YOU'VE GOT MOBILE ADS! YOUNG CONSUMERS' RESPONSES TO MOBILE ADS WITH DIFFERENT TYPES OF INTERACTIVITY

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Abstract:

This exploratory study investigates young consumers' responses to mobile ads that use different types of interactivity: consumer-message interactivity, consumer-marketer interactivity, and consumer-consumer interactivity. The results indicate that young consumers have significantly different attitudes (positive or negative) toward mobile ads with different levels of interactivity. In other words, companies should reconsider their optimistic view that consumers will welcome all types of mobile ads. The responses from some participants even indicate that they not only dislike mobile ads, but also sometimes dislike the brand of the mobile ad.

Keywords: *mobile advertising, interactivity, consumers' attitudes toward advertising and brand*

INTRODUCTION

The tremendous proliferation of mobile phones and other mobile devices has provided a new channel to deliver commercial messages for a variety of products and services, such as entertainment, leisure, travel, telecommunication, and retail (Internet Advertising Bureau, 2010). Given the substantial growth of mobile commerce, marketers have acknowledged the importance of mobile ads as an important advertising format. In fact, the phenomenal penetration of mobile phones in the United States (87%) has provided the platform for the growing popularity of mobile ads (Centers for Digital Information, 2013). Kagan (2007) predicted that the penetration of mobile phones in the United States would be close to 100% in the upcoming years. Unsurprisingly, the use of mobile ads is predicted to become more popular than ever, not only in America but also across the world (Mobile Marketing Association, 2007). In 2010, global mobile ad spending was projected to top $1.5 billion, up 42% from $871 million in 2006 (Shabelman, 2007). Beyond the traditional channels for mass advertising, most of the mobile ads are targeted at the highly coveted young demographic, particularly those between the ages of 18 and 34, who are likely to use their phones for a variety of functions, such as playing games and instant messaging (Harris Interactive, 2005; Peters, Amato, & Hollenbeck, 2007).

Mobile ads can be defined as text- and graphics-based commercial messages that are sent to consumers via mobile devices, including cellular phones, pagers, and personal digital assistants (PDA) (Peters et al., 2007; Soroa-Koury & Yang, 2010). More specifically, there are different types of mobile ads, including Short Messaging Service (SMS) (e.g., text messages of 160 characters or less), Multimedia Messaging Service) (MMA, 2009) (e.g., rich text and multimedia messages that include images, audio, and/or video), mobile web banner ads, and full-screen interstitials (Peters et al., 2007). These diverse types of mobile advertisements have enabled marketers to deliver advertising messages to potential consumers via mobile devices.

However, researchers have pointed out the necessity of a discussion on the effects of advertising

conveyed through mobile devices since a large number of advertisers are applying many different types of mobile advertisements (Gao, Rau, & Salvendy, 2009). Recent studies have focused on technology related issues of mobile advertising (Saladow, 2012; Li & Du, 2012) rather than on the effects regarding the influence of receivers' attitude toward the mobile advertising itself, the brand advertised, and the products advertised. Some researchers indicated that there is a need to talk about how the factors in mobile advertising actually positively affect consumers' attitude and (or) purchase intentions for the products advertised (Nittala, 2011). The factors discussed regarding the effects of mobile advertisements include users' product involvement (Drossos & Fouskas, 2010), type of message service sent to users (short message service versus multi-media services) (Koo, Knight, Yang, & Xiang, 2012), some design attributes of mobile advertising (Chen & Hsieh, 2012), kinds of products advertised (Ma, Suntornpithug, & Karaatli, 2009), and devices in mobile advertising for consumers' privacy concerns (Hardt & Nath, 2012). Therefore, some researchers indicated the need for more diverse discussions regarding as to how and what we can guarantee in order to produce better effects of mobile advertising (Kolsaker & Drakatos, 2009). Due to the plethora of different types of mobile advertisements and strong competition among mobile ads, there is a clear need for research dealing with the effects of mobile advertising (Nittala, 2011).

In this study, among many factors that could possibly influence the effects of mobile advertising, the author focuses on the interactivity that consumers experience through diverse elements in mobile advertising, such as specific messages or some functions that users find (Gao et al., 2009). In marketing and advertising literature, interactivity has been shown to be an important driver in consumer acceptance of mobile ads (Gao et al., 2009; Drossos, Giaglis, Lekakos, Kokkinaki, & Stavnaki, 2007; Bauer,

Barnes, Reichardt, & Neumann, 2005). According to Kannan, Chang, and Whinston (2001), the key characteristic of advertising on mobile phones is "ubiquitous interactivity." Since mobile phones are portable, personal, and nearly always on (Barnes, 2002), they enable the recipient of a message to reply to it immediately, thereby establishing a direct dialogue between marketers and their potential consumers (Bauer et al., 2005).

Given the ubiquitous nature of the mobile technology and the subsequent growth in demand for mobile content, the advent of mobile advertising has opened up the possibility for marketers to reach an individual consumer in the correct place, at the perfect time, and in an interactive way (Peters et al., 2007). Although prior research has acknowledged the importance of interactivity in determining the effectiveness of mobile ads (e.g., Gao et al., 2009; Drossos et al., 2007), no research, to date, has examined how different types of interactivity impact consumer responses to mobile ads.

Therefore, the primary purpose of this study is to investigate young consumers' attitudes toward mobile ads using different types of interactivity, guided by the work of Cho and Chen (2005). The interactivity types are *consumer-message interactivity*, *consumer-marketer interactivity*, and *consumer-consumer interactivity*. The current research will contribute to a broader theoretical foundation on the effects of interactivity for wireless advertising and will also attempt to identify what mobile interactivity strategies are most effective for mobile ads.

BACKGROUND

Popularity of Mobile Ads

Today, more than 326 million consumers in the United States own mobile phones (CTIA: The Wireless Association, 2013). This number of mobile phone users is the most important reason as to why more and more companies are using mobile advertising as one

of their marketing tools (Park, Shenoy, & Salvendy, 2008). Since consumers carry their mobile phones almost everywhere, many companies are pouring more of their marketing budgets into different types of mobile advertising (Sora-Koury & Yang, 2010). Furthermore, mobile ads could be useful compared to other advertising media options for maximizing the chances to communicate with a captive audience (Ferris, 2007). The debut of the smartphone has become another driver for many companies to consider mobile ads as a major advertising tool as well (Indvik, 2010). According to JiWire's survey (2010), more than half of smartphone users surveyed said that they acted on an advertisement in an application. Furthermore, about 20% of the users who acted on a mobile ad said that they purchased a product advertised in a mobile ad sent to their smartphones in the past few months. These survey results indicate that companies are investing more of their marketing budgets in mobile advertising than ever before (JiWire, 2010; Pew Internet and American Life Research Project, 2010).

In addition to the popularity of mobile ads, there are predictions regarding potentially bigger growth of mobile ads in the future. The survey by JiWire (2010) indicated that about half of the survey participants were willing to provide their locations in order to receive location-based mobile ads. The survey indicated that consumers have a different psychology regarding ads when they are exposed to ads at home and while traveling; they often react more favorable to ads when they are on the go; and that people generally are more receptive to advertising through their mobile devices.

Mobile advertising has been limited compared to other traditional advertising media options in terms of diversity, creativity, and use. However, more diverse types of mobile ads are being used in sales promotions, event marketing, branded content marketing, and customer relationship marketing; these mobile ads are

based on the characteristics of real-time connectivity and interactivity with consumers (Pew Internet and American Life Research Project, 2010).

Another benefit for companies using mobile advertising as a marketing tool is that it saves money compared to other forms of advertising (Cian, 2009). Sending mobile ads to consumers is often much cheaper than conducting more traditional advertising activities (MobiADNews, 2010). This financial advantage of mobile advertising over other more traditional advertising media has been noted not only in several media reports but also by mobile advertising organizations, such as the Mobile Marketing Association (MMA).

Consumer Reponses to Mobile Ads

Despite the popularity of mobile ads across the world as well as the overall optimism about mobile ads' positive effects on consumers, there has been a relative lack of empirical research investigating consumers' attitudes toward mobile ads (Park et al., 2008). Most of the research has been focused in the area of consumer surveys conducted from companies' perspectives, not from an academic viewpoint (Yu & Cude, 2009). In particular, where consumers' general advertising avoidance is widespread (Kelly, Kerr, & Drennan, 2010), there has not been enough discussion about how consumers feel about different types of mobile ads (Yu & Cude, 2009a).

Prior research has indicated the need for conducting more structured research in order to understand consumers' attitudes and beliefs toward mobile ads so that companies would be able to know if consumers are positively or negatively viewing the ads (Okazaki, Katsukura, & Nishiyama, 2007). A 2009 report from the Federal Trade Commission brought up concerns about the intrusiveness of mobile ads because consumers might feel uncomfortable about the ads being sent directly to their personal mobile devices (FTC, 2009). Consumers could also feel annoyed by receiving mobile ads because they did not

give prior permission to the companies to send them the mobile ads (Gurau, Ranchhod, & Gauzente, 2003). Barnes and Scornnavacca (2004) found that user permission is one of the most important variables affecting the effectiveness of mobile advertising. Prior permission contributes to consumers' positive attitudes toward mobile ads as well to the brands or products advertised. However, many companies ignore these concerns and often send their mobile advertisements without the permission of users (Yu & Cude, 2009b). Therefore, the optimism that companies have regarding the positive effects of mobile ads should be reconsidered and examined from diverse perspectives (Andrews, 2006).

Despite the mobile ads that generally include customized messages with tangible benefits (e.g., coupons, special sales events) for specific consumers, some scholars have noted the possible negative effects of customized messages and have speculated as to whether the negative effects might offset the positive ones (Phelps, D'Souza, & Nowak, 2001; Sacirbey, 2000; Sheehan, 1999). For instance, Tsang, Ho, and Liang (2004) found that consumers generally have negative attitudes toward SMS-based mobile ads unless they had specifically consented to receive the ads. However, obtaining prior consent is not a common practice of many companies who conduct mobile advertising. Furthermore, researchers confirmed that there is a direct association between unfavorable consumer attitudes and behavioral intention to receive mobile ads (e.g., bad image about the brand advertised and losing the intention to buy the product in the future). In short, researchers suggested that companies should not send mobile advertising messages without consumers' prior permission (Tsang, et al., 2004).

A recent wave of interest in advertising research has stimulated debates as to whether mobile ads violate consumers' privacy rights. In fact, consumer privacy concerns might be a key factor influencing the effectiveness of interactive advertising (Miyazaki & Fernandez, 2000; Sheehan & Hoy, 1999; Yu & Cude, 2009b). In the context of online advertising, Sheehan and Hoy (1999) found that online consumers' concerns regarding privacy are correlated with consumer actions in order to protect their privacy. As privacy concern increases, consumers are likely to provide incomplete information when registering for websites, notifying Internet service providers (ISPs) about unsolicited e-mail, requesting removal from mailing lists, and sending highly negative messages to online companies that are sending unsolicited e-mail. Consumers also are less likely to provide personal information to organizations. Leppäniemi and Karjaluoto (2005) revealed that consumers tend to fear invasion of their privacy in mobile advertising, suggesting that concern about privacy is one of the most significant obstacles to successful mobile advertising.

According to a UPI-Zogby International Poll (2007), more than 90% of the participants from diverse countries were concerned about their privacy and the possibility of identity theft. In this situation where people do not want to share their personal information, including the numbers of their mobile phones, personalized e-mail or mobile ads could become less effective if consumers view them as an invasion of their privacy (Gurau et al., 2003; Sheehan, 1999). However, despite consumers' privacy concerns, many companies continue to send mobile ads since some mobile ads are actually beneficial (Park et al., 2008).

Applying the Role of Interactivity to Mobile Ads

Are there ways to design mobile ads so that consumers can feel more comfortable and accept them more easily? Among several recommendations, some researchers have pointed out that if companies apply interactivity wisely to mobile ads, it would be possible for consumers to view mobile ads more favorably (Lustria, 2006), which is a major interest of

the present study. Mobile ads can increase the possibility of interactivity since they allow companies to receive immediate and direct feedback from consumers. According to a study by Leppäniemi and Karjaluoto (2005), even though consumers did not provide prior permission to receive mobile ads on their mobile phones, they were willing to accept the messages and even respond favorably to the mobile ad if they felt the mobile ad's interactivity was appropriate.

Even though there are possibly several reasons for consumers not to welcome mobile ads, there are several factors that companies can control in order to increase the possibility of consumers accepting mobile ads, such as decreasing advertising intrusiveness and getting prior permission before sending mobile ads (Kennedy, 2006). Therefore, using effective interactivity features in mobile ads could be a crucial factor for consumers not to have negative reactions to the mobile ads sent to them (Tsang, et al., 2004).

Interactivity has been suggested by several previous studies, including research by Cho and Cheon (2005), as one of the characteristics that could help people to feel favorably toward mobile ads. Depending on how the appropriate types of interactivity are applied in mobile ads, consumers' attitude toward not only the ads themselves, but also to the products and brands advertised, could be significantly different (Yu, Paek, & Bae, 2008**).**

Conceptualizing Interactivity

Interactivity in the advertising field has been defined differently in various studies. Blattberg and Deighton (1991) defined interactivity as the facility with which people and organizations communicate directly with one another regardless of distance or time. Interactivity has also been defined as "the extent to which users can participate in modifying the format and content of a mediated environment in real time" (Steuer, 1992, p. 84). While these definitions are somewhat narrow, Liu and Shrum (2002) expanded the definition of interactivity to "the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized" (p. 54).

As an extension of these researchers' conceptions, Cho and Leckenby (1997) proposed three dimensions of interactivity on websites: user-machine interaction, user-user interaction, and user-message interaction. User-machine interaction is human interaction with a computer that is close to the traditional meaning of interaction. A computer system must be responsive to users' actions in order to be interactive. User-user interaction is a type of interpersonal communication that can be created by computer-mediated functions (e.g., chatting and newsletters). The more functions for communication among users, the more interactive the communication. The third dimension of interactivity is user-message interaction, which was limited in traditional media. However, online users have much more freedom in controlling the messages they receive and customizing the messages according to their preferences.

Based on Cho and Leckenby's (1997) dimensions, Cho and Cheon (2005) developed a new dimension of interactivity in their content analysis of corporate websites across many countries. They defined interactivity as "the degree to which consumers engage in marketing processing by actively interacting with marketing communication messages, with marketers, and with other consumers" (2005, p. 102). The dimensions of interactivity applied in their content analysis of websites, which are used for this present study, are (1) consumer-message interactivity, (2) consumer-marketer interactivity, and (3) consumer-consumer interactivity (Cho & Cheon, 2005).

First, consumer-message interactivity refers to users' interactions with advertising messages. This kind of interactivity could be more realized when websites have a larger quantity of information. By

editing, manipulating, and searching for information, consumers are likely to interact with advertising messages on the Internet as well as on the mobile phone. In the domain of interactive marketing, for example, consumer-message interactivity includes a consumer's use of keyword search functions, multimedia features, virtual reality display on the site, and a product choice helper (Cho & Chen, 2005).

The second dimension of interactivity, consumer-marketer interactivity, is a two-way interaction between users and marketers. Different from the consumer-message interactivity, this interactivity involves the direct roles of advertisers in interaction with their target audience (Cho & Leckenby, 1997). Some examples of consumer-marketer interactivity include consumer feedback to marketers, participation in a consumer satisfactory survey, and a request of the problem diagnostics. Users can experience this type of interactivity by using the "Q&A" functions or by exchanging e-mails with different companies.

The last dimension of interactivity is consumer-consumer interactivity, which involves interpersonal interaction among consumers. Users can interact with each other by participating in various user-oriented interactive functions, such as online discussions, chat rooms, and social network communities, not mediated by third parties (e.g., marketers) (Cho & Chen, 2005).

Research Questions

Drawing upon the categorization of interactivity suggested by Cho and Cheon (2005), the current research attempts to examine consumer attitudes toward mobile ads, the brands in the ads, and the purchase intentions for the products advertised based on different types of interactivity. While a growing body of research has suggested that interactivity plays a positive role in consumer attitudes toward Internet-based and mobile ads (e.g., Cho & Cheon, 2005; Lustria, 2006), there is a paucity of research examining the effectiveness of various types of interactivity on consumer responses to mobile ads. Given that the

popularity of mobile ads has been very recent, earlier research evidence is too scarce and inconclusive to enable the authors to formulate specific research hypotheses. Thus, the following research questions are proposed.

RQ1: Will consumer-message interactivity lead to more favorable attitudes toward mobile ads, attitude toward the brand, and greater purchase intentions compared to the control condition (no interactivity)?

RQ2: Will consumer-marketer interactivity lead to more favorable attitudes toward mobile ads, attitude toward the brand, and greater purchase intentions compared to the control condition (no interactivity)?

RQ3: Will consumer-consumer interactivity lead to more favorable attitudes toward mobile ads, attitude toward the brand, and greater purchase intentions compared to the control condition (no interactivity)?

RQ4: Which type of interactivity is most effective in affecting consumers' attitudes toward mobile ads: attitude toward the brand or purchase intentions?

METHOD
Experimental Design

To answer the series of research questions, this study planned to conduct a web-based experiment since the present research investigates people's attitude toward mobile advertisements, which are hypothetically sent to each participant. Therefore, the author tried to provide a better situation for the participants where they could feel they actually received mobile advertisements in the experiment. This study recruited college students who are considered to be the major targeted customers of diverse mobile marketing methods. The participants were randomly assigned to one of the four manipulated treatments where four different mobile advertisements were used (applying no interactivity, consumer-message interactivity, consumer-marketer interactivity, consumer-consumer interactivity)

Table 1: Four different scenarios used in the experiment

Scenario 1: No Interactivity is involved in the mobile ad
Control Group 1
Please assume that you received a mobile advertisement to your mobile phone. The mobile ad includes nothing but text-based advertising messages, such as "Hyper-Online Mart is having a special sales event this week. Every product will be on sale from 40% to 70%!" The mobile ad also recommends that you stop by www.hyperonline-mart.com to see if a product you want is available during this sales event.

Scenario 2: Consumer-Message Interactivity is involved in the mobile ad
Group 2 (Making consumers click the hyperlink)
Please assume that you received a mobile advertisement to your cell phone. In addition to the basic text-based advertising messages regarding the sales event at the www.hyperonline-mart.com, the mobile ad also contains the information that "you could download 5 hot new free music files if you click the hyperlink on the last line of the advertising messages."

Scenario 3: Consumer-Marketer Interactivity is involved in the mobile ad
Group 3 (Making consumers send e-mails to companies)
Please assume that you received a mobile advertisement to your mobile phone. In addition to the basic text-based advertising messages regarding the sales event at the www.hyperonline-mart.com, the mobile ad also includes the information that "you could get a special right to enter a fantastic drawing event which awards several free gifts. Just send your information as an e-mail to this address (hypermart_drawing@hypermart.com)."

Scenario 4: Consumer-Consumer Interactivity is involved in the mobile ad
Group 4 (Making consumers communicate with other consumers)
Please assume that you received a mobile advertisement to your mobile phone. In addition to the basic text-based advertising messages regarding the sales event at the www.hyperonline-mart.com, the mobile ad also includes the information that "you could get an online coupon which is equivalent to one accessory to decorate your mobile phone. Also, with a simple clicking, the mobile ad leads you to a cyber space where you can meet with other friends virtually and possibly exchange online coupons (for accessories) with others."

(between-subjects design). This study was conducted using a factorial design instead of the survey method since it investigates people's reactions and attitude toward mobile ads. Through the collection of data employing a factorial design, it was possible to efficiently estimate the main effects. The participants in the control group were exposed to a scenario, providing a story in which the people were given a mobile ad with no interactivity (Table 1). The people in the other groups were exposed to different stimuli pertaining to a specific scenario that consisted of a hypothetical situation where a consumer received a

specific type of interactive mobile ad (consumer-message interactivity, consumer-marketer interactivity, consumer-consumer interactivity).

Scenario Creation

To examine how different types of interactivity influence young consumers' reactions to mobile ads, the authors employed a scenario-creation method with different types of interactivity. This method was used because delivering the mobile ad stimulus to each participant could not be carried out. Practically, it was difficult to obtain the mobile phone numbers from participants and deliver mock mobile ads using

different types of interactivity. In addition, the scenario method has been widely used in advertising research (e.g., An & Bergen, 2007). Four different types of scenarios were created based on the dimensions of perceived interactivity proposed by Cho and Chen (2005) (Table 1).

Participants and Procedures

College students were recruited from three introductory mass communication classes at a southeastern U.S. university. The age of the participants ranged from 19 to 27. This age group is one of the most active consumer groups who are more exposed to many types of advertisements and are more influenced by advertising content than other consumer groups (Fleming, Thorson, & Atkin, 2004). More importantly, they are one of the major targeted consumers for mobile advertisements (Jin & Villegas, 2007; Pew Internet and American Life Research Project, 2010). Even though teenagers could have a higher rate of using WiFi (wireless Internet) on their mobile phones, the young adult consumer groups have been more important targets of mobile advertising due to their better financial resources compared to teenagers (Christopherson, 2010).

All subjects received an e-mail invitation with the URL of the web-based experiment. At the beginning of the experiment participants were asked to read a scenario-based stimulus and complete a questionnaire designed to evaluate their attitudes toward the mobile ad, brand, and future purchase intention toward the product advertised. They were debriefed after the instruments were collected.

Pre-Manipulation Check

Prior to conducting the main experiment, the authors checked to see if different types of interactivity were successfully manipulated in each scenario. A pretest was conducted using a total of 30 undergraduate students from the same population, but not included in the main experiment group. On the first page of the questionnaire the brief purpose of the pilot test and the definition of the three interactivities (consumer-message, consumer-marketer, and consumer-consumer) were explained. After reading the paragraph showing the conceptualization of each type of interactivity, participants were asked to turn to the next page in which one of the four scenarios was written. The participants in each group were asked if a specific interactivity was appropriately applied in the scenario. Using a 5-point Likert scale, they were asked to check one of the five options regarding the scenario given to them. A three-item manipulation check measure was utilized to test if the scenarios were applying the three different types of interactivities correctly. Participants were asked if they agree or disagree to the following: mobile ads in the scenarios focused on "interacting with the advertising message," "interacting with the marketer," and "interacting with the other consumers" on a 5-point Likert scale involving various degrees of agreement or disagreement. Three different scenarios were given to all participants and they were then asked to show the extent of their agreement to the following statements: "I think this scenario is showing how consumers interact with the messages in the mobile ad," "I think this scenario is showing how consumers interact with the marketer who is conducting this mobile ad," and "I think this scenario is showing how consumers interact with the other consumers for this mobile ad."

The results of this manipulation check indicated that each scenario had its own characteristics that are significantly different from others. Regarding the first scenario, participants' answers for the first statement (i.e., "I think this scenario is showing how consumers interact with the messages in the mobile ad") were significantly higher than those of the other two statements (M= 4.80, SD = .421, df= 2, p<.05). The second scenario (consumer-marketer interactivity) also attained significantly higher agreement scores in the statement indicating that the scenario showed how consumers are interacting with the marketer who

is conducting the mobile ad (M= 4.30, SD = .674, df= 2, p<.05). The significantly higher agreement was anchored as well to the statement, "I think this scenario is showing how do consumers interact with the other consumers for this mobile ad" regarding the third scenario (M= 4.20, SD = .788, df= 2, p<.05). In conclusion, the authors confirmed that the three scenarios were appropriate for the main experiment.

Dependent Variables

The 5-point Likert scale that included statements about consumers' attitudes toward mobile ads, attitudes toward brands, and purchase intentions toward the products advertised (Table 2) was adopted and used by several previous studies (Holbrook & Batra, 1987; Shamdasani, Stanaland, & Tan, 2001; Lee, 2000; Lee & Mason, 1999; Coyle & Thorson, 2001; Kim & Biocca, 1997; Putrevu & Lord, 1994). Subjects were asked to indicate their responses (measured with a 5-point Likert scale that included the responses *Strongly Disagree/Disagree/Neither Agree or Disagree/Agree/ Strongly Agree* to each of the following statements.

Table 2: Statements measuring the attitudes toward mobile ads, brands, and the purchase intentions toward products

Items for Investigating Consumers' Attitudes Toward the Mobile Ads
(1) I think I will dislike this mobile ad.*
(2) I think I will like this mobile ad.
(3) I think I will react unfavorably to this mobile ad.*
(4) I think I will react favorably to this mobile ad.
(5) I think I will feel negatively towards this mobile ad.*
(6) I think I will feel positively towards this mobile ad.
(7) I think I will believe this mobile ad is bad.*
(8) I think I will believe this mobile ad is good.

Items for Investigating Consumers' Attitudes Toward the Brands Advertised
(9) It is very likely that I will buy the brand/product shown in this mobile advertisement.
(10) I will purchase the brand/product shown in this mobile advertisement the next time I need one.
(11) I will definitely try the brand/product shown in this mobile advertisement.
(12) If a friend calls me to get my advice in his/her search for a product, I will recommend that he/she should buy the brand/product I saw in this mobile advertisement.

Items for Investigating Consumers' Purchase Intentions Toward the Products Advertised
(13) The brand in this mobile ad is likely to possess the stated ad claims.
(14) I will react to the brand I saw in this mobile ad.
(15) I will feel positively toward the brand in this mobile ad.
(16) I will dislike the brand in this mobile ad.*

*The answers for some statements were reverse-coded for data analysis.

RESULTS

Initially, we sent invitation e-mails to from 257 to 295 participants per group, depending on the size of the class. However, the actual respondents numbered between 225 to 230 per group. In addition, there were some questionnaires in which more than 80% of the statements were skipped; these were excluded from the final data analysis. Therefore, the number of the questionnaires finally used for data analysis totaled 880 across the four groups (Table 3). The age range of

Table 3: Participants in each group

Groups	Invitation E-mails Sent Originally	Response Rate (%)	Non-Usable Questionnaires	The Numbers Used for the Data Analysis
No Interactivity Control Group 1	257	87.5	5	220
Consumer-Message Interactivity Group 2	288	78.1	9	216
Consumer-Marketer Interactivity Group 3	285	79.6	5	222
Consumer-Consumer Interactivity Group 4	295	77.9	8	222

the participants was 19–27 years old and 64% of the participants were female (598 participants).

In order to compare the means of the participants' agreements to the 16 statements from the four different groups, a series of analysis of variance (ANOVA) was conducted. The results found that the four groups had significantly different means (Table 4). The Control Group/Group1 (no interactivity was involved in the mobile ad) had the lowest mean score and the group in which the consumer-message interactivity was applied (a mobile ad using a hyperlink enabling consumers to download free music files) had the highest mean. This difference meant that the participants in Group 2 showed the most positive attitude toward the mobile ad.

Table 4: Means of the participants' agreement with the 16 statements

Groups	N	Mean
No Interactivity/Control Group 1	220	2.58
Consumer-Message Interactivity/Group 2	216	3.07
Consumer-Marketer Interactivity/Group 3	222	2.68
Consumer-Consumer Interactivity/Group 4	222	2.98

*Higher mean indicates a more positive attitude toward the mobile ad. Some statements were reverse-coded. Therefore, the participants in Groups 2 and 4 showed the most positive attitude toward the mobile ads.

Next, using ANOVA and post hoc tests (Bonferroni method), the author checked to see if the three different types of interactivities caused positive effects on three different types of consumers' responses (attitudes toward the mobile ads, attitudes toward the brands, and purchase intentions toward the products advertised) in order to answer the first three research questions. Regarding RQ1 (about consumer-message interactivity), it was found that the participants in Group 2, in which the consumer-message interactivity was applied, showed higher agreement scores in the attitude toward the mobile ad, the attitude toward the brand, and the purchase intentions toward the product compared to those in the control group with no interactivity. The mean differences in the three categories were all significant ($p < .05$) (Table 5).

Table 5: Effects of interactivities

Categories	Group	Group/ Compared	Std. Error	Sig
Attitude Toward the Mobile Ads	1. Control/No Interactivity Mean: 2.51	2. Consumer-Message Interactivity Mean: 3.20	.08176	P<.05
		3. Consumer-Marketer Interactivity Mean: 2.93	.08121	P<.05
		4. Consumer-Consumer Interactivity Mean: 3.08	.08121	P<.05
	2. Consumer-Message Interactivity Mean: 3.20	1. Control Group/No Interactivity Mean: 2.51	.08176	P<.05
		3. Consumer-Marketer Interactivity Mean: 2.93	.08158	P<.05
		4. Consumer-Consumer Interactivity Mean: 3.08	.08158	P<.05
	3. Consumer-Message Interactivity Mean: 2.93	1. Control Group/No Interactivity Mean: 2.51	.08121	P<.05
		3. Consumer-Message Interactivity Mean: 3.20	.08158	P<.05
		4. Consumer-Consumer Interactivity Mean: 3.08	.08102	-
	4. Consumer-Consumer Interactivity Mean: 3.08	1. Control Group/No Interactivity Mean: 2.51	.08121	P<.05
		2. Consumer-Message Interactivity Mean: 3.20	.08158	-
		3. Consumer-Marketer Interactivity Mean: 2.93	.08102	-
Attitude Toward the Brands Advertised	1. Control/No Interactivity Mean: 2.43	2. Consumer-Message Interactivity Mean: 2.75	.07473	P<.05
		4. Consumer-Consumer Interactivity Mean: 2.70	.07422	P<.05
	2. Consumer-Message Interactivity Mean: 2.75	1. Control Group/No Interactivity Mean: 2.43	.07473	P<.05
		3. Consumer-Marketer Interactivity Mean: 2.64	.07456	P<.05
		4. Consumer-Consumer Interactivity Mean: 2.70	.07456	P<.05
	3. Consumer-Marketer Interactivity Mean: 2.64	1. Control Group/No Interactivity Mean: 2.43	.07422	P<.05
		2. Consumer-Message Interactivity Mean: 2.75	.07465	-
		4. Consumer-Consumer Interactivity Mean: 2.70	.07405	-
	4. Consumer-Consumer Interactivity Mean: 2.70	1. Control Group/No Interactivity Mean: 2.43	.07422	P<.05
		2. Consumer-Message Interactivity Mean: 2.75	.07456	-
		3. Consumer-Marketer Interactivity Mean: 2.64	.07405	-

Purchase Intentions Toward the Products Advertised	1. Control/No Interactivity Mean: 2.87	2. Consumer-Message Interactivity Mean: 3.15	.06533	P<.05
		3. Consumer-Marketer Interactivity Mean: 3.02	.06488	-
		4. Consumer-Consumer Interactivity Mean: 3.05	.06488	P<.05
	2. Consumer-Message Interactivity Mean: 3.15	1. Control Group/No Interactivity Mean: 2.87	.06533	P<.05
		3. Consumer-Marketer Interactivity Mean: 3.02	.06518	-
		4. Consumer-Consumer Interactivity Mean: 3.05	.06518	-
	3. Consumer-Marketer Interactivity Mean: 3.02	1. Control Group/No Interactivity Mean: 2.87	.06488	-
		2. Consumer-Message Interactivity Mean: 3.15	.06518	-
		4. Consumer-Consumer Interactivity Mean: 3.05	.06474	-
	4. Consumer-Consumer Interactivity Mean: 3.05	1. Control Group/No Interactivity Mean: 2.87	.06488	P<.05
		2. Consumer-Message Interactivity Mean: 3.15	.06518	-
		3. Consumer-Marketer Interactivity Mean: 3.02	.06474	-

On the other hand, it was found that consumer-marketer interactivity prompted a different result than the consumer-message interactivity (RQ2). Even though Group 3 participants, who were exposed to the mobile ad using consumer-marketer interactivity, showed significantly higher agreements in terms of attitudes toward the mobile ad itself and the brand advertised (p<.05), the mean difference of the agreement in the purchase intention toward the product advertised between the control group (no interactivity) and Group 3 (consumer-marketer interactivity) was not significantly different (Table 5).

Regarding RQ3, it was found that the participants who experienced the mobile ad with consumer-consumer interactivity (Group 4) provided significantly higher agreement scores in all three categories (attitude toward the mobile ad, attitude toward the brand, and purchase intention toward the product)

than the agreement scores for the people in the control group (p<.05).

Lastly, the author investigated which type of interactivity was most effective in influencing consumers' attitudes toward mobile ads, attitude toward the brand, and purchase intention (RQ4). Based upon the results in Table 5, it was confirmed that consumer-message interactivity was more effective compared to other interactivities in engendering participants' positive responses, even though the results were somewhat different depending on the category (attitudes toward mobile ads, attitude toward the brand, and purchase intentions toward the product). In terms of attitudes toward the mobile ads, the mobile ad applying consumer-message interactivity engendered most favorable responses among the participants. However, the mean of the agreement scores in Group 2

(consumer-message interactivity) were significantly higher than those in Group 1 (control group) and Group 3 (consumer-marketer interactivity), but not in Group 4. There was no significant difference between the mean score in Group 2 and in Group 4 (consumer-consumer interactivity), even though the score in Group 2 was higher than that in Group 4 (3.20 vs. 3.08) (Table 5).

Regarding people's attitude toward the brand advertised, the people in Group 2, who were exposed to a mobile ad using consumer-message interactivity, had higher agreement scores compared to other groups. A significant difference was found only in comparison with Group 1 (control group). Even though the agreement score in Group 2 was higher than in the other two groups (Group 3, consumer-marketer interactivity and Group 4, consumer-consumer interactivity), the differences were not statistically meaningful.

Similar results were also found in terms of participants' purchase intentions in the future toward the product advertised. It was clear that consumer-message interactivity was the most effective factor influencing the participants' purchase intentions. However, the differences in the agreement scores were significant between Group 1 (control group) and Group 2 (consumer-message interactivity) only. The differences in the agreement scores between Group 2 and the other two groups (Group 3, consumer-marketer interactivity and Group 4, consumer-consumer interactivity) were not significant.

DISCUSSION

The results of this study clearly demonstrate that the agreement scores from the participants of the control group/Group 1 (the people who were exposed to a mobile ad consisting of simple text-based ad messages; no intended interactivity was applied) attained the lowest means (the most negative attitude), and the mean differences with all other groups were statistically significant. In other words, when people get a mobile ad with just text advertising messages with no interactivity, they generally have a very negative attitude toward the mobile ad. In addition to the attitude toward the ad, the attitude toward the brand advertised and the intentions to consider purchasing the product in the near future were also negatively impacted by that style of mobile ad. Based upon the results, sending text-based mobile ads without any type of interactivity could cause negative responses to the ad, the advertised brand, and to the purchase intentions toward the product seen in the ad. Therefore, even though many companies use text-based mobile ads mainly because they are cheap and convenient, they should be aware that their mobile ads could result in serious problems that are opposite to the expected results of the companies.

On the other hand, applying some types of interactivity (particularly consumer-message interactivity and consumer-consumer interactivity) in mobile ads positively influenced people's attitudes toward the ad, the product, and the brand advertised. As indicated in the results, the participants who received a scenario assuming that people enjoyed consumer-message interactivity (being provided with a clickable hyperlink by which people could download popular music files for free) attained the highest mean score among the groups. This could imply that if a company uses consumer-message interactivity appropriately, consumers could accept the mobile ad more favorably and show a very positive attitude not only toward the mobile ad itself, but also toward the brand and the products. It was found that using the interactivity appropriately could even affect consumers' purchase of the product advertised in the near future. In addition to the usage of consumer-message interactivity, applying consumer-consumer interactivity in mobile ads, such as leading the people to go to a virtual social space where consumers meet

each other and exchange the free online coupons sponsored by the company, also could cause a very positive attitude toward the mobile ad, the products, and the brand. There have been current studies indicating that some levels of interactivity the receivers experience from mobile advertisements could positively influence their attitudes toward the ad itself, brand and product, similar to the present study. If mobile advertisements could provide opportunities for consumers (receivers) to establish some relationship with the sponsor through diverse tools such as e-coupons or other prizes (Gao et al., 2009), it will be more possible for people to have a positive attitude toward the advertising and the brand (Grainge, 2011). Some studies have indicated that in order for mobile advertising to be more effective it should provide informativeness and credibility, which are very important factors; moreover, in traditional advertising formats, current studies have discussed the possible factors which are related to the interactivity for producing more effective mobile advertising (Gao et al., 2009), such as having a response mechanism to users' requests (Yang, Kim, & Yoo, 2012) as well as functions for making conversations between senders and users (Shankar, Venkatesh, Hofacker, & Naik, 2010).

Therefore, the insights from the results in this study seem to be straightforward. If companies want to effectively communicate with consumers without annoying them, it seems that they should use mobile ads with some type of an interactive function, such as attaching clickable hyperlinks so that consumers could download some free items, like popular music files for free (consumer-message interactivity). Even though the scenario used in this study did not specify the style of music the consumers could receive through hyperlinks attached to the advertising messages (i.e., what music, whose music, coloring or not, etc.), participants absolutely showed the most positive reactions to this mobile ad.

However, applying any type of interactivity may not be the best answer in all cases for grabbing consumers' attention. Among the three types of interactivity, consumer-marketer interactivity was comparatively less effective (i.e., awarding a right to enter a drawing for free gifts) than the other two types of interactivity used in mobile ads. Through closely observing the two types of mobile ads that received a more positive response from the participants, it could be seen that people are fond of interactivity with convenience (consumer-message interactivity; for example, the only thing consumers need to do is to click a couple of times in order to get free music files) and interactivity that builds relationships with other consumers virtually (a mobile ad leading people to a free chatting space where many consumers meet each other and exchange items they received from the company). Therefore, based upon the results of this study, companies should consider these questions seriously when they plan mobile ads:

"Can this mobile ad be used conveniently by consumers and can consumers do something that requires minimal effort in order to enjoy the interactivity planned by the companies (e.g., get some offers from the company), such as a couple of clicks?"

"Can this mobile ad promote consumers to communicate with other consumers (e.g., meeting each other, talking about the brand and the product, etc.) in a virtual space sponsored by the companies?

LIMITATIONS AND RECOMMENDATIONS

Although the study's findings provide valuable insights into the role of interactivity in mobile ads, the limitations of the current research should be acknowledged. First, the author developed detailed scenarios that went through manipulation checks by a pilot test and were provided to the participants who were asked to imagine that they were getting one of the four types of mobile advertisements using

different levels of interactivity. The study investigated the participants' attitude toward the mobile ad, the product, and the brand by providing hypothetical scenarios, instead of actually sending mobile ads to their cell phones. Therefore, the results from the present study are limited to the participants' perceptions rather than to the actual behavioral changes. A future study should consider a more practical experiment in which real mobile advertisements are sent to participants so that they could show more real responses to the stimuli. The results might be different from those in the present study. With the help of advanced experiment technology, sending actual mobile ads to participants' real mobile phones and observing how they behave will produce more interesting findings.

The second limitation of the present study concerns the participants. According to the results from the 2010 Pew Internet and American Life Project, teenagers are a major consumer group for using and enjoying mobile ads across many products and brands because they are more sensitive to diverse types of interactivity than other groups, even though college students (young adults) who were participants in this study are another major consumer group. Therefore, a validity issue regarding the selection of a more appropriate sample could be discussed based upon the literature above, indicating that teenagers, rather than young adults, have more experience with diverse mobile ads. However, the author chose the young adult group for the study because using teenagers was not seen as a good idea since they lacked financial resources, and one of the dependent variables in this study was purchase intention. A future study should use teenagers as participants since they are a consumer group who will soon have financial resources.

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References:

An, S., & Bergen, L. (2007). Advertiser pressure on daily newspapers: A survey of advertising sales executives, Journal of Advertising, 36(2), pp. 111–121.

Baek, T. H. & Yu, H.J. (2009). Online health promotion strategies and appeals in the USA and South Korea: a content analysis of weight-loss websites, Asian Journal of Communication, 19(1), pp. 18-38.

Barnes, S. J. (2002). Wireless digital advertising: Nature and implications," International Journal of Advertising, 21, pp. 399–420.

Bauer, H. H., Barnes, S. J., Reichardt, T., & Neumann, M. M. (2005). Driving consumer acceptance of mobile marketing: A theoretical framework and empirical study, Journal of Electronic Commerce Research, 6(3), pp. 181–192.

Cellular-News (2006). Mobile Advertising Worth $10 Billion By 2010, Cellular-News.

Center for Digital Information (2013). Mobile Phone Penetration (2004-2012), dashboard.digitalinfo.org/trends/view/mobilephone (accessed on June 2, 2013).

Cho, C.-H. & Cheon, H.J. (2004). Why Do People Avoid Advertising on the Internet? Journal of Advertising, 33(4), pp. 89-97.

Cho, B. & Cheon, H.J. (2005). Cross-cultural comparisons of interactivity on corporate web sites: the United States, the United Kingdom, Japan, and South Korea, Journal of Advertising,Vol. 34 No. 2, pp. 99-115.

Cho, B. & Leckenby, J.D. (1997). Internet-related programming technology and advertising, in Carole Macklin, M. (Ed.), Proceedings of the 1997 Conference of the American Academy of Advertising, American Academy of Advertising, Cincinnati, OH, pp. 67-9.

Christopherson, V. (2010). U.S. Consumers Significantly More Likely To Response To Location-Based Mobile Ads Than Other Mobile Ad Types, MMA.

Cian (2009). 2010 mobile advertising predictions from the road, GoMo News.

Cook, J. (2008). Mobile Advertising To Hit Mainstream by 2010 Says IAB Research, Mobile Advertising News.

Coyle, J.R. & Thorson, E. (2001). The Effects of Progressive Levels of Interactivity and Vividness in Web Marketing Sites, The Journal of Advertising, 30 (Fall), pp. 65-77.

CTIA: The Wireless Association (2013). Wireless Quick Facts: Year-End Figures, http://www.ctia.org/advocacy/research/index.cfm/aid/10323 (accessed on June 2, 2013).

CTIA (2010). CTIA-The Wireless Association Annualized U.S. Wireless Industry Survey Results - June 1985 to June 2009, CTIA's Semi-Annual Wireless Industry Survey.

Dix, S. & Phau, I. (2010). Television Advertising Avoidance: Advancing Research Methodology, Journal of Promotion Management, 16(1/2), pp. 114-133.

Drossos, D., & Fouskas, K. (2010). Mobile advertising: Product involvement and its effect on intention to purchase,   The Proceedings of 2010 Ninth International Conference on Mobile Business, 183-189.

Drossos, D., Giaglis, G.M., Lekakos, G., Kokkinaki,, F., & Stavnaki, M.G. (2007). Determinants of Effective SMS Advertising: An Experimental Study, Journal of Interactive Advertising, 7(2), pp. 16-27.

Duff, B. R. L. & Faber, R. J. (2008). Ignored Ads=Liked Brands?: Advertising Avoidance and the Affective Devaluation of Brands, American Academy of Advertising, San Mateo, California.

Edwards, S. M., Li, H., & Lee, J. (2002). Forced Exposure and Psychological Reactance: Antecedents and Consquences of the Perceived Itrusiveness of Pop-Up Ads, Journal of Advertising, 31(3), pp. 83-95.

Ferris, M. (2007). Insight on Mobile Advertising, Promotion, and Research, Journal of Advertising Research, 47(1), pp. 28-37.

Federal Trade Commission (2009). FTC Staff Report: Self-Regulatory Principles For Online Behavioral Advertising, FTC Staff Report , http://www.ftc.gov/os/2009/02/P085400behavadreport.pdf, accessed on September 15, 2012.

Gao, Q., Rau, P.-L. P., & Salvendy, G. (2009). Perception of Interactivity: Affects of Four Key Variables in Mobile, International Journal of Human-Computer Interaction, 25(6), pp. 479-505.

Grainge, P. (2011). A song and dance: Branded entertainment and mobile promotion, International Journal of Cultural Studies, 15(2), 165-180.

Grigorovici, D. M. (2004). Experiencing Interactive Advertising beyond Rich Media: Impacts of Ad Type and on Brand Effectiveness in 3D Gaming Immersive Virtual Environments, Journal of Interactive Advertising, 5(1), pp. 31-53.

Haghirian, P., Madlberger, M., & Tanuskova, A. (2005). Increasing Advertising Value of Mobile Marketing - An Empirical Study of Antecedents, Preceedings of the 38th Hawaii International Conferences on System Sciences, Hawaii.

Hanley, M. & Becker, M. (2008). Cell Phone Usage and Advertising Acceptance among College Students: A Four-Year Analysis, International Journal of Mobile Marketing, 3(1), pp. 67-80.

Harris Interactive (2005). Cell phone usage, Business Week (August 17), available at http://www.businessweek.com/technology/tech_stats/cellusage050817.htm (accessed July 12, 2010).

Holbrook, M.B. & Batra, R. (1987). Assessing the Role of Emotions as Mediators of Consumer Responses to Advertising, Journal of consumer Research, 14 (December), pp. 404-420.

Indvik, L. (2010). Consumers Embrace Mobile Advertising, [Report], Mashable.

Ingram, K. L., Cope, J.G., Harju, B., & Wuensch, K. (2000). Applying to Graduate School: A Test of the Theory of Planned Behavior, Journal of Social Behavior and Personality, 15(2), pp. 215-226.

Jin, C. H. & Villegas, J. (2007). Consumer responses to advertising on the Internet: the effect of individual difference on ambivalence and avoidance, Cyberpsychol Behav, 10(2), pp. 258-266.

JiWire (2010). Location-Based Ads Drive Mobile Shopping. Accessed on September 25, 2012 at http://www.jiwire.com/media/new-report-jiwire-shows-location-based-ads-drive-mobile-shopping.

Johnson, J. P. (2008). Targeted Advertising and Advertising Avoidance, mimeo, Cornell.

Kannan, P., Chang, A., & Whinston, A. (2001). Wireless commerce: Marketing issues and possibilities, Proceedings of the 34th Annual Hawaii International Conference on System Sciences, Los Alamitos, CA: IEEE Computer Society Press.

Kelly, L., Kerr, G., & Drennan, J. (2010). Avoidance of Advertising in Social Networking Sites: The Teenage Perspective, Journal of Interactive Advertising, 10(2), pp. 16-27.

Kim, J. K. & Pasadeos, Y. (2006). Ad Avoidance by Audiences Across Media: Modeling Beliefs, Attitudes and Behavior Toward Advertising, American Academy of Advertising, Reno, Nevada.

Kim, T. & Biocca, F. (1997). Telepresence via Television: Two Dimensions of Telepresence May Have Different Connections to Memory and Persuasion," Journal of Computer-Mediated Communication, 3 (September), http://www.ascusc.org/jcmc/vol3/issue2/kim.html.

King, N. J. (2008). Direct Marketing, Mobile Phones, and Consumer Privacy: Ensuring Adequate Disclosure and Consent Mechanisms for Emerging Mobile Advertising Practices, Federal Communications Law Journal, 60(2), pp. 231-324.

Kolsaker, A. & Drakatos, N. (2009). Mobile advertising: The influence of emotional attachment to mobile devices on consumer receptiveness, Journal of Marketing Communications, 15(4), 267-280.

Lee, T. (2005). The Impact of Perceptions of Interactivity on Customer Trust and Transaction Intentions in Mobile Commerce, Journal of Electronic Commerce Research, 6(3), pp. 165-180.

Lee, Y. H. (2000). Manipulating Ad Message Involvement through Information Expectancy: Effects on Attitude Evaluation and Confidence, The Journal of Advertising, 29(2), pp. 29-43.

Lee, Y. H. & Mason, C. (1999). Responses to Information Incongruency in Advertising: The Role of Expectancy, Relevancy, and Humor, Journal of consumer Research, 26 (September), pp. 156-169.

Leppäniemi, M., & Karjaluoto, H. (2005). Factors influencing consumers' willingness to accept mobile advertising: A conceptual model, International Journal of Mobile Communication, 3(3), pp. 197–213.

Li, K. & Du, T. C. (2012). Building a targeted mobile advertising system for location-based services, Decision Support Systems, 54, 1-8.

Liu, Y. & Shrum, L. J. (2002). What is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness, Journal of Advertising, 31(Number 4), pp. 53-64.

Lustria, M. L. A. (2007). Can Interactivity Make a Defference? Effects of Interactivity on the Comprehension of and Attitudes Toward Online Health Content, Journal of the American Society for Information Science and Technology, 58(6), pp. 766-776.

Maneesoonthorn, C. & Fortin, D. (2006). Texting Behaviour and Attitudes Toward Permission Mobile Advertising: An empirical Study of Mobile Users' Acceptance of SMS for Marketing Purposes, International Journal of Mobile Marketing, 1(1), pp. 66-72.

MMA (2009). Mobile Advertising Guidelines, MMA: 1-25.

Napoli, J. & Ewing, M. T. (2000). The Net Generation: An Analysis of Lifestyles, Attitudes and Media Habits, Journal of International Consumer Marketing, 13(1), pp. 21-34.

Neighmond, P. (2010). Working to Stop Teens Texting Behind the Wheel, Pew Internet & American Life Project, Pew Resarch Center.

Nittala, R. (2011). Registering for incentivized mobile advertising: Discriminant analysis of mobile users, International Journal of Mobile Marketing, 6(1), 42-53.

Nye, C. W. (2009). The Influence of Uncertainty Avoidance on comparative Advertising Effectiveness in France and the Netherlands, Society for Marketing Advances, New Orleans, Louisiana.

Okazaki, S. (2005). Mobile advertising adoption by multinationals, Internet Research,15(2), pp. 160-180.

Okazaki, S., Katsukura, A., & Nishyama, M. (2007). How Mobile Advertising Works: The Role of Trust in Improving Attitudes and Recall, Journal of advertising Research, 47, pp. 165-178.

Paek, H.-j., Yu, H.J., Hove, T., & Bae, B. (2009). Is Online Health Promotion Culture-Bound?: Cultural Charateristics Manifested in U.S. and South Korea Antismoking Websites, Journal of Advertising, 38(1), pp. 35-48.

Park, T., Shenoy, R., & Salvendy, G. (2008). Effective advertising on mobile phones: a literature review and presentation of results from 53 cases studies, Behaviour & Information Technology, 27(5), pp. 355-373.

Peters, C., Amato, C. H., & Hollenbeck, C. R. (2007). An exploratory investigation of consumers' perceptions of wireless advertising, Journal of Advertising, 36(4), pp. 129–145.

Pew Internet & American Life Project (2010). Mobile Access 2010. Accessed on September 10, 2012 at http://pewinternet.org/Reports/2010/Mobile-Access-2010.aspx.

Putrevu, S. & Lord, K. R. (1994). Comparative and Noncomparative Advertising: Attitudinal Effects Under Cognitive and Affective Involvement Conditions, The Journal of Advertising, 23 (June), pp. 77-90.

Rojas-Mendez, J. I., G. Davies, & Madran, C. (2009). Universal differences in advertising avoidance behavior: A cross-cultural study, Journal of Business Research, 62, pp. 947-954.

Saladow, K. (2012). The iPhone/Android hits the DR market, Response, September, 46-51.

Sonnac, N. (2000). Reader's Attitudes Toward Press Advertising: Are They Ad-Lovers or Ad-Averse? The Journal of Media Economics, 13(4), pp. 249-259.

Shamdasani, P. N., Stanaland, A., & Tan, J. (2001). Location, Location, Location: Insights for Advertising Plscement on the Web, Journal of Advertising Research, 41 (July/August), pp. 7-21.

Shankar, V., Venkatesh, A., Hofacker, C., & Naik, P. (2010), Mobile marketing in the retailing environment: Current insights and future research avenues, Journal of Interactive Marketing, 24, 111-120.

Soroa-Koury, S. & Yang, K.C.C. (2010). Factors affecting consumers' responses to mobile advertising from a social norm theorical perspective, Telematics and Informatics, 27, pp. 103-113.

Speck, P. S. & Elliott, M.T. (1997). Predictors of Advertising Avoidance in Print and Broadcast Media, Journal of Advertising, 26(3), pp. 61-76.

Steuer, J. (1992), Defining virtual reality: Dimensions determining telepresence, Journal of Communication, 42 (4), 73-93.

Stout, P. A., J. Villegas, & Kim, H. (2001), "Enhancing learning through use of interactive tools on health-related websites," Health Education Research, 16(6), pp. 721-733.

Tsang, M. M., S.-C. Ho, & Liang, T-P. (2004), "Consumer Attitudes Toward Mobile Advertising: An empirical Study," International Journal of Electronic Commerce, 8(3), pp. 65-78.

West, D., & G. Prendergast (2008), "Passive-Active Advertising Avoidance in China," American Academy of Advertising, San Mateo, California.

Xu, D. J., S. S. Liao, & Li, Q. (2007), "Combining empirical experimentation and modeling techniques: A design research approach for personalized mobile advertising applications," Decision Support Systems, 44, pp. 710-724.

Yang, B. H., Kim, Y., & Yoo, C. (2012). The integrated mobile advertising model: The effects of technology- and emotion-based evaluations, Journal of Business Research (in press).

Yang, M., D. R. Roskos-Ewoldsen, Dinu, L., & Arpan, L. (2006), "The Effectiveness of "In-Game" Advertising: Comparing College Students' Explicit and Implicit Memory for Brand Names," Journal of Advertising, 35(4), pp. 143-152.

Yu, H. J., H.-J. Paek, Hove, T., & Bae, B. (2008), "Cross-cultural comparison of interactivity and advertising appeals on antismoking web sites in the United States and South Korea," Internet Research, 18(5).

Yu, H. J. & Cude, B.J. (2009). Hello, Mrs. Sarah Jones! We recommend this Product' Consumers' perceptions about personalized advertising: comparisons across advertisements delivered via three different types of media, International Journal of Consumer Studies, 33, pp. 503-514.

Yu, H. J. & Cude, B.J. (2009). Possible Disparties in Consumers' Perceptions Toward Personalized Advertising Caused by Cultural Differences: U.S. and Korea, Journal of International Consumer Marketing, 21, pp. 251-269.

Yu, H. J., K. W. King, & Yoon, H. (2009). How Much are Health Websites Influenced by Culture? Content Analysis of Online Diet Programs in the United States, the United Kingdom, and Korea, Journal of Promotion Management, 15(4), pp. 1-30.