

GENERATION Y ATTITUDES TOWARD MOBILE ADVERTISING:

IMPACTS OF MODALITY AND CULTURE

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Mobile phone usage has grown rapidly and is widely used as an advertising channel. Both short message service (SMS) and multimedia messaging service (MMS) are typically used for mobile advertising. The goals of this study are to examine the determinants of attitudes toward mobile advertising in an apparel context and subsequent impact on behavior intention and to investigate the effects of modality and culture on attitudes toward apparel mobile advertising.

Results indicate that entertainment, informativeness, irritation, and credibility are determinants of attitudes toward apparel mobile advertising, and attitudes can explain behavioral intention at least in part. Perceived entertainment is different between SMS and MMS apparel mobile advertising, and perceived entertainment, informativeness, irritation, and credibility are different between U.S. and Korea participants.

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CHAPTER 1

INTRODUCTION

Since the 1990s, the Internet has been an effective business tool (Ngai & Gunasekaran, 2007). Consequently, e-commerce has grown exponentially due to the advantages of transactional convenience, ease of renewing information, and highly interational features. Globally, there were 1.4 billion Internet users in 2008, and, in the same year, e-commerce accounted for more than \$470 billion in sales (Wood, 2009). In spite of its advantages, e-commerce is constrained due to fixed Internet lines and the restricted range of wireless, major limitations of e-commerce. Mobile phones, however, overcome these limitations through unlimited wireless capability (Ngai & Gunasekaran, 2007) freeing consumers from the limitations of fixed-line personal computers (Clarke, 2001). Accordingly, mobile phone usage has achieved rapid growth.

By 2008, there were approximately 4 billion mobile phone subscribers globally (International Telecommunication Union, 2009b). Due to worldwide mobile phone distribution and the characteristics of personalization, ubiquity, convenience, and localization, the potential for advertisers was evident. Mobile advertising expenditures worldwide were \$4.5 billion in 2008 (Gauntt, 2008) and are expected to reach \$19.1 billion by 2010, a 76% increase.

Both short message service (SMS) and multimedia message service (MMS) are used for mobile advertising and are a logical extension of e-mail commercial messages (Jaffee, 2007) using different modality features. These two modalities differ in that SMS messages can be no more than 160 characters in length and are limited to text, while MMS messages add images, audio, and video to SMS.

Other researchers have examined consumers' attitudes toward SMS advertising (Carroll, Barnes, Scornavacca, & Fletcher, 2007; Cheng, Blankson, Wang, & Chen, 2009; Rettie, Grandcolas & Deakins, 2005; Tsang, Ho, & Liang, 2004), but MMS advertising is used less frequently and has attracted even less empirical attention (Cheng et al., 2009). In addition, different types of modality can affect consumer involvement toward mobile advertising depending upon message content (Nasco & Bruner, 2008). Therefore, examining the effects of modality on consumers' attitudes toward mobile advertising is an important area of inquiry.

Due to the newness of the mobile phone, researchers prefer a sample that is well acquainted with this technology. Gen Y consumers are technologically sophisticated and never have experienced life without modern electronic technologies (Herbison & Boseman, 2009). Furthermore, the mobile phone is the favorite device for Gen Y consumers worldwide (Crosman, 2008) who tend to exhibit a global perspective (Partridge & Hallam, 2006). In other words, Gen Ys tend to relate to the world and global issues. Accordingly, understanding Gen Y consumers' attitudes toward mobile advertising in a cross-cultural context is vital.

Purpose of Study

Due to the rapid growth of mobile usage, mobile advertising is an important issue among retail practitioners, and SMS and MMS messages are representative of mobile advertising methods (MMA Global, 2009). Based on a review of the relative literature, the primary purposes of this study were to: (1) identify determinants of attitudes toward mobile advertising and (2) determine the subsequent impacts on behavioral intention. Secondary purposes were to (3) investigate the effects of modality and (4) culture on Gen Y consumers' attitudes toward apparel mobile advertising.

Assumptions

It was assumed that participants in both the United States and Korea understood the questionnaire items and responded truthfully. It also was assumed that participants understood SMS or MMS mobile advertising.

Operational Definitions

Apparel

Apparel refers to covering made to be worn on a person's body and widely called clothing or attire (Rosenau & Winson, 2006, p. 483).

Attitudes

Attitudes are generally considered an individual's inclination to respond to specific situations (Chowdhury, Parvin, Weitenberner, & Becker, 2006). Relative to advertisements, attitudes are individuals' dispositions toward specific objects or ideas, including positive or negative reactions to commercial messages (Chakrabarty & Yelkur, 2005).

Behavioral Intention

Intention is the antecedent of behavior (Malhotra & McCort, 2001) and is a mental plan of individuals to engage in specific behavior. Behavioral intention is the measurement of people's power of intention to accomplish behavior and is widely considered the result of attitude (Fishbein & Ajzen, 1975).

Consumers

Consumers refer to individuals who use or consume products which they purchased (Rath, Peterson, Greensley, & Gill, 1994).

Credibility

Credibility is the degree to which consumers trust commercial messages about products or brands (Mackenzie & Lutz, 1989) and rely upon advertisers' claims (Chowdhury et al., 2006).

Customers

Customers refer to people who purchase products for the purpose of personal or business use (Rath et al., 1994).

Electronic Commerce (E-commerce)

E-commerce is online business transactions, including the transfer of actual products and services (Export.Gov, 2009) and includes business-to-business, business-to-consumer, and consumer-to-consumer transactions.

Entertainment

For the purposes of this study, entertainment refers to amusing and enjoyable experiences facilitated by media (Okazaki, 2005a) and offers individuals diversion, escapism, or emotional release (Haghirian, Madlberger, & Tanuskova, 2005).

Generation Y (Gen Y)

Gen Y consumers are a cohort born between 1977 and 1997 (Dulin, 2005) and also are identified as Millennials, Generation WWW, and Digital. In Korea, Gen Y is widely called the BRAVO generation (Ye, Jin, Cho, & Jung, 2009).

Global System for Mobile Communications (GSM)

GSM is a digital mobile cellular protocol developed in Europe and used in more than 170 nations worldwide (International Telecommunication Union, 2006). GSM provides strong

message signaling capabilities strengthening global roaming compared to the first generation analogue systems with self-acting network location detection and adjustment (Rahnema, 1993).

Hofstede`s Model for National Cultures

The Hofstede model for national culture was developed by Geert Hofstede to analyze national cultures using specific criteria (Hofstede & Hofstede, 2005). Hofstede identified five dimensions that can be used to classify national cultures: power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation.

Informativeness

In commercial messages, informativeness is the ability of advertisements to convey beneficial information (Daugherty, Logan, Chu, & Huang, 2008) and is demonstrated by the degree to which web providers offer utilitarian and practical information (Okazaki, 2005a).

Irritation

In the advertising area, irritation refers to a commercial message that creates displeasure, annoyance, evokes little perseverance (Aaker & Bruzzone, 1985) and can be derived from the product itself or perceived advertising deceptiveness (Chakrabarty & Yelkur, 2005).

Mobile Advertising

Mobile advertising is a commercial message transmitted to target consumers through a handset (MMA Global, 2008).

Mobile Commerce (M-commerce)

M-commerce is a business with monetary value performed through a mobile network (Clarke, 2001), especially mobile phones. Business transactions can include stock trading, merchandise exchange processes, and banking (Khalifa & Shen, 2008).

Modality

In this study, modality is defined as a cognitive determinant, and it is associated with specific encoding mechanisms and their connected processes of memory recalling (Russell, 2002). By the effect of modality, an individual can recognize meaningful stimuli more profoundly, and greater recall can be expected. In addition, modality was used to the subordinate concept of advertising characteristics, such as color, size, complexity, and so on, and modality indicated style of advertising with the terms such as pictorial ads and verbal ads (Ryu, Lim, Tan, & Han, 2007).

Multimedia Messaging Service (MMS)

MMS is an advanced version of SMS used to send and receive multimedia messages (e.g., text, images, video, audio) to compatible mobile phones (Mostafa, 2002; Novak & Svensson, 2001).

Short Message Service (SMS)

SMS is a service offered to GSM subscribers to send and receive text messages (Novak & Svensson, 2001) not exceeding 160 characters (MMA Global, 2008).

CHAPTER 2

LITERATURE REVIEW

Consumers' increasing reliance on the Internet for product and service information has attracted the attention of marketers around the world. At the same time, more consumers are relying on mobile devices not only for communication purposes, but also to engage in commerce. Consequently, industry experts foresee greater use of mobile messages sent to consumers for advertising and promotional purposes (Nasco & Bruner, 2008).

State of Mobile Commerce

By 2009, approximately 26% of the world population was using the Internet (International Telecommunication Union, 2009c), meaning that 1.9 billion people worldwide are connected to the Internet through computers at home. In 2008, Internet users in U.S. and Korea were 220 million (73%) and 34 million (71%) respectively of the total population. In the same year, the value of e-commerce transactions was approximately \$668 billion globally (Interactive Media in Retail World, 2009) of which \$127 billion (19%) was generated in the U.S. and \$69 billion (10.3%) in Korea. The growth in e-commerce is driven, in part, by purchasing and selling convenience, ease of updating information, and interaction with consumers through query responses and after-sales support.

Advanced technology transformed networks from a wired to wireless capability (Ngai & Gunasekaran, 2007) using mobile platforms. Thus, consumers can now escape conventional constraints of fixed-line personal computers (Clarke, 2001). This new capability foreshadowed the growth of m-commerce, identified as "any transaction with monetary value that is conducted via a mobile network" (Ngai & Gunasekaran, 2007, p. 3). Approximately 1.4 billion

people worldwide were mobile phone subscribers by 2008 (Choi, Hwang, & McMillan, 2008) and that number was expected to climb to 4.6 billion (International Telecommunication Union, 2009c) by the end of 2009.

Mobile Phones

Mobile phone usage is particularly strong in the United States and Korea. By 2006, 70% of the U.S. and 83% of Korean population used mobile services (Choi et al., 2008). Two years later, in 2008, approximately 87% and 95% of the populations of the U.S. and Korea respectively were mobile subscribers (International Telecommunication Union, 2009b). Recognizing this important market, U.S. advertisers expended \$878 million on mobile commerce media in 2007 and almost doubled that amount to \$1.7 billion in 2008 (MMA Global, 2008). Furthermore, experts are forecasting U.S. mobile advertising to grow to \$7.5 billion by 2013 (Holmen, 2009), and Korean mobile advertising is expected to reach \$684 million by 2012 (Gallen, 2007).

Mobile Advertising

In a recent study of 263 companies, over 72% of participants reported using e-mail to communicate with consumers. Utilizing short message service (SMS) or multimedia messaging service (MMS) is a logical extension of current communication tools (Jaffee, 2007). Mobile communication using SMS and MMS offers advertisers advantages such as personalization, ubiquity, convenience, and localization (Clarke, 2001). The advantages of these direct consumer communications can lead to improved customer relationships and greater consumer response to promotional activities (Okazaki, 2005b). SMS and MMS communications are formed using different modalities. SMS messages can be no more than 160 characters in length and are

limited to text, while MMS messages add images, audio, and video to SMS. Using multimedia is more complex, but may also be more interesting and compelling for consumers.

Understanding consumers' responses to mobile advertising in a variety of contexts is essential for effective consumer communication. Consumer attitudes toward SMS advertising have received some scholarly attention (Okazaki, 2005b; Rettie et al., 2005; Tsang *et al.*, 2004).

In a study of 53 U.S., Japanese, and European multinational companies operating in Europe, participants reported that SMS mobile advertising enhanced brand identity, especially as part of integrated marketing communication strategies (Okazaki, 2005b). SMS also is effective in stimulating responses to advertising in terms of improving brand attitude and behavior intention (Rettie et al., 2005). Researchers have identified entertainment, informativeness, irritability, and credibility as determinants of attitudes toward SMS mobile advertising (Tsang et al., 2004). Furthermore, attitude toward SMS mobile advertising influenced intention to receive and read mobile advertisements, and ultimately, consumer behavior.

Textile and Apparel Industries

The textile and apparel industries are important industries worldwide. The global market total revenues in these two industries were \$1,972.2 billion in 2008 (Datamonitor, 2009). These two industries are expected to grow by a Compound Annual Growth Rate of 6.9% for the next five years, with revenues of \$2,751.2 billion by the end of 2013. Apparel represents a high percentage of e-commerce in both United States, a developed market, and Korea, an emerging market (Lee, Geistfeld, & Stoel, 2007). According to the U.S. Census Bureau (2009a), clothing and clothing accessories were the prime merchandise categories in the United States for e-commerce in 2007. Similarly, Korea National Statistical Office (2008) reported that

apparel/fashions and related goods accounted for approximately 17% of total e-commerce merchandise categories, followed by travel and reservation services at approximately 16% in 2008.

Tsang, et al. (2004) suggested that mobile advertising has similar features to Internet advertising in that “both are emerging media used to deliver digital texts, images, and voices with interactive, immediate, personalized, and responsive capabilities” (p. 68). Because e- and m-commerce have many points of commonality, consumer behavior also may be similar. The potential for global fashion business suggests that mobile advertising is an important research area.

Mobile Advertising in Apparel Industry

Traditionally, apparel advertising has focused on images (Seitz, 1998), especially in magazines and direct response media, and MMS can deliver images that are critical for retailers (Novak & Stevenson, 2001). Direct response using a mobile platform may be an effective advertising medium because consumers can respond easily by accessing pertinent websites, and/or contacting retailers via telephone. Accordingly, mobile advertising can play an important role in direct response advertising for companies of apparel products. Furthermore, these new transactional channels can strengthen brand identity. Nysveen, Pedersen, Thorbjornsen, and Berthon (2005) suggest that using additional channels positively impacts the effects of the primary channel usage. Therefore, expanding the mobile channel can be essential for apparel and related enterprises. Already, some dominant global apparel enterprises, such as Nike, Adidas, and H&M are utilizing mobile phones as a new transactional channel (Guedes & Soares, 2005).

U.S. companies are increasingly considering global expansion due to mature, overcrowded domestic markets. However, global consumers' attitudes toward advertising modality in a mobile medium may vary, depending upon the country and culture. Accordingly, mobile apparel advertising research in cross-cultural contexts is essential.

Development of Mobile Advertising

Consumers' use of telecommunications and the Internet fueled the growth of e-commerce during the 1990s, which quickly evolved into m-commerce ("E-commerce Seen Evolving," 2000). The power of the Internet applied to mobile devices including mobile phones allowed merchants to connect with consumers in a timeless market space. Initially, 1G wireless service delivered analogue signals and transmitted voice only (MMA Global, 2008). During 1990's, 2G services including global system for mobile communications (GSM) were expanded widely, using voice and data transmission. However, 2G supported only 9.6 kilobit per second, a rate lower than traditional landline copper wires which can deliver 64 kilobit per second (Barnett, Hodges, & Wilshire, 2000). Accordingly, only short messages, SMS, could be transferred through mobile phones. Next, 3G wireless services enabled a higher data transfer rate from 144 kilobit per second to 2 megabit per second (MMA Global., 2008). Thus, 3G offered advanced voice capacity and complete motion video streaming and high quality image transfer services. The 3G technology attracted diverse mixtures of advertisements that have spread around the world. "Global 3G Subscribers" (2008) reported that 3G service subscribers numbered 600 million globally, a 45% increase from 2007 (Varshney, 2008). Therefore, mobile advertising is attractive to marketers.

Generation Y (Gen Y) Consumers

Gen Y consumers were born between 1977 and 1997 (Dulin, 2005) and also are identified as Millennials, Generation WWW, and Digital. In Korea, Gen Y is widely called the BRAVO generation (Ye et al., 2009). By 2009, there were over 71 million Gen Ys in the U.S., representing approximately 23% of the population (Hewlett, Sherbin, & Sumberg, 2009; U.S. Census Bureau, 2009b). In Korea, 14 million Gen Ys comprised 30% of the total population (Statistics Korea, 2009).

U.S. Gen Y Consumers

Several characteristics of U.S. Gen Ys, distinguish this cohort from previous generations. First, this consumer market is expected to have stronger financial power than any previous generation. Second, parents were exceedingly involved during Gen Ys' formative years. Consequently, Gen Ys grew up with hectic schedules that included sports, music lessons, and scheduled play-dates, and they have always communicated with their parents. Third, Gen Ys are better educated than former generations (Herbison & Boseman, 2009). In fact, Gen Y's college acceptance rate is twice than that of Baby Boomers. Next, Gen Y employees' perspectives, attitudes, and values toward work are influenced by worldwide communication and immediate access to information through the Internet, which also can be expected to influence their consumer behavior (Baldonado & Spangenburg, 2009). Finally, Gen Y is described as communicative, productive, technologically sophisticated (Baldonado & Spangenburg, 2009), talented, astute, and techno-savvy (Berta, 2005).

In addition to being a primary market, Gen Y strongly influences family purchase decisions, making this consumer segment a focal market for many companies. Moreover, Gen Ys

are strongly concerned about the world and overall global issues (Partridge & Hallam, 2006). Gen Ys have spent their formative years in a globally linked, informational, digitally based culture (Frاند, 2000).

Gen Y is the first generation to never have experienced a world without advanced electronic technologies (Herbison & Boseman, 2009), having always lived with the Internet, TiVo, digital cable, and cell phones. Consequently, Gen Ys prefer using social networking sites and text messages to communicate with others. Among diverse mobile devices, such as personal digital assistant (PDA), ultra-mobile PC (UMPC), and portable media player (PMP), the mobile phone is the most favored device for Gen Y (Crosman, 2008). This consumer market can endure life without the Internet and television. However, the mobile phone is the one device considered essential, primarily because of the access it provides to the Internet and connectivity to friends, family, and television.

Korean Gen Y Consumers

The aforementioned acronym BRAVO is a term widely used for Korean Gen Ys and clearly describes characteristics of this consumer segment. The acronym stands for broad network, reward-sensitive, adaptable, voice, and oriented to my life (Ye et al., 2009). BRAVO reflects five core values: (1) Broad network means having a variety of interests and forming wide ranging networks; (2) Reward-sensitive indicates the likelihood of a response to incentives and compensation; (3) Adaptable connotes a flexibility when encountering new environments, such as that of information technology (e.g., software, telecommunications, computers); (4) Voice implies willingness to express emotions, candidness, and expecting similar characteristics in

others; and (5) Oriented to my life suggests attaching more importance to personal rather than work life.

It is evident that U.S. and Korean Gen Ys share some characteristics including a global intellect and interest in worldwide news and events (Partridge & Hallam, 2006). Gen Ys experience with technology and adaptability increase their global intelligence (Ye et al., 2009). Additionally, Gen Ys have superior language skills, overseas experience, and confidence in living abroad. Accordingly, cross-cultural research examining Gen Y consumers' attitude toward mobile advertising is warranted.

Gen Y E- and M-Commerce

Internet services have high penetration into this market segment. Seventy-four percent of U.S. and 78% of Korean consumers are Internet subscribers (International Telecommunication Union, 2009a). Furthermore, 71% of Gen Y consumers in the U.S. and 84% in Korea make purchases via e-commerce.

Gen Ys generate sales of approximately \$187 billion annually or a total of \$260 per month in all merchandise and service categories, including wireless communication (Kumar & Lim, 2008). More than 94% of U.S. Gen Y college students own computers and cell phones (Bassett, 2008), and 72% send or receive an average of 126 SMS messages monthly (Kumar & Lim, 2008). Therefore, this sub-segment of Gen Y consumers is an important market to study.

Attitudes toward Mobile Advertising

Attitudes are mental conditions used by people to understand and react to situations, circumstances (Chowdhury et al., 2006), objects, or ideas. Attitudes toward advertisements are consumers' inclinations to react to a particular message in a positive or negative way

(Chakrabarty & Yelkur, 2005). In the same vein, attitudes toward mobile advertising are the consumer's propensity to react positively or negatively to specific mobile advertising. These attitudes pertain not only to the mobile advertisement itself, but also to the modality employed for delivery (Chowdhury et al., 2006).

Mobile advertising is characterized as permission-, incentive-, and/or location-based (Zoller, Housen, & Matthews, 2001, as cited in Tsang et al., 2004). Permission-based mobile advertising is a message that the consumer has agreed to accept, while incentive-based advertising provides specific monetary value to consumers. Lastly, location-based advertising is sent to consumer-designated locations, such as a mobile phone.

These unique attributes differentiate mobile from traditional advertising media such as television and radio. Entertainment, informativeness, and credibility positively affect consumers' attitudes toward mobile advertising (Tsang et al., 2004) in contrast to the negative influence of irritating commercials. Consumers are more likely to have positive attitudes toward and read permission-based mobile advertising, especially if they include incentives (Tsang et al., 2004).

Conceptual Framework

The research framework (see Figure 1) is a modification of models from previous research (Haghirian et al., 2005; Tsang et al., 2004) and provides the conceptual framework for this study. Entertainment, informativeness, irritation, and credibility are the core attributes that determine attitudes toward traditional advertising. Attitudes are generally considered an individual's inclination to respond to specific situations (Chowdhury et al., 2006). Relative to

advertisements, attitudes are individuals' dispositions toward specific objects or ideas, including positive or negative reactions to commercial messages (Chakrabarty & Yelkur, 2005).

As new advertising channels (e.g., mobile) emerge using different modalities (i.e., SMS, MMS), it is essential to understand the impact on attitudes toward advertising. Thus, it is important to determine how mobile advertising affects these core attributes that influence attitudes toward advertising. In addition, consumers' attitudes toward advertising also impact subsequent behavioral intention (Ajzen, 1991; Davis, Bagozzi, & Warshaw, 1989; Fishbein & Ajzen, 1975; Okazaki, 2007; Yang & Jolly, 2008).

Modality and culture serve as moderators of consumers' perceptions of advertising attributes (i.e., entertainment, informativeness, irritation, and credibility) that affect attitudes toward mobile advertising. Retailers are challenged by fragmented advertising media and must identify the most effective methods of communicating commercial messages to their target markets. Understanding how, when, and where target markets are receptive to advertising messages is critically important.

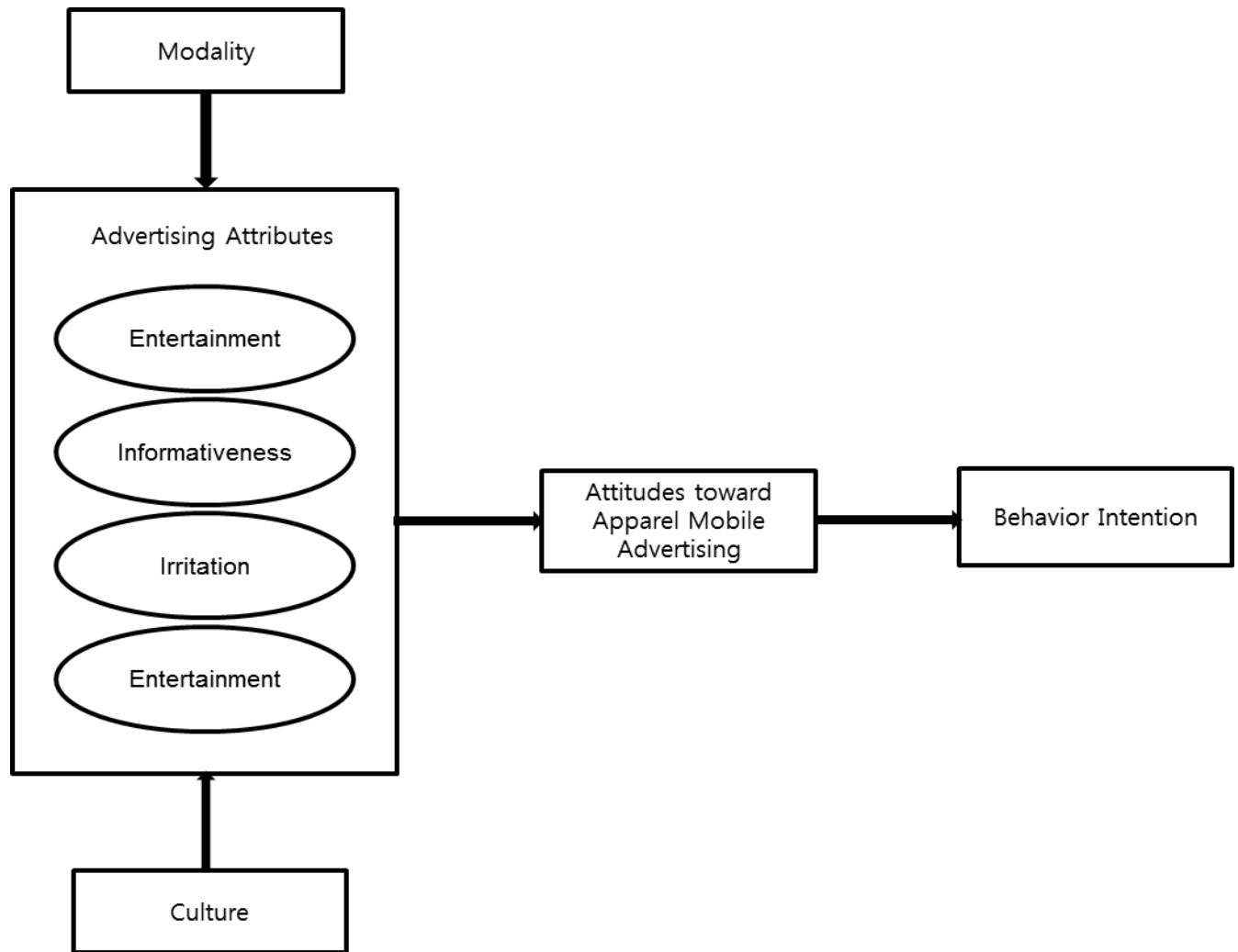


Figure 1. Conceptual model.

Problem Statement and Hypotheses

The primary purposes of this study were to: (1) identify determinants of attitudes toward mobile advertising and (2) determine the subsequent impacts on behavioral intention. Secondary purposes were to (3) investigate the effects of modality and (4) culture on Gen Y consumers' attitudes toward apparel mobile advertising.

The following hypotheses were developed to illustrate the relationships between advertising and attitudes toward mobile advertising and behavior intention, as well as the moderating effects of modality and culture.

Entertainment

Perceived entertainment in advertising can be defined as an amusing and pleasant experience through the use of media (Okazaki, 2005a). Accordingly, entertaining advertising can be described as commercial messages that elicit consumers' positive feelings. In general, a personal feeling of enjoyment positively affects overall attitudes toward advertising (Shavitt, Lowrey, & Haefner, 1998).

In a similar vein, entertaining advertising messages impact consumers' attitudes toward mobile advertising (Tsang et al., 2004). Especially, in the case of m-commerce interactive advertising, researchers indicate that consumers' attention is easily captured by entertaining mobile advertising (Haghirian et al., 2005). Accordingly, the following hypothesis is tested:

H1: Perceived entertainment will positively affect consumers' attitudes toward apparel mobile advertising.

Informativeness

Informativeness is an attribute of advertising that provides helpful information. A Gallop Organization study of human nature and behavior reported that consumers generally have positive attitudes toward informative advertising (Brackett & Carr, 2001), including advertisements in traditional mass media, such as television and magazines (Ducoffe, 1995).

Informativeness in e-commerce can be defined as the degree of practical and supportive information offered by web providers, an attribute positively related to consumer attitudes toward web advertising (Okazaki, 2005a). In addition, the quality of information offered in

companies' web-pages is a determinant of consumers' perceptions of companies and their products (Haghirian et al., 2005) and a predictor of consumers' perceived value of Internet (Ducoffe, 1996) and mobile advertising (Haghirian et al., 2005). In addition, perceived informativeness affects consumers' attitudes toward mobile advertising in general (Tsang et al., 2004). Based on the literature, the following hypothesis is posited:

H2: Perceived informativeness will positively affect consumers' attitudes toward apparel mobile advertising.

Irritation

Irritation in advertising can be defined as an advertisement that generates annoyance, discontent, and brief intolerance (Aaker & Bruzzone, 1985). Even a small irritation can impair the effectiveness of advertising. Irritation can be caused by the focal merchandise itself or by advertisements considered to be manipulative or deceptive (Chakrabarty & Yelkur, 2005). Consumers describe advertising using complex, annoying, or offending techniques as irritating. Irritation results in negative attitudes toward advertising (Pelsmacker & Bergh, 1998) and brands (Chakrabarty & Yelkur, 2005), and the level of negativism as a result of irritating advertising varies by brand. Furthermore, advertising irritation is predictive of perceived value of Internet (Brackett & Carr, 2001) and mobile (Haghirian et al., 2005) advertising. Attitudes toward web advertising are negatively related to perceived irritation of web advertising (Chakrabarty & Yelkur, 2005). Tsang et al. (2004) reported that perceived irritation of mobile advertising affected consumers' attitudes toward mobile advertising. Thus, the following hypothesis is tested:

H3: Perceived irritation will negatively affect consumers' attitudes toward apparel mobile advertising.

Credibility

Mackenzie and Lutz (1989) defined credibility in advertising as the degree to which consumers trust retailers' advertising claims about their brands. According to Chowdhury et al. (2006), credibility is consumers' confidence in the honesty and plausibility of the advertisement. In other words, as consumers perceive higher credibility, advertising value increases. Advertising value is defined as "a subjective evaluation of the relative worth or utility of advertising to consumers" (p.1).

In the e-commerce area, credibility also is a direct predictor of attitudes toward internet advertising (Brackett & Carr, 2001). Credibility also plays an important role in mobile advertising. Haghirian et al. (2005) reported a positive relationship between credibility and consumers' perceived value of mobile advertising. Thus, the following hypothesis is tested:

H4: Perceived credibility will positively affect consumers' attitudes toward apparel mobile advertising.

Behavioral Intention

Intention refers to individuals' conscious plan to make an effort to engage in a behavior (Malhotra & McCort, 2001) and measures the power of individuals' inclination to perform behavior (Yang & Jolly, 2008). Behavioral intention is widely accepted as the consequence of attitudes (Ajzen, 1991; Davis et al., 1989; Fishbein & Ajzen, 1975; Okazaki, 2007; Yang & Jolly, 2008). Theories of reasoned action (TRA) and technology acceptance model (TAM) contend that attitudes directly influence behavioral intention (Yang & Jolly, 2008). Accordingly, the following hypothesis is proposed:

H5: Consumers' attitudes toward apparel mobile advertising will positively affect behavioral intention.

Modality Effects

Modality can affect advertising in important ways. Ryu et al. (2007) found that in a cluster of web site competitive banner advertisements of text only compared to pictorial messages had a more positive response. Modality also can impact consumer response to messages using mobile technology (Nasco & Bruner, 2008). Consumers are highly involved with weather information using only a single modality, such as text or audio. For advertising messages, however, recall was improved using streaming video with audio. Thus, there is a need to understand the effects of wireless information using a variety of modalities, such as text, audio, images, and streaming video, to name a few. Cheng et al. (2009) examined different consumer attitudes toward advertising in the contexts of Internet websites, e-mail, SMS, and MMS. Based on the advertising attributes of entertainment, informativeness, and irritation, results suggest that websites and MMS advertising are more informative and entertaining than e-mail and SMS advertising. Additionally, websites and MMS advertising were less irritating than e-mail and SMS advertising. Few, if any, studies have examined consumers' perceptions of apparel advertising using various mobile modalities. Accordingly, the following hypotheses are proposed:

- H6: Perceived entertainment will be different between SMS and MMS apparel mobile advertising.
- H7: Perceived informativeness will be different between SMS and MMS apparel mobile advertising.
- H8: Perceived irritation will be different between SMS and MMS apparel mobile advertising.
- H9: Perceived credibility will be different between SMS and MMS apparel mobile advertising.

Individualistic and Collectivist Cultures

The United States and Korea are the focal countries for this study. These markets are especially relevant in a study of mobile advertising, as both the United States and Korea have high mobile service usage (Choi et al., 2008) and offer a cultural contrast. The U.S. is a highly individualistic culture, while Korea is the quintessential collectivistic country (Bang, Raymond, Taylor, & Moon, 2005; Cho, Kwon, Gentry, Jun, & Kropp, 1999; Choi et al., 2008; Hofstede & Hofstede, 2005; Taylor, Miracle, & Wilson, 1997). U.S. consumers scored 91 out of 100, and Korean consumers registered 18 out of 100 on the Individualist dimension of Hofstede's Model of National Cultures (Hofstede & Hofstede, 2005), meaning that U.S. and Korean consumers are at opposite ends on a continuum.

Edward T. Hall, U.S. anthropologist, classified cultures as either high- or low-context, depending upon the preferred communication styles (Hofstede & Hofstede, 2005). High-context cultures (e.g., collectivist) rely to a great extent upon non-verbal information to convey meaning. On the other hand, low-context cultures (e.g., United States) convey information with structured, detailed messages that rely upon words and symbols for meaning. Consequently, preferred communication styles depend upon culture (i.e., individualistic, collectivistic) (Park & Jun, 2003). Consumers in individualistic cultures prefer analytical thinking and communication. On the other hand individuals living in a collectivistic culture attach importance to group harmony and tend to avoid explicative thinking. Researchers have analyzed the effects of culture on advertising. In a cross-culture comparison of television advertising messages, U.S. Gen Y consumers preferred information-rich commercials compared to their Korean counterparts who preferred lower information levels (Taylor et al., 1997). Also, expressions of

individualism in national brand television commercials are more numerous in the United States than in Korea (Cho et al., 1999), while commercials incorporating conversations among individuals are more prevalent in Korea compared to those in the United States.

Research examining advertising in other media also has been conducted. In a study of magazine advertisements, U.S. companies utilized rational appeals, while Korean advertisements relied on emotional appeals (Bang et al., 2005). Entertainment is the most important predictor of attitudes toward mobile advertising for both U.S. and Korean consumers (Choi et al., 2008). However, credibility is the primary predictor of purchase intention and advertising value for U.S. consumers, while informativeness is the most important predictor for Korean consumers. Accordingly, it is logical that U.S. and Korean consumers' attitudes toward mobile advertising will differ.

Accordingly, the following hypotheses are proposed:

- H10: Perceived entertainment will be different for U.S. and Korean Gen Y consumers.
- H11: Perceived informativeness will be different for U.S. and Korean Gen Y consumers.
- H12: Perceived irritation will be different for U.S. and Korean Gen Y consumers.
- H13: Perceived credibility will be different for U.S. and Korean Gen Y consumers.

CHAPTER 3

METHODOLOGY

This chapter presents the methodology for this study including sample characteristics, instrument development, pilot study, and data collection procedures.

Sample and Data Collection

This study was approved by the Institutional Review Board (IRB) for the protection of human beings prior to data collection. The population for this study was Gen Y mobile subscribers in the United States and Korea who were familiar with using mobile phones, short message service (SMS), and multimedia messaging service (MMS). Trained researchers collected data in regularly scheduled classes at U.S. and Korean universities. A convenience sample of 430 undergraduate students at a major southwestern U.S. university ($n = 204$) and a major metropolitan Korean university ($n = 226$) was used in this study. Of the completed questionnaires, 407 were deemed usable and retained for data analysis.

Two versions of the questionnaire were developed. One version of the questionnaire elicited information relative to SMS modality, and the other version elicited information relative to MMS modality.

Instrument Development

Existing scales in the relevant literature were used to develop the self-administered questionnaires. Based on the literature review, research constructs included advertising attributes (i.e., entertainment, informativeness, irritability, credibility), attitudes toward mobile advertising, and behavior intention. Seven point Likert-type scales ranging from (1) *strongly disagree* to (7) *strongly agree* measured responses to each item.

Table 1

List of Measures

Variables	<i>n</i>	Source	α
Entertainment	5	Ducoffe (1996)	.85
Informativeness	7	Ducoffe (1996)	.82
Irritation	5	Ducoffe (1996)	.78
Credibility	3	Mackenzie & Lutz (1989)	.72
Attitudes toward apparel mobile advertising	3	Mackenzie & Lutz (1989)	.90
Behavioral Intention	3	Taylor & Todd (1995)	.89

The advertising attributes of entertainment, informativeness, and irritation were measured using Ducoffe's (1996) scale. Five items measured entertainment; seven items measured informativeness; and five items measured irritation. A three-item scale measured credibility (Mackenzie & Lutz, 1989), and a three-item scale measured attitudes toward advertising (Mackenzie & Lutz, 1989). Taylor and Todd's (1995) three-item scale was adapted to measure behavioral intention. Scales were adapted to accommodate the context, and one item, "apparel mobile advertising is biased," was reverse coded.

Each version (i.e., SMS, MMS) of the questionnaire consisted of a cover page followed by a definition and example of either a SMS or MMS advertisement, depending upon the version

of the questionnaire. The advertisements were for a brand, Dorodomoon, created for this study to help avoid bias toward a known brand. Dorodomoon represented a casual brand for both males and females because casual wear is the most popular online fashion category, and both men and woman participated in this study. Both the SMS and MMS advertisements contained the Web site address and the same promotional message describing 50% off for T-shirt products. However, the MMS message was more graphic due to its colorful font and images that included the brand logo and a background image. Modifications to the advertisements were made after consulting with faculty with advertising expertise.

Demographic characteristics including age, gender, education, monthly expenditures on apparel and apparel-related products, and monthly expenditures on mobile services were also elicited. Finally, the instrument was translated and back translated for data collection in Korea to ensure validity. Translation was validated by the back translation process.

Content Reliability

A pilot study was conducted at a U.S. university to test construct reliability in an apparel mobile advertising context, with a total of 53 students participating. Cronbach's alpha was computed to determine internal consistency of all items in the scale. Scale reliabilities for the items were acceptable with a range from 0.56 to 0.89. Reliability of 0.50 is acceptable in preliminary research (Nunnally, 1967). Therefore, the scales were deemed to be internally consistent. Consequently, no items were changed or deleted.

CHAPTER 4

RESULTS

A total 430 students from a public U.S. southwestern university ($n = 204$) and a Korean metropolitan university ($n = 226$) participated in this study. Participants were selected from a variety of majors were informed in writing that participation was voluntary, anonymous, and that there was no penalties or course credit for completing the questionnaire. Of the completed questionnaire, a total of 407 questionnaires were deemed to be usable and retained for data analysis purposes. Demographic characteristics of the samples are followed by results of data analysis, which included reliability tests, factor analysis, multiple regression analyses and t -tests.

Description of Sample

U.S. participants comprised 49.1% ($n = 200$) of the sample, and 50.9% ($n = 207$) were Korean participants. The majority of the sample were females ($n = 317, 77.9%$), and 22.1% ($n = 90$) were males. The mean age of participants was 21.6 years old, and all participants were in the age range of Gen Y. The majority of the sample were fashion merchandising majors ($n = 120, 29.4%$), followed by fashion design information ($n = 81, 19.9%$). Academic classification was evenly distributed among the undergraduate level, 31.2% of the sample at the senior level ($n = 127$), followed by the 30.0% at the freshman level ($n = 122$). Participants responding to the SMS ($n = 202, 49.6%$) and MMS ($n = 205, 50.4%$) versions of the questionnaires were evenly distributed. See Table 2.

All participants reported owning mobile phones ($n = 407, 100.0%$), and 28.7% ($n = 117$) spent less than \$25 for mobile services monthly. The majority of the sample ($n = 247, 60.7%$) receive one to ten mobile advertisements in one week, but 27.5% of the sample ($n = 112$) never

receive mobile advertisements. In terms of apparel mobile advertising, about 41.3% ($n = 168$) of the sample had received mobile advertising, but residual 58.7% of the sample ($n = 239$) had no experience of receiving mobile advertising from an apparel retailer. More than 34.4% ($n = 140$) of the sample spent \$26 to \$75 for apparel in brick-and-mortar stores, and 48.4% ($n = 197$) of the sample spent less than \$25 for apparel at online retailers monthly. Most of the participants used their mobile phone to make and receive phone calls ($n = 393$, 96.6%) and send and receive text messages ($n = 395$, 94.6%). See Table 3.

Table 2

Demographic Characteristics of the Participants (N = 407)

Variables	Total sample	
	Frequency	Percent
Country		
U.S.	200	49.1
Korea	207	50.9
Gender		
Female	317	77.9
Male	90	22.1
Age		
17 to 20	163	40.0
21 to 25	217	53.4
26 to 30	27	6.6

(table continues)

Table 2 (continued).

Variables	Total sample	
	Frequency	Percent
Major		
Business	40	9.8
Fashion Merchandising	120	29.4
Fashion Design Information	81	19.9
Food Engineering	25	6.1
Hospitality	49	12.0
Psychology	24	5.9
Others	68	16.9
Academic classification		
Freshman	122	30.0
Sophomore	67	16.5
Junior	86	21.1
Senior	127	31.2
Graduate student	5	1.2
Type of mobile advertising		
SMS	202	49.6
MMS	205	50.4

Table 3

Mobile Behaviors of the Participants (N = 407)

Variables	Total sample	
	Frequency	Percent
Have a mobile phone		
Yes	407	100.0
No	0	0.0
Money spent for mobile services monthly		
Less than \$10	117	28.7
\$11 to \$30	64	15.7
\$31 to \$50	71	17.4
\$51 to \$70	54	13.3
\$71 to \$90	46	11.3
\$91 to \$110	31	7.6
More than \$111	24	5.9

(table continues)

Table 3 (continued).

Variables	Total sample	
	Frequency	Percent
Receive mobile advertising messages in one week		
Never	112	27.5
1 to 10	247	60.7
11 to 20	28	6.9
21 to 30	7	1.7
31 to 40	3	0.7
41 to 50	1	0.2
More than 51	9	2.2
Receive apparel mobile advertising messages		
Yes	168	41.3
No	239	58.7
Money spent for apparel in brick-and-mortar monthly		
Less than \$25	93	22.9
\$26 to \$75	140	34.4
\$76 to \$125	106	26.0
\$126 to \$175	38	9.3
More than \$176	30	7.4

(table continues)

Table 3 (continued).

Variables	Total sample	
	Frequency	Percent
Money spent for apparel at online retailers monthly		
Less than \$25	197	48.4
\$26 to \$75	113	27.8
\$76 to \$125	69	17.0
\$126 to \$175	14	3.4
More than \$176	14	3.4
Use of mobile phone		
Make and receive phone calls	393	96.6
Send and receive text messages	385	94.6
Send and receive e-mail	135	33.2
Play games	206	50.6
Receive advertisements and sales promotions	91	22.4
GPS	110	24.6
Other	47	11.5

Statistical Analysis

Data analysis in this study included frequency distribution, reliability analysis, factor analysis, multiple regression, and independent samples *t*-test using Statistical Package for Social

Science (SPSS) version 16.0.1 (SPSS Inc., Chicago, <http://www.spss.com/>) for Windows® operating system (Microsoft Corporation, Redman, WA, <http://www.microsoft.com>).

Reliability Tests

Cronbach's alpha was used to test the internal reliability of scales in the context of apparel mobile advertising using SMS and MMS modality and to ensure reliability of scales, which were translated and back translated into Korean. With the exception of credibility ($\alpha = .61$), variables exceeded the Cronbach's alpha value of 0.70. Although the Cronbach's alpha value over 0.70 is considered reliable, the Cronbach's alpha value from 0.60 to 0.69 is regarded as moderately reliable (Robinson, Shaver, & Wrightsman, 1991). Therefore, all items were retained for further analysis. See Table 4.

Table 4

Reliability Test (N = 407)

Variables	n^a	α^b
Entertainment	5	.90
Informativeness	7	.89
Irritation	5	.73
Credibility	3	.61
Attitudes toward apparel mobile advertising	3	.87
Behavioral Intention	3	.84

Scale range: 1 = *Strongly disagree*; 7 = *Strongly agree*; ^aNumber of items; ^bCronbach's α

Factor Analysis

The construct of advertising attributes was subjected to factor analysis with varimax rotation to determine underlying dimensions. Results indicated a 4-factor structure of the advertising attributes construct. The first factor, Entertainment ($\alpha = .90$) explained 45.65% of variance and included five items which were "apparel mobile advertising is enjoyable," "apparel mobile advertising is entertaining," "apparel mobile advertising is pleasing," "apparel mobile advertising is exciting," and "apparel mobile advertising is fun to receive." The five items support Ducoffe's (1996) items to measure Entertainment as an advertising attribute.

The second factor, Informativeness ($\alpha = .89$) explained 9.08% of variance and contained six items which were "apparel mobile advertising is a good source of sales information," "apparel mobile advertising is a convenient source of sales information," "apparel mobile advertising makes sales information immediately accessible," "apparel mobile advertising supplies relevant sales information," "apparel mobile advertising provides timely information," and "apparel mobile advertising is a good source of up-to-date sales information." All items replicated the informativeness dimension in Ducoffe's scale (1996) except one, "apparel mobile advertising supplies complete sales information," which loaded on the Credibility factor in this study.

Three items, "apparel mobile advertising is confusing," "apparel mobile advertising is deceptive," and "apparel mobile advertising insults people's intelligence," loaded on the third factor, Irritation ($\alpha = .69$), which explained 6.41% of variance supporting Ducoffe's (1996) original scale. Two items, however, "apparel mobile advertising is annoying" and "apparel mobile advertising is irritating," were excluded due to factor loadings below .60.

The fourth factor, Credibility ($\alpha = .48$) explained 3.42% of variance and contained two items which were "apparel mobile advertising is biased" and "apparel mobile advertising supplies complete sales information." The reliability coefficient for the Credibility factor was comparatively low ($\alpha = .48$). The lower limit of the Cronbach's alpha value of 0.60 is regarded as moderately reliable (Robinson et al., 1991). Cronbach's alpha value less than .60 for items on the same factor may occur when considerable correlation exists with one related measure in convergent validity. One item, "apparel mobile advertising is biased," loaded on the Credibility factor, supporting Mackenzie and Lutz's (1989) scale, but two other items, "apparel mobile advertising is convincing" and "apparel mobile advertising is believable" were excluded due to factor loadings below .60. The item, "apparel mobile advertising supplies complete sales information" that was on the informativeness variable in Ducoffe's scale (1996), loaded on the Credibility factor in this study. This fact may imply that participants regarded apparel mobile advertising delivering complete information as credible. If an apparel mobile advertisement supplies complete information, consumers may, therefore, trust the advertisement. See Table 5.

Table 5

Factor Analysis (N = 407)

Factor	Scale items	F.L. ^a	E-Value ^b	E.V. ^c	α^d
Entertainment	Enjoyable	.83	11.87	45.65	.90
	Entertaining	.82			
	Pleasing	.80			
	Exciting	.78			
	Fun to receive	.71			
Informativeness	Good source of sales information	.81	2.36	9.08	.89
	Convenient source of sales information	.80			
	Makes sales information immediately accessible	.79			
	Supplies relevant sales information	.69			
	Provides timely information	.67			
	Good source of up-to-date sales information	.64			
	Confusing	.79			
Irritation	Deceptive	.70	1.67	6.41	.69
	Insults people`s intelligence	.68			
	Biased	.74			
Credibility	Supplies complete sales information	.68	.89	3.42	.48

^a Factor loading; ^b Eigenvalue; ^c Explained variance; ^d Cronbach`s alpha

Hypotheses Testing

Multiple Regression Analyses

Hypotheses 1 to 4 identify determinants of attitudes toward mobile advertising, and hypothesis 5 determines the subsequent impacts of attitudes toward mobile advertising on behavioral intention. To examine Hypotheses 1 to 5, multiple regression analyses were conducted that determined the impact of each independent variable on the dependent variable.

To test H1 to H4, entertainment, informativeness, irritation, and credibility were used as the independent variables, and attitudes toward apparel mobile advertising was used as the dependent variable. The equation was significant ($F = 436.98, p < .001$) and explained 81% of attitudes toward apparel mobile advertising ($R^2 = .81$). Entertainment was the most significant determinant of attitudes toward apparel mobile advertising ($\beta = .67, p < .001$) followed by informativeness ($\beta = .13, p < .001$), irritation ($\beta = -.13, p < .001$), and credibility ($\beta = .11, p < .01$). Thus, H1 to H4 were supported.

For testing H5, attitudes toward apparel mobile advertising was the independent variable, and behavioral intention was the dependent variable. The equation was significant ($F = 501.86, p < .001$) and explained approximately 55% of behavioral intention ($R^2 = .55$). Attitudes toward apparel mobile advertising were a significant determinant of behavioral intention ($\beta = .74, p < .001$). Accordingly, H5 was supported. See Table 6.

Table 6

Multiple Regression Analyses

Hypotheses	Independent variables	Dependent variables	β	t	R^2	F
H1	Entertainment	Attitudes	.67	23.85***		
H2	Informativeness	Attitudes	.13	4.36***	.81	436.98***
H3	Irritation	Attitudes	-.13	-4.34***		
H4	Credibility	Attitudes	.11	3.22**		
H5	Attitudes Ad	Behavioral Intention	.74	22.40***	.55	501.86***

* $p < .05$, ** $p < .01$, *** $p < .001$

Independent Samples t-Test

Hypotheses 6 to 9 investigated the effects of modality on Gen Y consumers' attitudes toward apparel mobile advertising. Independent-samples t -tests were conducted to determine differences in mean scores of one variable between two groups. In terms of H6 to H9, entertainment, informativeness, irritation and credibility were employed as test variables, and modality (SMS and MMS) was used as the grouping variable.

Among these four attributes, only entertainment was significantly different between SMS and MMS ($t = -2.16$, $p < .05$), with MMS apparel mobile advertising deemed more entertaining than SMS apparel mobile advertising ($M = 2.95/3.24$). Thus, only H6 was supported. See Table 7.

Table 7

Independent Samples t-Test (SMS/MMS)

		<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Entertainment	SMS	202	2.95	1.38	-2.16*
	MMS	205	3.24	1.33	
Informativeness	SMS	202	4.11	1.35	-0.93
	MMS	205	4.23	1.17	
Irritation	SMS	202	4.37	1.20	1.30
	MMS	205	4.21	1.14	
Credibility	SMS	202	3.47	1.28	-0.34
	MMS	205	3.51	1.10	

* $p < .05$, ** $p < .01$, *** $p < .001$

Hypotheses 10 to 13 investigated the effects of culture on Gen Y consumers' attitudes toward apparel mobile advertising. Independent-samples *t*-tests were also conducted to determine differences in mean scores of one variable between two groups. To test H10 to H13, entertainment, informativeness, irritation and credibility were used as test variables, and culture (i.e., U.S., Korea) was used as the grouping variable.

Entertainment was significantly different between U.S. and Korean participants ($t = 3.05$, $p < .01$), with U.S. participants perceiving apparel mobile advertising as more entertaining than did their Korean counterparts ($M = 3.30/2.90$). Informativeness was significantly different between U.S. and Korean participants ($t = 8.10$, $p < .001$), with U.S. participants perceiving apparel mobile advertising as more informative than did Korean participants ($M = 4.65/3.71$).

Irritation was significantly different between U.S. and Korea ($t = -9.18, p < .001$), and U.S. participant perceived apparel mobile advertising as less irritating than did Korean participant ($M = 3.79/4.77$). Credibility was significantly different between U.S. and Korean participant ($t = 9.00, p < .001$), with U.S. participants perceiving apparel mobile advertising as more credible than did the Korea participants ($M = 3.99/3.02$). Therefore, Hypotheses 10 to 13 were supported. See Table 8.

Table 8

Independent Samples t-Test (U.S./Korea)

		<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Entertainment	U.S.	200	3.30	1.38	3.05**
	Korea	207	2.90	1.32	
Informativeness	U.S.	200	4.65	1.22	8.10***
	Korea	207	3.71	1.12	
Irritation	U.S.	200	3.79	1.07	-9.18***
	Korea	207	4.77	1.07	
Credibility	U.S.	200	3.99	1.09	9.00***
	Korea	207	3.02	1.08	

* $p < .05$, ** $p < .01$, *** $p < .001$

CHAPTER 5

DISCUSSION, IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

Discussion and Implications

This study examined the determinants of Gen Y consumers' attitudes toward mobile advertising and subsequent impact on behavior intentions in an apparel context. In addition, the moderating effects of modality and culture on the determinants of attitudes toward apparel mobile advertising were investigated.

This study confirmed that the determinants of attitudes (i.e., entertainment, informativeness, irritation, and credibility) toward apparel mobile advertising significantly affect attitudes toward apparel mobile advertising, and attitudes toward apparel mobile advertising positively impact behavioral intention. While entertainment, informativeness, and credibility are positively related to attitudes toward apparel mobile advertising, irritation is negatively related to apparel mobile advertising.

These findings extend the literature and support results of other studies (Haghirian et al., 2005; Okazaki, 2005a; Tsang et al., 2004). These previous studies considered only SMS mobile advertising in a general context. This study contributes to the literature by demonstrating that the four determinants (entertainment, informativeness, irritation, and credibility) of attitudes toward mobile advertising and subsequent impact on behavioral intention is relative to the apparel context considering both SMS and MMS mobile advertising.

The findings also indicate that Gen Y participants' attitudes toward apparel mobile advertising positively affects behavioral intention. This finding implies that positive attitudes

toward apparel mobile advertising may, ultimately, result in increased sales revenue for apparel retailers.

Results suggest practical implications for current and future apparel practitioners. For example, apparel retailers targeting Gen Y consumers should create mobile advertising that is considered entertaining by this lucrative market. For instance, apparel retailers targeting Gen Y consumers should use music, images, and video. Given the space constraints of mobile advertising, apparel retailers also will need to be creative in providing information desired by Gen Y consumers. For example, apparel retailers need to determine information priorities according to purpose of mobile advertising. Promotional advertising, perhaps, would include only essential information such as sales dates, items, prices and discounts, and locations.

Apparel retailers also should endeavor to minimize Gen Ys perceived irritation of mobile advertising to optimize effectiveness of these commercial messages. Since mobile devices are considered personal and intimate, consumers may feel irritation if mobile advertising is received without permission (Tsang et al., 2004). To help ensure a positive response from Gen Y consumers, it may be beneficial and cost effective for apparel retailers to obtain permission prior to sending mobile advertising messages to consumers. Apparel retailers also should create credible mobile advertising, as perceived by Gen Y consumers by avoiding subjective expressions such as 'very,' 'extremely,' and 'best,' (Cowley, 2006).

This study also examined the moderating effects of SMS and MMS on Gen Y consumers' perceptions of the advertising attributes of attitudes toward apparel mobile advertising. The findings indicate that perceived entertainment is different between SMS and MMS apparel mobile advertising, and that MMS more than SMS apparel mobile advertising is described as

more entertaining. Unlike SMS apparel mobile advertising, MMS apparel mobile advertising can support video with images of merchandise, music, color, video, and audio in addition to text. These multimedia tools can affect multiple senses simultaneously and make advertising messages more entertaining (Bagui, 1998).

MMS apparel mobile advertising that employs strong visual cues is especially important for apparel and closely aligned products. In fact, traditionally, image focused advertising is widely and successfully used for apparel, especially in magazines and direct response media (Seitz, 1998). Transitioning highly visual advertising from magazines to mobile advertising may be effective for apparel and related products. Thus, apparel retailers may optimize Gen Y consumers' response by utilizing MMS apparel mobile advertising. Furthermore, Gen Y consumers may share creative entertaining messages with family and friends, thus, expanding the reach of apparel mobile advertising.

No differences in SMS and MMS modality were identified for three determinants (i.e., informativeness, irritation, creditability) of attitude toward apparel mobile advertising. Considering informativeness, mobile devices have small screens, and mobile messages are constrained by limited characters and volume (Choi et al., 2008). Although MMS messages can convey more information, retailers often try to reduce the message size to reduce cost. In addition, consumers do not want to spend time scrolling down multiple screens to read mobile advertising messages, therefore, apparel mobile advertising messages should be as brief as possible to be effective.

There were no differences between SMS and MMS apparel mobile advertising in terms of irritation. Perhaps, perceived irritation is due to reasons other than modality. For instance,

Tsang et al. (2004) reported that repetitive mobile advertising messages and those received without prior permission were potential sources of high irritation.

There also were no differences in SMS and MMS apparel mobile advertising relative to credibility. Greer (2003) found that brand name is a critical cue to increase credibility in advertising. Because apparel is a brand-oriented product category, consumers may perceive advertising from a brand for which they have an affinity as more credible. Thus, brand familiarity rather than modality differences may play a more critical role in perceived credibility. For example, consumers may trust mobile advertising from favorite brands regardless of whether the message is delivered with SMS or MMS. Thus, modality may not significantly influence consumers' perceived credibility.

Entertainment is the strongest predictor of a positive influence on attitudes toward apparel mobile advertising, and can affect subsequent behavioral intention. That is to say, entertaining MMS apparel mobile advertising can increase efficiency of mobile advertising with direct influence on sales revenues. Therefore, the relatively higher costs of MMS compared to SMS may be cost effective.

This study also investigated differences in U.S. and Korean Gen Y consumers' perceptions of advertising attributes (i.e., entertainment, informativeness, irritation, and credibility), and findings indicated significant differences between these two samples.

U.S. consumers reported that apparel mobile advertising is more entertaining than did Korean consumers. This result may come from differences of technological familiarity and experience receiving mobile advertising between two countries. Korea is one of the foremost countries with regard to mobile technologies containing digital multimedia broadcasting (DMB)

services (Kim & Jun, 2008). DMB provides high quality television programming including advertising at any time through mobile phones (Chan, 2006). Korean Gen Ys are the dominant age group using the DMB services (Kim & Jun, 2008) and are accustomed to this advanced mobile technology and advertising. This difference also may be due to the types of mobile advertising communicated to Gen Y consumers in different countries.

Although mobile advertising in the United States has great potential, proliferation of mobile advertising in Korea is currently higher than it is in the United States. The findings of this study support this fact specifically in the apparel industry. Approximately 28% ($n = 55$) of U.S. participants had received apparel mobile advertising compared to about 55% ($n = 113$) of Korean participants. See Appendix C.1 and C.2. New technologies in and of themselves are entertaining, particularly for Gen Y consumers. However, familiarity with the technology may diminish the entertainment value.

In this study, U.S. Gen Y consumers more than their Korean counterparts described apparel mobile advertising as informative. This result supports findings of previous studies (Hofstede & Hofstede, 2005; Park & Jun, 2003). Most apparel mobile advertising consists of promotional messages that are clear and explicative (MMA Global, 2009). The U.S. is an individualistic culture where consumers prefer messages that convey clear, concise information, while Korean consumers, a collectivist culture, prefer non-verbal information (Hofstede & Hofstede, 2005; Park & Jun, 2003).

U.S. consumers perceived apparel mobile advertising as less irritating than did their Korean counterparts. One possible explanation is the message preferences according to cultural differences between U.S. and Korean participants. This difference in perception also may be due

to different preference of messages sent to U.S. and Korean Gen Y consumers. Push type mobile advertising such as SMS and MMS basically causes irritation (Tsang et al., 2004), but if advertising messages are preferred contents, recipients may have more favorable responses to the advertising message. Also, Xu (2006) reported that consumers perceived less irritation toward mobile advertising that was described as entertaining and informative. Likewise, irritation was reduced when advertising was considered amusing (Aaker & Bruzzone, 1985).

U.S. more than Korean participants perceive apparel mobile advertising as credible. U.S. participants who prefer analytic and explicative messages may also perceive that the mobile advertising messages are credible, and factor analysis support this supposition. One item, “apparel mobile advertising supplies complete sales information” in the informative variable in Ducoffe’s scale (1996) loaded on the Credibility factor, implying that participants in the study might consider informative apparel mobile advertising as credible. Moreover, advertising messages familiar to recipients are perceived as more credible (Self, 1996). Taylor et al. (1997) indicated that U.S. more than Korean television commercials used rational appeals due to the cultural preferences. Consequently, U.S. consumers are more familiar with rational advertising such as apparel mobile advertising used for promotional messages (MMA Global , 2009). Therefore, U.S. more than Korean Gen Y consumers may perceive apparel mobile advertising as more credible.

These results may offer valuable insights to apparel retailers. Understanding the advertising preferences of Gen Y consumers in these two focal markets, retailers may have localized their mobile advertising messages for either the U.S. or Korean Gen Y markets, which would evoke different responses from U.S. and Korean Gen Y consumers.

Limitations and Future Research

Given the exploratory nature of this study, some limitations should be noted. The purposeful convenience sample may not be representative of Generation Y consumers who are familiar with mobile advertising. Thus, caution must be used in generalizing the findings.

Although questionnaires for each modality (i.e., SMS, MMS) were completed by Gen Ys in both the United States and Korea, data were aggregated across both samples for analyses. Analyzing data by culture and modality may have yielded different findings.

To accommodate the Korean sample in this study, the questionnaire was subjected to translation and back translation. In accordance with Werner and Campbell (1970) suggestions, questionnaires in this study used simple sentences, repetitive nouns rather than pronouns, and similes. In addition, we found equivalence between translated and back translated questionnaires. Nevertheless, translation for cross-cultural studies is challenging because multiplex factors influence the processes of translation and back translation (Brislin, 1970). First of all, similar language structure between source and target languages has high potential of achieving successful translation and back translation. However, the language structure between English and Korean is quite dissimilar in that word order is entirely different, and articles and relative pronouns do not exist in Korean. Secondly, translators' competency and familiarity with a study influence successful translation and back translation. This study employed two bilingual Korean graduate students as translators with experience conducting research. The quality of translation and back translation increases with the number of times the process is repeated. In this study, the translation and back translation process was conducted only once. Completing the process multiple times may have increased translation accuracy. Accordingly, translation

errors may have impacted reliability of the findings.

Mobile advertising is a recent phenomenon, and some participants did not have experience receiving mobile advertising. Explanations of SMS and MMS apparel mobile advertising were incorporated into the questionnaires to inform participants. In addition, the study also offered examples of SMS and MMS apparel mobile advertising in the form of images within the questionnaires. However, actual experience receiving apparel mobile advertising may have elicited different responses.

There are some recommendations for future research. The samples in this study, U.S. and Korea, are highly individualistic and collectivistic respectively. Global apparel retailers are expanding their businesses around the world, and there are numerous countries having different cultural bases. Future studies that consider many other countries having different cultural bases may benefit global apparel retailers trying to use mobile advertising by giving them appropriate ways to provide apparel mobile advertising to their target countries. In addition, although this study was conducted in apparel specific contexts, this study could be replicated in other industries such as travel, food, or automobiles.

APPENDIX A
SURVEY QUESTIONNAIRES (U.S.)

Apparel Mobile Advertising

Informed Consent Notice

We need your help! The purpose of this study is to better understand your opinions about mobile advertising. Completing the survey is your consent to participate, and no known risks are associated with the study. Participation is voluntary, and all responses are anonymous. The survey will take approximately 10 – 12 minutes, and we hope you will respond to all items, but you have the right to discontinue participation at anytime. Your decision to participate or to withdraw from the study will have no effect on your standing in this course or your course grade.

If you have questions about this study, please contact either of us at (940) 565-2433. This research project has been reviewed and approved by the UNT Institutional Review Board (940-565-3940). Contact the UNT IRB with any questions regarding your rights as a research participant.

Principal Investigator:
Dee K. Knight, Ph.D.
Associate Professor
Interim Academic
University of North Texas
U.S.A.

Graduate Student:
WanMo Koo
Graduate Student
Associate Dean University of North Texas
U.S.A.

Apparel Mobile Advertising

Before you start the questionnaire, please read the brief explanation of SMS (Short Message Service) apparel mobile advertising. SMS is the service that enables us to send and receive text messages by our mobile phones, and it supports only text. Contents of SMS apparel advertisements can be diverse, but most are promotional messages. We have provided an example of an SMS apparel mobile advertisement.



As you respond to the following questions, imagine that you received a SMS apparel mobile advertisement on your mobile phone. Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number.

		Strongly Disagree-----			Strongly Agree			
		1	2	3	4	5	6	7
1	Mobile advertising is entertaining.	1	2	3	4	5	6	7
2	Mobile advertising is deceptive.	1	2	3	4	5	6	7
3	Mobile advertising is a good source of up-to-date sales information.	1	2	3	4	5	6	7
4	Mobile advertising is convincing.	1	2	3	4	5	6	7
5	I would likely make a purchase after receiving mobile advertising.	1	2	3	4	5	6	7
6	Mobile advertising is confusing.	1	2	3	4	5	6	7
7	Mobile advertising makes sales information immediately accessible.	1	2	3	4	5	6	7
8	I would likely use mobile advertising for shopping after I receive it.	1	2	3	4	5	6	7
9	Mobile advertising is enjoyable.	1	2	3	4	5	6	7
10	Mobile advertising is believable.	1	2	3	4	5	6	7
11	Mobile advertising provides timely information.	1	2	3	4	5	6	7
12	Mobile advertising is irritating.	1	2	3	4	5	6	7
13	Mobile advertising is fun to receive.	1	2	3	4	5	6	7
14	Mobile advertising is biased.	1	2	3	4	5	6	7
15	Mobile advertising is a good source of sales information.	1	2	3	4	5	6	7
16	Mobile advertising insults people`s intelligence.	1	2	3	4	5	6	7
17	Mobile advertising is a convenient source of sales information.	1	2	3	4	5	6	7
18	Mobile advertising is pleasant.	1	2	3	4	5	6	7
19	Mobile advertising is pleasing.	1	2	3	4	5	6	7
20	I would likely use mobile advertising if I have a chance.	1	2	3	4	5	6	7
21	Mobile advertising supplies relevant sales information.	1	2	3	4	5	6	7
22	Mobile advertising is good.	1	2	3	4	5	6	7
23	Mobile advertising supplies complete sales information.	1	2	3	4	5	6	7
24	Mobile advertising is annoying.	1	2	3	4	5	6	7
25	Mobile advertising is exciting.	1	2	3	4	5	6	7
26	Mobile advertising is favorable.	1	2	3	4	5	6	7

Please continue to the next page.

ABOUT YOU. Please circle the responses that best describe you.

27. Do you have a mobile phone? 1. Yes 2. No

28. How do you use your mobile phone? (Circle all that apply)

1. Make and receive phone calls
2. Send and receive text messages
3. Send and receive email
4. Play games
5. Receive advertisements and sales promotions
6. GPS
7. Other _____

29. Please indicate the number of times you have received mobile advertising messages in one week.

1. Never	5. 31 to 40
2. 1 to 10	6. 41 to 50
3. 11 to 20	7. More than 51
4. 21 to 30	

30. Have you ever received apparel mobile advertising messages from apparel retailers or companies?

1. Yes
2. No

31. Approximately how much money do you spend for mobile services monthly?

1. Less than \$10	5. \$71 to \$90
2. \$11 to \$30	6. \$91 to \$110
3. \$31 to \$50	7. More than \$111
4. \$51 to \$70	

32. Approximately how much do you spend monthly in brick-and-mortar retail stores to purchase apparel, accessories, and related merchandise?

1. Less than \$25	4. \$126 to \$175
2. \$26 to \$75	5. More than \$176
3. \$76 to \$125	

Please continue to the next page.

33. Approximately how much do you spend monthly at online retailers to purchase apparel, accessories, and related merchandise?

1. Less than \$25	4. \$126 to \$175
2. \$26 to \$75	5. More than \$176
3. \$76 to \$125	

34. What is your age? _____ Years

35. What is your major? _____

36. What is your gender? (Circle one number) 1. Female 2. Male

37. Which of the following best describes your academic classification? (Circle one number)

- | | |
|--------------|---------------------|
| 1. Freshman | 3. Junior |
| 2. Sophomore | 4. Senior |
| | 5. Graduate student |

Is there anything else you would like to tell us about SMS apparel mobile advertising messages?

Thanks for your help!

Apparel Mobile Advertising

Informed Consent Notice

We need your help! The purpose of this study is to better understand your opinions about mobile advertising. Completing the survey is your consent to participate, and no known risks are associated with the study. Participation is voluntary, and all responses are anonymous. The survey will take approximately 10 – 12 minutes, and we hope you will respond to all items, but you have the right to discontinue participation at anytime. Your decision to participate or to withdraw from the study will have no effect on your standing in this course or your course grade.

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Graduate Student
Associate Dean University of North Texas
U.S.A.

Apparel Mobile Advertising

Before you start the questionnaire, please read the brief explanation of MMS (Multimedia Messaging Service) apparel mobile advertising. MMS is the service that enables us to send and receive multimedia messages by our mobile phones. MMS supports not only text, but also images, video, and audio. In addition, we can send and receive a message containing text with images or text with video. Contents of MMS apparel advertisements can be diverse, but most are promotional messages. We have provided an example of an MMS apparel mobile advertisement.



As you respond to the following questions, imagine that you received a MMS apparel mobile advertisement on your mobile phone. Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number.

		Strongly Disagree-----				Strongly Agree		
		1	2	3	4	5	6	7
1	Mobile advertising is entertaining.	1	2	3	4	5	6	7
2	Mobile advertising is deceptive.	1	2	3	4	5	6	7
3	Mobile advertising is a good source of up-to-date sales information.	1	2	3	4	5	6	7
4	Mobile advertising is convincing.	1	2	3	4	5	6	7
5	I would likely make a purchase after receiving mobile advertising.	1	2	3	4	5	6	7
6	Mobile advertising is confusing.	1	2	3	4	5	6	7
7	Mobile advertising makes sales information immediately accessible.	1	2	3	4	5	6	7
8	I would likely use mobile advertising for shopping after I receive it.	1	2	3	4	5	6	7
9	Mobile advertising is enjoyable.	1	2	3	4	5	6	7
10	Mobile advertising is believable.	1	2	3	4	5	6	7
11	Mobile advertising provides timely information.	1	2	3	4	5	6	7
12	Mobile advertising is irritating.	1	2	3	4	5	6	7
13	Mobile advertising is fun to receive.	1	2	3	4	5	6	7
14	Mobile advertising is biased.	1	2	3	4	5	6	7
15	Mobile advertising is a good source of sales information.	1	2	3	4	5	6	7
16	Mobile advertising insults people`s intelligence.	1	2	3	4	5	6	7
17	Mobile advertising is a convenient source of sales information.	1	2	3	4	5	6	7
18	Mobile advertising is pleasant.	1	2	3	4	5	6	7
19	Mobile advertising is pleasing.	1	2	3	4	5	6	7
20	I would likely use mobile advertising if I have a chance.	1	2	3	4	5	6	7
21	Mobile advertising supplies relevant sales information.	1	2	3	4	5	6	7
22	Mobile advertising is good.	1	2	3	4	5	6	7
23	Mobile advertising supplies complete sales information.	1	2	3	4	5	6	7
24	Mobile advertising is annoying.	1	2	3	4	5	6	7
25	Mobile advertising is exciting.	1	2	3	4	5	6	7

26	Mobile advertising is favorable.	1	2	3	4	5	6	7
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Please continue to the next page.

ABOUT YOU. Please circle the responses that best describe you.

27. Do you have a mobile phone? 1. Yes 2. No

28. How do you use your mobile phone? (Circle all that apply)

1. Make and receive phone calls
2. Send and receive text messages
3. Send and receive email
4. Play games
5. Receive advertisements and sales promotions
6. GPS
7. Other _____

29. Please indicate the number of times you have received mobile advertising messages in one week.

1. Never	5. 31 to 40
2. 1 to 10	6. 41 to 50
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31. Approximately how much money do you spend for mobile services monthly?

1. Less than \$10	5. \$71 to \$90
2. \$11 to \$30	6. \$91 to \$110
3. \$31 to \$50	7. More than \$111
4. \$51 to \$70	

32. Approximately how much money do you spend monthly in brick-and-mortar stores to purchase apparel, accessories, and related merchandise?

1. Less than \$25	4. \$156 to \$175
2. \$26 to \$75	5. More than \$176
3. \$76 to \$125	

Please continue to the next page.

33. Approximately how much money do you spend monthly at online retailers to purchase apparel, accessories, and related merchandise?

1. Less than \$25	4. \$126 to \$175
2. \$26 to \$75	5. More than \$176
3. \$76 to \$125	

34. What is your age? _____ Years

35. What is your major? _____

36. What is your gender? (Circle one number) 1. Female 2. Male

37. Which of the following best describes your academic classification? (Circle one number)

- | | |
|--------------|---------------------|
| 1. Freshman | 3. Junior |
| 2. Sophomore | 4. Senior |
| | 5. Graduate student |

Is there anything else you would like to tell us about MMS apparel mobile advertising messages?

Thanks for your help!

APPENDIX B
SURVEY QUESTIONNAIRES (KOREA)

의류 모바일 광고

고지에 입각한 동의 통보

당신의 도움이 필요합니다. 이 연구의 목적은 모바일 광고에 대한 당신의 의견을 더 잘 이해하기 위해서입니다. 이 설문지를 완료하는 것은 당신의 참여하겠다는 동의이며, 어떠한 알려진 위험도 이 연구와 관련이 없습니다. 참여는 자발적이며, 모든 답변들은 익명입니다. 이 설문지는 대략 10에서 12분 정도가 소요되며, 저희는 당신이 모든 문항에 답변해주시길 바랍니다. 하지만 언제든지 참여를 중단하실 수 있습니다. 당신의 이 연구로부터의 참여여부는 이 과목에 대한 당신의 상황이나 점수에 어떠한 영향도 주지 않습니다.

만일 이 연구와 관련하여 질문이 있다면, 저희들 중 아무에게나 (940) 565-2433으로 연락을 주십시오. 이 연구활동은 UNT Institutional Review Board (940-565-3940) 에 의해서 검토되고 승인 되었습니다. 연구 참여에 따른 당신의 권리에 질문이 있다면 UNT IRB 에 연락을 취해주시길 바랍니다.

총괄연구 책임자:
Dee K. Knight, Ph.D.
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UNT IRB 에 의하여 승인됨
DATE: JS 4-770

의류 모바일 광고

설문지를 시작하기 전에 SMS (Short Message Service) 의류 모바일 광고에 대한 짧은 설명을 꼭 읽어주시길 부탁드립니다. SMS란 우리들로 하여금 모바일 폰을 통하여 문자 메시지 송수신을 가능하게 하는 서비스이며, SMS는 문자만을 지원합니다. SMS 의류 모바일 광고의 내용은 다양하지만 대부분은 판촉 메시지입니다. 저희가 SMS 의류 모바일 광고의 한 예를 들어보았습니다.



다음의 질문들에 답하실 때, 당신의 모바일 폰으로 한 SMS 의류 모바일 광고를 받았다고 상상해 주십시오. 그리고 다음의 진술들에 얼마나 동의하거나 반대하는지 적절한 번호에 동그라미로 표시해 주시길 바랍니다.

		매우 반대한다-----동의한다						
		1	2	3	4	5	6	7
1	모바일 광고는 재미있다.	1	2	3	4	5	6	7
2	모바일 광고는 믿기 힘들다.	1	2	3	4	5	6	7
3	모바일 광고는 최신 판매 정보를 알기 좋은 수단이다.	1	2	3	4	5	6	7
4	모바일 광고는 설득력이 있다.	1	2	3	4	5	6	7
5	나는 모바일 광고를 받은 후 구매를 할 것 같다.	1	2	3	4	5	6	7
6	모바일 광고는 혼동스럽다.	1	2	3	4	5	6	7
7	모바일 광고는 판매정보를 즉시 접하기 쉽게 해준다.	1	2	3	4	5	6	7
8	모바일 광고를 받은 후 쇼핑에 이를 이용할 것 같다.	1	2	3	4	5	6	7
9	모바일 광고는 즐겁다.	1	2	3	4	5	6	7
10	모바일 광고는 믿을 수 있다.	1	2	3	4	5	6	7
11	모바일 광고는 시기 적절한 정보를 제공한다.	1	2	3	4	5	6	7
12	모바일 광고는 짜증이 난다.	1	2	3	4	5	6	7
13	모바일 광고를 받는 것은 재미있다.	1	2	3	4	5	6	7
14	모바일 광고는 선입견이 있다.	1	2	3	4	5	6	7
15	모바일 광고는 판매 정보를 알기 좋은 수단이다.	1	2	3	4	5	6	7
16	모바일 광고는 사람들의 이해력을 저해한다.	1	2	3	4	5	6	7
17	모바일 광고는 판매정보를 알기 좋은 수단이다.	1	2	3	4	5	6	7
18	모바일 광고는 유쾌하다.	1	2	3	4	5	6	7
19	모바일 광고는 기분 좋다.	1	2	3	4	5	6	7
20	기회가 된다면 모바일 광고를 사용할 것 같다.	1	2	3	4	5	6	7
21	모바일 광고는 적절한 판매정보를 제공한다.	1	2	3	4	5	6	7
22	모바일 광고는 좋다.	1	2	3	4	5	6	7
23	모바일 광고는 완벽한 판매 정보를 제공한다.	1	2	3	4	5	6	7
24	모바일 광고는 성가시다.	1	2	3	4	5	6	7
25	모바일 광고는 흥미롭다.	1	2	3	4	5	6	7
26	모바일 광고는 마음에 든다.	1	2	3	4	5	6	7

다음페이지로 계속하여 주십시오.

당신에 관하여. 당신을 가장 잘 설명하는 번호에 동그라미를 해 주십시오.

27. 모바일 폰이 있습니까? 1. 네 2. 아니오

28. 어떻게 모바일 폰을 사용하십니까? (해당하는 번호에 모두 동그라미를 해 주십시오)

1. 전화를 걸고 받는다.
2. 문자를 주고 받는다.
3. 이메일을 주고 받는다.
4. 게임을 한다.
5. 광고와 관측물을 받는다.
6. GPS
7. 기타 _____

29. 일주일에 당신이 모바일 광고를 받는 횟수를 표시해 주십시오.

<ol style="list-style-type: none"> 1. 한번도 없다 2. 1에서 10 회 3. 11에서 20회 4. 21에서 30회 	<ol style="list-style-type: none"> 5. 31에서 40회 6. 41에서 50회 7. 51회 이상
--	---

30. 당신은 의류 소매업체나 회사로부터 의류 모바일 광고 메시지를 받은적이 있습니까?

1. 네
2. 아니오

31. 당신은 한 달에 대략 모바일 서비스 이용료로 얼마를 사용합니까?

<ol style="list-style-type: none"> 1. 10,000원 이하 2. 11,000에서 30,000원 3. 31,000에서 50,000원 4. 51,000에서 70,000원 	<ol style="list-style-type: none"> 5. 71,000에서 90,000원 6. 91,000에서 110,000원 7. 111,000 이상
--	--

32. 당신은 한 달에 대략 실제상점에서 의류, 액세서리, 그리고 관련 상품에 얼마나 사용합니까?

<ol style="list-style-type: none"> 1. 25,000원 이하 2. 26,000에서 75,000원 3. 76,000에서 125,000원 	<ol style="list-style-type: none"> 4. 126,000에서 175,000원 5. 176,000원 이상
--	---

다음페이지로 계속하여 주십시오.

33. 의류, 액세서리, 그리고 관련상품을 구매하기 위하여 온라인상점에서 대략 얼마를 사용하십니까?

1. 25,000원 이하	4. 126,000에서 175,000원
2. 26,000에서 75,000원	5. 176,000원 이상
3. 76,000에서 125,000원	

34. 당신의 나이는 무엇입니까? _____살

35. 당신의 전공은 무엇입니까? _____

36. 당신의 성별은 무엇입니까? (하나의 번호만 답해주세요) 1. 여성 2. 남성

37. 다음 중 당신의 학력을 가장 잘 나타내는 것은 무엇입니까? (하나의 번호에만 답해주세요)

- | | |
|------------|------------|
| 1. 대학교 1학년 | 3. 대학교 3학년 |
| 2. 대학교 2학년 | 4. 대학교 4학년 |
| | 5. 대학원생 |

의류 모바일 광고에 대해 저희에게 해주고 싶은 말씀이 있으십니까?

도와주셔서 감사합니다!

의류 모바일 광고

고지에 입각한 동의 통보

당신의 도움이 필요합니다. 이 연구의 목적은 모바일 광고에 대한 당신의 의견을 더 잘 이해하기 위해서입니다. 이 설문지를 완료하는 것은 당신의 참여하겠다는 동의이며, 어떠한 알려진 위험도 이 연구와 관련이 없습니다. 참여는 자발적이며, 모든 답변들은 익명입니다. 이 설문지는 대략 10에서 12분 정도가 소요되며, 저희는 당신이 모든 문항에 답변해주시길 바랍니다. 하지만 언제든지 참여를 중단하실 수 있습니다. 당신의 이 연구로부터의 참여여부는 이 과목에 대한 당신의 상황이 나 점수에 어떠한 영향도 주지 않습니다.

만일 이 연구와 관련하여 질문이 있다면, 저희들 중 아무에게나 (940) 565-2433으로 연락을 주십시오. 이 연구활동은 UNT Institutional Review Board (940-565-3940) 에 의해서 검토되고 승인 되었습니다. 연구 참여에 따른 당신의 권리에 질문이 있다면 UNT IRB 에 연락을 취해주시길 바랍니다.

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의류 모바일 광고

설문지를 시작하기 전에 MMS (Multimedia Messaging Service) 의류 모바일 광고에 대한 짧은 설명을 꼭 읽어 주시길 부탁드립니다. MMS란 우리들로 하여금 모바일 폰을 통하여 문자 메시지 송수신을 가능하게 하는 서비스이며, MMS는 문자 뿐만이 아니라 그림, 비디오, 그리고 오디오를 지원합니다. 또한 우리는 문자와 그림이 함께 있거나 문자와 비디오가 함께 있는 메시지를 송수신할 수 있습니다. MMS 의류 모바일 광고의 내용은 다양하지만 대부분은 판촉 메시지입니다. 저희가 MMS 의류 모바일 광고의 한 예를 들어보았습니다.



다음의 질문들에 답하실 때, 당신의 모바일 폰으로 한 MMS 의류 모바일 광고를 받았다고 상상해 주십시오. 그리고 다음의 진술들에 얼마나 동의하거나 반대하는지 적절한 번호에 동그라미로 표시해 주시길 바랍니다.

		매우 반대한다.....					매우 동의한다	
		1	2	3	4	5	6	7
1	모바일 광고는 재미있다.	1	2	3	4	5	6	7
2	모바일 광고는 믿기 힘들다.	1	2	3	4	5	6	7
3	모바일 광고는 최신 판매 정보를 알기 좋은 수단이다.	1	2	3	4	5	6	7
4	모바일 광고는 설득력이 있다.	1	2	3	4	5	6	7
5	나는 모바일 광고를 받은 후 구매를 할 것 같다.	1	2	3	4	5	6	7
6	모바일 광고는 혼동스럽다.	1	2	3	4	5	6	7
7	모바일 광고는 판매정보를 즉시 접하기 쉽게 해준다.	1	2	3	4	5	6	7
8	모바일 광고를 받은 후 쇼핑에 이를 이용할 것 같다.	1	2	3	4	5	6	7
9	모바일 광고는 즐겁다.	1	2	3	4	5	6	7
10	모바일 광고는 믿을 수 있다.	1	2	3	4	5	6	7
11	모바일 광고는 시기 적절한 정보를 제공한다.	1	2	3	4	5	6	7
12	모바일 광고는 짜증이 난다.	1	2	3	4	5	6	7
13	모바일 광고를 받는 것은 재미있다.	1	2	3	4	5	6	7
14	모바일 광고는 선입견이 있다.	1	2	3	4	5	6	7
15	모바일 광고는 판매 정보를 알기 좋은 수단이다.	1	2	3	4	5	6	7
16	모바일 광고는 사람들의 이해력을 저해한다.	1	2	3	4	5	6	7
17	모바일 광고는 판매정보를 알기 좋은 수단이다.	1	2	3	4	5	6	7
18	모바일 광고는 유쾌하다.	1	2	3	4	5	6	7
19	모바일 광고는 기분 좋다.	1	2	3	4	5	6	7
20	기회가 된다면 모바일 광고를 사용할 것 같다.	1	2	3	4	5	6	7
21	모바일 광고는 적절한 판매정보를 제공한다.	1	2	3	4	5	6	7
22	모바일 광고는 좋다.	1	2	3	4	5	6	7
23	모바일 광고는 완벽한 판매 정보를 제공한다.	1	2	3	4	5	6	7
24	모바일 광고는 성가시다.	1	2	3	4	5	6	7
25	모바일 광고는 흥미롭다.	1	2	3	4	5	6	7
26	모바일 광고는 마음에 든다.	1	2	3	4	5	6	7

다음페이지로 계속하여 주십시오.

당신에 관하여. 당신을 가장 잘 설명하는 번호에 동그라미를 해 주십시오.

27. 모바일 폰이 있습니까? 1. 네 2. 아니오

28. 어떻게 모바일 폰을 사용하십니까? (해당하는 번호에 모두 동그라미를 해 주십시오)

1. 전화를 걸고 받는다.
2. 문자를 주고 받는다.
3. 이메일을 주고 받는다.
4. 게임을 한다.
5. 광고와 관측물을 받는다.
6. GPS
7. 기타 _____

29. 일주일에 당신이 모바일 광고를 받는 횟수를 표시해 주십시오.

<ol style="list-style-type: none"> 1. 한번도 없다 2. 1에서 10 회 3. 11에서 20회 4. 21에서 30회 	<ol style="list-style-type: none"> 5. 31에서 40회 6. 41에서 50회 7. 51회 이상
--	---

30. 당신은 의류 소매업체나 회사로부터 의류 모바일 광고 메시지를 받은적이 있습니까?

1. 네
2. 아니오

31. 당신은 한 달에 대략 모바일 서비스 이용료로 얼마를 사용합니까?

<ol style="list-style-type: none"> 1. 10,000원 이하 2. 11,000에서 30,000원 3. 31,000에서 50,000원 4. 51,000에서 70,000원 	<ol style="list-style-type: none"> 5. 71,000에서 90,000원 6. 91,000에서 110,000원 7. 111,000 이상
--	--

32. 당신은 한 달에 대략 실제상점에서 의류, 액세서리, 그리고 관련 상품에 얼마나 사용합니까?

<ol style="list-style-type: none"> 1. 25,000원 이하 2. 26,000에서 75,000원 3. 76,000에서 125,000원 	<ol style="list-style-type: none"> 4. 126,000에서 175,000원 5. 176,000원 이상
--	---

다음페이지로 계속하여 주십시오.

33. 의류, 액세서리, 그리고 관련상품을 구매하기 위하여 온라인상점에서 대략 얼마를 사용하십니까?

1. 25,000원 이하	4. 126,000에서 175,000원
2. 26,000에서 75,000원	5. 176,000원 이상
3. 76,000에서 125,000원	

34. 당신의 나이는 무엇입니까? _____살

35. 당신의 전공은 무엇입니까? _____

36. 당신의 성별은 무엇입니까? (하나의 번호만 답해주세요) 1. 여성 2. 남성

37. 다음 중 당신의 학력을 가장 잘 나타내는 것은 무엇입니까? (하나의 번호에만 답해주세요)

- | | |
|------------|------------|
| 1. 대학교 1학년 | 3. 대학교 3학년 |
| 2. 대학교 2학년 | 4. 대학교 4학년 |
| | 5. 대학원생 |

의류 모바일 광고에 대해 저희에게 해주고 싶은 말씀이 있으십니까?

도와주셔서 감사합니다!

APPENDIX C
ADDITIONAL DEMOGRAPHIC CHARACTERISTICS
(U.S. AND KOREA RESPECTIVELY)

Table C.1

Demographic Characteristics of the U.S. Participants (N = 200)

Variables	Total sample	
	Frequency	Percent
Gender		
Female	176	88.0
Male	24	12.0
Age		
17 to 20	66	33.0
21 to 25	123	61.5
26 to 30	11	5.5
Major		
Business	2	1.0
Fashion Merchandising	120	60.0
Fashion Design Information	0	0.0
Food Engineering	0	0.0
Hospitality	49	24.5
Psychology	0	0.0
Others	29	14.5

(table continues)

Table C.1 (continued).

Variables	Total sample	
	Frequency	Percent
Academic classification		0.0
Freshman	14	7.0
Sophomore	35	17.5
Junior	60	30.0
Senior	87	43.5
Graduate student	4	2.0
Type of mobile advertising		
SMS	100	50.0
MMS	100	50.0
Have a mobile phone		
Yes	200	100.0
No	0	0.0

(table continues)

Table C.1 (continued).

Variables	Total sample	
	Frequency	Percent
Money spend for mobile services monthly		
Less than \$10	22	11.0
\$11 to \$30	14	7.0
\$30 to \$50	30	15.0
\$51 to \$70	40	20.0
\$71 to \$90	41	20.5
\$91 to \$110	29	14.5
More than \$111	24	12.0
Receive mobile advertising messages in one week		
Never	89	44.5
1 to 10	93	46.5
11 to 20	7	3.5
21 to 30	2	1.0
31 to 40	1	0.5
41 to 50	0	0.0
More than 51	8	4.0

(table continues)

Table C.1 (continued).

Variables	Total sample	
	Frequency	Percent
Receive apparel mobile advertising messages		
Yes	55	27.5
No	145	72.5
Money spend for apparel in brick-and-mortar monthly		
Less than \$25	37	18.5
\$26 to \$75	61	30.5
\$76 to \$125	64	32.0
\$126 to \$175	18	9.0
More than \$176	20	10.0
Money spend for apparel at online retailers monthly		
Less than \$25	120	60.0
\$26 to \$75	41	20.5
\$76 to \$125	27	13.5
\$126 to \$175	4	2.0
More than \$176	8	4.0

(table continues)

Table C.1 (continued).

Variables	Total sample	
	Frequency	Percent
Use of mobile phone		
Make and receive phone calls	198	99.0
Send and receive text messages	192	96.0
Send and receive e-mail	123	61.5
Play games	119	59.5
Receive advertisements and sales promotions	49	24.5
GPS	103	51.5
Other	31	15.5

Table C.2

Demographic Characteristics of the Korean Participants (N = 207)

Variables	Total sample	
	Frequency	Percent
Gender		
Female	141	68.1
Male	66	31.9
Age		
17 to 20	97	46.9
21 to 25	94	45.4
26 to 30	16	7.7
Major		
Business	38	18.4
Fashion Merchandising	0	0.0
Fashion Design Information	81	39.1
Food Engineering	25	12.1
Hospitality	0	0.0
Psychology	24	11.6
Others	39	18.8

(table continues)

Table C.2 (continued).

Variables	Total sample	
	Frequency	Percent
Academic classification		
Freshman	108	52.2
Sophomore	32	15.5
Junior	26	12.6
Senior	40	19.3
Graduate student	1	0.5
Type of mobile advertising		
SMS	102	49.3
MMS	105	50.7
Have a mobile phone		
Yes	207	100.0
No	0	0.0

(table continues)

Table C.2 (continued).

Variables	Total sample	
	Frequency	Percent
Money spend for mobile services monthly		
Less than \$10	95	45.9
\$11 to \$30	50	24.2
\$30 to \$50	41	19.8
\$51 to \$70	14	6.8
\$71 to \$90	5	2.4
\$91 to \$110	2	1.0
More than \$111	0	0.0
Receive mobile advertising messages in one week		
Never	23	11.1
1 to 10	154	74.4
11 to 20	21	10.1
21 to 30	5	2.4
31 to 40	2	1.0
41 to 50	1	0.5
More than 51	1	0.5

(table continues)

Table C.2 (continued).

Variables	Total sample	
	Frequency	Percent
Receive apparel mobile advertising messages		
Yes	113	54.6
No	94	45.4
Money spend for apparel in brick-and-mortar monthly		
Less than \$25	56	27.1
\$26 to \$75	79	38.2
\$76 to \$125	42	20.3
\$126 to \$175	20	9.7
More than \$176	10	4.8
Money spend for apparel at online retailers monthly		
Less than \$25	77	37.2
\$26 to \$75	72	34.8
\$76 to \$125	42	20.3
\$126 to \$175	10	4.8
More than \$176	6	2.9

(table continues)

Table C.2 (continued).

Variables	Total sample	
	Frequency	Percent
Use of mobile phone		
Make and receive phone calls	195	94.2
Send and receive text messages	193	93.2
Send and receive e-mail	12	5.8
Play games	87	42.0
Receive advertisements and sales promotions	42	20.3
GPS	7	3.4
Other	16	7.7

APPENDIX D
IRB APPROVAL LETTER

Apparel Mobile Advertising

Informed Consent Notice

We need your help! The purpose of this study is to better understand your opinions about mobile advertising. Completing the survey is your consent to participate, and no known risks are associated with the study. Participation is voluntary, and all responses are anonymous. The survey will take approximately 10 – 12 minutes, and we hope you will respond to all items, but you have the right to discontinue participation at anytime. Your decision to participate or to withdraw from the study will have no effect on your standing in this course or your course grade.

If you have questions about this study, please contact either of us at (940) 565-2433. This research project has been reviewed and approved by the UNT Institutional Review Board (940-565-3940). Contact the UNT IRB with any questions regarding your rights as a research participant.

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APPROVED BY THE UNT IRB
DATE: 05-4-2020

REFERENCES

- Aaker, D. A., & Bruzzone, D. E. (1985). Causes of irritation in advertising. *Journal of Marketing*, 49(2), 47-57. Retrieved from ABI/INFORM Global.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Baldonado, A. M., & Spangenburg, J. (2009). Leadership and the future: Gen Y workers and two-factor theory. *Journal of American Academy of Business*, 15(1), 99-103.
- Bagui, S. (1998). Reasons for increased learning using multimedia. *Journal of Educational Multimedia and Hypermedia*, 7(1), 3-18.
- Bang, H. K., Raymond, M. A., Taylor, C. R., & Moon, Y. S. (2005). A comparison of service quality dimensions conveyed in advertisements for service providers in the USA and Korea: A content analysis. *International Marketing Review*, 22(3), 309-326.
- Barnett, N., Hodges, S., & Wilshire, M. (2000). M-commerce: An operator's manual. *McKinsey Quarterly*, 3, 162-173. Retrieved from Business Source Complete database.
- Bassett, B. (2008, March). Working With Generation Y. *Office Pro*, 68(2), 16-19. Retrieved August 24, 2009, from Vocational and Career Collection database.
- Berta, D. (2005, June). Gen Y workers offer talent, tech savvy. *Nation's Restaurant News*, 39(23), 16. Retrieved August 24, 2009, from MasterFILE Premier database.
- Brackett, L., & Carr, J. B. (2001 September). Cyberspace advertising vs. other media: Consumer vs. mature student attitudes. *Journal of Advertising Research*, 41(5), 23-32.

- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1*(3), 185-216.
- Carroll, A., Barnes, S. J., Scornavacca, E. & Fletcher, K. (2007). Consumer perceptions and attitudes toward SMS advertising: Recent evidence from New Zealand. *International Journal of Advertising, 26*(1), 79–98.
- Chakrabarty, S., & Yelkur, R. (2005, January). The effects of ad irritation on brand attitudes. *Journal of Promotion Management, 11*(2/3), 37-48. Retrieved September 1, 2009, doi:10.1300/J057v11n0204
- Chan, I. (2006). Is mobile TV's biggest market Asia?. *Businessweek*. Retrieved April 27, 2010, from http://www.businessweek.com/globalbiz/content/jun2006/gb20060620_115324.htm
- Cheng, J. M., Blankson, C., Wang, E. S., & Chen, L. S. (2009). Consumer attitudes and interactive digital advertising. *International Journal of Advertising, 28*(3), 501-525.
- Cho, B., Kwon, U., Gentry, J. W., Jun, S., & Kropp, F. (1999). Cultural values reflected in theme and execution: A comparative study of U.S. and Korean television commercials. *Journal of Advertising, 8*(4), 59-73. Retrieved October 19, 2009, from ABI/INFORM Global. (Document ID: 57954039).
- Choi, Y. K., Hwang, J. S., & McMillan, S. J. (2008 August). Gearing up for mobile advertising: A cross-cultural examination of key factors that drive mobile messages home to consumers. *Psychology & Marketing, 25*(8), 756-768.

Chowdhury, H., Parvin, N., Weitenberner, C., & Becker, M. (2006, December).

Consumer attitude toward mobile advertising in an emerging market: An empirical study. *International Journal of Mobile Marketing*, 1(2), 33-42. Retrieved September 1, 2009, from Business Source Complete database.

Clarke, I. (2001). Emerging value proposition for m-commerce. *Journal of Business Strategies*, 18(2), 133-148.

Cowley, E. (2006). Processing exaggerated advertising claims. *Journal of Business Research*, 59, 728-734.

Crosman, P. (2008). Attracting young investors - Financial firms are embracing mobile technology, Web 2.0 tools and social networking principles to reach Gen X and Gen Y. *Wall Street & Technology*, 26(1), 16.

Datamonitor. (2009 March). *Global apparel & textiles*. Retrieved from Business Source Complete Database.

Daugherty, T., Logan, K., Chu, S. C., & Huang, S. C. (2008). Understanding consumer perception of advertising: A theoretical framework of attitude and confidence. *American Academy of Advertising*, 308-313.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models, *Management Science*, 35(8), 982-1003.

Ducoffe, R. H. (1995). How consumers assess the value of Advertising. *Journal of Current Issues and Research in Advertising*, 17(1), 1-18.

Ducoffe, R. H. (1996). Advertising value and advertising on the web. *Journal of Advertising Research*, 36(5), 21-35.

- Dulin, L. (2005). *Leadership preferences of a Generation Y cohort: A mixed method investigation* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 1434728)
- E-commerce seen evolving toward mobile commerce. (2000). *AMM.com*, 108(139), 9. Retrieved from Business Source Complete database.
- Export.Gov (2009). *What is E-Commerce?*. Retrieved from <http://www.export.gov/sellingonline/whatisecommerce.asp>
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Frاند, J. L. (2000). The information age mindset: Changes in students and implications for higher education, *EDUCAUSE Review*, 35, 14-23.
- Gallen, C. (2007). Japan and South Korea leading in mobile advertising with newly developed methods. *ABI Research*. Retrieved from <http://www.abiresearch.com/press/1008-Japan+and+South+Korea+Leading+in+Mobile+Advertising+with+Newly+Developed+Methods>
- Gauntt, J. D. (2008). *Mobile advertising: After the growing pains*. Retrieved from eMarketer: http://www.emarketer.com/Reports/All/Emarketer_2000452.aspx
- Global 3G subscribers passed 600 million mark in 2007. (2008). *Cellular News*. Retrieved from <http://www.cellular-news.com/story/33474.php?source=newsletter>
- Greer, J. D. (2003). Evaluating the credibility of online information: A test of source and advertising influence. *Mass Communication & Society*, 6(1), 11-28.

- Guedes, G., & Soares, P. (2005). *Branding of fashion products: A communication process, a marketing approach*. Paper presented at the Proceedings of Association for Business Communication 7th European Convention, May 2005. Retrieved from the Association for Business Communication Website:
<http://www.businesscommunication.org/conventions/Proceedings/2005/PDFs/25ABCEurope05.pdf>
- Haghirian, P., Madlberger, M., & Tanuskova, A. (2005). *Increasing advertising value of mobile marketing – An empirical study of antecedents*. Paper presented at the Proceedings of 38th Hawaii International Conference on System Sciences, 2005. Retrieved August 20, 2009 from IEEE database.
- Herbison, G., & Boseman, G. (2009). Here they come-Generation Y. Are you ready?. *Journal of Financial Service Professionals*, 63(3), 33.
- Hewlett, S. A., Sherbin, L., & Sumberg, K. (2009). Let Gen Y teach you tech. *Businessweek*. Retrieved from
http://www.businessweek.com/managing/content/jun2009/ca20090630_327649.htm
- Hofstede, G., & Hofstede, G. J. (2005). *Cultures and organizations: Software of the mind*. New York, NY: McGraw-Hill.
- Holmen, E. (2009). *New media rising: Traditional marketing slows while mobile marketing shows growth*. Retrieved August 24, 2009, from MMA Global:
<http://www.mmaglobal.com/articles/new-media-rising-traditional-marketing-slows-while-mobile-marketing-shows-growth>

Interactive Media in Retail World. (2009). *Imrworld e-commerce dashboard*. Retrieved from the
Imrworld Website: <http://www.imrworld.org>

International Telecommunication Union. (2006). *Digital life*. Retrieved from ITU Website:
<http://www.itu.int>

International Telecommunication Union. (2009a). *Internet indicators: Subscribers, users and
broadband subscribers*. Retrieved from [http://www.itu.int/ITU-
D/icteye/Reporting/ShowReportFrame.aspx?ReportName=/WTI/InformationTechnology
Public&RP_intYear=2008&RP_intLanguageID=1](http://www.itu.int/ITU-D/icteye/Reporting/ShowReportFrame.aspx?ReportName=/WTI/InformationTechnologyPublic&RP_intYear=2008&RP_intLanguageID=1)

International Telecommunication Union. (2009b). *Mobile cellular, subscriptions per 100 people*.
Retrieved from [http://www.itu.int/ITU-
D/icteye/Reporting/ShowReportFrame.aspx?ReportName=/WTI/CellularSubscribersPubl
ic&RP_intYear=2008&RP_intLanguageID=1](http://www.itu.int/ITU-D/icteye/Reporting/ShowReportFrame.aspx?ReportName=/WTI/CellularSubscribersPublic&RP_intYear=2008&RP_intLanguageID=1)

International Telecommunication Union. (2009c). *The world in 2009: ICT facts and figures*.
Retrieved from http://www.itu.int/ITU-D/ict/material/Telecom09_flyer.pdf

Jaffee, L. (2007, May). Follow the money. *Promo Magazine*. Retrieved August 20, 2009 from
http://promomagazine.com/mag/marketing_follow_money_2/
Magazine.

Khalifa, M., & Shen, K. N. (2008). Explaining the adoption of transactional B2C
mobile commerce. *Journal of Enterprise Information*, 21(2), 110-124.

Kim, M. J., & Jun, J. W. (2008). A case study of mobile advertising in South Korea: Personalisation
and digital multimedia broadcasting (DMB). *Journal of Targeting, Measurement and
Analysis for Marketing*, 16, 129-138.

- Korea National Statistical Office. (2008). *E-commerce and cyber shopping tendencies in 2008 and the fourth quarter of the year*. Retrieved from Korea National Statistical Office Website:
http://kostat.go.kr/board_notice/BoardAction.do?method=view&board_id=75&seq=116&num=116&catgrp=nso2009&catid1=k04__0000&catid2=k04b__0000&catid3=k04ba__0000&catid4=
- Kumar, A., & Lim, H. (2008). Age differences in mobile service perceptions: Comparison of Generation Y and baby boomers. *Journal of Services Marketing, 22*(7), 568-577.
- Lee, M. S., Geistfeld, L. V., & Stoel, L. (2007). Cultural differences between Korean and American apparel web sites. *Journal of Fashion Marketing and Management, 11*(4), 511-528.
- Mackenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of Marketing, 53*(2), 48-65.
- Malhotra, N. K., & McCort, J. D. (2001). A cross-cultural comparison of behavioral intention models. *International Marketing Review, 18*(3), 235-269.
- MMA Global. (2008). *Mobile marketing industry glossary*. Retrieved from <http://mmaglobal.com/uploads/glossary.pdf>
- MMA Global. (2009). *Mobile advertising guidelines*. Retrieved from <http://www.mmaglobal.com/mobileadvertising.pdf>

- Mostafa, M. E. (2002). *MMS-The modern wireless solution for multimedia messaging*. Retrieved from IEEE Mobile marketing industry glossary <http://mmaglobal.com/uploads/glossary.pdf>
- Nasco, S. A., & Bruner, G. C. (2008 August). Comparing consumer responses to advertising and non-advertising mobile communications. *Psychology & Marketing, 25*(8), 821-837.
- Ngai, E. W. T., & Gunasekaran, A. (2007). A review for mobile commerce research and applications. *Decision Support Systems 43*, 3-15.
- Novak, L., & Svensson, M. (2001). *MMS-building on the success of SMS*. Retrieved from Ericsson Web site: http://www.ericsson.com/ericsson/corpinfo/publications/review/2001_03/files/2001031.pdf
- Nunnally, J. C. (1967). *Psychometric theory* (1st ed.). New York: McGraw-Hill.
- Nysveen, H., Pedersen, P. E., Thorbjornsen, H., & Berthon, P. (2005). Mobilizing the brand. *Journal of Service Research, 7*(3), 257-276.
- Okazaki, S. (2005a). External search, content credibility and intrinsic gratifiers influencing attitude toward wireless ads. *Asia Pacific Advances in Consumer Research, 6*, 5-12.
- Okazaki, S. (2005b). Mobile advertising adoption by multinationals: Senior executives' initial responses. *Internet Research, 15*(2), 160-180.
- Okazaki, S. (2007 October). Exploring gender effects in a mobile advertising context: On the evaluation of trust, attitude, and recall. *Springer Science, 57*, 897-908.

- Park, C., & Jun, J. K. (2003). A cross-cultural comparison of Internet buying behavior: Effects of Internet usage, perceived risks, and innovativeness. *International Marketing Review, 20*(5), 534-553. Retrieved September 8, 2009, from ABI/INFORM Global.
- Partridge, H., & Hallam, G. (2006). Educating the millennial generation for evidence based information practice. *Library Hi Tech, 24*(3), 400-419.
- Pelsmacker, P., & Bergh, J. (1998, June). Advertising content and irritation: A study of 226 tv commercials. *Journal of International Consumer Marketing, 10*(4), 5. Retrieved September 1, 2009, from Academic Search Complete database.
- Rahnema, M. (1993). *Overview of the GSM system and protocol architecture*. Retrieved from IEEE databases
<http://www8.tfe.umu.se/courses/systemteknik/Telesystem/Rahnema.pdf>
- Rath, P. M., Peterson, J., Greensley, P., & Gill, P. (1994). *Introduction to fashion merchandising*. New York, NY: The Ronald Press Company.
- Rettie, R., Grandcolas, U., & Deakins, B. (2005). Text message advertising: Response rates and branding effects. *Journal of Targeting, Measurement and Analysis for Marketing, 13*(4), 304–312.
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). *Measures of personality and social psychological attitudes*. New York, NY: Academic Press.
- Rosenau, J. A., & Winson, D. L. (2006). *Apparel merchandising: The line starts here*. New York: Fairchild Publications, Inc.

- Russell, C. A. (2002). Investigating the effectiveness of product placements in television shows: The role of modality and plot connection congruence on brand memory and attitude. *Journal of Consumer Research*, 29(3), 306-308. Retrieved January 29, 2010 from JSTAR databases.
- Ryu, G., Lim, E. A. C., Tan, L. T. L., & Han, Y. J. (2007). Preattentive processing of banner advertisements: The role of modality, location, and interference. *Electronic Commerce Research and Applications*, 6(1), 6. Retrieved September 7, 2009, from ABI/INFORM Global.
- Seitz, V. (1998). Direct response advertising in the US and European markets: A content analysis of fashion products. *European Business Review*, 98(5), 268-275.
- Self, C. S. (1996). In M. Salwen & D. Stacks (Eds.), *An integrated approach to communication theory and research*. Mahwah, NJ: Erlbaum.
- Shavitt, W., Lowrey, P., & Haefner, J. (1998). Public attitudes towards advertising: More favourable than you might think. *Journal of Advertising Research*, 38(4), 7-22.
- Statistics Korea. (2009). *The annual whole nation population*. Retrieved from http://www.kosis.kr/OLAP/Analysis/stat_OLAP.jsp?tbl_id=DT_1B01001&org_id=101&vwcd=MT_ZTITLE&path=&oper_YN=Y&item=&keyword=&lang_mode=kor&list_id=&olapYN=N
- Taylor, C. R., Miracle, G. E., & Wilson, R. D. (1997). The impact of information level on the effectiveness of U.S. and Korean television commercials. *Journal of Advertising*, 26(1), 1-18. Retrieved October 19, 2009, from ABI/INFORM Global. (Document ID: 11811698).

- Taylor, S., & Todd, P. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144-176. Retrieved from Computer Source database.
- Tsang, M. M., Ho, S. C., & Liang T. P. (2004). Consumer attitudes toward mobile advertising: An empirical study. *International Journal of Electronic Commerce*, 8(3), 65-78.
- U.S. Census Bureau. (2009a). *E-states*. Retrieved from U.S. Census Bureau Web site: <http://www.census.gov/econ/estats/2007/2007reportfinal.pdf>
- U.S. Census Bureau. (2009b). *U.S. POPClock Projection*. Retrieved from <http://www.census.gov/population/www/popclockus.html>
- Varshney, U. (2008). Business models for mobile commerce services: Requirements, design, and the future. *IT Professional*, 10(6), 48-55.
- Werner, O., & Campbell, D. T. (1970). A handbook of method in cultural anthropology. In R. Naroll, & R. Cohen (Eds.), *Translating, working through interpreters, and the problem of decentering*. New York, NY: American Museum of Natural History.
- Wood, L. (2009). Research and markets: Global digital media ecommerce analysis & trends report - Estimated \$470 billion spent on online retail in 2008. *Reuters*. Retrieved from <http://www.reuters.com/article/pressRelease/idUS39564+21-Jan-2009+BW20090121>
- Xu, D. J. (2006). The influence of personalization in affecting consumer attitudes toward mobile advertising in China. *Journal of Computer Information System*, 47(2), 9-19.

Yang, K., & Jolly, L. D. (2008). Age cohort analysis in adoption of mobile data services: Gen Xers versus baby boomers. *Journal of Consumer Marketing*, 25(5), 272-280.

Ye, J. E., Jin, H., Cho, H. K., & Jung, J. E. (2009). *Talking about new workers "BRAVO Generation"*. Retrieved from http://www.seri.org/db/dbReptV.html?g_menu=02&s_menu=0202&pubkey=db2009102
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