 70% of them trusted the online customer reviews ("Global advertising," 2009). A random web survey of college students echoes the Nielsen survey. Valenzuela, Park and Kee (2009) found that frequent Facebook use is positively associated with users' trust and engagement.

Facebook is the most popular SNS with more than 800 million active users (Facebook, n.d.). Facebook advertising has a unique term called "social advertising," which enables advertisers to tailor targeted messages to potential audiences based on the information voluntarily disclosed by users and their friends on their public or semi-public profiles (Facebook, 2007). Information, including interests, habits, and preferences, gives businesses and marketers ability to design tailored, targeted advertisements. For example, advertisers interact with SNS users through "trusted referral" when users' friend becomes a fan of the business or product advertised. User-generated postings could be used to promote businesses. Another way that businesses could reach out to potential consumers is through the information shared by users or their friends. For example, jewelry companies may put out an "engagement ring" advertisement when users changed their relationship to "engaged" or when the online comments or conversation involve engagement related topics (Lipsman et al., 2012). In fact, brand impressions are primarily built on two factors: (1) Facebook users who endorse or "like" brands; and (2) friends of these Facebook fans (Lipsman et al., 2012).

The thrust of Facebook social advertising practices offers scholars an opportunity to examine how tailored, social advertising is perceived among social network users. Although the research in this area is scarce, recent publications have started to concentrate on advertising reach through

social cues (e.g., fans' expression of "like") (Lipsman et al., 2012; Nelson-Field et al., 2012) and advertising effectiveness (Taylor et al., 2011). Lipsman et al. (2012) aggregated Facebook user data to find a trend in brand content exposure by examining Starbucks, Southwest Airlines, and Microsoft Bing. Of all possible activities that users could engage in Facebook, including playing with apps and tools, uploading and viewing photos, profiles, and homepage/newsfeed, the majority of brand or advertising exposure occurs in the newsfeed. For Facebook advertising to be effective, Lipsman et al. (2012) stressed the importance of fostering brand engagement and loyalty to influence purchase intent among fans and potentially broadening the fan base by reaching out to friends of fans. However, it should be noted that behavioral data such as visiting brand websites vary by product categories. Also, whether or not brand exposure on Facebook directly leads to actual purchase is still unclear and an exploration of other factors, such as attitudes toward Facebook advertising, is still lacking in this report. Contrary to the assertion by Lipsman et al. (2012) report, Nelson-Field et al. (2012) took a critical turn by asking whether Facebook fan base overlaps with two different brands' buying base (i.e. chocolate and soft drinks). Self-reported purchase data and actual consumer panel data were both used as behavioral indicators. In both chocolate and soft drinks products, Facebook advertising reaches primarily to heavy buyers who are already part of the loyal customer base. In other words, light buyers were not reached by Facebook advertising. This study shows that Facebook may need to explore ways to reach out to a mixture of frequent and infrequent buyers, rather than heavily focus on frequent buyers.

Going beyond examining the link between Facebook advertising fan base and brand purchase behavior, a survey completed by Taylor et al. (2011) found that a number of factors impact users' toward attitudes toward Facebook advertising. As discussed prior, users' concerns about privacy and perceived invasiveness of social network advertising negatively predicted their attitudes. On the other hand, users' motives of going online, including a need for entertainment, information, identification with brand attributes, and the importance of fostering interpersonal relationship in an online setting, all positively predicted attitudes toward social network advertising.

Using an experimental design, Wen, Tan and Chang (2009) established a relationship among a series of moderators and product purchase intention. They examined SNS advertising and its effectiveness and found that product type, endorser credibility and friendship type impact purchase intention (Wen et al., 2009). Specifically, Wen et al. (2009) tried to tease out whether college students' purchase intention would be affected by the strength of friendship tie (strong vs. weak), endorser expertise (high vs. low) and product type (utilitarian vs. hedonic). Results showed that the endorser expertise matters for utilitarian products, whereas friendship tie matters for hedonic products.

However, other factors that may affect SNS advertising recall is relatively unknown in SNS advertising, specifically social advertising on Facebook. Therefore, the goal of this exploratory study is to examine whether goal-directed browsing versus general browsing, also known as "surfing" of participants' personal Facebook pages would affect advertising effectiveness (i.e.

recall of the number of ads seen on their profiles, recall of the brand and identification of social advertising cues). This is the first study to employ the construct “advertising information efficacy” to address college students’ view toward Facebook advertising. Based on the review of literature, the following hypotheses are proposed:

H1: Participants in the goal-directed Facebook advertisement browsing condition will have a higher recall of ad product, brand, type, and ad feature than participants in the general Facebook browsing condition.

H2: Participants in the goal-directed Facebook advertising browsing condition will be significantly more likely to recall social advertising cues than those in the general browsing condition.

H3: Levels of receptiveness toward Facebook advertising will predict attitudes toward Facebook advertising.

There was uncertainty regarding whether the advertising information efficacy measure would increase or decrease. It was recognized that a wide range of possible attitudes regarding the Facebook advertising could lead to different perceptions (approval/disapproval for recognizable social advertising strategies to unappreciative/appreciative of tailoring to specific Facebook user interests, and the like). In political communication research, the theory of political information efficacy was developed by communication researchers (Kaid, McKinney, & Tedesco, 2007) to help explain the influence of voter confidence in their political knowledge on political engagement and voting behaviors. The construct of political information efficacy is a four-item, 5-point agree-disagree scale as follows: (a) I consider myself well qualified to participate in politics; (b) I think that I am better informed about politics and government than most people; (c) I feel that I have a pretty good understanding of the important political issues facing our country; and (d) If a friend asked me about the presidential election, I feel I would have enough information to help my friend figure out for whom to vote. When used together as a scale in the 2004 postelection survey, the Cronbach’s alpha for this scale was  $+0.87$ , with similarly high alpha levels in the research applications since.

Efficacy is a significant predictor for behavior change research and a fundamental aspect of many behavior change theories (Bandura, 1986; Fishbein, 1967; Kotler & Zaltman, 1971). However, information efficacy differs from the traditional conceptualizations of efficacy in that it measures participants’ opinions about the confidence in their knowledge. Since advertising appeals often contain significant persuasive appeals, potential exaggerations, oversimplifications, and potentially competing visual, verbal, and technological messages, it is important to assess whether consumers feel empowered by their advertising knowledge. In addition, we are interested in exploring the association between information efficacy and online reflective thinking, which measures the level of information searching users employ in an online content to clarify, verify, and validate advertising claims. In particular, we are curious as to whether goal-directed versus general browsing conditions produce differences in information efficacy.

However, the reasoning for advertising information efficacy was to explore factors that moderate effects of advertising cognitions or advertising awareness and their effects on advertising attitudes. This is the first study of its kind to employ advertising information efficacy, so the exploratory nature of this construct leads to the following research questions:

RQ1: Is there a significant difference in advertising information efficacy between goal-directed and general browsing Facebook advertising conditions?

RQ2: Does condition (goal-directed versus general browsing) or receptiveness toward Facebook advertising affect participants' advertising information efficacy and reflective thinking?

## **METHOD**

In order to test the hypotheses and research questions for this study, a pre-test/post-test experiment was designed to expose participants ( $N=298$ ) to Facebook advertising. The experiment was conducted in 2011 ( $n=119$ ) and 2012 ( $n=179$ ). Initially we wanted to test whether the new "timeline" feature, introduced in 2012, altered our previous findings collected in 2011. Results indicated that advertising skepticism, information efficacy and length on Facebook did not differ between these two waves of data. Since the scores on these constructs indicate that the samples were not significantly different, we then decided to merge the data sets for analysis.

In these two waves of data collection, participants in a research pool administered by the Department of Communication were sent a notice announcing a research study about Facebook. The specific goal to study Facebook advertising was disguised through language identifying the study as an assessment of media. Although administered by the Department of Communication, the pool is populated largely by students in general election courses and represents a wide range of academic majors.

After consenting to the Institutional Review Board approved study, participants were randomly assigned to one of two conditions: the goal-directed condition or the general browsing condition. In both conditions, participants completed a brief pre-test, were instructed to spend 5 minutes browsing Facebook (either generally or with the goal to attend to the advertisements), and then complete a post-test. The goal-directed condition asked participants to pay particular attention to the advertising messages on their Facebook page while the general browsing condition allowed participants five minutes on "Facebook" without specific instruction to attend to the advertising messages.

## Variables

### *Manipulation Check*

One question was used to measure whether or not the manipulation of goal-directed or general browsing was successful: “I noticed the advertisements on my Facebook site.” Participants were provided the following responses, including “yes,” “no,” “unsure,” and “do not recall.” The last three categories were combined to form a category.

### *Independent Measures*

*Condition.* The exposure condition (*goal-directed* or *general browsing*) served as an independent variable for this study.

*Facebook advertising receptiveness.* In order to assess participants’ receptiveness toward Facebook advertising, we designed a five-item scale on a 5-point scale where 1 means “strongly disagree” and 5 means “strongly agree.” The scale asked participants to identify their level of agreement with the following: “I do not mind “product” advertisements on Facebook,” “I do not mind “service” advertisements on Facebook,” “I do not mind “safety” or “wellness” Public Service Announcements on Facebook (e.g., Click it or Ticket! Skin Cancer Awareness),” “Advertising on Facebook is no bother,” and “All advertising on Facebook makes me upset (recoded).” Cronbach’s alpha for the scale was .89. The scale was then dichotomized with median split. Participants with the mean scores ranging from 1-3.80 were categorized as those with “low level of advertising receptiveness,” whereas mean scores ranging from 4-5 was categorized as “high level of advertising receptiveness.”

### *Dependent Measures*

*Recall.* Participants were provided space on the post-test to answer questions regarding recall of advertised product, brand, type, and features. The unaided recall question asked participants, “If you remember the brand name, product name, type of product or service, or any features of the ads, please list them here.” Ability to name a specific brand, product, type, or ad feature was scored as one point and each valid response was cumulated within category (e.g., three possible accurate brand identifications). A cumulative total was computed based on twelve possible recall responses ranging from 0 to 12 ( $M=5.21$ ,  $SD=4.38$ ).

*Social advertising cue for each ad.* In addition to the overall social advertising cue described above, the post-test asked participants whether “the advertisement you listed in advertisement 1

was “liked” by a Facebook friend.” Participants were able to identify “liking” through a “yes” response, but were also provided choices indicating no recognition of the “liking” social cue of “no” and “unsure.” Responses of “no” and “unsure” were combined to form a category.

*Overall social advertising cue.* In order to assess whether participants recognized the social advertising cue of “liking” the ad or the product it advertises, the post-test asked participants whether “At least one of the ads I viewed was ‘liked’ by one of my Facebook friends.” Participants were able to identify “liking” through a “yes” response, but were also provided choices of “no,” “do not recall,” and “did not notice.” Responses of “no,” “did not recall,” and “did not notice” were combined to form a category.

*Advertising information efficacy.* In order to test whether participants felt powerful to understand and share information about the advertisements, we employed a four-item advertising information efficacy scale adapted from political information efficacy (Kaid et al., 2007). We designed a four-item, 5-point scale where 1 means “strongly disagree” and 5 means “strongly agree” that asked participants to identify their level of agreement with the following: “I consider myself well qualified to understand advertising strategies,” “I think I am better informed about advertising strategies than most people,” “I feel that I have a pretty good understanding of the important advertising strategies in use today,” and “If a friend asked me about advertising strategies, I feel I would have enough information to help my friend figure out how to evaluate ads.” Cronbach’s alpha for the scale reached .84 for the pre-test and .89 for the post-test.

*Reflective thinking in an online setting.* In order to assess participants’ level of information seeking in an online context, we created a three-item, 5-point scale in the pre-test, where 1 means “strongly disagree” and 5 means “strongly agree.” The scale asked participants to identify their level of agreement with the following: “I seek out additional information to confirm things I learn online,” “I think about things I see online before I accept them as believable,” and “It’s important to think twice about what online information says.” Cronbach’s alpha for the scale reached .61.

*Overall attitudes toward Facebook advertising.* In order to assess participants’ attitudes toward Facebook advertising, we designed a six-item construct on a 9-point scale where 1 means “strongly disagree” and 9 means “strongly agree. The scale asked participants to identify their attitudes toward the ads with the following: “The ad was favorable (recoded),” “The ad was pleasant (recoded),” “The ad was attractive (recoded),” “The ad was appealing (recoded),” and “The ad was likable (recoded).” To create a construct that measures the overall attitudes, we average a total of eighteen questions across participants’ responses to three ads. Cronbach’s alpha for the scale was .92.

## Results

The hypotheses and research questions will be answered in the order they appear in the manuscript, with the exception of our decision to merge H3 and RQ2 due to their common independent variables.

### *Analysis Strategies*

Chi-square tests were used to assess manipulation check and recall of Facebook advertising social cues. A multivariate analysis of covariance (MANCOVA) was conducted to determine the effects of condition and receptiveness toward Facebook advertising on advertising information efficacy, online media skepticism, and overall advertising attitudes. The reason for using MANCOVA over multiple ANCOVAs to assess multiple dependent variables is that MANCOVA takes into account the interrelationship between dependent variables. Thus, the MANCOVA result cannot be achieved solely through a series of ANCOVAs (Raykov & Marcoulides, 2008). Since all of the recall measures were strongly associated with each other ( $r$  ranging from .68 to .93,  $p \leq .001$ ), a series of independent-samples  $t$ -test was conducted to examine group differences on recall on product, brand, type and feature. To assess how the dependent variables differ for independent variables, we examined follow-up tests of between-subject effects (i.e., univariate ANCOVAs) given a statistically significant effect in the MANCOVA.

### *Manipulation Check*

Before answering the hypotheses and research questions, it is important to ensure the experimental control, assessed through the manipulation check, was effective. Goal-directed participants (73 of 73, 100%) were significantly and universally more likely than general browsing participants (0 of 106, 0%) to identify seeing a social cue strategy in use by a Facebook advertiser,  $X^2(1) = 179.00, p \leq .001$ . Therefore, the manipulation check was successful.

### *Descriptive Statistics*

A total of 289 students participated in the data collection in 2011 ( $n=119$ ) and 2012 ( $n=179$ ). A series of Independent-Samples T-test showed that the two data sets did not differ in terms of participants' length of using Facebook, gender and race; therefore, the data sets were merged into one. Approximately 60% of participants were female ( $n=179$ ). On average, participants have been active on Facebook for about four years. Although we are supportive of a participant who indicated he/she had more than 100,000 friends ( $n=1$ ), we remained skeptical of this participant's ability to communicate with these friends. Therefore, data from this participant regarding the

number of friends and active friends were eliminated from the following report. The average number of friends reported by participants was 752 ( $M=751.92$ ,  $SD=496.78$ ), however only a fraction of these friends received communication at least once during the past month ( $M=119.93$ ,  $SD=144.99$ ).

### ***Hypotheses/RQ Testing***

H1 predicted that participants in the goal-directed Facebook advertisement browsing condition would have a higher recall of ad product, brand, type, and ad feature than participants in the general Facebook browsing condition. Again, since all recall variables are highly associated with each other, a series of independent-samples *t*-test was used to compare the mean scores for participants in the general browsing ( $n=163$ ) or goal-directed conditions ( $n=135$ ) for each category and for the overall number of recall items. Participants in the goal-directed condition were significantly more likely than general browsing participants to recall

- product ( $M=1.99$ ,  $SD=1.00$  to  $M=.77$ ,  $SD=1.07$ , respectively),  $t(296) = -10.05$ ,  $p \leq .001$ ,
- brand ( $M=1.59$ ,  $SD=1.12$  to  $M=.60$ ,  $SD=.99$ ),  $t(296) = -8.12$ ,  $p \leq .001$ ,
- type ( $M=2.29$ ,  $SD=.93$  to  $M=.82$ ,  $SD=1.10$ ),  $t(296) = -12.32$ ,  $p \leq .001$ ,
- features ( $M=2.11$ ,  $SD=1.02$  to  $M=.72$ ,  $SD=1.03$ ),  $t(296) = -11.66$ ,  $p \leq .001$ ,
- cumulative recall of Facebook ad aspects ( $M=7.99$ ,  $SD=3.20$  to  $M=2.91$ ,  $SD=3.86$ ),  $t(296) = -12.20$ ,  $p \leq .001$ .

H2 predicted that participants in the goal-directed browsing condition would be significantly more likely to recall a Facebook social advertising cue. In order to test H2, participants were asked if they recalled noticing if one of their friends “liked” an advertisement viewed.

For overall awareness of whether any of the ads participants viewed was liked by one of their Facebook friends, goal-directed participants (83 of 135, 61.5%) were significantly more likely than general browsing participants (50 of 161, 31.1%) to identify seeing a social cue strategy in use by a Facebook advertiser,  $X^2(1) = 27.47$ ,  $p \leq .001$ .

We ran additional analyses to further explore whether the same result was replicated across three ads that participants recalled. For ad1, goal-directed participants (42 of 72, 58.3%) were significantly more likely than general browsing participants (34 of 104, 32.7%) to identify seeing a social cue strategy in use by a Facebook advertiser,  $X^2(1) = 11.40$ ,  $p \leq .001$ . For ad 2, goal-directed participants (30 of 68, 44.1%) were significantly more likely than general browsing participants (18 of 93, 19.4%) to identify seeing a social cue strategy in use by a Facebook advertiser,  $X^2(1) = 11.51$ ,  $p \leq .001$ . For ad 3, goal-directed participants (21 of 60, 35%) were significantly more likely than general browsing participants (10 of 89, 11.2%) to identify seeing a social cue strategy in use by a Facebook advertiser,  $X^2(1) = 12.28$ ,  $p \leq .001$ . Thus, H2 is supported.

Before addressing the hypothesis and research question, it is interesting to note that only 29% of participants had a favorable overall attitude toward product, service or issue advertising on social media. H3 and RQ2 asked whether condition and receptiveness to Facebook advertising affect reflective thinking, information efficacy, and overall attitudes toward Facebook advertising. We combined these hypotheses and research questions in the analysis since they employ the same independent variables: condition and receptiveness to Facebook advertising. MANCOVA results showed that there was a significant condition effect,  $F(1, 260)=6.69, p \leq .001$ , partial  $\eta^2=.07$ , as well as receptiveness toward Facebook advertising,  $F(1, 260)=3.71, p \leq .05$ , partial  $\eta^2=.04$ . Further analysis showed that significant group differences in participants' attitudes toward advertising,  $F(1, 260)=16.03, p \leq .001$ , partial  $\eta^2=.06$ . In general, participants in the goal-oriented condition had favorable attitudes toward advertisements ( $M=5.96, SD=1.25$ ) than those in the control condition ( $M=5.24, SD=1.78$ ). H3 was supported. No significant effect was found with advertising information efficacy and reflective thinking. See Table 1.

**TABLE 1. ANCOVA RESULTS FOR THE EFFECTS OF AWARENESS OF FACEBOOK ADVERTISING ON THE DEPENDENT VARIABLES**

<b>Dependent Variables</b>	<b>Goal-directed <i>M(SD)</i></b>	<b>General Browsing <i>M (SD)</i></b>	<b><i>F</i></b>	<b><math>\eta^2</math></b>
Advertising information efficacy	3.49(.79)	3.47(.83)	$F(1, 260)=1.37, ns$	.00
Reflective thinking in an online setting	3.92 (.62)	4.04 (.54)	$F(1, 260)=2.47, ns$	.01
Overall attitudes toward Facebook advertising	5.96 (1.25)	5.24 (1.78)	$F(1, 260)=16.03 ***$	.06

*ns*=not significant; \*\*\* $p < .001$

Also, further ANCOVA tests also showed significant differences in reflective thinking,  $F(1, 260)=5.63, p \leq .05$ , partial  $\eta^2=.02$ , and advertising attitudes,  $F(1, 260)=6.51, p \leq .01$ , partial  $\eta^2=.02$ , between levels of receptiveness toward Facebook advertising. Participants who had a high level of receptiveness toward Facebook ads also had a higher level of reflective thinking ( $M=4.07, SD=.55$ ) than those who had a low level of receptiveness ( $M=3.90, SD=.60$ ). In terms of advertising attitudes, participants who had a higher level of acceptance toward Facebook ads had favorable attitudes toward advertisements ( $M=5.84, SD=1.58$ ) than those who had a lower level of acceptance toward Facebook ads ( $M=5.38, SD=1.55$ ). RQ2 was partially answered. See Table 2.

**TABLE 2. ANCOVA RESULTS FOR THE EFFECTS OF FACEBOOK ADVERTISING RECEPTIVENESS ON THE DEPENDENT VARIABLES**

<b>Dependent Variables</b>	<b>Higher Receptiveness toward Facebook Advertisements <i>M(SD)</i></b>	<b>Lower Receptiveness toward Facebook Advertisements <i>M(SD)</i></b>	<b><i>F</i></b>	<b><math>\eta^2</math></b>
Advertising information efficacy	3.49(.82)	3.46(.80)	$F(1, 260)=.22, ns$	.00
Reflective Thinking in an online setting	4.07 (.55)	3.90 (.60)	$F(1, 260)=5.63^*$	.02
Overall attitudes toward Facebook advertising	5.84 (1.58)	5.38 (1.55)	$F(1, 260)=6.51^{**}$	.02

*ns*=not significant; \* $p<.05$ ; \*\* $p<.01$

## DISCUSSION

Support for the hypotheses in this study suggests that goal-directed browsing significantly increases recall of product, brand, type, and advertising feature on SNSs and also significantly increases the likelihood that site visitors will notice social cues to advertising. In addition, goal-directed browsing significantly increased participants' favorable attitudes toward the advertisements recalled. These findings are consistent with prior research (e.g., Goodrich, 2011) suggesting that awareness of advertisements leads to greater cognitive recalls. However, awareness of Facebook advertising did not affect participants' information efficacy and reflective thinking in an online setting. This shows that mere exposure to advertisements may not prompt participants to search additional information about the products.

In addition to the level of awareness, receptiveness toward Facebook advertising also affected participants' attitudes toward recalled advertisements and online media skepticism. Participants who did not mind all forms of Facebook advertising expressed a more positive attitude and were more likely to look up additional information to confirm the advertisements they saw. This shows that a positive predisposition toward Facebook advertising could affect participants' specific attitudes toward recalled advertisements and may elicit positive interests in expanding their understanding of the recalled advertisements beyond the Facebook interface. These findings were similarly observed in a study conducted by Taylor et al. (2011) who concluded that individuals' concern about Facebook advertising privacy and invasiveness negatively predicted their attitudes toward social network advertising. For example, individuals who cared very much about their own privacy would have a negative attitude toward Facebook advertising. The implications of these results show that the advertising strategy is most effective when targeting individuals who may have lax privacy settings or less concern about advertising invasiveness.

Considering that advertising information efficacy and reflective thinking are explored within the context of social advertising, we were interested in terms of how the concepts of reflective thinking and advertising information efficacy relate to each other. Although not a formal research question prior to the study, results from these constructs led us to examine them more closely. Using hierarchical multiple regression with the step-wise procedure within blocks, we entered demographic variables (i.e. age, gender, and race) to the first block and entered reflective thinking to the second block. We found that reflective thinking ( $b=.28$ ,  $p<.001$ ) positively predicted information efficacy ( $R^2=.08$ ), suggesting that individuals who have the tendency to seek out additional information feel that they are more informed about advertising strategies. Future research could explore whether other antecedents of attitudes toward advertising would impact individuals' level of reflective thinking and advertising information efficacy in a social advertising setting.

Results also suggest that advertisers need to do more than rely on the “friend endorser” to extend the advertising message cues in the social media environment (“Global advertising,” 2009). Only 31% of participants in the general browsing condition noticed the friend endorsement, typically in the form of a “like” on Facebook. Obviously, many additional processes are important to assess the impact of the friend endorsement, such as whether the user processes the ad differently, whether the user also “likes” the product or ad, and whether the user distributes or shares the advertisement with other friends. The limited recognition of the social advertising cue means that even fewer of the users were in a position to advantage advertisers by spreading the ad message via their social network. Since research demonstrates that friend endorsements are positively associated with user trust and engagement (Valenzuela et al., 2009), advertisers need to do more to try to get the social cue identified by Facebook, or other SNS users. Our findings of individuals' openness toward Facebook advertising also should be carefully considered by advertisers as this factor alone has significantly affected participants' attitudes toward Facebook advertising and their willingness to think twice about online information they saw. Future studies may examine whether participants' ability to identify social cues and their openness toward Facebook advertising together affect their attitudes toward the product, purchase intention and behavior.

Advertising information efficacy, a new construct, was employed in this study as a means to assess whether participants felt powerful to understand the advertising and its strategies. Participants in the goal-directed condition recorded identical average mean scores for advertising information efficacy in the pre- and post-test. However, participants in the general browsing condition recorded a significant decrease in advertising information efficacy. Participants in the general browsing condition were rarely able to recall specifics of ads appearing on their Facebook page and rarely recognized whether social cues were present. Failure to recognize the advertising content, or the social advertising cues, resulted in a significant reduction in advertising information efficacy for participants in the general browsing condition. The advertising information efficacy construct was asked following the question on recall in the post-test. Since results show that participants in the general browsing condition were unable to recall much about the Facebook advertisements, it is likely that these inability to recall any specifics

also contributed to the significantly reduced efficacy scores. The results suggest that awareness of the advertising and the social cues do little to increase advertising information efficacy, but failure to detect the advertising or its strategies significantly lowered participants' efficacy. The fact that the goal-directed participants did not increase their information efficacy despite ability to identify advertising aspects and to recognize social advertising cues suggests that these participants may be skeptical or unsure of the advertisement strategy and its effects.

## **Limitations**

This study is not without limitations. For example, the artificial nature of the experiment aimed to specifically ask participants to attend to advertisements is unrealistic. Perhaps more valuable are the findings from the general browsing condition, which are more realistic and show that attention to ads on Facebook pages rarely received a sufficient threshold to allow participants to recall details about the ads. Participants in the general browsing condition were only able to identify, on average, 2.91 relevant aspects of Facebook advertising (e.g., product, brand, type, or feature) on their personal Facebook page. Although timeline and advertising were new to Facebook at the time of this experiment, the lack of ability to recall seems to suggest that Facebook users pay little attention to the advertisements. This finding is consistent with Havlena and Graham (2004) who found that time since last exposure to online advertising does significantly impact brand awareness, advertising awareness, brand favorability, and purchase intent.

The results of this exploratory study suggest that additional measures will help identify antecedents and consequences of advertising effects on SNSs. The unobtrusive nature of Facebook ads suggests that the ads suffer from limited attention and limited recall when participants are not specifically asked to attend to the ads. Although advertisers constantly search for ways to reach new audiences, and friend endorsements add credibility and trust to ads, results indicate that SNS ads have a very limited reach and impact. In addition, without considering Facebook users' propensity toward social advertising could produce unintended results. Advertisers must balance the potential negative effects of making their ads more prominent to increase their reach with the benefits social advertising cues offer to increase ad recall, trust, and purchase intentions.

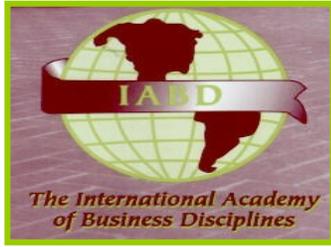
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*JOURNAL OF  
INTERNATIONAL  
BUSINESS DISCIPLINES*



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Volume 7, Number 2

November 2012

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ISSN 1934-1822

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