YOUNG ADULTS' PERCEPTIONS OF THE CELL PHONE

AS AN ADVERTISING MEDIUM

by

JUN KYO KIM

(Under the Direction of Spencer F. Tinkham)

ABSTRACT

This is an exploratory study that focuses on attitudes toward the cell phone, cell phone advertising and cell phone SMS (Short Message Service or Short Messaging Services) ads. It also investigates consumer behavior in accepting and using SMS ads. A survey method was used, and the questionnaire was completed in both in-class and at-home settings.

Results of the study indicate that respondents' attitudes toward both cell phone ads and SMS ads are negative. However their attitude toward the cell phone medium, itself, is very positive. Also, a positive relationship was demonstrated between the surfing motive on the Web (use for games, entertainment and to kill time) and their likelihood to accept and use SMS ads. Purchase intention in response to cell phone ads is more likely when SMS messages are permission-based.

INDEX WORDS: Wireless Communication, Mobile, Cell Phone, Cell Phone Medium, Cell Phone Advertising, SMS (Short Message Service or Short Messaging Services) Ads, Short Text Messaging, Web-use Motivations

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CHAPTER I

INTRODUCTION

Statement of Problem

The advent of the Internet has made dramatic changes in every aspect of our lives. It profoundly changes how we communicate with people as well as how we buy products and how to use spare time. Corporations have kept up with these changes through such marketing communication strategies as building company websites, creating online shopping malls, providing online consumer services, and utilizing various types of Internet ads, such as banner ads.

However, this is not the end of the changes, but only the beginning. Wireless technology is increasing contact points between consumers and companies. Many corporations have already assured that their Internet service works properly with their consumers' mobile devices. Wireless communication creates endless opportunities for advertisers, including reaching target - specific consumers and location - based promotions.

As mobile phones proliferated rapidly with high adoption rates around the world, the market was ripe for other services that soon emerged. Spectrums were established and as the various digital systems got in place, advanced features such as voice mail, paging, and SMS (Short Message Service or Short Messaging Services) became available to cellular users. Also, cell phones could be used as wireless modems for Internet

connection from a laptop and could be used for email and other application services related to the Web while on the go. These advanced services and capabilities paved the way for the eventual direct connection between the wireless world and the Internet.

The market for wireless advertising is evolving; as yet there are no standards concerning formats and other issues. In the future, with the use of WAP (Wireless Application Protocol), advertisements will be based on voice, text, graphics and music. Today, mobile advertising is carried out mainly using SMS.

Short Messaging Service (SMS) is a text based system that enables approximately 80-100 characters (letters or numbers) to be exchanged between cell phones and/or websites (See Figure 1). European and Asian wireless service providers have chosen to make this service available on a per message price basis or for free. American service providers, on the other hand, have been slow in adapting to this new technology. The SMS services are provided only in limited areas with a fixed monthly cost in the U.S.

Figure 1 A Potential Wireless Ad for Starbucks

This newly emerging marketing communications phenomenon, advertising via SMS, has the potential to reach millions of consumers by wireless devices anytime, anyplace. The rapid growth of this marketing concept in Europe and Asia encourages the U.S. wireless industry to adapt it for the American consumer.

SMS can already be categorized as a mass medium and the market for SMS service is developing rapidly, together with the advertising potential in this medium. However, little research has been done on this phenomenon and the need for increased knowledge in this area is therefore substantial. The main concerns of advertisers may be consumer acceptance and the effectiveness of the medium for advertising purposes.

Purpose of Study

The aim of this research is to estimate and explore some factors in the effectiveness of cell phone ads and SMS advertising, focusing on the Web and the Wireless.

Specifically, this study explores the relationships between attitudes toward the cell phone medium and cell phone ads and the behavior of the respondents in relation to their propensity to accept and use SMS advertising.

By evaluating college student cell phone user groups, this study intends to be an exploration of the ways cell phone advertising (SMS advertising) and m-commerce might customize their communication to be effective in the context of American consumer behavior.

Rationale for Choosing College Students for this Study

According to findings from the "The Wireless Future" study conducted by Cheskin (2001), the consumer group that is most likely to adopt and actively use wireless applications is the young market. It is predictable that the younger generation will incorporate newly developed technologies. They are more willing to adopt these technologies and applications into their lifestyles than the older generations, who tend to be more resistant to change.

Behaviors and trends are likely to be defined by younger consumers, and this results in the high possibility that the youth can foreshadow the market acceptance of wireless technology applications in the general consumer population.

Based on this rationale, a college student group can be a significant sample for this study to examine their perceptions of cell phone advertising.

CHAPTER II

LITERATURE REVIEW

Wireless Advertising

Wireless advertising is one of the newest ways advertisers/marketers have found to reach consumers in a new and compelling way. With the boom of Internet advertising beginning to level out, advertisers have discovered a new technology that consumers are beginning to welcome with open arms. It has been estimated that there will be half a billion mobile phones in the U.S. by 2003 (King, 2000). There are currently about 4.4 million wireless Web and messaging subscribers in the U.S. as of August 2001, but the expected growth by 2005 is 71.1 million (Kotch, 2001). If the rapid growth of the mobile phone is any indication as to what is to come, the entire wireless market is looking at a bright future.

But nobody knows if wireless advertising will grow to be a viable industry. There is a great chance that a large percentage of the population will eventually get some kind of advertising-supported content on a wireless device of some kind. But right now the industry is at a sensitive point; and it has to assess the extent to which consumers will accept advertising on personal digital assistants (PDA), cell phones, and other devices (See figure 2).

Due to this uncertainty as to whether or not wireless advertising will become the "next big thing", analysts are clearly divided and it is possible to find positive and negative forecasts within the industry.

Even though it is important to present market predictions for wireless advertising, one of the most important questions that should be asked right now is whether or not consumers will be willing to receive advertising on their wireless devices.

Cell Phone

PDA

BlackBerry Handheld

Smartphone

Figure 2 Wireless Devices

Concept of Wireless Advertising

Digital technology and the Web are providing a whole new digital spectrum - a suite of new communication channels that can be used for interactive advertising. Some are computer-based (web sites, online advertising, email), mobile-based (SMS), TV-based (iTV) or terrestrial (multimedia, active outdoor etc). Some are push[1] (email, SMS) and some are pull[2] (web sites). Some offer depth of detail (web sites, kiosks), some don't (digital outdoor). Some are direct (web sites, email), some are not (online advertising)

[1] Advertising that is `pushed' to users' devices and generally used in conjunction with mobile advertising. Push advertising may be unsolicited - such as special promotions delivered by SMS to users within a prescribed area, or it may be solicited - where users agree to having certain services or promotions pushed to them at certain times.
[2] Advertising that is attached to content or services that users request or `pull' to themselves. Pull advertising currently dominates the Web, and will be a strong feature of early mobile services.

(Aspland, 2002). While interactive advertising could be truly applied with the advent of the Internet, wireless advertising takes us beyond targeted advertising and its fascinating one-to-one, on-demand, just-in-time and direct-to-buyer advertising model (Sutherland, 2001).

The advertising possibilities presented by mobile devices have a lot in common with other forms of Internet marketing. Delivering advertisements to digital devices allows for better targeting than traditional advertising (print, radio, and television) and it also allows for more interaction and a two-way flow of data.

Wireless devices have a number of features that together form a fertile bed for advanced wireless services, including advertising (Kannan, 2001). Typically, devices are very personal to the user, and carried on the person; aspects of the user's context, such as time and place, can be measured and interpreted; services can be provided at the point of need; and applications can be highly interactive, portable and engaging. For the consumer, wireless advertising can be very personal, timely and relevant, or even integrated with other services, such as games, in a near-seamless way; for the advertiser, wireless ads can be accurately targeted and measured (Katz-Stone, 2001).

Though invasion of privacy is a key issue for wireless advertisers, Cahners-In-Stat's recent study reveals that those wireless users who do not want to receive advertising messages would be more open to the idea if the ads provided a recognizable benefit such as special offers or discounts (Saunders, 2001).

Characteristics of the Wireless Medium

In order to understand the user requirement in wireless communication, it is helpful to take a better look at the specific characteristics of the wireless medium (Anderson and Nilsson, 2002).

Strengths: The wireless advertising medium is an exceptionally personal channel, since most end-users carry their cell phones with them wherever they go. They are also mostly tied to one specific individual, which is not always the case with regular phones or computers that are often tied to an entire family. This makes it possible to adapt messages for the particular individual i.e. personalization. This enables targeted communication and the immediate attention of the end-user. It is also place and time independent which can permit the advertiser to reach a person when it is most appropriate. Another strength is the flexibility in production – it is very easy to produce and deliver a message quickly and also to change it. Even mass customization is possible at a low price. In general, production costs are very low in comparison with other media.

Weakness: Given its very personal nature, the mobile is an extremely sensitive channel. This places great demands on the embryonic wireless advertising industry in terms of graphics and exposure opportunities. In general there is a maximum limit of 160 characters, whereas for advertising financed SMS-services which also include a news message, the limit could be as low as 50 characters. The current wireless advertising messages can be seen as static in the sense of message design but dynamic in the sense of variation and real time changes.

The prevailing uncertainties regarding end-user acceptance and advertising effectiveness may inhibit the development of wireless advertising. Another constraint is

the lack of ad standards and accepted metrics for measuring ad delivery and consumer responses.

Opportunities: The penetration level for wireless devices is high in most western countries and it is also growing very fast in many other countries. This implies opportunities for industry growth by the increase in potential exposure points. The trend of convergence between the Internet and mobility is also promising since it opens up for more content and more services that can be financed or combined with advertising.

The high-speed technical development for many technologies related to wireless advertising offers great potential. It implies improvement of advertisement appearance and an opportunity to deliver high impression messages. The delivery speed and quality is affected, which greatly improves the possibility for an interactive relation with the end-user. The development also offers new ways of advertising using highly sophisticated targeting and location-based techniques. This allows for additional opportunities for advertisers, for example, who would only need to pay for reaching the individuals they want to reach. For the end-user, it could mean value added when they do not have to search for or miss out on offers of special interest to them.

Threats: There are mainly three threats to wireless advertising. Firstly, there is the reluctance among end-users due to privacy fears or fear of being spammed with advertising. Secondly, initial misuse of the channel could threaten to close it. Misuse could be in the form of spam, but also unauthorized use of personal information. In addition, too many companies with too little knowledge of marketing practices could discourage both end-users and advertisers. Finally, there is the risk of too many expectations in the early stages which will slow down industry development. The

medium is still restricted by space, colors, graphics, and movement. If there are too many performance promises that will not be fulfilled, many stakeholders will be disappointed.

Different Types of Ads

When thinking of Internet ads, many of us think of 'banner ads' or websites. However, the nature of ads with wireless mobile devices will be completely different from those Web ads, because the size of the wireless screen is small and the usage of mobile devices is different from the Web (Newell & Lemon, 2001). First, existing websites should be transformed for the wireless environment because wireless devices are not entirely congenial with the web. The wireless screen does not show the entire page and the fancy multimedia plug-ins cannot be transmitted through low-bandwidth wireless channels. Second, the reason people use wireless devices is different from why they use the Web. They do not wander around websites for random searching with wireless devices, but rather they have a special objective, i.e. looking for a restaurant nearby, booking a movie ticket, or searching for a low-priced gas station. Hence, the mindset of advertisers needs to be converted as well. When creating an ad, art directors and copywriters should consider varied situations facing consumers as well as the small screen of wireless devices.

Types of SMS Ads

There are six types of SMS ads altogether (Barwise & Strong, 2002):

Brand building: Examples include an esoteric campaign for Tango (a soda) with executions such as “Feed the Tango inside” and “The Tango inside is wise. Feed him.”

Another, for Carlsberg, was sent to males 18+ at 10:30 p.m. on a Friday night: "Pulled? If Carlsberg ran a nightclub you'd have pulled by now. Probably…"

Special offers: These create awareness of existing special offers. A typical example is from Sega: "A Dreamcast with 4 selected games for just 109.99 pounds at Electronics Boutique or Game. Details in store. Call 08456 090 090 for your nearest store."

Timely Media Teasers: These are used by media organizations to encourage purchase or viewing, as illustrated by the following execution by The Evening Standard (London's main local newspaper): "Tube strike starts 8pm ... Anger as Major says 'walk' … see tonight's Evening Standard for 'walking times' map of key routes in London."

Product, service or information request: Examples included Interflora: "Have you remembered Mother's Day this Sunday? It's not too late to say it with flowers, just call Interflora on 0870 904 7474." And Cadbury's "Cadbury Gifts Direct – THE guide to gifts for chocolate lovers. For your copy sent direct to your door just text back CADBURY now!"

Competitions: Examples are Wella, "Free Wella Shockwaves. 1st 50 win! Text back WELLA now" and Lucozade Sport, "Win a signed Premier League shirt from Lucozade Sport. Text back your team's name 2 enter draw. Lucozade Sport. Have you got it in you?"

Polls/Voting: Include lottery company Gamelot's SMS "Would you like to play the National Lottery using your mobile? For further details text back YES. U 16s cannot play" and Blockbusters, "THE BLOCKBUSTER OSCARS VOTE Marilyn Monroe or

Cameron Diaz. Txt us your fave female movies star, past or present. Let U know poll winners on Mar 18th!"

SMS Advertising

Text messaging has been very popular through the world. NTT DoCoMo, the Japanese cellular phone company, carries between 900 million and 1 billion text messages on an average day to its 28 million subscribers through its popular I-mode service. In November 2001, DoCoMo obtained an injunction against an Internet dating service for sending as many as 900,000 unsolicited commercial text messages to Imode users in a single hour, including 170,000 messages that were undeliverable. DoCoMo obtained the injunction not because Japan has regulated text messaging ads, but because the flood of text messaging ads caused system failure and service disruptions (The Japan Times, 2001). In addition, the Ministry of Public Management approved DoCoMo's plan to unilaterally block messages directed to a large number of invalid mobile phone text message addresses (Creed, 2001). The next month, the Minshuto Party introduced a bill that requires text messaging ad senders to include their address in the text messaging ads and makes it a criminal offense not to honor consumers' requests that no further text messaging ads be sent to their cellular phone addresses (Yomiuri, 2001).

In the United States, there are not yet sufficient numbers of text messaging ads or text messages to cause service disruptions. Only recently have the major wireless carriers agreed to let their customers send text messages to one another (Shachtman, 2002). Competing standards (global system for mobile communications versus code division multiple access), fragmented systems, and lack of variety in calling plans are all cited as

reasons for the lower per capita use of cellular phones in the United States than in Japan or Europe (Hirsh, 2001). Currently, most U.S. wireless devices have limited capacity for both text (typically two to four lines) and graphics (particularly color graphics). Screens and controls are small and hard to use, and voice recognition is in its infancy. In addition, the United States enjoys high-quality line-based telephone service, which may reduce the need for wireless devices in consumers' minds.

Despite lagging cellular phone and wireless use, the United States has already faced its first legal action against text messaging ads, and California recently enacted a statute to ban unsolicited commercial text messages to cellular phones (DMNews.com, 2002). Verizon Wireless recently filed for a temporary restraining order against Acacia National Mortgage, a Phoenix-area mortgage company that had sent thousands of text messaging ad messages to Verizon customers in Colorado. This case was brought under Colorado's anti-spam law, but it is not clear that the law applies to text messaging ads because it defines electronic messages as those transmitted within or between computer networks. The law does not explicitly include messages sent to cellular phones, nor does it clarify whether cellular phones should be considered computers under the statute. The mortgage company agreed to stop sending commercial messages to Verizon Wireless customers in Colorado rather than face costly litigation (Mendez-Wilson, 2001).

On the basis of experience in Japan and Europe, it seems likely that text messaging ads will increase in the United States as cellular phones and other wireless devices increase in popularity. Worldwide, nearly 33% of cellular telephone users reported in January 2002 that they had received some sort of advertisement on their

mobile phones, compared with just 1% of survey respondents in June 2001 (Kelsey, 2002).

Advertisers are experimenting with text messaging ads because it is inexpensive and novel. It also can be highly targeted toward certain groups such as cellular phone or PDA (Personal Digital Assistant) users. SkyGo (2001) reports that, unlike personal computers (PCs), wireless devices typically are not shared among people, which allows the precise targeting of advertising to a single person. Targeting cellular phones by location may be possible after "E911" requires locational tracking devices in cellular phones for use by emergency services. This would enable emergency services to locate a cellular phone through a global location system, even if a caller were to become unconscious or unable to speak. The FCC rules require this system to be in place nationwide by the end of 2005.

All marketing messages must break through the advertising clutter created by U.S. advertisers, which spent an estimated $250 billion in 2001 to promote various products and services to consumers (Marketing News, 2001). Because the "average consumer sees about one million marketing messages each year, about 3,000 a day" (Godin, 1999), it is difficult and expensive for advertisers to break through this clutter to have consumers notice their advertising. Text messaging ads are both a novelty in the United States and an inexpensive alternative to other forms of advertising. Telemarketing costs from $1 to $3 per contact, and direct mail runs between $.70 and $2 per letter. E-mail messages and text messaging ads cost only about $.01 each to send (Bonisteel, 2001).

E-mail marketing, or spam, has become a popular communication mode because it is so inexpensive. One source estimates that 80.3 billion pieces of spam were sent in

1999 (Kelin, 2001). Jupiter Media Metrix estimates that the average Internet user received about 1470 pieces of spam in 2001. That number is expected to increase to about 3800 in five years (Knight Ridder/Tribune Business News, 2002). Indeed, Brightmail noted one day in November 2001 when it detected a record 28,000 spam e-mails (Associated Press, 2001). eMarketer estimates that marketers spent $1.1 billion in e-mail marketing in 2000 and expected that to increase to $2.1 billion in 2001 (Bonisteel, 2001). With the recent anthrax scare in snail mail, experts predicted in 2002 a 45% increase in overall e-mail volume from 2001 (Associated Press, 2001). However, e-mail's novelty has worn off, and it is becoming just another part of marketing clutter.

Analysts expect that text messaging ads could be the next big inexpensive marketing tool and that it could experience dramatic growth. The majority of digital cellular phones (100-123 million users) can already accept text messaging. Ovum, a Boston-based research firm, expects text messaging ads to grow to a $16 billion market by 2005 (Berman, 2000). There is a broad range of other predictions for wireless advertising sales in 2005 from $6 billion (The Yankee Group), $3.9 billion (Strategis), $891 million (Forrester), and $700 million (Jupiter Media Metrix) (Graham, 2001). Just as cellular phones are supplanting pagers, PDAs and cellular phones are beginning to merge into a single unit with an interactive larger screen format that is more conducive to advertising (Hirsh, 2001; Stone, 2001).

The Yankee Group (2002) expects that over 50 percent of the U.S. population owns a cell phone capable of two-way text communication in 2004. They also predict that wireless is a standard component in multimedia advertising campaigns, accounting for over 1 percent of total e-commerce advertising revenues (over $100 million) in 2006.

There is good reason to be optimistic about the growth of text messaging ads in the United States. Whereas a study by Jupiter Media Metrix reports that nearly half of all U.S. cellular phone and PDA users would not accept advertising even if compensated for it, more than 33% of the people surveyed expressed interest in receiving advertising in exchange for subsidized access (Olsen, 2001). This result is consistent with actual trials conducted by SkyGo and WindWire, in which consumers accepted free cellular phones in exchange for receiving up to three e-mails advertisements per day. Most of those customers considered the advertising valuable, and many proactively sought to view advertisements they were not selected to receive (Berman, 2001; Pintak, 2001).

WindWire surveyed 260 users who took part in its trial of text messaging ads, and 86% favored free or ad-subsidized wireless content over fee-based content (Graham, 2001). Similarly, Adbroadcast.com of Baltimore offers consumers between $.05 and $.50 each time they view advertisements. These trials were made possible when AT&T Wireless and Sprint PCS introduced free text-messaging capabilities on wireless telephones in early 2000. Other carriers, such as Nextel and Cellular One, now Cingular, charge extra to receive text messages (Musgrove, 2000). Consumers most likely would be reluctant to pay for unsolicited text messaging ads if charged for each message.

Vindigo is one of the first advertising platforms available for PDAs. Initially, it offered customers the opportunity to download for free a local guide to major cities when the PDA was "synched," or connected to a PC. Advertising messages also were downloaded. If the user then sought information on a particular restaurant, he or she might get an advertisement for another restaurant. Although this is an example of mobile advertising, relevant for users who often travel to different cities, initially it was not quite

wireless because of the "synching" required with a PC. Vindigo currently offers the same service through the wireless Web. AvantGo, the largest wireless advertising service, offers similar small text advertisements to PDA users but also allows advertisers to collect personal information in exchange for promotions (Parker, 2000). AvantGo notes that PDAs enjoy a 2% click-through rate (the viewer actually clicks for more information rather than closing the advertisement) for advertisements, compared with less than 1% for PCs (Nobel, 2001).

In addition to these trials by advertising firms, several marketers are testing text messaging ads. General Motors's OnStar division will offer advertising as part of its Virtual Advisor option, after subscribers indicate what sorts of advertisements they wish to receive. Its first advertisers will offer stock updates on selected stocks, but OnStar hopes to offer location-based advertising, such as when a car moves close to an advertiser's gas station or retail store (Konrad, 2001). In the United Kingdom, movies such as Blow, Final Fantasy, The Lord of the Ring, The Planet of the Apes, Rat Race, and Bridget Jones's Diary as well as several music groups use cellular phone advertising to generate interest (McDonough, 2001; Whiteman, 2001b).

From the experience to date, proponents already are attempting to educate marketers on how to use text messaging ads effectively (Noonan, 2001; Whiteman, 2001a):

- *Make advertisements interactive with direct consumer benefits, such as requesting more information; receiving a coupon, points, or frequent flyer miles; and buying the product or service. Games also work in this context, provided that the result of the game is a consumer benefit. Unlike PC users, wireless users do not idly*

surf, but rather have a particular purpose in using the device, such as obtaining information (e.g., driving directions, sports or stock information, news, weather, local entertainment) or making a purchase (e.g., theater tickets, dinner or hotel reservations).

- *Target consumers by location, time, context (e.g., driving a car), and consumer interest in offered products or services. Consumers want to control their ad viewing, not receive unwanted messages.*
- *Make advertisements readily ignorable so as to not interfere with or affect device performance.*
- *Design advertisements for a particular device. The stylus of a PDA can be easier to use than the keypad of a cellular phone. The cellular phone can receive audio messages such as sound clips. All wireless devices have limited screen size and capabilities, and they download information more slowly than PCs, both of which limit the information content of advertising.*
- *Pay slotting allowances or placement fees to be listed on a device's wireless Web menu or featured on a wireless Web portal. Such placements help overcome the limited ability to direct wireless messages to specific wireless Web locations.*

In contrast to these well-received experiments with text messaging ads, much of the controversy has been generated by advertisers seeking to circumvent wireless advertising companies such as SkyGo and to send text messaging ads directly to wireless subscribers. This is the strategy Plugout.com, a fledgling e-tailer of cellular phone accessories, undertook when it zapped a text message in April 2000 that read: “Check out

plugout.com and save 50% off cellular-phone accessories." Plugout.com mass-mailed the message to 10,000 random AT&T Wireless numbers in the Washington, D.C., area using AT&T Wireless's own email-to-cellular messaging capability.

Just days after receiving the Plugout.com campaign, several newspapers, including The Washington Post and The New York Times, ran stories about the Plugout.com spamming, causing negative publicity for the company. Plugout.com officials defended the company's practice, noting that it had generated "quite a few" sales. The officials noted that not everyone can afford expensive advertising, and they felt they were doing cellular phone users a favor by advertising cellular phone accessories to them. Nonetheless, Plugout.com promised not to do such advertising again (Musgrove, 2000). Similarly, when Acacia National Mortgage sent unsolicited text messages to cellular phones in Colorado in late March 2001, it led not only to the lawsuit from Verizon but also to an Associated Press story that focused on the negative consumer response and the cost to consumers of reading the message (Dell'Orto, 2001).

Another important result of the Plugout.com campaign was receipt of its message by an aide to New Jersey Representative Rush Holt. This led Holt to introduce H.R. 113, the Wireless Telephone Spam Protection Act that would amend section 227 of the Communications Act of 1934, making it illegal to send commercial text messages to a cellular phone without the owner's permission (Berman, 2000; Saunders, 2001). Holt's privacy perspective is consistent with the user surveys discussed previously that found that most consumers would not accept advertisements at any price, but many would give permission in exchange for compensation.

The Web and Wireless Advertising

Despite all the changes caused by wireless communication, the interactive advertising based on the World Wide Web (WWW) will not disappear. Wireless technology makes the Internet more accessible, so online advertising will enhance the effect of a whole advertising campaign.

Traditionally separate, technologies of the Internet and mobile telephony have now started to converge, bringing promises of a new era of networking and portability. The products of this partnership are sophisticated wireless data services, focusing on mobile access to the Internet. The Internet 'in your pocket' has many and various potential applications, including games, e-mail, banking, travel, news feeds and shopping (Barnes, 2002).

Nowadays, most marketing and advertising practitioners emphasize the importance of Integrated Marketing Communication (IMC), especially the consistency of a marketing message. Schultz (1993) states that the IMC process starts with the customer or prospect and then works back to determine the forms and methods through which persuasive communications programs should be developed. Influencing or directly affecting behavior is the ultimate goal. IMC is a new way of looking at the whole, where once we only saw parts such as advertising, public relations, sales promotions, purchasing, employee communications, and so forth. It is realigning communications to look at it the way the customer sees it-as a flow of information from indistinguishable sources (Schultz, Tannenbaum and Lauterborn, 1994).

The Internet is becoming more accessible, and, ultimately, ubiquitous, because of wireless technology. The convergence of the Internet and wireless telephony has

presented a new platform for advertising, and, if analysts are correct, it is potentially much stronger than the wired Internet (Barnes, 2002). Consumers can have much more opportunity for contact with advertisers in a wireless environment, so that a consistent marketing message becomes more important. Therefore, we can say that the external devices that contact consumers play a significant role in both on-line and off-line advertising.

Advanced communication technology also eliminates geographical boundaries, the limitations of space and time. It is also crucial that we understand the customer and identify what motivates the buyer.

Motives and the Web

A motive is a desire to do something, an activated state that contains both energy and direction (Deci and Ryan, 1985). Four primary motives for using the Web seem to be clear —acquisition of information (e.g., researching), communication (e.g. chatting), acquisition of commercial goods (e.g., shopping), and exploration (e.g., surfing).

Previous research about motives for using the Web has indicated that individuals frequently use it to acquire information about products and services, companies, special interests, and news about the world (e.g., Abels, White, and Hahn, 1997; Eighmey, 1997; Katz and Aspden, 1997a; Korgaonkar and Wolin, 1999). Companies also use the Internet to acquire information. In fact, acquisition of information has been cited as the most popular reason to use the Internet in every study that has examined this issue. These included studies that have employed an open-ended questionnaire (Stafford and Stafford,1998), in-depth interview (Maignan and Lukas, 1997), random telephone survey (Katz and Aspden, 1997a), paper and pencil survey (Perry, Perry, and HosackCurlin,

1998), field experiment (Kraut et al., 1998a), and surveys in conjunction with factor analysis (Korgaonkar and Wolin, 1999). In short, getting information, or doing research, is a significant reason for Internet use.

Although not always labeled as such, communication has also appeared across studies as a predominant reason for Web use. Stafford and Stafford (1998), for example, listed email, chat, and communication as dominant web activities; Maignan and Lukas (1997) identified communication as a social use of the Internet; and Eighmey (1997) identified an "interest in continuing communication" factor. Studies using both students (Perry, Perry, and Hosack-Curlin, 1998) and adults (Kraut et al., 1998) have also found communication as a primary use of the web. Katz and Aspden (1997a) found that 43 percent of respondents said e-mail was an important motive for using the Internet, and 20 percent said they use the Internet to communicate with friends, customers, clients and "new people." Korgaonkar and Wolin (1999) identified a "socialization motivation" factor, including items such as "visit my friends" and "talk to my friends." These examples illustrate the significance of communication or socializing as a motivation for the Web use.

With online sales estimated to be at $95 billion in 2001 (Albert, 1999), shopping is certainly becoming a major motivation for web use. For example, Eighmey (1997) found a "purchase intent" factor in his initial field study; Maignan and Lukas (1997) identified the Internet as "a medium which facilitates the consumption of other goods and services"; and Katz and Aspden (1997a) found that 10 percent of respondents used the Internet to shop. Although shopping was not framed in terms of motivation in the Korgaonkar and Wolin (1999) study, concern for web transactions appeared as a separate

factor. Clearly, shopping is a major reason for using the Internet, and the literature has identified some of the concerns associated with this.

The fourth and perhaps least understood motive for web use pertains to exploration, or surfing. According to Mark Pincus of Freeloader Inc., beginning web users spend 99 percent of their time surfing the Web, probably because of the "novelty" factor, and experienced web users spend 30 percent of their time web surfing (Sreenivasan, 1996). Although it has been called by different names, other researchers have also identified surfing as an important web motive. Surfing, for example, has been equated with navigating (Huffman and Novak, 1996), exploring (Eighmey, 1997), wandering (Raman, 1997), browsing (Fortin, 1999), and searching without a purpose (Maignan and Lukas, 1997). Each of these terms appears to emphasize the experience of traveling around on the Web with no particular goal in mind. Such an experience may be likened to what retail shoppers do when they "window shop" or browse (Fortin, 1999).

In short, there appear to be four primary motives for Internet use: researching, socializing, surfing, and shopping. These motives are likely to be antecedents to any ad processing that takes place once a motive is pursued. Ultimately, then, we can expect that these motives influence consumer response to mobile ads (Rodgers and Thorson, 2000). This research will try to find the relationships between wireless advertising and these four general motives for the Web.

Research Questions

RQ 1: What cell phone services are college students interested in while on the move?

RQ 2: How do college students perceive the cell phone medium (CP_{ATT}) and cell phone advertising (CPA_{ATT})? Is there a relationship between their attitude toward the cell phone medium (CP_{ATT}) and their attitude toward cell phone advertising (CPA_{ATT})?

RQ 3: Are there relationships between college students' motives for using the Web and CPA_{ATT}?

RQ 4: How do college students perceive different types of SMS ads? Are there relationships between college students' motives for using the Web and their attitudes toward different types of SMS ads?

RQ 5: Are there relationships between college students' motives for using the Web and their acceptance of and their likelihood to use SMS ads to purchase products/services?

RQ 6: Are there relationships between college students' CPA_{ATT} and their likelihood to accept and use SMS ads?

RQ 7: Does giving permission to receive SMS ads affect respondents' likelihood to accept and use them?

CHAPTER III

METHODOLOGY

This chapter presents the methods and procedures employed to examine the research questions. Description of data collection, sampling, the questionnaire and measurement instruments are provided.

Data Collection

Data were collected from April 14 (Monday) to April 25 (Friday), 2003. This study was conducted through both an in-class and take-home self-administered survey using a self-report questionnaire. The in-class survey and take-home survey were conducted in introductory classes taught in the Department of Advertising/Public Relations at the University of Georgia, Grady College of Journalism and Mass Communication.

Sampling

Sample size

Determining an adequate sample size is one of the most controversial aspects of sampling. Though there is no simple answer, a few general principles guide researchers in determining an acceptable sample size. Usually, a sample of 50, 75 or 100 subjects per subgroup (or cell) is used by researchers. Multivariate studies tend to require larger samples than univariate studies. One guideline recommended for multivariate studies is

as follows: 50=very poor; 100=poor; 200=fair; 300=good; 500=very good; 1,000=excellent (Wimmer & Dominick, 1997: p. 72-73). From this reasoning, a sample size of 250-300 was determined.

Sampling Method

For the in-class and take-home survey, a convenience sample was used from two groups of enrolled students in spring 2003 semester. Subjects were recruited through advertising and public relations classes taught in the Department of Advertising/Public Relations at the University of Georgia, Grady College of Journalism and Mass Communication.

Respondents' participation in this survey was voluntary. Take-home surveys were administered to undergraduate students enrolled in an introductory public relations class. Survey questionnaires were distributed in class to 300 students, and then they were collected in class later that week. In-class surveys were also given to undergraduate students enrolled in an introductory advertising class. Survey questionnaires were distributed to 50 students in that class, and then collected at the end of class.

Questionnaire

Survey questionnaires were designed to answer the seven research questions stated in Chapter II of this study. The questionnaire includes the following types of items and questions:

(1) Demographic questions

These questions included the respondents' gender and age.

(2) Needs for application services by cell phone users

To measure respondents' interest in nine applications, a five-point scale question was used (Not Interested-Little Interested-Moderately Interested-Somewhat Interested-Highly Interested).

(3) Attitude toward the cell phone medium (CP_{ATT})

To measure respondents' attitude toward the cell phone medium, five items using five-point semantic differential scales were included (Necessary-Unnecessary, Pleasant-Unpleasant, Beneficial-Harmful, Useful-Useless and Attractive-Unattractive).

(4) Attitude toward cell phone ads (CPA_{ATT})

To measure respondents' attitude toward cell phone advertising, five items using five-point semantic differential scales were included (Satisfying-Unsatisfying, Interesting-Uninteresting, Useful-Useless, Necessary-Unnecessary and Pleasing-Bothersome).

(5) Attitude toward six types of SMS ads

One five-point scale question was used for each of six types of SMS ads (Strongly Disagree-Disagree-Neutral-Agree-Strongly Agree).

(6) Web use motives

Twelve five-point scale items were used for factor analysis (Never-Seldom-Sometimes-Often-Very Often).

(7) Intention of accepting SMS ads

One five-point scale question "I would like to accept advertising of products/services on my cell phone via SMS" was used (Strongly agree-Disagree-Neutral-Agree-Strongly Agree).

(8) Intention of using SMS ads

One five-point scale question "I would be willing to use SMS ads for buying products/services" was used (Strongly Agree-Disagree-Neutral-Agree-Strongly Agree).

(9) Average amount of time using cell phone on weekdays and weekends

In addition, the questionnaire includes items about time spent with traditional media and experience with online and wireless media.

The questionnaire can be found in Appendix B.

Measurement Reliability

A reliability analysis for measurements was conducted by computing Cronbach's alpha. Attitude toward the cell phone medium (CP_{ATT}) had an alpha score of 0.74, attitude toward cell phone ads (CPA_{ATT}) an alpha level of 0.89, attitude toward six types of SMS ads an alpha level of 0.83 and an average alpha level across four Web use motives was 0.79 (researching-.60, communicating-.74, surfing-.65, and shopping-.69).

According to the previous research, alpha levels between 0.5 and 0.6 are acceptable in the early stages of basic research, though alpha levels of 0.9 to 0.95 are desirable for applied research (Bosworth, 1999). Thus, the observed alpha levels for composite measures in this exploratory study indicate an acceptably high level of reliability.

CHAPTER IV

DATA ANALYSIS RESULTS

This chapter discusses the results from the surveys emphasizing answers to the research questions posed in the previous chapter. The research questions were examined by using frequency, correlation, t-test, ANOVA and MANOVA. In order to obtain respondents' Web motives, factor analysis was used.

Survey Response Rate

For the two phases, 300 completed surveys were collected from 350 students in two undergraduate advertising and public relations classes in the Grady College of Journalism and Mass Communication at the University of Georgia. Among the total 300 responses, 86.7 percent (n=260) are from the public relations class and 13.3 percent (n=40) are from the advertising class.

After eliminating incomplete surveys, there were 291 usable responses, approaching the sample size goal.

Descriptive Data

Demographics

The survey included two questions pertaining to the respondents' demographic characteristics. These two questions consisted of gender and age. Of the respondents, 24.1 percent were male (n=70) and 75.9 percent female (n=221). It appears that the

unbalanced gender ratio is due to the characteristic of the AD/PR Department at the University of Georgia in which female students hold a majority.

Respondents ranged in age from 18 to 41 years, with a mean age of 20.94 and a median age of 21 years. Most of the respondents ranged from 19 to 22 years old (90.4 percent, n=263).

Cell Phone Usage

Of the respondents, 93.8 percent (n= 273) owned a cell phone and 6.2 percent (n=18) did not. In the sample of cell phone user, 51.8 percent (n=169) were current text messaging users and 35.7 percent (n=104) were non-users.

Most of the cell phone owners (35.1%, n=102) used the service of Cingular. Verizon (21%, n=61), T-mobile (12.7%, n=37) and Sprint (12.4%, n=36) followed.

The average length of cell phone use was 40 months. Respondents use their cell phones daily for talking, with a mean of 75 minutes for weekdays and 140 minutes for weekends.

With respect to monthly costs, 40.7 percent of respondents reported they spent $40 to $59.99 on the monthly cell phone service, 22.7 percent reported $20 to $39.99, and 16.8 percent estimated $60 to $79.99.

Research Questions

RQ 1: What cell phone services are college students interested in while on the move?

In order to estimate the need for cell phone services, nine items using a five-point scale were included. Respondents were asked how interested they are in certain applications, ranging from “Not interested” to “Highly interested.” Responses were

recoded into three categories of low (1-2), moderate (3), and high (4-5). Table 4-1-1 shows both the mean and categorical results.

Of these applications, some (email, file transfer, picture transfer, video clips and games) are currently available with advanced cell phone. However, driving directions, instant messaging and streamed music are not in service in the U.S.

Considering the categorical ratings, 28.5 percent of respondents expressed high interest in mobile games, and 35.1 percent of respondents a low level of interest. 45.7 percent of respondents were highly interested in email, and 27 percent expressed low interest. 49.8 percent of respondents reported high interest in News/Weather, while 22.7 percent reported low interest. For instant messaging, 55.7 percent were in the high interest group, and 21 percent were in the low group. 70.4 percent of respondents held a high level of interest in driving directions service, and 9.6 percent held a low level of interest. Finally, 48.8 percent were highly interested in streamed music service, but 27.5 percent were not.

Respondents considered driving directions (M=4.01), instant messaging (M=3.56) and news/weather services (M=3.40) the applications of greatest interest while on the move. File transfer (M=2.40) and video clips (M=2.52) generated the least average interest.

More than 40 percent of survey respondents reported that they would be interested in the given applications, excluding mobile games, video clips, and file transfer applications.

RQ 2: How do college students perceive CP_{ATT}? Is there relationship between CP_{ATT} and CPA_{ATT}?

To measure respondents' attitude toward the cell phone medium and cell phone advertising, five items using five-point semantic differential scales were included. Respondents were asked to rate each concept on each of the five items. Responses were recoded into three categories based on their level of agreement with the positively valenced end-point descriptor as follows: disagree (1-2), neutral (3), and agree (4-5).

Perception of the Cell Phone Medium (CP_{ATT})

Table 4-2-1 shows that 88.7 percent of respondents agreed that the cell phone medium is necessary (M=4.44), 67.4 percent agreed it is pleasant (M=3.86), 79.4 percent agreed it is beneficial (M=4.23), 96.9 percent agreed it is useful (M=4.76), and 47.4 percent agreed it is attractive (M=3.53).

Compared to the other four, the mean score (M=4.76) of the usefulness aspect was highest. While 96.9 percent of respondents responded positively to cell phone medium's usefulness, only 47.4 percent responded positively in rating the cell phone medium as "attractive."

The majority of respondents had a positive attitude toward the cell phone medium across four of the five items, and a plurality was positive on the fifth item. Overall, these results indicate that respondents think the cell phone medium is a good thing.

Perception of Cell Phone Ads(CPA_{ATT})

Table 4-2-2 shows that 11.3 percent of respondents agreed that cell phone ads would be satisfying (M=2.14), 24.7 percent agreed they would be interesting (M=2.43),

22.7 percent agreed they would be useful (M=2.55), 4.1 percent agreed they would be necessary (M=1.65), and only 3.8 percent agreed they would be pleasing (M=1.70).

In summary, the majority of respondents had negative perceptions of cell phone ads across four of the five items. On the fifth item (Useful), over 75 percent were neutral or negative. More than 50 percent of survey respondents reported that cell phone ads would not be satisfying, interesting, useful, necessary or pleasing.

Compared to the other variables, the percentage of negative responses to "Necessary" (83.2%), and "Pleasing" (78%) were the two most negatively polarized scales.

Relationship between CP_{ATT} and CPA_{ATT}

The Pearson Correlation results reveal that there is a significant positive correlation between respondents' attitudes toward the cell phone medium and their attitudes toward cell phone ads: $r(289)=.203$, $p<.05$. This correlation is based on composite summated scores across the five items used to rate each concept.

To determine how respondents' attitudes toward cell phone ads differ across three levels of attitude toward cell phone medium, ANOVA was conducted. The ANOVA result is summarized in Table 4-2-4. The table shows that the mean score of attitude toward cell phone ads for the high level of attitude toward the cell phone medium is 2.24, 2.16 for the moderate level group and 1.85 for the low level group. According to this result, there are significant differences in the level of attitude toward cell phone ads among three groups, $F=4.97$, $p<.05$.

To test all of the possible pairwise comparisons among three groups, a Scheffe test was conducted. Results (4-2-5) showed that there was a significant difference ($p<.05$)

in attitude toward cell phone ads between those with a low attitude toward the cell phone medium and those with a high attitude toward the cell phone medium, and no significant differences between those with a moderate attitude toward the cell phone medium and those with a low/high attitude toward the cell phone medium.

RQ 3: Are there relationships between college students' motives for using the Web and CPA_{ATT}?

It is clear that the Internet serves different needs for different people. However, many Web motivation studies suggest that the primary motives for Internet use are loaded on four separate dimensions: researching, shopping, socializing, and surfing. To determine whether these groupings are appropriate, a factor analysis was run using SPSS 10.0 for Windows using Varimax rotation. This procedure extracted 4 factors for the uses dimensions with eigenvalues greater than 1.0, consistent with expectations.

The first factor, researching, had an eigenvalue of 2.00 and explained 16.7 percent of the variance. The uses variables loading on this factor were "to get specific information," "to get information for research," and "to get travel information."

The second factor, surfing, had an eigenvalue of 1.94 and explained 16.14 percent of the variance. The uses variable for this factor were "to play online games," "for entertainment," and "to kill time."

The third factor, shopping, had an eigenvalue of 1.68 and explained 13.98 percent of the variance. "To do online banking," "to purchases products or services," and "to make reservations" loaded together.

The fourth factor, communicating, had an eigenvalue of 1.51 and explained 12.6 percent of the variance. This factor contained "for email," "to chat with friends/others," and "to participate in any community."

The Web motives factor analysis result is listed in Table 4-3-1.

Relationship between Web Motives and CPA_{ATT}

To examine the relationship between four Web motives and attitude toward cell phone ads, a Pearson Correlation was used.

The Pearson Correlation results reveal that there are two non-significant and two significant correlations between four Web motives and attitude toward cell phone ads. Researching and shopping motives for Web use are significantly and positively related to attitude toward cell phone ads ($p<.05$). Table 4-3-2 shows that the correlation between the researching motive and attitude toward cell phone ads is .151, and between the shopping motive and attitude toward cell phone ads is .127. Correlations with the communicating and surfing motives, though positive in the sample, were not significant.

Secondly, to examine how each of the four Web motives is related to respondents' attitudes toward cell phone ads, t-tests were conducted across low and high motive values.

According to the analysis results (Table 4-3-3), among the four Web motives, two of them, researching and shopping, are significantly related to mean attitude toward cell phone ads. The results show that those with a high researching motive have a more positive attitude toward cell phone ads than those with a low researching motive ($M_{low}=2.00$ vs. $M_{high}=2.22$; $t=-1.99$, $p<.05$). The results also show that those with a high shopping motive have a more positive attitude toward cell phone ads than those with a low shopping motive ($M_{low}=1.95$ vs. $M_{high}=2.18$; $t=-2.18$, $p<.05$).

Overall, it can be stated that respondents who have high levels of Web motives are more likely to have a positive attitude toward cell phone ads.

RQ 4: How do college students perceive different types of SMS ads? Are there relationships between college students' motives for using the Web and their attitudes toward different types of SMS ads?

Perception of Different Types of SMS Ads

To measure respondents' perceptions of SMS ads, six types of SMS ads (SMS branding, SMS reminders, SMS bargains, Call center response, SMS competitions, and SMS vouchers) were included (See APPENDIX C). Respondents were asked what they thought about each type of SMS ad. Responses were recoded into three categories such as disagree (1-2), neutral (3), and agree (4-5), based on a five point Likert scale for each ad type, rating whether that type of cell phone ad "would be good." Table 4-4-1 shows the results.

The majority of respondents show negative perceptions of SMS ads across five of the six types. For the SMS Reminder type, 49.1 are negative. In the other five types, clear majorities ranging from 56 to 69 percent of survey respondents report negative views. While considering the "SMS reminders" (M=2.60) type the most positive, respondents rate the "call center response" (M=2.11) type of SMS most negative. All mean attitudinal scores are below 3, on the negative side of the scale.

Relationship between Web Motives and Perception of SMS Ads

To find the relationship between four Web motives and attitude toward six different types of SMS ads, a Pearson Correlation was conducted.

The surfing motive for Web use is unrelated to the "SMS bargain" type but significantly related to the other five types of SMS ads ($p<.05$). The communicating motive is only related to the "SMS branding" and "SMS reminder" ratings ($p<.05$). The researching and shopping motives exhibit no significant correlations with evaluations of the six types of SMS ads.

To test the differential attitude toward six types of SMS ads between high and low levels of Web motive groups, t-tests were performed.

The surfing motive (Table 4-4-3) is significantly related to SMS "branding," "reminder," "call center response" and "voucher" but unrelated to SMS "bargain" and "competition." A high surfing motive is associated with consistently higher mean scores.

Table 4-4-4 shows that the mean of attitude toward the SMS ads with a high communicating motive is significantly different from that with a low communicating motive for the SMS "branding" and the SMS "reminder," with higher scores associated with higher motivation level.

Tables 4-4-5 and 4-4-6 show that there is no significant difference in attitude toward specific SMS ad types across the high level group or the low level group for the researching and shopping motives.

In addition, no significant difference in attitude toward SMS ads between current text users and non-users was observed. Table 4-4-7 shows that sampled non-users of text

messaging service have a relatively higher level of attitude toward the six types of SMS ads than current text users have.

RQ 5: Are there relationships between college students' motives of the Web and their likelihood to accept or to use SMS ads?

Motives and Acceptance of SMS Ads

Table 4-5-1 shows the relationship between Web motives and intention of accepting SMS ads. All Web motives have a low correlation with acceptance of SMS ads. Only the surfing motive was statistically significant and positive ($r=.138$, $p<.05$).

Table 4-5-2 shows the detailed relationship between Web motives and intention of accepting SMS ads. The results show that people who have a high surfing motive are more likely to have a high intention of accepting SMS ads than those who have a low surfing motive. Only for the surfing motive, there was significant difference in intention of accepting SMS ads between students with a low surfing motive and students with a high surfing motive, $t=-2.145$, $p<.05$.

Over both motivation levels (and types), the mean level of SMS ad acceptance was low, ranging from 1.52 to 1.73 on the composite 5-point Likert scale.

SMS use intention

Table 4-5-3 indicates that the four of Web use motives have a low correlation with intention to use SMS ads for product/service purchase. Pearson correlation ranges from .025 to .118. Only the surfing motive was statistically significant, $p<.05$.

When comparing the mean score of SMS using intention between the low group and the high group for Web motives, there were no significant differences in four Web motives aspects. However, people who have a high level of Web motive tend to be more likely to have a high intention of using SMS ads than those who have a low level of Web motive.

RQ 6: Are there relationships between college students' CPA_{ATT} and their likelihood to accept and use SMS ads?

The Pearson Correlation result (Table 4-6-1) revealed that there are three significant correlations among attitude toward cell phone ads, intention of accepting SMS ads and intention of using SMS ads. The correlation between attitude toward cell phone ads and intention to accept SMS ads was significant, $r=.464$, $p<.05$. The correlation between attitude toward cell phone ads and intention to use SMS ads was significant, $r=.430$, $p<.05$. Also, the correlation between intention to accept SMS ads and intention to use SMS ads was significant, $r=.314$, $p<.05$.

MANOVA was used to analyze the effect of level of attitude toward cell phone ads on both intention to accept SMS ads and intention to use SMS ads. The results of this test are presented in Table 4-6-2 and shows the level of attitude toward cell phone ads effect to be significant when the two measures, intention of accepting SMS ads and intention of using SMS ads, are taken together [$F_{accept}=29.78$, $p<.05$; $F_{use}=23.06$, $p<.05$].

RQ 7: Does giving permission to receive SMS ads affect respondents' likelihood to accept and use them?

To test whether with-permission yields a high intention of accepting and using SMS ads, paired sample t-test was used. Table 4-7-1 shows the mean differences of SMS ads accept intention score between with-permission and without-permission of SMS ads. The results show that respondents' mean of SMS ads accept intention score for with-permission SMS ads is significantly different from the mean for without-permission SMS ads [$t=13.103$, $p<.01$]. The mean of "accept intention" was 2.45 for with-permission SMS ads and 1.61 for without-permission SMS ads. College students think they would be more likely to accept SMS ads with permission than without permission.

Table 4-7-2 shows the mean differences of SMS ads use intention score between with-permission and without-permission of SMS ads. The results show that respondents' mean of SMS ads use intention score for with-permission SMS ads is significantly different from the mean for without-permission SMS ads [$t=-15.086$, $p<.01$]. The mean of use intention was 2.94 for permission SMS ads and 1.89 for without-permission SMS ads. This means college students are more positive toward with-permission SMS ads than without-permission SMS ads.

Table 4-1-1

Respondents' Level of Interest in Various Application Services

		Frequency	Percent	Mean
Mobile Games	Low	102	35.1	2.77
	Moderate	88	30.2	
	High	83	28.5	
Email	Low	81	27.8	3.28
	Moderate	59	20.3	
	High	133	45.7	
News/Weather	Low	66	22.7	3.40
	Moderate	62	21.3	
	High	145	49.8	
Instant Messaging	Low	61	21.0	3.56
	Moderate	50	17.2	
	High	162	55.7	
Video Clips	Low	141	48.5	2.52
	Moderate	64	22.0	
	High	68	23.4	
Driving Directions	Low	28	9.6	4.01
	Moderate	40	13.7	
	High	205	70.4	
Streamed Music(MP3)	Low	80	27.5	3.37
	Moderate	51	17.5	
	High	142	48.8	
File Transfer	Low	156	53.6	2.40
	Moderate	63	21.6	
	High	54	18.6	
Picture Transfer	Low	92	31.6	3.09
	Moderate	61	21.0	
	High	120	41.2	

Mean Value: 1=Not interested, 3=Moderate, 5=Highly interested

Record: 1 and 2=Low, 3=Moderate, 4 and 5=High

Table 4-2-1

Attitude toward Cell phone Medium

Positive Descriptor		Frequency	Percent	Mean
Necessary	Disagree	4	1.4	4.44
	Neutral	29	10.0	
	Agree	258	88.7	
Pleasant	Disagree	26	8.9	3.86
	Neutral	69	23.7	
	Agree	196	67.4	
Beneficial	Disagree	17	5.8	4.23
	Neutral	43	14.8	
	Agree	231	79.4	
Useful	Disagree	5	1.7	4.76
	Neutral	4	1.4	
	Agree	282	96.9	
Attractive	Disagree	31	10.7	3.53
	Neutral	122	41.9	
	Agree	138	47.4	

Mean Value: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree (with the positively valenced endpoint descriptor)

Record: 1 and 2=disagree, 3=neutral, 4 and 5=agree

Table 4-2-2

Attitude toward Cell phone Ads

Positive Descriptor		Frequency	Percent	Mean
Satisfying	Disagree	172	59.1	2.14
	Neutral	86	29.6	
	Agree	33	11.3	
Interesting	Disagree	150	51.5	2.43
	Neutral	69	23.7	
	Agree	72	24.7	
Useful	Disagree	133	45.7	2.55
	Neutral	92	31.6	
	Agree	66	22.7	
Necessary	Disagree	242	83.2	1.65
	Neutral	37	12.7	
	Agree	12	4.1	
Pleasing	Disagree	227	78.0	1.70
	Neutral	53	18.2	
	Agree	11	3.8	

Mean Value: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree (with the positively valenced endpoint descriptor)

Record: 1 and 2=disagree, 3=neutral, 4 and 5=agree

Table 4-2-3

Correlations between CP_{ATT} and CPA_{ATT}

		CPA_{ATT}
CP_{ATT}	Pearson Corr	.203**
	Sig.	.000
	N	291

*p<.05, **p<.01

Table 4-2-4

ANOVA ($CP_{ATT} \rightarrow CPA_{ATT}$)

	N	Mean	SD	F	P
Low	90	1.8511	.7907	4.966	.008**
Moderate	104	2.1635	.8638		
High	97	2.2412	1.0050		
Total	291	2.0928	.9047		

*p<.05, **p<.01

Table 4-2-5

Multiple Comparisons ($CP_{ATT} \rightarrow CPA_{ATT}$)

			Mean Difference (I-J)	SE	p
	(I) Phone	(J) Phone			
Scheffe	1.00	2.00	-.3124	.1285	.054
		3.00	-.3901	.1306	.012*
	2.00	1.00	.3124	.1285	.054
		3.00	-7.7776E-02	.1260	.827
	3.00	1.00	.3901	.1306	.012*
		2.00	7.778E-02	.1260	.827

*p<.05

Table 4-3-1

Web Motives Factor Analysis Results*

	Research	Surf	Shop	Communicate
To get specific info.	.837			
To get info. for research	.835			
To get travel info.	.517			
To play online game		.768		
For entertainment		.741		
To kill time		.694		
To do online banking			.791	
To purchase products or services			.589	
To make reservations (air, hotel, rental car etc.)			.572	
For email				.743
To chat with friends/others				.608
To participate in any community				.563
Eigenvalue	2.001	1.936	1.677	1.512
Variance Explained	16.67%	16.14%	13.98%	12.60%
Total Variance Explained	59.39%			

* Varimax rotated factor matrix, with Kaiser normalization

Table 4-3-2

Correlations between Web motives and CPA_{ATT}

		Surf	Communicate	Research	Shop
CPA_{ATT}	Pearson Corr	.110	.111	.151**	.127*
	Sig. (2-tailed)	.061	.058	.010	.031
	N	291	291	291	291

*p<.05, **p<.01

Table 4-3-3

Mean differences of CPA_{ATT} for Web motives
(Each Web motive → CPA_{ATT})

	CPA_{ATT}	N	Mean	SD	t-value	p
Surf	Low	162	2.0160	.9169	-1.626	.105
	High	129	2.1891	.8833		
Communicate	Low	105	1.9924	.8957	-1.425	.155
	High	186	2.1495	.9073		
Research	Low	169	2.0036	.8456	-1.990	.047*
	High	122	2.2164	.9708		
Shop	Low	110	1.9455	.8682	-2.180	.030*
	High	181	2.1823	.9171		

*p<.05

Table 4-4-1

Attitude Different Types of SMS Ads

		Frequency	Percent	Mean
SMS Branding	Disagree	164	56.4	2.42
	Neutral	54	18.6	
	Agree	73	25.1	
SMS Reminders	Disagree	143	49.1	2.60
	Neutral	69	23.7	
	Agree	79	27.1	
SMS Bargains	Disagree	194	66.7	2.19
	Neutral	50	17.2	
	Agree	47	16.2	
Call Center Response	Disagree	202	69.4	2.11
	Neutral	54	18.6	
	Agree	35	12.0	
SMS Competitions	Disagree	164	56.4	2.43
	Neutral	58	19.9	
	Agree	69	23.7	
SMS Vouchers	Disagree	175	60.1	2.30
	Neutral	67	23.0	
	Agree	49	16.8	

Mean Value: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

Record: 1 and 2=disagree, 3=neutral, 4 and 5=agree

Table 4-4-2

Correlations between Web motives and SMS Ads

		Branding	Reminder	Bargain	Call center	Competitions	Voucher
Surf	Pearson Corr	.185**	.204**	.076	.142**	.120*	.226**
	Sig.	.002	.000	.195	.016	.041	.000
	N	291	291	291	291	291	291
Communicate	Pearson Corr	.155**	.179**	.009	.045	.102	.089
	Sig.	.008	.002	.880	.442	.083	.128
	N	291	291	291	291	291	291
Research	Pearson Corr	.087	.090	.038	.032	.090	.106
	Sig.	.140	.124	.516	.589	.124	.071
	N	291	291	291	291	291	291
Shop	Pearson Corr	-.029	.066	-.004	-.001	.027	-.072
	Sig.	.617	.262	.948	.984	.647	.220
	N	291	291	291	291	291	291

*p<.05, **p<.01

Table 4-4-3

Mean differences of SMS ads attitude for Surf motive

	Surf	N	Mean	SD	t-value	P
Branding	Low	162	2.25	1.14	-2.829	.005*
	High	129	2.64	1.24		
Reminder	Low	162	2.37	1.14	-3.743	.000***
	High	129	2.89	1.23		
Bargain	Low	162	2.12	1.11	-1.182	.238
	High	129	2.27	1.10		
Call center	Low	162	1.99	1.03	-2.272	.024*
	High	129	2.27	1.10		
Competitions	Low	162	2.33	1.18	-1.648	.100
	High	129	2.56	1.20		
Voucher	Low	162	2.10	1.03	-3.456	.001**
	High	129	2.55	1.19		

*p<.05, **p<.01

Table 4-4-4

Mean differences of SMS ads attitude for Communicate motive

	Communicate	N	Mean	SD	t-value	P
Branding	Low	105	2.20	1.17	-2.394	.017*
	High	186	2.55	1.20		
Reminder	Low	105	2.41	1.14	-2.050	.041*
	High	186	2.71	1.23		
Bargain	Low	105	2.29	1.12	1.163	.246
	High	186	2.13	1.10		
Call center	Low	105	2.10	1.06	-.104	.917
	High	186	2.12	1.07		
Competitions	Low	105	2.34	1.13	-.933	.352
	High	186	2.48	1.22		
Voucher	Low	105	2.22	1.04	-.908	.348
	High	186	2.34	1.18		

*p<.05, **p<.01

Table 4-4-5

Mean differences of SMS ads attitude for Research motive

	Research	N	Mean	SD	t-value	P
Branding	Low	169	2.41	1.18	-.240	.810
	High	122	2.44	1.24		
Reminder	Low	169	2.54	1.15	-.949	.344
	High	122	2.68	1.28		
Bargain	Low	169	2.15	1.09	-.683	.495
	High	122	2.24	1.13		
Call center	Low	169	2.07	.97	-.910	.364
	High	122	2.18	1.19		
Competitions	Low	169	2.37	1.12	-.957	.339
	High	122	2.51	1.29		
Voucher	Low	169	2.21	1.05	-1.1533	.126
	High	122	2.42	1.22		

Table 4-4-6

Mean differences of SMS ads attitude for Shop motive

	Shop	N	Mean	SD	t-value	P
Branding	Low	110	2.42	1.15	-.050	.960
	High	181	2.43	1.23		
Reminder	Low	110	2.52	1.18	-.917	.360
	High	181	2.65	1.22		
Bargain	Low	110	2.20	1.10	.173	.862
	High	181	2.18	1.11		
Call center	Low	110	2.14	.98	.286	.775
	High	181	2.10	1.12		
Competitions	Low	110	2.45	1.11	.177	.859
	High	181	2.42	1.24		
Voucher	Low	110	2.36	1.07	.762	.447
	High	181	2.26	1.16		

Table 4-4-7

Comparison of SMS ads attitude between txt user and non-user

	TEXT	N	Mean	SD	t-value	P
Branding	User	169	2.38	1.23	-1.027	.306
	Non user	104	2.54	1.15		
Reminder	User	169	2.63	1.25	-.112	.911
	Non user	104	2.64	1.17		
Bargain	User	169	2.12	1.10	-1.604	.110
	Non user	104	2.35	1.12		
Call center	User	169	2.09	1.13	-.227	.821
	Non user	104	2.13	.97		
Competitions	User	169	2.37	1.20	-1.214	.226
	Non user	104	2.55	1.19		
Voucher	User	169	2.26	1.18	-1.011	.313
	Non user	104	2.40	1.07		

Table 4-5-1

Correlations between Acceptance of SMS Ads and Web Motives

		Surf	Communicate	Research	Shop
Accept	Pearson Corr	.138*	.002	.007	.024
	Sig.	.021	.978	.902	.696
	N	278	278	278	278

*p<.05, **p<.01

Table 4-5-2

Mean differences of intention of accepting SMS for Web motive
(Each Web motive → Intention of accepting SMS)

	Accept	N	Mean	SD	t-value	P
Surf	Low	151	1.52	.80	-2.145*	.033
	High	127	1.73	.88		
Communicate	Low	96	1.63	.80	.141	.887
	High	182	1.61	.86		
Research	Low	158	1.61	.81	-.171	.865
	High	120	1.63	.88		
Shop	Low	102	1.55	.74	-.998	.319
	High	176	1.65	.89		

Table 4-5-3

Correlations between SMS use intention and Web motives

		Surf	Communicate	Research	Shop
Buy	Pearson Corr	.118*	.077	.068	.025
	Sig.	.050	.203	.257	.682
	N	278	278	278	278

*p<.05, **p<.01

Table 4-5-4

Mean differences of intention of using SMS for Web motive
(Each Web motive → Intention of using SMS)

	Use	N	Mean	SD	t-value	p
Surf	Low	151	2.79	1.18	-1.713	.086
	High	127	3.02	1.10		
Communicate	Low	96	2.81	1.19	-.878	.380
	High	182	2.94	1.12		
Research	Low	158	2.85	1.08	-.688	.492
	High	120	2.95	1.23		
Shop	Low	102	2.82	1.09	-.798	.425
	High	176	2.94	1.18		

Table 4-6-1

Correlations between CPA_{ATT} and Intention to Accept & Using SMS Ads

		CPA_{ATT}	Accept	Use
CPA_{ATT}	Pearson Correlation	1.000	.464**	.430**
	Sig.	.	.000	.000
Accept	Pearson Correlation	.464**	1.000	.314**
	Sig.	.000	.	.000
Use	Pearson Correlation	.430**	.314**	1.000
	Sig.	.000	.000	.

*p<.05, **p<.01

Table 4-6-2

MANOVA for Accept & Use Intention by CPA_{ATT}
(CPA_{ATT} → Intention to accept & using SMS Ads)

	CPA_{ATT}	Mean	N	SD	F	p
Accept	Low	1.26	98	.52	29.781	.000***
	Moderate	1.50	84	.67		
	High	2.08	96	1.01		
	Total	1.62	278	.84		
Use	Low	2.35	98	1.13	23.064	.000***
	Moderate	2.99	84	.94		
	High	3.37	96	1.10		
	Total	2.90	278	1.15		

Table 4-7-1

Paired Test between With permission and Without Permission components of SMS

Accept Intention Score

(Permission → Intention of accepting SMS)

	N	Mean (SD)	Paired Corr.	p	Paired Difference Mean (SD)	t	df	p
With permission	278	2.45 (1.13)	.469	.000	.83 (1.06)	13.1	277	.000
Without Permission	278	1.61 (.90)						

Table 4-7-2

Paired Test between With Permission and Without Permission components of SMS

Use Intention Score

(Permission → Intention of using SMS)

	N	Mean (SD)	Paired Corr.	p	Paired Difference Mean (SD)	t	df	p
Without Permission	278	1.89 (.89)	.389	.000	-1.05 (1.16)	-15.086	277	.000
With Permission	278	2.94 (1.17)						

CHAPTER V

DISCUSSION AND CONCLUSIONS

This chapter summarizes findings from this study, and presents implications for advertising practitioners and mass communication researchers, limitations, and suggestions for further research.

Findings

This study explored how college students responded to cell phone ads, and whether there were relationships among their Web use motives, attitudes toward cell phone ads (CPA_{ATT}) and attitudes toward six different types of SMS ads.

A better understanding of the relationship between Web motives and cell phone advertising may lead to development of advertising strategies in the world of convergence between wire and wireless services.

Cell Phone User's Service Needs on the Move

It is important to identify the cell phone user's needs and preferences for certain applications in order to better target and communicate effectively with them. Respondents considered driving directions, instant messaging, news/weather, streamed music (mp3) and email services the most important applications while on the move. In particular, respondents were highly interested in driving directions service.

However, respondents showed less interest in services such as mobile games, video clips and file transfer.

Awareness of these preferences can enable more successful cell phone advertising activity via SMS.

Relationship Between CP_{ATT} and CPA_{ATT}

While most respondents have a positive attitude toward the cell phone medium, especially in its "usefulness" aspect, most respondents have negative attitudes toward cell phone advertising in all five aspects.

Using correlation and ANOVA tests, the positive relation between attitude toward the cell phone medium and attitude toward cell phone ads was established. Many researchers have found that attitude toward the advertising medium as well as toward the ad are strongly associated with evaluation measures, such as ad awareness, brand awareness and purchase intention (Sukpanich and Chen, 1997). A positive image of the cell phone medium can create favorable conditions for a message to gain the attention by supporting and reinforcing the advertising message.

Relationship between Web Use Motives and CPA_{ATT}

To examine the relationship between college students' Web motivations and their attitude toward cell phone advertising, survey data were analyzed in two steps: (1) a factor analysis to identify respondents' Web use motives; (2) simple correlation and t-tests to find relationships between them.

From the results of factor analysis, the four factors (researching, surfing, shopping and communicating) were determined. Attitude toward cell phone advertising has a significant correlation with the motives of researching motive and shopping. According to the t-test, those with a high level of motive in researching and shopping have a more positive attitude toward cell phone advertising.

It appears that Web users with specific purposes related to researching and shopping are likely to have the least negative perception of cell phone advertising.

Relationships Between Web Motives and Attitudes Toward SMS Ad Types

According to the results, it appears that respondents with a high surfing motive were more positive toward the six types of SMS ads, especially "voucher" SMS ads. It is also found that the communicating motive was positively related with attitude toward SMS "branding" ads and SMS "reminder" ads.

It may be that people with a high surfing motive for Web use have positive attitudes toward specific types of SMS ads because they are users who look for and have much time for entertainment.

Relationship Between Web Motives and Intention to Accept & Use SMS Ads

The relationship between respondents' Web motives and their intention of accepting and using SMS ads was tested using correlation and t-test. From the analytical results, one difference was found in intention of accepting SMS ads between the high surfing motive group and the low surfing motive group. Also, there was a significant difference in intention of using SMS ads between high and low surfing motive groups.

According to the results, it appears that respondents with "surfing" related Web motivations have a higher level of intention to accept and to use SMS advertising, though the overall level of both seem to be quite low.

Relationship Between CPA_{ATT} and Intention to Accept & Use SMS Ads

The relationship between respondents' attitude toward cell phone ads and their intention of accepting and using SMS ads was tested using correlation and MANOVA.

The result shows that the individuals who have a more positive attitude toward cell phone advertising are more receptive to acceptance and use of SMS ads. It appears that attitude toward cell phone advertising is very important to achieving higher levels of intention to accept and use SMS ads.

Relationship Between Permission and SMS Accept & Use Intention

According to the correlation and paired t-test results, attitude toward cell phone ads is significantly related to intention of accepting and using SMS ads. Respondents with a higher attitude toward cell phone ads have a stronger SMS accept intention and a higher propensity to use SMS for buying products or services.

It is not surprising that respondents are more likely to have high intention of accepting and using SMS ads "with permission" than SMS ads "without permission." Obtaining consumers' explicit permission to receive SMS ads means they generate a much better response than would otherwise be the case. Without permission, cell phone ads including SMS ads are at best ineffective and, at worst, could cause resentment because the mobile phone is seen as very much a part of consumers' personal space.

Discussion

Implications

This study examined how people perceive cell phone advertising and different types of SMS ads, and how those are related to the Web motives. The findings of the relationships among the Web motives, attitude toward cell phone advertising and attitude toward six different types of SMS ads provide advertising practitioners with important implications for using wireless communication more effectively.

The results from this exploratory study indicate that college students are skeptical about cell phone advertising. It would be interesting to further investigate what factors would be effective in changing cell phone consumers' attitudes towards cell phone advertising and SMS advertising. It would be beneficial for wireless service providers to understand the role users' attitude play in creating service plans and offers that appeal to cell phone users. Related to this concept, future research should explore in detail the types of messages that appeal to the wireless users.

In this study, researching and shopping motivations seem to predict general attitudes toward cell phone advertising. It appears that users with more specific purposes, such as goal-oriented motivation, are likely to have a more positive perception of cell phone ads.

A surfing motivation seems predictive for positive attitudes toward "branding," "reminder," "call center" and "voucher" SMS ad types. Communicating motivation seems to predict a positive evaluation of "branding" and "reminder" SMS ad types. It appears that an entertaining-oriented motivation is related with some SMS ad types.

The immediacy, interactivity and mobility of wireless devices like cell phones provide a novel platform for advertising. The personal and ubiquitous nature of such devices means that interactivity may be provided anywhere. Advertising is potentially more measurable and traceable. Furthermore, technologies that take into consideration the circumstances of the user can provide services in a productive, context-relevant way, thus deepening customer relationships.

Consumers should respond well to cell phone ads (SMS ads) that grab their attention. The key is to produce cell advertising that is entertaining, eye catching, relevant, and effective in a small space.

The cell phone is a highly personal medium, and short text messaging is considered to be a one-to-one personal means of communication. On the positive side, this can be used by advertisers to create cost-effective campaigns, but if the messages, or products being advertised, are felt not to be relevant by the target audience there is potential for negative reactions. It is important, therefore, that profiling information is collected explicitly and used judiciously.

The youth market is increasingly difficult to reach, given its dislike of being overtly "advertised to," its below average traditional media consumption, and its above-average mobility (Snyder, 1998). This makes cell phones ads particularly suitable for this demographic segment (age category 19 to 35). For a more in-depth discussion of the youth market, see Shimp (2003).

People in Europe and Japan having a high wireless penetration frequently use their wireless devices to access the Internet, whether for email, research, or entertainment purposes. One major similarity of these countries is that they have small country geographically. So, it would be necessary to investigate the differences and similarities between America and other countries where wireless use is more commonplace to understand how wireless advertising may work here someday.

Limitations

This study has several limitations including the sample, sampling procedure, and the measurements. First, since this study was conducted with a college student sample,

the results cannot be generalized to the cell phone user population as a whole. However, as mentioned in Chapter One, college students are one of the most important targets of (Web or Wireless) advertising and this study provides significant implications for this target.

Second, the sample for the in-class and take-home survey was collected from Advertising/Public Relations classes at the University of Georgia, Grady College of Journalism and Mass Communication. This convenience sample may not be suitable for application to the general population of cell phone users, even within its age and education level.

Third, because of a lack of previous studies regarding perception of cell phone ads, it was necessary to develop appropriate measurements. While measures exhibited high reliabilities and proved useful for prediction, further research is necessary for examining the validity of this study's findings regarding the perception of cell phone advertising and different types of SMS ads.

Suggestions for Further Research

Certainly, it is important to keep the consumer in mind; for the key to success is the management of and delivery upon user expectations. At present, it is not abundantly clear how consumers will respond to the idea of mobile advertising. In essence, wireless 'push' advertising creates clutter in an otherwise clean channel. Considerable further detailed research is needed to investigate the response of consumers.

The danger of spamming is that consumers will become irritated by the intrusion and delete without reading, and the perception of the advertiser may be harmed.

Regulation issues on this new method of marketing communication are a factor that might be of importance. Further research is necessary for these issues.

Currently, wireless advertising is embryonic and experimental – the majority of wireless advertising is SMS-based. The text generation of devices and networks will be important in the evolution of wireless advertising; higher bandwidth will allow rich and integrated video, audio and text. In addition, considerable effort is needed in building consumer acceptance, legislation for privacy and data protection, standardizing wireless ads and creating pricing structures. If these conditions hold, wireless could provide the unprecedented platform for advertising that has been promised. Clearly it is too early to tell, but future research aimed at examining these fundamental issues will help to further our understanding of wireless advertising and its implication for marketing communications.

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APPENDIX A

CONSENT FORM

You are invited to take part in the research about *Young Adults' Perceptions of Cell Phone as an Advertising Medium*, conducted by Jun Kyo Kim, who is a graduate student of the Grady College of Journalism and Mass Communication at the University of Georgia, under the direction of Dr. Spencer F. Tinkham (AD/PR Department, Phone: 706-542-4986). This research intends to examine college students' attitude and behavioral response to SMS (Short Message Service) ads via cell phones based on the survey data. Your participation in this survey is entirely voluntary. Therefore, if you want, you may not answer any of the questions and you may withdraw from participation at any time without penalty. No discomfort or stress is foreseen and no risk is involved in this survey. The present survey is related to the researcher's MA thesis. However, the information you provide will be kept anonymous and your name will not be associated in any way with this research. If you have any question, please feel free to contact Jun Kyo Kim, at 706-208-9192 or ilovetv@arches.uga.edu. Thanks for your participation.

Additional questions or problems regarding your rights as a research participant should be addressed to Chris A. Joseph, Ph.D. Human Subjects Office, University of Georgia, 606A Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX B

A SURVEY OF CELL PHONE ADS

Part I.

I-1 Do you own or use a cell phone? (Please check)

❑ Yes [If yes, please continue.]

❑ No [If No, are you thinking of buying a cell phone within the next 12 months? (Please check)]

- ❑ Yes [If yes, go to **Part II.**]
- ❑ No [If No, go to **Part III.**]

I-2 Who is your cell phone service provider? (Please check one)

❑ T-mobile ❑ Verizon ❑ Sprint ❑ Cingular ❑ AT&T ❑ Other ❑ Don't Know

I-3 How long have you used your cell phone?

_____Years _____Months

I-4 What is your average monthly cell phone bill? (Please check one)

❑ Less than $20 ❑ $20 - $39.99 ❑ $40 - $ 59.99 ❑ $60 - $79.99

❑ $80 - $99.99 ❑ $100 or more ❑ Don't know

I-5 How long do you use your cell phone per day for talking?

Weekday: _____Hours _____Minutes

Weekend: _____Hours _____Minutes

I-6 Do you use Text Messaging Service? (Please check one)

❑ Yes ❑ No

I-7 Please assume that you have an "advanced" cell phone. How much would you be interested in the following while on the move? (Please check)

Application	Not interested		Moderate		Highly interested
1. (Mobile) Games	❑	❑	❑	❑	❑
2. Email	❑	❑	❑	❑	❑
3. News/Weather	❑	❑	❑	❑	❑
4. Instant Messaging	❑	❑	❑	❑	❑
5. Video Clips	❑	❑	❑	❑	❑
6. Driving Directions	❑	❑	❑	❑	❑
7. Streamed Music (mp3)	❑	❑	❑	❑	❑
8. File Transfer	❑	❑	❑	❑	❑
9. Picture Transfer	❑	❑	❑	❑	❑

Part II.

II-1 For each statement, check an item that most closely reflects your opinion.

Acceptance of SMS Ads	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I would be willing to give my mobile service provider anonymous information about myself to make advertising more relevant to my needs.	❑	❑	❑	❑	❑
2. I would like to accept advertising of products or services on my cell phone via SMS.	❑	❑	❑	❑	❑
3. If I receive SMS ads (or promotions) with my permission from advertisers, I would read them.	❑	❑	❑	❑	❑
4. If I receive SMS ads (or promotions) without my permission from advertisers, I would read them.	❑	❑	❑	❑	❑

II-2 For each statement, check an item that most closely reflects your opinion.

Purchase intention	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I would be willing to use SMS ads (such as coupons) for buying products/services.	❑	❑	❑	❑	❑
2. If I get SMS ads without my permission, I would be likely to purchase products/services.	❑	❑	❑	❑	❑
3. If I get SMS ads with my permission, I would be more likely to purchase products/services.	❑	❑	❑	❑	❑

Part III.

III-1 I think the **cell phone** is … (Please check)

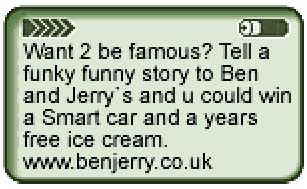
Necessary	❑	❑	❑	❑	❑	Unnecessary
Pleasant	❑	❑	❑	❑	❑	Unpleasant
Harmful	❑	❑	❑	❑	❑	Beneficial
Useful	❑	❑	❑	❑	❑	Useless
Attractive	❑	❑	❑	❑	❑	Unattractive

III-2 I think **cell phone advertising** is/would be … (Please check)

Satisfying	❑	❑	❑	❑	❑	Unsatisfying
Interesting	❑	❑	❑	❑	❑	Uninteresting
Useful	❑	❑	❑	❑	❑	Useless
Unnecessary	❑	❑	❑	❑	❑	Necessary
Bothersome	❑	❑	❑	❑	❑	Pleasing

III-3 I think the following types of cell phone Ads would be good. (Please check)

Examples of SMS(text message) Ads
(Source: http://www.mindmatics.co.uk/en/content_2_4_1_2_1.html#branding)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SMS Branding **(Increase of brand popularity & recognition)** 	❑	❑	❑	❑	❑
SMS Reminders **(Information with up to the minute updates)** 	❑	❑	❑	❑	❑
SMS Bargains **(Information about special offers)** 	❑	❑	❑	❑	❑
Call Center Response **(Direct interaction with the customer)** 	❑	❑	❑	❑	❑
SMS Competitions **(Strong involvement)** 	❑	❑	❑	❑	❑
SMS Vouchers **(Customer receives a voucher/discount)** 	❑	❑	❑	❑	❑

Part IV.

IV-1 For each statement, check one item that most closely reflects your opinion.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10. Generally I pay attention to ads.	❑	❑	❑	❑	❑
11. Advertising is pleasurable in general.	❑	❑	❑	❑	❑
12. Commercials in TV programs annoy me.	❑	❑	❑	❑	❑
13. Ads on Web pages (banner, pop-up etc.) irritate me.	❑	❑	❑	❑	❑
14. Direct mail bothers me.	❑	❑	❑	❑	❑
15. Spam email is offensive to me.	❑	❑	❑	❑	❑

IV-2 For each statement, check one item that most closely reflects your opinion.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. When I receive direct mail or spam email from the unknown, I feel like my privacy has been invaded.	❑	❑	❑	❑	❑
2. I feel very uncomfortable when I think my privacy was infringed by someone.	❑	❑	❑	❑	❑
3. I try to avoid situations that require my personal information such as name, SSN, address, or phone number.	❑	❑	❑	❑	❑
4. I am always reluctant to disclose my credit card information to buy something.	❑	❑	❑	❑	❑
5. I think that computers and technology are being used to invade my privacy.	❑	❑	❑	❑	❑

IV-3 How much have you experienced with the following? (Please check)

	Not much		Moderate		Very much
1. Advanced communications services (DSL, Wireless internet etc.).	❑	❑	❑	❑	❑
2. Communications Technologies Products (PDA etc.)	❑	❑	❑	❑	❑
3. New Digital Products (Digital Camera, MP3 player etc.)	❑	❑	❑	❑	❑
4. Chatting or Instant Messenger on the Internet	❑	❑	❑	❑	❑
5. Online shopping or online reservations	❑	❑	❑	❑	❑

IV-4 For each statement, please check.

[I use the Web …]	Never	Seldom	Some time	Often	Very Often
1. for entertainment	❑	❑	❑	❑	❑
2. for email	❑	❑	❑	❑	❑
3. to play game online	❑	❑	❑	❑	❑
4. to get information for research	❑	❑	❑	❑	❑
5. to kill time	❑	❑	❑	❑	❑
6. to book online (air, hotel, rental car, etc.)	❑	❑	❑	❑	❑
7. to participate in any community	❑	❑	❑	❑	❑
8. to get specific information I am searching for	❑	❑	❑	❑	❑
9. to get weather information	❑	❑	❑	❑	❑
10. to purchase products or services	❑	❑	❑	❑	❑
11. to chat with friends/others	❑	❑	❑	❑	❑
12. to manage my finance (online banking, credit card management, etc.)	❑	❑	❑	❑	❑

Part V.

Per day (on a typical day) how much time do you spend (on average) …	Hours	Minutes
1. Watching television?		
2. Watching videos/DVD?		
3. Playing video games?		
4. Reading newspapers?		
5. Listening to the radio?		
6. Using the WWW (all time spent including at school and home)?		

Part VI.

VI-1 Your age is _____.

VI-2 How long have you used the WWW?

_____Years _____Months

VI-3 What is your gender? (Please check one)

❑ Male

❑ Female

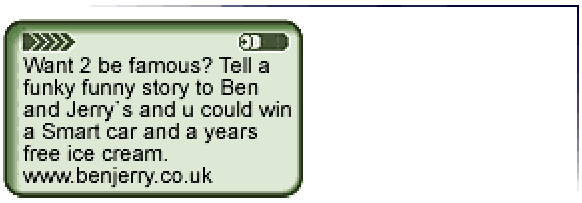
Thank you very much for your participation in this survey.

APPENDIX C

TYPES OF SMS ADS

Advertisers can find a series of different advertising formats (www.mindmatics.co.uk).

SMS Branding



- Transmission of product-specific information

- Increase of brand popularity and recognition

SMS Reminders

- Information with up to the minute updates (Reminder function)

- High added value with a local character (Concerts, musicals, TV, cinema, etc.)

SMS Bargains

- Information about special offers, e.g. winter sales, store openings

Call Center Response

- Direct interaction with the customer

- No change from the broadcast media

SMS Competitions

- Interaction with the customer

- Entertainment for the customer

- Strong involvement between the customer and the brand

- Improvement in customer loyalty and image promotion

SMS Vouchers

- Customer receives a voucher/discount via SMS

- Advertisers can measure the response rate directly

- Generation of new contacts for future use

APPENDIX D

GLOSSARY

2G (second generation) - digital/analog carrier for cellular phones.

3G (third generation) -is being touted as "the future of cellular,"adds more features and capabilities; recently launched by NTTDoCoMo .

Bluetooth - common radio frequency that creates short-range radio links between electronic devices.

Bandwidth - the rate at which data can be transferred electronically.

Broadband - ability to send many types of information simultaneously over the Internet.

CDMA (Code Division Multiple Access) - one of the three mobile communications standards used in the United States.

CMEA (Cellular Message Encryption/Algorithm) - encryption technology currently in wireless industry use

Convergence - the intersection of technologies such as voice and data networks.

DTV - digital television

GPRS (General Packet Radio System) - new wave of operating system, most likely will be available in 2001 in the new all-in-one phones.

GPS (Global Positioning System) - uses satellite to locate people or objects globally.

GSM (Global System for Mobile communication) - the mobile communications standard used throughout Europe.

Handset - umbrella term for any wireless device: cell phone, PDA, etc.

i-Mode - more sophisticated version of WAP (originated in Japan by wireless company NTT DoCoMo, currently unavailable in the United States)

ITV - interactive television

M-commerce - mobile commerce (like e-commerce for wireless devices)

PDA - personal digital assistant, as in a Palm, Handspring, etc.

Peer to peer - networks of individual computers sharing information, popularized by Napster

POS - point-of-sale (ex: ATM, kiosks, mobile phones- anywhere people are making a transaction)

PVR - personal video recorder (such as TiVo or Replay) that allows the user to record and play back TV shows digitally

SME (signaling message encryption) - prevents sensitive information from being transmitted

SMS (short message service or short messaging services) - common text messaging technology in use currently

T-commerce - television commerce, like e-commerce for the television

WAP (wireless application protocol) - another common text messaging technology for wireless phones in use currently