


commercial messages to a mobile device. With mobile marketing, receiving prior approval from a consumer before delivering a message is critical because access to mobile consumers in the United States is dictated by federal law and industry best practices (Mobile Marketing Association, 2007; CAN-SPAM Act, 2003), while in many areas of Europe and the rest of the world prior approval is not always required.

What makes mobile advertising unique is the fact that the mobile medium is extremely personal and untargeted (Tahitian & Salo, 2003). Marketers have discovered through research that mobile devices — primarily cell phones — are personal communication tools that have become embedded in the social network and fabric of our digital society. According to a recent study by the Mobile Marketing Association, the mobile phone, across all age groups, has been found to be an important part of our every day lifestyle. The study found that 82% of all respondents indicated that their mobile phone is highly to moderately important to their daily life. It’s expected that by 2011 (Jupiter Research, 2006) mobile advertising will reach $5B. None crossed the $10B revenue mark in their first year of existence (Sharma, 2007).

Mobile advertising can be targeted to the individual, personal and interactive, unlike traditional advertising that is considered to be a non-personal means of conveying a message via mass media for the purpose of informing and persuading a target audience (Aynawmulate, Alimi, and Aynawminate, 2003). Marketers can engage consumers via mobile advertising in a number of ways. They may include a call-to-action in their traditional media advertising and encourage consumers to respond via text messaging, multimedia message, picture messaging, Bluetooth alerts, or voice channels on their cell phone. For instance, a consumer may be invited to send a test message, respond to a Bluetooth alert, dial a regular or toll-free number, interact with an instant voice response service, or send a picture message via the phone’s multi-media messaging service. For consumers who have previously opted in and agreed to receive mobile messages, marketing a mobile advertisement to any of these messaging or voice channels, both on a broadcast basis to specific demographic groups and to individuals. Another common use of mobile phones is through embedded on-device applications and browsers. For example, it is very common for advertisers to include mobile applications or ads on Internet websites, embed advertisements in mobile radio, video clips, TV, and games, and place an ad within a mobile operator’s dedicated portal. Ads may also be included within the interface of the phone, although this practice is not common.

Mobile advertising uses both “push” and “pull” advertising strategies, often in tandem with other direct-to-consumer marketing strategies and advertising strategies. Because of the inherent regulatory and telecommunications delivery barriers of advertising through the mobile channel, the presentation of advertising messages has restrictions that other advertising mediums do not. These restrictions force marketers, in most cases, to get prior approval from consumers before being able to send mobile advertising and including it within their marketing budgets, often targeting teens and college students.

Since the first mobile text advertising was done in Scandinavia in 1997, mobile advertising has grown consistently (Becker, 2005 on may have expected that by 2011 marketers will be spending $11.3 billion annually on mobile advertising, up from $871 million in 2006 (CShere, 2007). Jupiter Research predicts that expected that by 2011, marketers will be spending $11.3 billion annually on mobile advertising, up to $2.9 billion by 2011 (Jupiter Research, 2006). As a reference, it took two years for broadcast TV, four years for the Internet and five years for cable TV advertising to reach $14 billion in revenue, and five years for Internet and broadcast TV advertising to reach $55 billion. None crossed the $110 billion revenue mark in their first 10 years of existence (Sharma, 2007).

To many, a cell phone represents one of the few remaining unspoiled personal spaces they can use to communicate and socialize and still maintain control. It is, therefore, important for marketers to leverage the concept and learn to gauge consumers’ perceptions of and willingness to accept mobile advertising. A recent study by Forrester Research found 79% of consumers said they would be irritated if an ad was sent to their mobile phones (Forrester Research, 2007). One-third (34%) of mobile Web users in the United States and internationally say they would watch advertisements on their cell phones in exchange for free mobile content, according to the Online Publishers Association (2007). A Harris Interactive study found 35% of U.S. adult cell phone users are willing to accept incentive-based mobile advertisements (Harris Interactive, 2007). Although there is a growing body of knowledge about consumer attitudes toward mobile advertising and the factors that may affect consumer acceptance of mobile advertising, no multi-year analysis of those factors exists.

Mobile Advertising Acceptance Theories

From these theories, frameworks and models a number of factors have been found to be influential in postulating concepts of acceptance of mobile advertising. Researchers have categorized these factors into three areas: industry, medium and consumer. Industry factors include technology infrastructure (networks and standards), transmission time, complexity, the increased use and adoption by practitioners, ease-of-use, user-friendliness, compatibility, government regulation and industry standards (Leppäniemi & Karjaluoto, 2005; Wu & Wang, 2004; Sullivan & Rohm, 2006). Medium factors consist of marketer-to-consumer interaction, context interaction (relevance, time and location), costs, presence of incentives and permissions (Martin & Marshall, 1999; Steward & Pavlou, 2002; Barnes & Scornavacca, 2004; Becker, 2005). Consumer factors include the consumer’s general attitude toward advertising, level of involvement, innovativeness, response to stimuli, trust and perceptions of control and risk. Demographic factors (age, gender, income and education) have also found to be important control variables to consider when looking at consumer acceptance (Rettie & Brum, 2001; Barnes & Scornavacca, 2004; Dickinger, Haghiran & Murphy, 2004; Tsang et al., 2004; Bauer et al., 2005; Carroll, Barnes & Scornavacca, 2004; Haghiran & Madlberger, 2005, Leppäniemi & Karjaluoto, 2005).

In addition, the role of incentives as a provider of economic benefit and a significant impact on the willingness by consumers to receive mobile advertising. The factors include advertising value and content (Haghiran & Madlberger, 2005), entertainment and information value (Bauer et al., 2005), permission, content, wireless service provider control and brand trust (Barnes & Scornavacca, 2004; Carroll et al., 2005). In addition, Krishnamurthy (2001) identifies other key factors impacting mobile marketing adoption, including message relevance, personalization, privacy, cost, message processing costs and monetary benefits.

The Wireless Consumer Acceptance Scale developed by Bazar et al. (2004) provides a practical alternative for determining acceptance of mobile advertising. Unlike purely theoretical and conceptual factors offered by other researchers, the Wireless Consumer Acceptance Scale is a short, reliable self-report scale designed to measure the concept of advertising acceptance over cell phones. It is meant to be a concise tool to acceptability and mobile marketers with data to help determine the level and types of ads to deliver by segments. The scale is used in this research study to measure acceptance factors for mobile advertising acceptance.

Thus, determining the incidence of student exposure to cell phone advertising and student willingness to accept cell phone ads will be guided by the following research questions:

R1: What percentage of students report receiving advertisements on their cell phones?
R2: What types of advertisements were received on cell phones?
R3: Under which of the following conditions would students consider accepting advertisements on their cell phones?
R4: For students who received a cell phone advertisement, how did they make it feel?
R5: For students who received a cell phone advertisement, how did it affect future purchase of a product from the business sending the advertisement?

Monetary Incentives

The monetary incentives as a provider of economic benefit and motivator for consumers to accept mobile advertising and messages has been investigated by several researchers. Rettie and Brum (2001) found that monetary benefits affected...
Mobile advertising and including it within their marketing budgets, often targeting teens and college students. Since the first mobile text advertising was done in Scandinavia in 1997, mobile advertising has grown consistently (Becker 2006). It is expected that by 2011 marketers will be spending $11.3 billion annually on mobile advertising, up from $871 million in 2006 (G’Shea, 2007). Jupiter Research predicts that more than 97% of cell phone users are within the 18 to 34 age group. The purpose of this study is to investigate college student cell phone usage and exposure to and acceptance of mobile advertising during a four-year period. Specifically, student cell phone usage and exposure to and acceptance of mobile advertising is measured using five online surveys conducted between November 2005 and February 2008. Ad acceptance is measured using the six mobile advertising acceptance factors postulated by Saran, Cruthirds and Minor (2004) in their Wireless Advertising Acceptance Scale.

**REVIEW OF LITERATURE**

Even with the increased attention mobile advertising is getting in academic research and the popular press, the number of empirical studies that explain the theory and practice of mobile advertising are limited (Leppäniemi, Sinisalo & Karjaluoto, 2006). A small but growing body of research has investigated the factors that drive consumer acceptance of mobile advertising, but few studies have investigated if and how incentives would motivate consumer acceptance.

Early academic studies into the practice of mobile marketing and wireless advertising have been theoretical and conceptual in nature. A predominant amount of the existing research and advertising has focused on establishing frameworks and conceptual models to help formulate a foundation for the field of study. Given that no specific mobile advertising theory has yet to be broadly accepted, researchers, in an attempt to build models, have leveraged theory and practice from traditional advertising and Internet usability to determine if the theoretical lens of those fields will help illuminate mobile acceptance. The most common theoretical models employed by researchers include Fishbein and Ajzen’s (1975) Theory of Reasoned Action, Hebb’s (1955) Optimal Stimulation Theory, Rogers’ (1962) Innovation Diffusion Theory, the Theory of Cognitive Dissonance (Festinger, 1978), Technology Acceptance Model (Davis, 1989), Uses and Gratification Theory (Blumler & Katz, 1974), and Bettman’s Theory of Perceived Risk (Wu & Wang, 2004; Tsang, Ho & Liang, 2004; Okazaki, 2004; Bauer, Barnes, Reichard & Neumann, 2005).

**Mobile Advertising Acceptance Theories**

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Although the purpose of this study is to investigate college student cell phone usage and exposure to and acceptance of mobile advertising during a four-year period. Specifically, student cell phone usage and exposure to and acceptance of mobile advertising is measured using five online surveys conducted between...
willingness to receive mobile text messages. Barwise and Strong (2002) found that the motivation to accept mobile advertising through the receipt of an incentive was impacted by age. Younger consumers were more inclined to accept mobile advertisements than older consumers when given an incentive. A Nokia-sponsored survey of 3,500 people across 11 global markets in 2002 found that 86% of those aged 12 to 17 years are receptive to experiencing mobile marketing in the form of electronic coupons, especially if the user receives them on the mobile phone. A report by Harris Interactive (2006) noted that providing incentives can increase the intention to receive mobile marketing messages (R7). The researchers examined the link between consumer attitude, intention and behavior in relation to mobile marketing. Through their study found that the core mobile phone market (ages 16 and 45) is receptive to experiencing mobile marketing in the form of SMS-based mobile advertisements (R7). The researchers noted that advertising intrusiveness, long recognized as a cause of annoyance that negatively affects consumer attitudes, can be mitigated by the relevance and added value of SMS-based mobile advertising, which, consequently, can increase advertising acceptance. Drooss and Gaiglis (2005) found that mobile text message advertising promotes destination-oriented retail and tourism products that provide consumers with an economic incentive to participate in the mobile advertising campaign.Coupons, rebates, price packs, raffles or sweepstakes are heavily employed by advertisers. Muller-Veerse et al. (2001) found that mobile coupons are effective at providing economic benefit at the moment of redemption. A Mobile Marketing Association sponsored survey of more than 11,000 U.S. mobile subscribers found that 11% of 16-24 year olds are highly interested in receiving mobile coupons (Association 2007). Thus, a positive relationship between perceived utility and “attitude toward mobile marketing.” Perceived utility, or usefulness, was determined to be the central driver of consumer acceptance of mobile marketing. Mobile marketing has been defined as the user’s subjective function of the magnitude of perceived benefits (Swaminathan, 1983). Mobile marketing is seen as a form of digital communication devices, like cell phones, have contributed to the growth in the use of online and mobile advertising. Consumers have a negative impact on mobile advertising acceptance. The association with mobile marketing was perceived mainly as data security. Users of digital communication devices, like cell phones, have concerns about unauthorized access of data, and tracking of usage patterns. Mitchell (1999) found that a consumer’s risk perception can determine this behavior. This is because consumers often lack the knowledge or experience to determine the risk. The result can be a refusal to try new innovations or, in the case of cell phones, to accept mobile ads.

Several recent studies have found increasing but still mixed enthusiasm in the United States for accepting mobile ads unless an incentive is included. A Harris Interactive study found 35% of U.S. adult cell phone users are willing to accept mobile advertisements (Harris Interactive, 2007). The Mobile Marketing Association in its 2007 Mobile Attitude and Usage Survey indicated that more than 41 percent of those who view or intend to view mobile video agreed they would watch advertisements in order to watch free mobile video. Additionally, 20 percent agreed they would watch ads in order to watch mobile TV or video for a reduced fee. (Mobile Marketing Association, 2007). A Jupiter Research survey in May 2005 found that 20 percent of consumers say they might be induced to receive promotions if it comes with an incentive, whereas 73% would use a coupon service, games, or a free cell phone (Khalil, 2006). An In-Stat study found that 20 percent of wireless phone users would find some form of advertising on their handset to be acceptable. Of that group, however, roughly half were open to having advertisers subsidize the cost of premium services such as directory assistance, ringtones and messaging (In-Stat, 2005). Amp’d, a cell phone marketing company targeting 18 to 24 year olds, will begin offering an opt-in advertising service in late 2007. Customers who sign up will gain access to free shows and other content for agreeing to view advertisements (Story, 2007). Thus, the use of incentives has been determined to be increasingly effective in motivating consumers to accept mobile advertisements, and consumers are reported to be more willing to accept mobile advertisements when incentives are offered. Accordingly, support of Factor 1 of the Wireless Consumer Acceptance Scale will be guided by the following research questions:

R6: What incentives would motivate students to accept cell phone advertisements?
R7: What would be the acceptable level be for coupons as an incentive to receive mobile advertisements?

Control Over Mobile Ads

Bauer et al. (2005) note that many researchers claim consumers consider control a significant factor in accepting mobile marketing if they perceive a benefit in receiving advertising messages on their mobile phone. They cite the information economic model of consumer behavior as providing the theoretical basis for the claim. The model assumes the consumer, as an active organism, consciously decides which advertising stimuli to receive. Traditionally, they found a positive relationship between “perceived utility” and “attitude toward mobile marketing.” Perceived utility, or usefulness, was determined to be the central driver of consumer acceptance of mobile marketing. Mobile marketing has been defined as the user’s subjective function of the magnitude of perceived benefits. Mobile marketing is seen as a form of digital communication devices, like cell phones, have contributed to the growth in the use of online and mobile advertising. Consumers have a negative impact on mobile advertising acceptance. The association with mobile marketing was perceived mainly as data security. Users of digital communication devices, like cell phones, have concerns about unauthorized access of data, and tracking of usage patterns. Mitchell (1999) found that a consumer’s risk perception can determine this behavior. This is because consumers often lack the knowledge or experience to determine the risk. The result can be a refusal to try new innovations or, in the case of cell phones, to accept mobile ads.

Another theoretical approach that offers an explanation for the perceived utility of mobile marketing as a prerequisite for advertising acceptance is use and gratification. According to this model, individuals need to select and use the content and gratification they believe will be useful to them. The model states that “mobile marketing is one of three critical image categories. The uses-and-gratification approach implies that consumers will only accept mobile marketing if it is perceived as an opportunity to gratify the needs for specific information (i.e., types of ads), knowledge and social acceptance.

Other authors have identified the level of control when receiving mobile advertisements as a key variable in acceptance of mobile ads. Leppänen and Karjaluoto (2005) found that control over messages as a key feature of consumer willingness to accept mobile advertisements. A Nokia (2001) study identified four key factors contributing to mobile advertising acceptance: choice (mobile advertising should allow users to decide whether or not to receive a message), control (users could bypass sales messages easily), customization (users should be able to filter the messages received), and mutual benefit (users want something in return). Wehmeier and Muller-Lankenau (2005) looked at the service attributes associated with consumer acceptance of and preferences for mobile coupons and found the configuration channel to have the strongest influence. According to the follow the types of coupons, possibility to personalize or filter the coupons offered, and the location-awareness of the coupon service.

Thus, consumers want mobile content to be tailored to their interest (Robins, 2003), and desire the ability to control the types of ads received.

R8: What types of mobile services are available on students’ cell phones?
R9: What types of mobile sites or services did students access on their cell phones?
R10: What types of mobile content did students download or purchase on their cell phones?
R11: What types of mobile content did students send on their cell phones?

Perceived Risks of Accepting Mobile Advertisements

Perceived risk has been identified by many researchers as a significant contributor to negative attitudes toward mobile advertising acceptance. Bauer et al. (2005) confirmed that perceived risk has a negative influence on the attitude toward mobile marketing. The risk associated with mobile marketing was perceived mainly as data security. Users of digital communication devices, like cell phones, have concerns about unauthorized access of data, and tracking of usage patterns. Mitchell (1999) found that a consumer’s risk perception can determine this behavior. This is because consumers often lack the knowledge or experience needed to find themselves in situations of high risk. The result can be a refusal to try new innovations or, in the case of cell phones, to accept mobile ads.

Van der Heijden, Ogertschnig and van der Gaast (2005) looked at two antecedents of attitude toward using a mobile information service: perceived risk and context relevance. They found there was a significant negative influence of perceived risk on utilitarian value, although none on hedonic value. The implication was that those who considered the service to be a greater risk also perceived it to be less useful. In consumer research, perceived risk has been defined as the user’s subjective function of the magnitude of adverse consequences and the probabilities that these consequences may occur. When the product is acquired (Dowling & Staelin, 1994). Finally, Buellingen and Woerter (2002) highlighted four critical success factors for the use of mobile services: transmission rate, personalization, data security, and user-friendliness. Thus, the risks associated with using a mobile device can have a negative impact on mobile advertising acceptance and the growth of mobile marketing.

R12: For those who received a cell phone advertisement, are they concerned about how the business got their cell phone number?

METHOD

Online surveys were conducted with students at a Midwestern university in November 2005 (n=682), October 2006 (n=682), February 2007 (n=270), September 2007 (n=784) and February 2008 (n=467). A message was sent via campus email to all students inviting them to participate in an online survey about cell phone advertising. Respondents in the convenience samples were directed via a link in the email message to an Internet-based survey site to complete the survey questionnaire. No incentives were offered to participate. The February 2007 response rate was below the mean response rate of the other four surveys (n=650) due to a technical issue regarding the emails to students. An incorrect Web site URL for the survey site was included in the emails that resulted in many students abandoning the survey. A corrective email was sent the following day which resulted in the final response total (n=270). Slight modifications were made to the survey instruments during the five data collection periods in order to introduce new questions or expand existing questions.

Respondents were asked 18 questions about their cell phone usage habits and exposure to cell phone advertising messages, and four demographic questions. To determine what factors would influence cell phone advertising acceptance, the Wireless Advertising Acceptance Scale developed by Saran et al. (2002) was used. A question (R3) was asked that listed the six scale factors and two non-factors. Respondents were asked “Under which of the following conditions would you consider accepting mobile advertising?” The response factor options was modified from the original version of the scale for purposes of statement clarity and to show only the six factors and two non-factors. Respondents were asked if they had agreed to the following conditions:

Original factor statements:  
1. I shall accept ads on my cell phone only if there are...
wellness to receive mobile text messages. Barwise and Strong (2002) found that the motivation to accept mobile advertising through the receipt of an incentive was impacted by the age of the consumer. Younger consumers were more inclined to accept mobile advertisements than older consumers when given an incentive. A Nokia-sponsored survey of 3,300 people across 11 global markets in 2002 found 86% of participants felt that a trade off should be offered for accepting ads on their cell phones. The study found that the core mobile phone market (ages 16 to 45) is receptive to experiencing mobile marketing in the form electronic coupons, especially if the user receives a reward. (Pastor et al., 2004) noted that providing incentives can increase the intention to receive SMS-based mobile advertisements (p7). The researchers examine the link between consumer attitude, intention and behavior in relation to mobile marketing. Through their investigation of Taiwan samples, they suggested that mobile advertising should require consumer consent, and that entertainment and incentives are important variables to improving mobile advertising utilities. Standing, Blesson and Karjaluoto (2003) found that the intention to participate in mobile marketing is higher when incentives are offered and that financial incentives can substantially improve the level of participation. Varshney (2003) found that information is a very valuable incentive in mobile marketing because recipients react very positively to advertisements that transfer incentives.

Text messaging is thought to be most effective when it invites a response and includes an incentive (Rettei, Grandocolas & Deakins, 2005). The results of the survey noted that advertising intrusiveness, long recognized as a cause of annoyance that negatively affects consumer attitudes, can be mitigated by the relevance and added value provided by SMS Advertising, which, consequently, can increase advertising acceptance. Drooss and Gaglis (2005) found that mobile text message advertising appeals to consumers' promotional values by providing discounts, coupons and other benefits that consumers perceive to be economically beneficial. Muser-Venere et al. (2001) found that mobile coupons are effective at providing economic benefit at the moment of redemption. A Mobile Advertising Association survey of more than 11,000 U.S. mobile subscribers found that 11% of 18-24 year olds are highly interested in receiving mobile coupons and additional services. (pp270). Slight modifications were made to the survey instruments during the five data collection periods in order to introduce new questions or expand existing questions. Respondents were asked 18 questions about their cell phone usage habits and exposure to cell phone advertising messages, and four demographic questions. To determine what factors would influence cell phone advertising acceptance, a significant contributor to negative attitudes toward mobile advertising acceptance. Bauer et al. (2005) confirmed that perceived risk has a negative influence on the attitude toward mobile marketing. The risk associated with mobile marketing was perceived mainly as data security. Users of digital communication devices, like cell phones, have concerns about unauthorized access of data, and tracking of usage patterns. Mitchell (1999) found that a consumer's risk perception can determine this behavior. This is especially true when adopting or using a new technology because consumers often lack the knowledge or experience needed and find themselves in situations of high risk. The result can be a refusal to try new innovations or, in the case of cell phones, to accept mobile ads.

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R6: What incentives would students accept to receive text message promotions?

R7: What would the acceptance levels be for coupons as an incentive to receive mobile advertisements?

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Another theoretical approach that offers an explanation for the perceived utility of mobile marketing as a prerequisite for advertising acceptance is use and gratification. According to this perspective, consumers are motivated to selectively attend to and use certain media and contents to gratify specific information, entertainment or social needs. Katz, Haas and Gurevitch (1973), identify need related to strengthening information, knowledge and understanding as one of three important categories. The uses-and-gratification approach implies that consumers will only accept mobile marketing if it is perceived as an opportunity to gratify the needs for specific information (i.e. types of ads), knowledge and social acceptance.

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Original factor statements:

1. I shall accept ads on my cell phone only if there are...
Participents were first asked, "Do you have a cell phone?" Mean response of "Yes" was 97.8% (SD=3.1%). The range was from 95.3% in November 2006 to 98.9% in February 2008. Participants were then asked, "Have you ever received an advertisement on your cell phone?" The definition of advertisement was not qualified or further explained. Mean response of "Yes" was 34.8%. The range increased 9.2 percentage points during the study, with the largest increase in 6.5 percentage points happening between September 2007 and February 2008: November 2005 (33.6%), November 2006 (32.6%), February 2007 (36.7%), September 2007 (36.3) and February 2008 (42.8%).

R2: What types of ads were received on cell phones? Those students responding "Yes" to receiving an ad on their cell phones were then asked, "If yes, what type of advertisement was it?" Most types of ads received showed a modest increase during the study (see Figure 1). Text message ads increased the most, rising 8.9 percentage points.

R3: Under which of the following conditions would you consider accepting ads on your cell phone? Subjects were asked to select from the six factor statements contained in the Mobile Advertising Acceptance Scale developed by Saran et al. (2004). Two non-factor items, "I won’t accept ads on my cell phone," and "Don’t know/Does not apply," were added to give subjects who might not want to accept ads on their cell phones. The use of incentives ("I will get something free") was the largest factor statement with a mean response of 33.7%. The third cluster of responses included those being able to turn off ads without turning off the phone (M=27.4%) and protecting against viruses downloaded with ads (M=26.1%). "Depends on the type of ad" received (M=17.1%) and "If I have control over what is advertised" (M=18.4%) had similar response rates. The lowest factor response segment involved saving an ad to look at later (M=5.2%).

### Figure 1: Text Message Ads

<table>
<thead>
<tr>
<th>Type of Advertisement</th>
<th>Feb. 06</th>
<th>Sept. '06</th>
<th>Feb. 07</th>
<th>Sept. '07</th>
<th>Nov. '06</th>
<th>Nov. '07</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All types</td>
<td>26.3</td>
<td>20.9</td>
<td>28.1</td>
<td>29.9</td>
<td>32.4</td>
<td>33.6</td>
<td>27.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Link to Internet</td>
<td>4.6</td>
<td>5.1</td>
<td>5.0</td>
<td>5.1</td>
<td>5.2</td>
<td>5.3</td>
<td>5.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Audio advertisement</td>
<td>2.4</td>
<td>1.2</td>
<td>3.0</td>
<td>4.8</td>
<td>0.2</td>
<td>2.3</td>
<td>1.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Visual advertisement</td>
<td>1.1</td>
<td>1.1</td>
<td>0.7</td>
<td>1.3</td>
<td>1.3</td>
<td>1.0</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>All types</td>
<td>0.9</td>
<td>0.6</td>
<td>1.1</td>
<td>2.3</td>
<td>1.1</td>
<td>1.1</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Other</td>
<td>1.0</td>
<td>0.6</td>
<td>1.1</td>
<td>0.6</td>
<td>0.6</td>
<td>0.7</td>
<td>0.4</td>
<td>0.1</td>
</tr>
</tbody>
</table>

### Figure 2: Under which of the following conditions would you consider accepting an ad on your cell phone? (Check all that apply.)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Feb. 06</th>
<th>Sept. '06</th>
<th>Feb. 07</th>
<th>Sept. '07</th>
<th>Nov. '06</th>
<th>Nov. '07</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I won't accept ads on my cell phone</td>
<td>52.2</td>
<td>48.2</td>
<td>50.3</td>
<td>47.4</td>
<td>49.1</td>
<td>50.0</td>
<td>49.2</td>
<td>2.4</td>
</tr>
<tr>
<td>If I get something free</td>
<td>39.0</td>
<td>37.3</td>
<td>31.5</td>
<td>31.7</td>
<td>27.8</td>
<td>33.7</td>
<td>31.5</td>
<td>4.6</td>
</tr>
<tr>
<td>If I can turn off ads without turning off my phone</td>
<td>35.6</td>
<td>28.0</td>
<td>29.5</td>
<td>27.4</td>
<td>22.2</td>
<td>27.4</td>
<td>24.1</td>
<td>4.1</td>
</tr>
<tr>
<td>If I can turn off ads without turning off my phone</td>
<td>35.6</td>
<td>28.0</td>
<td>29.5</td>
<td>27.4</td>
<td>22.2</td>
<td>27.4</td>
<td>24.1</td>
<td>4.1</td>
</tr>
<tr>
<td>If I was able to save ads to view later</td>
<td>32.4</td>
<td>27.8</td>
<td>24.4</td>
<td>25.0</td>
<td>20.8</td>
<td>26.1</td>
<td>24.2</td>
<td>4.2</td>
</tr>
<tr>
<td>If I have control over what is advertised</td>
<td>25.0</td>
<td>18.9</td>
<td>17.1</td>
<td>17.4</td>
<td>15.1</td>
<td>18.4</td>
<td>16.6</td>
<td>2.6</td>
</tr>
<tr>
<td>If I would accept ads on my cell phone</td>
<td>25.4</td>
<td>18.4</td>
<td>16.3</td>
<td>14.9</td>
<td>15.7</td>
<td>17.1</td>
<td>16.3</td>
<td>2.3</td>
</tr>
<tr>
<td>If I would accept ads on my cell phone</td>
<td>6.0</td>
<td>5.5</td>
<td>5.9</td>
<td>4.1</td>
<td>3.7</td>
<td>5.2</td>
<td>4.8</td>
<td>0.7</td>
</tr>
<tr>
<td>If I don’t know/Does not apply to me</td>
<td>1.8</td>
<td>4.5</td>
<td>6.0</td>
<td>7</td>
<td>4.6</td>
<td>2.0</td>
<td>4.0</td>
<td>0.2</td>
</tr>
</tbody>
</table>

### Figure 3: If you received a cell phone advertisement, how did it make them feel? (Check all that apply.)

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Feb. 06</th>
<th>Sept. '06</th>
<th>Feb. 07</th>
<th>Sept. '07</th>
<th>Nov. '06</th>
<th>Nov. '07</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free minutes</td>
<td>33.6</td>
<td>25.7</td>
<td>28.3</td>
<td>34.2</td>
<td>35.5</td>
<td>31.1</td>
<td>33.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Free upgrades</td>
<td>32.1</td>
<td>23.5</td>
<td>24.4</td>
<td>27</td>
<td>25.9</td>
<td>26.6</td>
<td>25.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Free access to the Internet</td>
<td>30.7</td>
<td>21.1</td>
<td>22.2</td>
<td>23.9</td>
<td>23.9</td>
<td>24.7</td>
<td>24.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

R4: For students who received a cell phone advertisement, how did it make them feel? Subjects reporting being annoyed by receiving a cell phone ad increased slightly during the study, rising from 29.8% in November 2005 to 33.1% in February 2008. Less than 1% were pleased to receive an ad (M=0.5%). The slight increase in annoyance corresponded to an increase in the percentage of students who reported receiving an ad during the study period.

R5: For students who received a cell phone advertisement, how did it affect future purchase of a product from the business sending the advertisement? Of the 42.8% of students who in February 2008 reported receiving a cell phone ad, 25.1% (M=20.4%) said they would be less likely to purchase a product from the business sending the ad; 0.6% said they would be more likely to purchase; and 14.6% said they would be neither more or less likely to purchase from the business (see Figure 3).
R1: What percentage of students report getting ads on their cell phones?

Participants were first asked, “Do you have a cell phone?” Mean response of “Yes” was 97.8% (SD=1.31). The range was from 95.9% in November 2006 to 98.9% in February 2008. Participants were then asked, “Have you ever received an advertisement on your cell phone?” The definition of advertisement was not qualified or further explained. Mean response of “Yes” was 34.8%. The range increased 9.2 percentage points during the study, with the largest increase in 6 5 percentage points happening between September 2007 and February 2008: November 2005 (33.6%), November 2006 (32.6%), February 2007 (36.7%), September 2007 (36.3) and February 2008 (42.8%).

R2: What types of ads were received on cell phones?

Those students responding “Yes” to receiving an ad on their cell phones were then asked, “If yes, what type of advertisement was it?” Most types of ads received showed a modest increase during the study (see Figure 1). Text message ads increased the most, rising 8.9 percentage points.

Non-factor response options:

- I won’t accept ads on my cell phone
- Don’t know

Additional questions were asked in the surveys that pertained to the types of cell phone services or services that students would accept for free to allow ads on their cell phones, and the amount of monetary incentive it would take for respondents to accept ads on cell phones.

RESULTS

The gender distribution mean of respondents for the five surveys compared to all on-campus students (2005-2008) was 64.1% (55.5%) female, 28.4% (45.5%) male. (Percentages may not total 100% due to refusal to answer.) Respondent age range means were 14.4%, 18 years old; 16%, 19 years old; 13.3%; 20 years old; 15.3%, 21 years old; 10.7%, 22 years old; 5.9%, 23 years old; and 17.7%, 24 years old. Age comparisons of respondents and all on-campus students were not made because university statistics aggregates ages 18-19, 20-25 and over 25. Grade-in-school means for respondents were: 24.2% (27.9), freshmen; 14.2% (20.4), sophomores; 16.7% (19.2), juniors; 20.7% (20.4), seniors; and 16.4% (10.2%), graduate students. Ethnicity was white or Caucasian, 83.9% (87.9%); black or African American, 3% (4.3%); Hispanic or Latino, 1.6% (1.5%); Asian American, 1.4% (0.7%); Native American, 0.3% (0.3%); and self-described bi-racial or mixed race, 2.4% (1%).

R3: Under which of the following conditions would students consider accepting ads on their cell phone?

Subjects were asked to select from the six factor statements contained in the Mobile Advertising Acceptance Scale developed by Sarat et al. (2004). Two non-factor statements, “I won’t accept ads on my cell phone” and “Don’t know/Does not apply,” were added to give subjects who might not want to accept mobile ads a response option. Responses clustered into five distinct segments (see Figure 2). The largest segment (M=50%) were those who said they would not accept ads on their cell phones. The use of incentives (“I’ll get something for free”) was the largest factor statement with a mean response of 33.7%. The third cluster of responses included being able to turn off ads without turning off the phone (M=27.4%) and protecting against viruses downloaded with ads (M=26.1%). “Depends on the type of ad” received (M=17.1%) and “I did have control over what is advertised” (M=18.4%) had similar response rates. The lowest factor response segment involved saying an ad to look at later (M=5.2%).

R4: For students who received a cell phone advertisement, how did it affect future purchase of a product from the business sending the advertisement?

Subjects reporting being annoyed by receiving a cell phone ad, 25.1% (M=20%) said they would be less likely to purchase a product from the business sending the ad. 6.6% said they would be more likely to purchase, and 14.6% said they would be neither more or less likely to purchase from the business (see Figure 3).

R5: For students who received a cell phone advertisement, how did it affect future purchase of a product from the business sending the advertisement?

Of the 42.8% of students who in February 2008 reported receiving a cell phone ad, 25.1% (M=20%) said they would be less likely to purchase a product from the business sending the ad. 6.6% said they would be more likely to purchase, and 14.6% said they would be neither more or less likely to purchase from the business (see Figure 3).

R6: What incentives would motivate students to accept cell phone advertisements?

The use of incentives was the single most important factor in motivating students to accept ads on their cell phones. This is further supported in the academic literature and by several cell phone industry studies. Eight of the nine free product or services categories increased in the February 2008 survey. Free ringtunes was the incentive most selected with a mean of 41.7% (see Figure 4). Free minutes had the largest increase, a 7.9 percentage point jump from 25.7% in September 2007 to 33.6% in February 2008. This reverses a nearly 10 percentage point decline in free minutes between November 2005 and September 2007, and may reflect an increasing value placed on cell phone minutes even with the increased usage of monthly calling plans. Free video downloads was the only category to decline in February 2008, dropping 0.5 percentage points. During the five survey periods, all incentive categories except one rose less than 10 percentage points; free gifts increased the most, rising 11.8 percentage points.

<table>
<thead>
<tr>
<th>Mean SD</th>
<th>Mean SD</th>
<th>Mean SD</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>97.8% (SD=1.31)</td>
<td>34.8% (SD=1.35)</td>
<td>33.6% (SD=1.35)</td>
<td>33.7% (SD=1.35)</td>
</tr>
</tbody>
</table>

Figure 1: Text Message Ads

Figure 2: Under which of the following conditions would you consider accepting ads on your cell phone? (Check all that apply.)

Figure 3: If you have received a cell phone advertisement, has it made you more likely or less likely to purchase a product from the business?

Figure 4: If you would accept ads on your cell phone, what types of free incentives would motivate you to accept?

Figure 5: If you would accept ads on your cell phone by getting something free, what types of free incentives would motivate you to accept?

More likely to purchase

- Free minutes 33.6 25.7 28.3 34.2 31.5 31.1 4.67
- Free upgrades 32.1 23.5 24.4 27 25.9 26.6 3.37
- Free access to the Internet 30.7 21.5 22.2 23.8 23.9 24.7 3.40

Incentives that no viruses can be downloaded at the same time.

I would accept ads over my cell phone if I can be assured

- Text message ads increased the most, rising 8.9 percentage points.
In order to further determine the types of incentives that might impact ad acceptance, students were asked if they would consider accepting ads on their cell phones if they were paid to accept ads. Nearly two-thirds (M=60.1%, SD=2.83) said they would accept ads if paid. Responses ranged from 59.3% (Nov. 2005) to 63.7% (Feb. 2008). Students were then asked how much money they might take for each cell phone ad. (Due to data correlation errors, the results from the November 2007 survey for this question were not usable.) Responses ranged from a mean low of 0.2¢ to accept each ad for 1¢, to 48.7% to accept each ad for $1.00. Responses were not, however, evenly distributed across the range. There were four distinct monetary amount acceptance ranges: 1¢ and 5¢; 10¢; 25¢ and 50¢; and $1.00 (see Figure 5). Interestingly, a mean of 9.7% (SD=2.20) stated other reasons, including the cost of accessing the Internet and annoyance.

Finally, those students not willing to accept text message coupons on their cell phones were asked why. Four out of 10 (M=43.5%, SD=1.33) said they were not interested in receiving coupons; a mean of 9% (SD=1.8%) cited privacy concerns; a mean of 1.9% (SD=0.63) said their cell phone couldn’t receive text messages; and a mean of 9.7% (SD=2.00) stated other reasons.

In order to determine which types of incentives would most likely be paid by students, a survey similar to the one above was conducted; however, the survey focused on mobile content instead of mobile ads. Find a location with a GPS-enabled phone and access any of the follow- ing services?

Table 7

<table>
<thead>
<tr>
<th>Service</th>
<th>Feb. 05</th>
<th>Oct. 05</th>
<th>Feb. 07</th>
<th>Sept. 07</th>
<th>Feb. 08</th>
<th>N=682</th>
<th>N=270</th>
<th>N=784</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location-based services</td>
<td>54.1</td>
<td>52.6</td>
<td>81.6</td>
<td>18.4</td>
<td>70.5</td>
<td>58.5</td>
<td>0.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take and send text messages</td>
<td>83.5</td>
<td>75.6</td>
<td>64.7</td>
<td>16.3</td>
<td>31.3</td>
<td>23.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take and send slides</td>
<td>55.2</td>
<td>47.9</td>
<td>37.2</td>
<td>12.7</td>
<td>4.3</td>
<td>18.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access the Internet</td>
<td>94.4</td>
<td>88.7</td>
<td>82.7</td>
<td>9.3</td>
<td>56.5</td>
<td>4.39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8

<table>
<thead>
<tr>
<th>Service</th>
<th>Feb. 05</th>
<th>Oct. 05</th>
<th>Feb. 07</th>
<th>Sept. 07</th>
<th>Feb. 08</th>
<th>N=682</th>
<th>N=270</th>
<th>N=784</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast-food restaurant coupon</td>
<td>19.7</td>
<td>19.5</td>
<td>15.9</td>
<td>15.5</td>
<td>17.7</td>
<td>11.7</td>
<td>2.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pizza, hamburger, chicken</td>
<td>22.9</td>
<td>23.3</td>
<td>19.3</td>
<td>17.2</td>
<td>20.7</td>
<td>20.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olive Garden, etc.</td>
<td>15.8</td>
<td>12.7</td>
<td>16.5</td>
<td>11.4</td>
<td>15.4</td>
<td>2.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grocery coupons</td>
<td>21.2</td>
<td>21.1</td>
<td>17.8</td>
<td>18.6</td>
<td>27.8</td>
<td>2.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry cleaning coupons</td>
<td>3.6</td>
<td>3.4</td>
<td>3.2</td>
<td>3.7</td>
<td>3.7</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry strips</td>
<td>8.1</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know/Does not apply to you</td>
<td>0.9</td>
<td>0.4</td>
<td>0.1</td>
<td>0.6</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R8: What types of mobile services are available on students’ cell phones?

Students were asked which of four mobile services were available on their cell phones (see Figure 7). The ability to send and receive text messages reached the highest response (M=48.2%), rising from 82% (Nov. 2005) to 94.4% (Feb. 2008). Take and send photographs, and take and send video both increased significantly during the study. Take and send photographs grew from 31% (Nov. 2005) to 81.3% (Feb. 2008). Take and send video increased from 4% (Nov. 2005) to 52.2% (Feb. 2008). Accessing the Internet declined from 70% (Nov. 2005) to 54.1% (Feb. 2008), reflecting in part the additional cost of accessing the Internet from a cell phone, which is not normally part of a basic monthly service plan.

Table 9

<table>
<thead>
<tr>
<th>Service</th>
<th>Feb. 08</th>
<th>Sept. 07</th>
<th>Feb. 07</th>
<th>N=467</th>
<th>N=784</th>
<th>N=682</th>
<th>N=669</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take and send text messages</td>
<td>83.5</td>
<td>75.6</td>
<td>64.7</td>
<td>16.3</td>
<td>31.3</td>
<td>23.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take and send slides</td>
<td>55.2</td>
<td>47.9</td>
<td>37.2</td>
<td>12.7</td>
<td>4.3</td>
<td>18.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access the Internet</td>
<td>94.4</td>
<td>88.7</td>
<td>82.7</td>
<td>9.3</td>
<td>56.5</td>
<td>4.39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R10: What types of content did students download or purchase on their cell phones?

Students were more active using their cell phones to download or purchase mobile content than to access mobile sites or services (see Figure 9). One-half (M=50.8%) of students downloaded or purchased ringtones to their phones. Ringtone usage increased 12.9 percentage points from November 2005 (41.1%) to February 2008 (54.0%). Music declined moderate growth, increasing from 4.6% in November 2005 to 9.9%, in February 2008. Download or purchase of wallpaper or screensavers and mobile video games declined slightly during the study. Nearly four in 10 students (M=36.7%) said they did not download or purchase any mobile content. That response nearly doubled between November 2005 (21.5%) and February 2008 (41.4%). Many mobile content categories had responses below 1%. This can be partially attributed to the study period to the low saturation among students of second- or third-generation cell phones and high speed cell phone service. Without a phone capable of sending or receiving graphic content like photographs, videos and graphics, or being able to access the Internet, much of the mobile content in Figure 9 could not be downloaded or purchased.
significant motivating factor for college students to accept cell phones to receive ads on their cell phones. The response rate increased nearly eight percentage points from November 2006 (20.1%) to February 2008 (27.9%). Students were then asked what type of product coupon or discount they would like to receive on their cell phone (see Figure 6). Six-down restaurant coupons received the highest mean response of 20.7% and showed the largest increase, rising from 17.2% (Nov. 2006) to 22.9% (Feb. 2008). Moving tickets and family restaurant coupons were second and third, respectively, with mean responses of 18.8% and 17.7%. Movie tickets showed the second largest increase, rising 5.4 percentage points from 15.8% (Nov. 2006) to 21.2% (Feb. 2008).

Finally, those students not willing to accept text message coupons on their cell phones were asked why. Four out of 10 (M=41.5%, SD=1.33) said they were not interested in receiving coupons; a mean of 9% (SD=1.8%) cited privacy concerns; a mean of 1.9% (SD=0.61) said their cell phone can’t receive text messages; and a mean of 9.7% (SD=2.01) stated other reasons, including the cost of creating a text message and annoyance.

Students were asked if they would accept text messages on their cell phones? (Check all that apply). A small percentage of students reported using their cell phones to access various mobile sites or services (see Figure 8). Accessing weather sites was the most popular activity with a mean 10.1%. Finding a location with a GPS-enabled phone increased 4.5 percentage points in the February 2008 survey. Location-based services are identified within the mobile marketing industry as a key growth area. Interestingly, accessing entertainment-type sites showed low levels of participation, again possibly reflecting the additional costs associated with accessing the sites.

R8: What types of mobile services are available on students’ cell phones?

Students were asked which of four mobile services were available on their cell phones (see Figure 9). The ability to send and receive text messages reached the highest response (M=48.2%), rising from 82% (Nov. 2005) to 94.4% (Feb. 2008). Take and send photographs, and take and send video both increased significantly during the study. Take and send photographs grew from 31% (Nov. 2005) to 83.1% (Feb. 2008). Take and send video increased from 4% (Nov. 2005) to 55.2% (Feb. 2008). Accessing the Internet declined from 70% (Nov. 2005) to 54.1% (Feb. 2008), reflecting in part the additional cost of accessing the Internet from a cell phone, which is not normally part of a basic monthly service plan.

R10: What types of content did students download or purchase on their cell phones?

Students were more active using their cell phones to download or purchase mobile content than to access mobile sites or services (see Figure 9). One-half (52.8%) of students downloaded or purchased ringtones to their phones. Ringtone usage increased 12.9 percentage points from November 2005 (45.7%) to February 2008 (58.5%). Music showed moderate growth, increasing from 4.6% in November 2005 to 9.6% in February 2008. Download or purchase of wallpaper or screensavers and mobile video games declined slightly during the study. Nearly four in 10 students (M=36.7%) said they did not download or purchase any mobile content. That response nearly doubled between November 2005 (21.3%) and February 2008 (41.4%). Many mobile content categories had responses below 1%. This can be partially attributed during the study period to the low saturation among students of second- or third-generation cell phones and high speed cell phone service. Without a phone capable of sending or receiving graphic content like photographs, videos and graphics, or being able to access the Internet, much of the mobile content in Figure 9 could not be downloaded or purchased.
by students. Eight of ten students (M=62.1%) reported sending text messages (Figure 10). Text message usage increased 18.6 percentage points from November 2005 (23.2%) to February 2008 (41.8%). Sending video messages to a phone or email grew 18.6 percentage points. Sending instant messages was the only category to decline, dropping 2.9 percentage points from November 2005 (23.2%) to February 2008 (20.3%).

Video messages to a phone or email grew 18.6 percentage points during the period. Sending a photo message by students. Eight of ten students (M=82.1) reported sending photo messages to an ad or text show, contest or to an ad or text based instant messaging (IM) declined 2.9 percentage points, from 77.1% (Nov. 2005) to 92% (Feb. 2008). During the same period Internet-based instant messaging showed growth or decline of less than 1 percentage point. Reasons for the lack of growth or declines may include usage of cell phones that could not access or download premium content, the additional cost of purchasing mobile content not included in monthly usage plans, cell phone users that have high-quality screens, and new brands (for third generation) cellular networks become accessible, the mobile content experience and sales of mobile products should improve.

DISCUSSION

This study contributes to contemporary research on cell phone usage and advertising acceptance by analyzing the change in mobile content usage trends and factors that affect college student cell phone advertising acceptance. Based on the Saran et al. (2005) Wireless Advertising Acceptance Scale and findings gathered from five surveys administered from 2005 to 2008, six factors that contribute to advertising acceptance, corresponding mobile content usage trends, and the influence of incentives to motivate cell phone ad acceptance are investigated.

Incentives are a key motivating factor for cell phone advertising acceptance. College students are acknowledged to be early adopters of new digital technologies and one of the heaviest user cohorts of cell phones (Mobile Marketing Association, 2007). As marketers attempt to enter the mobile marketing field many of their initial efforts are being targeted at college students who view their cell phone as a personal device (Tahminien & Salo, 2003) and are reluctant to allow ads to be delivered to their phones. This study found, however, that college students are increasingly willingly to accept ads on their cell phones, especially if they are given monetary incentives. Of the six Wireless Advertising Acceptance Scale factors tested, incentives ranked highest for motivating cell phone ad acceptance. When offered incentives, especially monetary incentives, two-thirds of students say they would consider accepting ads on their cell phones. Without incentives, the acceptance rate falls below half (M=49.4%). Incentive types include mobile content (minutes, ringtones, music, wallpaper, screensavers, Internet access), money for accepting each cell phone ad, and content access, download or purchase was reported in only six categories: find a location with a GPS-enabled phone, (Sarker & Wells, 2003), and a declining desire to use the cell phone for entertainment. As users migrate to newer, higher quality phones, and new brands, B2C (third generation) cellular networks become accessible, the mobile content experience and sales of mobile products should improve.

The ability of students to access, download or purchase mobile content allows for the personalization of a cell phone, which has been a key contributor to the use of cell phones (Tahminien & Salo, 2003). From 2007 through 2012, the U.S. mobile content market, primarily mobile media and entertainment, is projected to increase from $1.1 billion to $6.6 billion (Bord, 2008). Consequently, it was anticipated that consumption of mobile content would show a significant increase in the study, due primarily to the availability of premium mobile content and the increased use of the cell phone as a personal communication device; results, however, were mixed. Growth of more than 1 percentage point in the areas of mobile content ads, direct response capabilities by consumers. For example, a recent Harris Interactive (2007) study found 235 of 15% of adults mobile phone users were willing to accept incentive-based ads, 78% say the best incentive would be cash. Incentives are important, in part, because mobile is the only interactive medium where the user pays for the cost of network access (primarily in monthly usage fees) and for the content consumed. Except for early adopters and mobile enthusiasts, carriers and content providers for the users are finding it difficult to motivate average mobile users to pay for content not included in monthly usage fees (Harris Interactive, Nov. 2005). Students are receiving more cell phone ads, but annoyance has not shown a corresponding increase.

One-third of students (M=34.8%) report receiving ads on their cell phone. The incidence increased 9.2 percentage points during the study (Johnson, 2008). However, measured by asking students who had received ads how they felt them, only increased 5.3 percentage points. Those who said they were never pleased nor annoyed to get an ad decreased less than one percentage point. Similarly, for those students receiving ads, future purchases of products from businesses sending the ads was not greatly impacted. In fact, those reporting that they were less likely to purchase grew by only 5.4 percentage points during the study.

The perceived risks associated with receiving cell phone ads appear not to be a significant barrier to ad acceptance. The use of digital communication devices like cell phones offers practical concerns about virus and malware, the increased use of content access, download or purchase was reported in only six categories: find a location with a GPS-enabled phone, (Sarker & Wells, 2003), and a declining desire to use the cell phone for entertainment. As users migrate to newer, higher quality phones, and new brands, B2C (third generation) cellular networks become accessible, the mobile content experience and sales of mobile products should improve. The perceived risks associated with receiving cell phone ads are the most pervasive mobile content application.

From the first text message mobile advertisement was sent in 1997 (Becker, 2003), text messaging has become the most used non-voice component of cell phones. Its growth can be attributed primarily to the ubiquity of cell phones capable of sending and receiving SMS (simple message service) text-only messages. 98% of cell phones in the United States can send and receive SMS messages, and, therefore, text-based advertising messages. Youth 18-24 represent just 19% of all U.S. text message users (CellSigns, 2007), but have the highest usage of sent and received text messages per week (Mobile Marketing Association, 2007). In this study, text messaging was available on nearly nine out of ten cell phones (M=86.2%) and used by 8 out of 10 students (M=82.1%). The use of text messaging grew 14.9 percentage points, from 27.1% (Nov. 2005) to 42% (Feb. 2008). During the same period Internet-based instant messaging showed decline in the number of text messages sent, 12.2 percentage points.

6. The availability and use of cell phone still and video cameras has increased significantly.

The most significant increase in cell phone technology availability has been with cell phone still and video cameras. Cell phone still cameras with the ability to take and make video were reported by three-fourths of respondents; the ability to take and send video was available on one-half of respondent coupons (Sarker & Wells, 2003). The purchase incentives for advanced mobile devices and the replacement of older phone models. Interestingly, the increased availability of phone still and video cameras may lead to a similar increase in usage of the devices with the phone. While 83.5% of students in February 2008 reported the ability to take still pictures with their cell phone, only 61.5% reported ever sending photo messages; 55.2% reported being able to send video, while only 22.9% reported ever sending a video message. The reason for the difference may be that the cost of sending still and video messages are not normally part of a monthly service plan, and therefore, add to the monthly charge. The increase in cell phone camera and video capabilities is important because certain cell phone advertising methods rely on the delivery of visual images by consumers. Image recognition software is being used on cell phones to enable direct response capabilities by consumers. For example, a consumer can take a photo of an object or advertisement and send the photo to an advertiser to receive an incentive or information about a product or service. As new high-speed cellular networks are introduced and more MMS...
by students. Eight of ten students (M=62.8) reported sending text messages (see Figure 10). Text message usage increased 10 percentage points during the period. Sending a photo message to a phone or email grew 31.2 percentage points. Sending video messages to a phone or email grew 18.6 percentage points. Sending instant messages was the only category to decline, dropping 2.9 percentage points from November 2005 (23.7%) to February 2008 (20.8%).

By February 2008, the use of SMS for delivery of advertisements had become more widespread and was growing at a rate of 13.5% (SD=1.61). “Does not concern me” declined 5.4 percentage points, from 61.5% (Feb. 2008) to 56.6% (Feb. 2007). “Concerned a little” had a mean response rose from 22.3% to 25.9% (Feb. 2008). Interestingly, the increased availability of cell phone ads to students who view their cell phone as a personal device (Tahinlin & Salo, 2003) and are reluctant to allow ads to be delivered to their phones. This study found, however, that college students are increasingly willing to accept ads on their cell phones, especially if they are given monetary incentives. Of the six Wireless Advertising Acceptance Scale factors tested, incentives ranked highest for motivating cell phone ad acceptance. When offered incentives, especially monetary incentives, two-thirds of students said they would consider accepting ads on their cell phones. Without incentives, the acceptance rate falls below half (M=49.4%). Incentive types include free mobile content (minutes, ringtones, music, wallpaper, desktop screensavers, Internet access), money for accepting each cell phone ad, and cash for accepting a video message. Mobile content incentive; $1.00 for each ad accepted was the leading monetary incentive; and students chose coupons for a sit-down restaurant as the most desirable content application. Students were also asked, as part of the Wireless Advertising Acceptance Scale questions, about being able to control risks associated with their cell phone usage by being able to turn off ads without having to turn off their phones, and being assured viruses would not be downloaded with ads. Both questions were selected by about one-fourth of students, and recorded slight growth during the study. Two scale factor questions, “Depends on the type of ad” and “If I have control over what is advertised,” relate to the opt-out provision of mobile marketing campaigns as popularized by Gedlin (1999). When a consumer gives prior permission, or opts in, to receive a cell phone ad, they tacitly agree to the type of ad they will accept and agree to give up control, at least temporarily, to the marketer. Perceived risk, in turn, should be mitigated by the prior approval of receiving an ad.

R12: For those who received a cell phone advertisement, they are concerned about how the business got their cell phone number?

About one-third of students who have received a cell phone ad (M=34.3, SD=14.1) reported being very concerned about how the business got their cell phone number. The “very concerned” response percentages remained relatively stable throughout the study, varying from 12.7% (Nov. 2005) to 19.1% (Feb. 2008). “Concerned a little” had a mean response of 13.5% (SD=1.61). “Does not concern me” declined 5.4 percentage points, from 61.5% (Feb. 2008) to 56.6% (Feb. 2007). “Concerned a little” had a mean response rose from 22.3% to 25.9% (Feb. 2008). Interestingly, the increased availability of cell phone ads to students who view their cell phone as a personal device (Tahinlin & Salo, 2003) and are reluctant to allow ads to be delivered to their phones. This study found, however, that college students are increasingly willing to accept ads on their cell phones, especially if they are given monetary incentives. Of the six Wireless Advertising Acceptance Scale factors tested, incentives ranked highest for motivating cell phone ad acceptance. When offered incentives, especially monetary incentives, two-thirds of students said they would consider accepting ads on their cell phones. Without incentives, the acceptance rate falls below half (M=49.4%). Incentive types include free mobile content (minutes, ringtones, music, wallpaper, desktop screensavers, Internet access), money for accepting each cell phone ad, and cash for accepting a video message. Mobile content incentive; $1.00 for each ad accepted was the leading monetary incentive; and students chose coupons for a sit-down restaurant as the most desirable content application. Students were also asked, as part of the Wireless Advertising Acceptance Scale questions, about being able to control risks associated with their cell phone usage by being able to turn off ads without having to turn off their phones, and being assured viruses would not be downloaded with ads. Both questions were selected by about one-fourth of students, and recorded slight growth during the study. Two scale factor questions, “Depends on the type of ad” and “If I have control over what is advertised,” relate to the opt-out provision of mobile marketing campaigns as popularized by Gedlin (1999). When a consumer gives prior permission, or opts in, to receive a cell phone ad, they tacitly agree to the type of ad they will accept and agree to give up control, at least temporarily, to the marketer. Perceived risk, in turn, should be mitigated by the prior approval of receiving an ad.

R2: For those who received a cell phone advertisement, they are concerned about how the business got their cell phone number?

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This study focused on student cell phone usage and advertising acceptance. It did not, however, consider the implications of the advertising medium, such as SMS, mobile Internet, wireless MMS, mobile email or Bluetooth. Future studies should consider the implications of usage and acceptance across all mobile technologies.

While many of the survey questions related to cell phone advertising, no operational definition of cell phone advertising was given to respondents to use as a basis for context or comparison. It is possible that students may have misidentified content on their cell phone to be an advertisement, or not identified actual advertisements. Anecdotally, many consumers’ first reaction to mobile advertising is to consider it spam. Since most do not consider the impact of opt-in permission marketing on the cell phone as an advertising experience, continued analysis of student cell phone usage and ad acceptance usage trends analyses should be conducted.

Finally, this analysis of cell phone usage and ad acceptance is intended to be a snapshot of actual usage and exposure to mobile content and advertising. While survey data collection is an appropriate methodology, future research should integrate a hypothetical analysis of the Saran et al. (2005) Wireless Advertising Acceptance Scale with cross-tabulations of respondent mobile content usage and advertising exposure.

**References:**


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nally, the surge of cell phone still and video camera availability and usage presents an opportunity for marketers to help students socialize. Since the cost of sending photos or videos is currently not included in many cell phone plans, marketers could experiment by sponsoring a free photo- or video-sharing site, or subsidizing the costs of photos or video delivery by having students view an advertisement prior to free use. The delivery of the still camera with image recognition technologies, where a person takes a photo of an object or advertisement and has information or incentives delivered to their cell phone, is also a growing area and presents opportunities for marketers to experiment with different types of products and services. Image recognition coupled with GPS location-based mobile services, such as finding the location of a restaurant through a cell phone map, offer marketers the opportunity to test these cell phone capabilities together in industries such as travel, tourism and sports.

LIMITATIONS AND FUTURE RESEARCH

This study employed five convenience samples of students at a Midwestern university. The cultural differences and technology usage patterns of respondents may not represent students from across the country. Respondents were 64.1% female and 83.9% white or Caucasian, over indexing those demographic segments in the student population. African American consumers have the highest cell phone usage of all ethnic groups (Telephia, 2006). Our study included only 5% African Americans, under indexing the group in the university population.

REFERENCES


TEXT-TO-SCREEN EMERGES: A CONCEPTUAL APPROACH TO A POWERFUL INTERACTIVE MARKETING TOOL

Brad Dolian

Abstract:
Text-to-screen is a unique form of mobile marketing that encourages active participation and personal freedom of expression at specific times and places. SMS messages are created and sent in the same manner they would be to a friend or family member, but instead of appearing on that individual’s phone, the message is broadcast onto a display for all others to read. Although the concept and technology for text-to-screen have been accessible for some time, it has recently taken off in terms of popularity and market adoption in the United States. As a result, it is imperative that the mobile industry educate itself on the topic and begin to identify and explore the questions that accompany its arrival. This paper explores the key steps for successfully launching text-to-screen mobile marketing programs.

Keywords: Text-to-Screen, SMS-to-screen, ticker, scroll, sponsorship, interactive marketing, moderator

INTRODUCTION
This article takes a conceptual approach to the topic of text-to-screen with the hope of laying a solid foundation that can be used to stimulate further research and discovery in the field and the use of text-to-screen services to engage an audience. To do so, the paper begins with an overview of the text-to-screen concept, the options available, and the logistics required in running a text-to-screen campaign. Using this information as a starting point, the article then delves into examples of how text-to-screen has been used in the past and, further, how sponsors and rights holders can capitalize on this powerful marketing tool. Finally, the article concludes with a call for further examination by marketers and academics.

OVERVIEW
The text-to-screen concept is simple: Individuals can create a text message with nearly any mobile phone, address the message to a common short code, and send it to a text-to-screen service. All messages received by the text-to-screen service are filtered and moderated, and assuming the moderator deems the message appropriate for the audience, the message is accepted and displayed onto a screen. For example the message might be displayed on a