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Abstract

The purpose of this study is to examine factors affecting consumers’ acceptance of mobile marketing across two global markets. Drawing upon technology acceptance and uses and gratifications theories, we develop and estimate a conceptual model of the influences of antecedent factors (including risk acceptance related to the mobile platform and personal attachment related to mobile devices) on behavioral intent related to mobile marketing practice. We further propose that the above relationships are mediated by activities that consumers engage in such as downloading, forwarding content and registering with firms. Focusing on youth consumers, we empirically test the model using data collected in both an established (U.S.) and an emerging market (Pakistan). Findings across these two markets reflect cross-market similarities and differences related to consumer acceptance factors. We draw implications from these findings related to both theory and practice.

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Keywords: Mobile marketing; Marketing communications; Mobile and wireless communications; Consumer acceptance of new technology; Global marketing and branding; Mobile privacy

Introduction

Increasingly, brand managers view mobile devices as an attractive platform from which to interact with consumers through various forms of marketing communications, including location-based promotions and television-style advertising. Recent coverage in the popular press on the launch of Apple’s iPhone and the introduction of Google’s mobile platform initiative has focused consumer and industry attention towards the use of mobile devices for marketing communications. Additional reports indicate that firms worldwide are shifting increasing amounts of resources to the mobile marketing platform (Richtel 2006). Recent studies suggest that 90% of large global brands are planning to initiate mobile marketing practices by 2008, and more than half of these brands plan to devote as much as 25% of their total marketing budget toward mobile marketing activities (Atkinson 2006). Forecasts for global mobile marketing spending range from $9 to $19 billion by 2011 (BusinessWeek.com 2007).

This is not a surprise given that global brands including Burger King, MTV, Coca-Cola, Procter & Gamble, Ford and others have recently initiated mobile marketing programs that enable consumers to search for a nearest restaurant location, receive coupons, access information about new cars, or simply communicate with others. Mobile advertising and promotional campaigns such as these have generated click-through rates up to ten times those of traditional Internet banner ads (Blum and McClellan 2006). Indeed, through increased use of text messaging, location-aware search technologies, and the development of branded mobile networks, global wireless and mobile marketing platforms and applications have begun to create fundamental changes in the ways brands and consumers interact.

The purpose of this study is to examine factors affecting consumers’ acceptance of mobile marketing practices across different markets. Drawing upon technology acceptance and...
uses and gratifications theories, we develop and estimate a conceptual model of the influences of antecedent factors (including risk acceptance related to the mobile platform and personal attachment related to mobile devices) on behavioral intent related to mobile marketing practice. We further propose that the above relationships are mediated by activities that consumers engage in such as downloading, forwarding content and registering with firms. Focusing on youth consumers, we empirically test the model using data collected in both an established (U.S.) and an emerging market (Pakistan). In this study, we conceptualize consumer acceptance of mobile marketing as willingness to engage in activities such as receiving marketing or promotional offers or receiving information on where to buy certain products or services via mobile phones. We stress the interactive element of mobile marketing by which it involves both brand-initiated (e.g., delivery of mobile content and promotions) as well as consumer-initiated (e.g., downloading content, purchasing items via mobile devices) activities. The purpose of this study is not to examine consumer acceptance factors through a cultural perspective; rather we are seeking to investigate similarities and differences by focusing on marketing-related mobile activity among specific samples of youth consumers regardless of cultural differences across the two market contexts.

Technology developments in mobile communications have begun to foster new platforms for brand–consumer interaction (Shankar and Malthouse 2007). The Mobile Marketing Association (MMA) defines mobile marketing as “the use of wireless media as an integrated content delivery and direct response vehicle within a cross-media or standalone marketing communications program” (MMA 2006a). One rationale for brands’ migration to mobile communications platforms is that mobile marketing can enable relatively more personal and interactive brand–consumer communication than do traditional marketing communications (Bauer et al. 2005; Sultan and Rohm 2005). Furthermore, mobile marketing strategies can be specific to a consumer’s location or consumption context.

Specific consumer segments—such as the teen market—are using mobile phones increasingly as single-source communication devices (Plant 2006). Such consumers may feel empowered with greater access to social circles, mobile-based content, and information. A recent study conducted in the U.K. suggests that increasing numbers of youth consumers are willing to accept mobile advertising, provided they are given relevant content and sufficient incentives to do so (Openwave.com 2005). Mobile carriers have launched programs targeting young consumers with programs subsidized by mobile advertising (Blyk 2008). Accordingly, brands have also begun to tap aggressively into mobile platforms around the world in order to reach specific consumer segments such as teens and young adults.

On the surface, the future looks bright for the mobile platform as a new way to forge brand–consumer connections, especially among youth consumers who are active on the mobile platform. Yet, it remains unclear to what extent consumers in different global markets will accept and engage in mobile marketing efforts. Numerous academic studies have noted the challenges confronting mobile marketing communications acceptance, including feelings of intrusiveness as well as trust and privacy concerns among consumers (e.g., Grant and O’Donohoe 2007). Within industry, several brands (e.g., ESPN, Sprite, adidas) have launched mobile marketing efforts only to see sparse successes amidst a number of disappointing results. For example, the global sporting goods brand adidas—through what it referred to as “brand in the hand communications”—has executed mobile campaigns with more success in Europe than the U.S. Evidence from several of the brand’s mobile campaigns executed since 2004 points to several factors driving or limiting campaign performance, namely differing levels of mobile technology and penetration, differing regulatory constraints, and differing levels of consumer acceptance of such mobile marketing efforts within respective markets (Sultan and Rohm 2005).

Hence, the extent to which consumers in global markets will accept commercial mobile marketing efforts remains unclear. Challenges to the growth in mobile marketing penetration relate to personal as well as technology and infrastructure factors. Mobile carriers, advertisers, and policy makers are confronted with the perception of mobile marketing communications as intrusive, annoying, and as posing a threat to personal privacy. Additionally, recent estimates suggest that only a small percentage (five million) of the over two-hundred million individuals in the U.S. with mobile phones possess the third-generation (or 3G) phones necessary for downloading and playing quality video, functions that are central to effective marketing communications (Manly 2006). Yet, despite widespread evidence regarding the significant growth of the wireless market and its emerging role as a marketing communications medium as well as the challenges that the mobile industry faces, there is little empirical research on factors that influence mobile marketing acceptance among consumers across global markets.

This study empirically tests a conceptual model that illustrates factors proposed to influence mobile marketing acceptance among youth consumers and examines how these factors and relationships differ depending on two distinct markets. The contribution of this research is three-fold. First, we develop a conceptual model that investigates the influence of marketing-related and value-based mobile activity—including using mobile devices for information provision, sharing content, and accessing content—on consumer acceptance of mobile marketing practice. These factors are drawn from technology acceptance as well as uses and gratifications perspectives that emphasize the influence of usage factors and motives on behavioral intent.

Second, we examine two additional antecedent factors: perceived risk acceptance and personal attachment related to one’s mobile phone. In this way, we seek to provide a greater understanding of the role of risk acceptance and personal attachment (a construct somewhat unique to mobile devices) to mobile devices in indirectly influencing acceptance of mobile marketing practices among the youth market.

Third, we empirically examine and compare the acceptance of mobile marketing practices across an established (U.S.) and
emerging (Pakistan) market. We test our hypotheses by estimating a structural equation model of mobile acceptance using sub-samples of respondents from the U.S. and Pakistan.

In the next section, we review the extant literature and propose a conceptual model of mobile marketing acceptance. We then detail our research methodology and analyze the conceptual model across the two focal markets. Finally, we discuss the study results, implications for theory and practice, study limitations, and directions for future research.

Conceptual model of mobile marketing acceptance

The growth in wireless and mobile communications worldwide has significantly changed the way individuals communicate, access, and share information. Two theoretical areas—the technology acceptance model (TAM) and uses and gratifications theory—have been widely applied in the marketing literature to explain individual behavior related to the adoption and usage of technology. We draw upon these two perspectives to develop and estimate a conceptual model of consumer acceptance of mobile marketing.

The TAM is based on two elements that are predictive of intentions to technology adoption: perceived ease of use and perceived usefulness (Davis 1989). It has typically focused on technology adoption and usage at the organizational and systems level and is based, in part, on normative and extrinsic motives. Although models related to TAM are typically applied to technology adoption within the organization (see Davis 1989), it has been applied as well to more general contexts relating to consumers’ adoption and usage of technology (e.g., Davis, Bagozzi, and Warshaw 1989). For instance, recent research has expanded the scope of determinants of information technology acceptance by including intrinsic motives and emotions (Venkatesh 2000) as predictors of behavioral intent that might be applied at a more personal, rather than an organizational or systems, level. Based on the application of the TAM to individual rather than organizational contexts, this perspective is relevant to our research in that we incorporate marketing-related mobile activity (related to motives such as information provision, accessing mobile content, and sharing content within the mobile platform) as factors mediating the relationship between risk acceptance and personal attachment and acceptance of mobile marketing practices.

Uses and gratification research, on the other hand, has focused more exclusively on individuals’ use of technology for both rational or utilitarian reasons as well as hedonic purposes of fun seeking and enjoyment (Lin 1996; Stafford, Stafford, and Schkade 2004). In comparison to other perspectives related to technology adoption and use such as TAM, the uses and gratifications model is based directly on explaining factors related to consumer choice of new media (Stafford, Stafford, and Schkade 2004). For example, related to individuals’ Internet usage, they found that consumers’ usage was defined by process, content, and social gratification factors. Further, in a study specific to the mobile setting, Nysveen, Pedersen, and Thorbjørnsen (2005) found that perceived expressiveness and perceived enjoyment directly influence intentions to use mobile data services. Hence, the uses and gratifications perspective helps to explain the role of personal motives related to areas such as communications media, where personal motives for media consumption can range from utilitarian (functional) to nonutilitarian (e.g., enjoyment, entertainment, social status).

By examining the literature on technology acceptance and uses and gratifications theory, we extend these theoretical bases to the mobile setting and identify factors that are likely to affect consumer acceptance of mobile marketing practices. Accordingly, we propose the following parsimonious conceptual model shown in Fig. 1 that incorporates the factors discussed below. This model is based on antecedent and mediating factors related to mobile marketing acceptance that have not yet been tested in cross-market settings.

Dependent variable

Mobile marketing acceptance

Mobile marketing acceptance, as measured by behavioral intent toward mobile marketing, is the key outcome variable in this study. In general, behavioral intent has been defined as “the strength of one’s intention to perform a specified behavior” (Fishbein and Ajzen 1975, p. 288). Specific to our research, this construct relates to respondents’ receptiveness and intentions to engage in activities such as receiving product- or information-related marketing communications and promotional offers on their mobile phones. Several studies (e.g., Bauer et al. 2005; Nysveen, Pedersen and Thorbjørnsen 2005) have examined behavioral intent to use mobile data services such as text messaging. Similar to these studies, we propose a model that incorporates behavioral intent related to consumer acceptance of mobile marketing practice.

However, our research differs in that the dependent measure employed in this study—consumer acceptance of mobile marketing—relates specifically to intentions to engage in mobile marketing activities (beyond mobile data services) that involve interactions between marketing entities (e.g., brands) and consumers. Also, our measure of acceptance of, and willingness to engage in, mobile marketing activity is associated with past research suggesting that explicit consumer permission to receive mobile advertisements (through opt-in approaches) can influence relatively high acceptance levels (Barwise and Strong 2002). As such, we measure intentions such as being willing to receive marketing or promotional offers on one’s cell phone, being willing to receive offers from companies selling products related to a sporting event one is attending, and being willing to receive solicitations from companies to whom one has given permission.

Aside from certain regions such as Japan, South Korea, and parts of Europe, the concept of mobile marketing, by which firms and consumers interact via wireless, handheld devices such as mobile phones, is a relatively new one. We suggest that continued consumer acceptance of mobile marketing practice in markets such as the U.S. and Pakistan may be driven by two antecedent factors, namely risk acceptance and personal attachment related to one’s mobile phone. Next, we define
each of the proposed mediating factors and antecedents included in our conceptual model and describe their expected effects.

**Mediating effects of marketing-related mobile activity**

Mobile phones represent a medium that, up to now in many markets (such as the U.S. and Pakistan), has been used primarily for voice and data communications rather than for marketing activities. Given that mobile communications represent a relatively new marketing platform, we propose that marketing-related mobile activity such as accessing content, sharing content, and proving information acts as mediators in seeking to explain acceptance of mobile marketing. Our mediators (marketing-related mobile activity) are different from mobile marketing acceptance in that the former relates specifically to activities that might prime consumers toward acceptance of mobile marketing.

As defined previously, our key outcome variable—mobile marketing acceptance—relates to activities such as receiving product- or information-related marketing communications and promotional offers on their mobile phones. Prior research in similar contexts has investigated the extent to which the Internet (e.g., Novak, Hoffman, and Yung 2000; Silk, Klein, and Berndt 2001) and mobile devices (e.g., Carroll et al. 2007; Peters, Amato, and Hollenbeck 2007) were viewed as viable commercial and advertising mediums. Past research has shown that familiarity with a medium (e.g., the Internet) as an information tool and communications medium correlates with the use of that medium for marketing purposes, such as online shopping. For example, Novak, Hoffman, and Yung (2000) found that consumers’ skill and sense of control related to Internet use correlated highly with their task-oriented activities such as online shopping and accessing product information.

We also draw upon findings from more recent research suggesting that acceptance of mobile marketing is, in part, influenced by consumers’ acceptance of the mobile medium itself (Carroll et al. 2007; Peters, Amato, and Hollenbeck 2007). For example, Peters, Amato, and Hollenbeck (2007) found that mobile phone usage among college students was motivated by a need for diversion and to fill time, and that this motivation was linked with positive views towards mobile advertising. The authors also reported that informants favorably described mobile communications with friends and family as being similar socially to communications related to mobile marketing activity. Hence, this past research indicates that consumers’ use of a medium for one set of activities/purposes can prime them to acceptance of this medium for a new set of activities/purposes.

Consistent with the above research, we propose that the relationships between our antecedent factors, risk acceptance and personal attachment, and our dependent variable, consumer acceptance of mobile marketing, will be mediated by marketing-related mobile activities such as accessing and sharing content and providing information.

With regard to marketing-related mobile activity, findings from recent studies related to digital communications employing the TAM and uses and gratifications perspectives suggest that, from the point-of-view of the individual consumer, digital media are used for purposes of both entertainment, or play, and utility (e.g., Bruner and Kumar 2003; Haghiriyan, Madlberger, and Tanuskova 2005; Nysveen, Pedersen, and Thorbjørnsen 2005; Venkatesh 2000). For instance, Bruner and Kumar (2003) apply TAM to consumers’ use of mobile devices (e.g., cell phones) and suggest that enjoyment of mobile device usage is a stronger predictor of attitude toward usage than such traditional TAM constructs as perceived usefulness. Similarly, Nysveen, Pedersen, and Thorbjørnsen (2005) find that both perceived usefulness and perceived enjoyment are directly related to intention to use mobile data services. Further, Haghiriyan,
Madlberger, and Tanus Skova (2005) find that both the entertainment and the information associated with advertising content are related to perceived advertising value in the mobile context, and Grant and O’Donohoe (2007) suggest entertainment, social stimulation, escapism, and purchase information and advice are motives for young consumers to engage in mobile marketing communication.

Taken together, the literature related to mobile phone usage characteristics indicates a variety of usage situations characterized by both utilitarian and hedonic motives. Accordingly, we incorporate the following three marketing-related mobile activities as mediating factors influencing consumer acceptance of mobile marketing practices in a cross-market setting. These three mobile activities include providing information, accessing content, and sharing content. We also propose two additional hypotheses, namely that greater propensity to use mobile phones as a platform for sharing content will influence likelihood for both providing information to firms for marketing-related purposes and accessing mobile content.

H1: Greater extent of mobile activity related to providing information to firms for marketing-related purposes will lead to greater levels of mobile marketing acceptance.

H2: Greater extent of mobile activity related to accessing content will lead to greater levels of mobile marketing acceptance.

H3a: Greater extent of mobile activity related to sharing content with others will lead to greater levels of mobile marketing acceptance.

H3b: Greater extent of mobile activity related to sharing content with others will lead to greater mobile activity related to providing information to firms for marketing-related purposes.

H3c: Greater extent of mobile activity related to sharing content with others will lead to greater mobile activity related to accessing content.

Antecedent factors

We consider risk acceptance and personal attachment as antecedent factors in our conceptual model.

Risk acceptance

The construct risk acceptance refers to the likelihood of respondents to provide personal information to online entities such as websites. In this study, we define risk acceptance as the propensity of individuals to provide personal information in order to enter into online marketing promotions to receive gifts, enter a contest or get future discounts. Research has shown that establishing trust between consumers and marketers and providing consumers some degree of control over the disclosure of their personal information in the online setting may reduce privacy concerns (Malhotra, Kim, and Agarwal 2004; Milne, Rohm, and Bahl 2004; Urban, Sultan, and Qualls 2000). Research related to mobile privacy has also discussed spamming and privacy invasion as central issues related to consumers’ willingness to receive mobile advertisements (e.g., Barnes and Scornavacca 2004; Grant and O’Donohoe 2007; Leppanen and Karjaluoto 2005).

However, the popularity of social networking sites such as MySpace and Facebook and the willingness of members to post intimate, personal information suggests a lack of privacy concern (perhaps due to lack of awareness of the consequences of posting personal information) and greater risk tolerance among young consumers (Gross and Acquisti 2005). Risk acceptance is therefore an important construct to consider with respect to the youth consumer and mobile marketing, since this population is also active in online communications and perhaps more willing to take part in promotions or other mobile offers (Selian and Srivastava 2004).

Despite industry and consumer issues regarding mobile privacy, there is little empirical research in the mobile platform that has examined constructs such as risk acceptance with respect to intentions to engage in mobile marketing practices. Because privacy issues in the online setting have been shown to influence attitudes toward, and intentions to use, websites (Malhotra, Kim, and Agarwal 2004), we propose that risk acceptance will lead to greater extent of mobile activity related to providing information to firms and to accessing content. We do not propose that risk acceptance (as defined in this study) will influence sharing content since that interaction is between peers. Hence, we consider the role of risk acceptance in our proposed model as shown below.

H4: Greater levels of risk acceptance will lead to greater mobile activity related to providing information to firms for marketing-related purposes.

H5: Greater levels of risk acceptance will lead to a greater mobile activity related to accessing content in the mobile setting.

Personal attachment

The construct personal attachment refers to the extent to which consumers seek to personalize their mobile phones with unique content, wallpapers, and ringtones as ways to present their phones as extensions of the self. Related to personal attachment and mobile devices, numerous studies have examined the role of personal attachment and mobile phone use, including studies of teens in Norway (Skog 2002), children and teenagers in Finland (Kasesniemi and Rautianinen 2002), the use of mobile phones among Korean consumers (Kim 2002), and youth consumers in the U.S. (Harris Interactive 2007). The central theme in these studies is that the mobile phone represents more than just a communications device; it also may be used to represent the self through personalized features. However, there is little or no research that has empirically examined the relationship between preference for phone customization as a sign of personal attachment and behavioral intent towards mobile marketing practice. Based upon the concept established in the literature that mobile devices are an integral part of one’s self-concept that help to define individual roles within various cultural sub-groups, we empirically examine the relationship between personal attach-
ment and marketing-related mobile activity and propose the following hypotheses:

H6: Greater levels of personal attachment will lead to greater mobile activity related to providing information to firms for marketing-related purposes.

H7: Greater levels of personal attachment will lead to greater mobile activity related to sharing content with others in the mobile setting.

H8: Greater levels of personal attachment will lead to greater mobile activity related to accessing content in the mobile setting.

A two-country comparison

We investigated to what extent the relationships shown in Fig. 1 differ by market. Although the scope of this study is not to examine differences in cultural factors affecting acceptance of mobile marketing practice, what Jenkins (2006) refers to as a convergence culture suggests that youth markets, whether in the U.S., Pakistan, or Japan, collectively believe and behave in similar ways, driven by the ubiquity of digital and wireless communications, commercial media, and universal appeals such as music and sports. Despite the worldwide growth of mobile communications in part fueled by low cost mobile phones within many developing markets, few studies (e.g., Sultan, and Rohm 2005; Sundqvist, Frank and Puumalainen 2004) have focused on multiple markets and the acceptance of mobile marketing across these markets. Based on this past research and our sample characteristics representing the youth market, we propose that acceptance factors will depend less on local cultural factors and relative mobile penetration rates and more on marketing-related mobile activity.

With respect to the penetration of wireless communications in developing markets, although traditional communications infrastructures (e.g., for landline phones) may be less developed in these markets, wireless communications infrastructures may be relatively more advanced (Zhu, Kraemer, and Xu 2006). Thus, even though the penetration of mobile phones in Pakistan is significantly less than penetration levels in the U.S. (GSMWorld 2007), individuals such as university students in markets such as Pakistan (representing higher socio-economic status) are potentially exposed to emerging technologies such as wireless communications to an extent parallel to that in more established markets. Further, regulatory guidelines related to privacy and consumer protection in the wireless context differ across these markets. In the U.S. there are significant self-regulatory and public policy efforts related to mobile marketing practice, yet these efforts are less developed in Pakistan. Related to our inclusion of risk acceptance as a relevant dimension within the context of mobile marketing, past research (e.g., Khanh and Nau 2007) has included uncertainty avoidance as factors related to the acceptance of advertising appeals across cultures.

Taken together, socio-economic and infrastructure factors related to consumer acceptance of mobile marketing practice suggests that youth consumers within markets as different as Pakistan and the U.S. may indeed exhibit more similarities than differences. Hence we focus on mobile activities that youth are likely to engage in across both markets. In order to compare acceptance factors across these two markets, we empirically test the proposed model shown in Fig. 1 with student samples within each respective market.

Methodology

This study is based on data from identical written surveys administered in two global markets (U.S. and Pakistan) in Fall 2005. The U.S. survey was administered to both undergraduate and graduate students at a large university in the Northeast. The Pakistan survey was administered to students at universities in Lahore and Islamabad. All surveys were written and administered in English.

The choice of markets for this study was based on both access to and availability of respondents as well as differences in mobile communication penetration within these markets. In the U.S., mobile subscriptions as a percentage of overall population were approximately 75% by the end of 2006, whereas mobile subscriptions in Pakistan amounted to 21% of the population during the same time period (Economist Intelligence Unit 2006).

The choice of a student sample for this study was based on widespread usage characteristics of mobile devices for communications and data services among the youth market. For young consumers, mobile phones represent not only a communication device, but a way to express one’s individuality through items such as customized faceplates, wallpapers, and ringtones. Further, the penetration of mobile phones within youth markets is significant. According to a recent Harris Interactive study, more than 50% of teens aged 13 to 18 in the U.S. now have mobile phones (Harris Interactive 2007). Studies conducted in the Pakistani market also suggest that mobile penetration within the youth market is significantly greater than the overall population (GSMWorld 2007). The appeal of mobile communications and data services among the youth market is also evidenced by the growth of content providers such as MTV Networks (the music and entertainment network targeting teens and young adults), where MTV is now the world’s largest content provider for mobile phones (Klaassen 2006).

Survey development

The survey contained several constructs related to this study of mobile marketing acceptance, including perceived risk acceptance, defined as the propensity for individuals to provide personal information in order to enter into online marketing promotions; personal attachment or the degree one’s mobile phone represents a personal and customized device; marketing-related mobile activity (information provision, accessing content, and sharing content); and acceptance of mobile marketing practices. Prior to administering the survey, it was reviewed by three outside executives familiar with mobile marketing practice as well as a research assistant for clarity and applicability to the topic being investigated.
Overall, the survey consisted of seventy questions designed to
gauge attitudes toward and acceptance of mobile communica-
tions and marketing practices, as well as classification questions
related to age and region. Each construct was represented by
multiple scale items that were either adapted from existing scales
(e.g., Bauer et al. 2005; Pagani 2004) for application to the
mobile setting or developed for this study where existing scales
did not exist. Scale items are shown in Table 1.

Data collection

For the U.S. survey, 169 responses were obtained over a
one-week period during December 2005 from surveys
administered within three undergraduate business courses
and one graduate business course, through a judgmental non-
probability sampling approach where students were asked to
distribute surveys within established social networks. For the
Pakistan survey, 215 responses were obtained over a two-
week period during December 2005 from surveys adminis-
tered within several undergraduate and graduate business
courses. The data reported is based on respondents (all mobile
phone users) who answered all questions used in the study.
Overall, there were no significant differences in the mobile
activity (downloading wallpapers, playing online games,
accessing content such as music or videos, accessing the
Internet) reported by the respondents across both the U.S. and
Pakistan samples. There was, however, a difference in gender
distribution across the samples. The Pakistan sample skewed
younger and more predominantly male. The respondent
characteristics of the two survey populations are as follows:
in the U.S. sample, 49.7% were male and 50.3% were female.
In the Pakistan sample, 62.9% were male and 37.1% were
female. Respondents ranged in age from 18 to 35 years,
although a majority—69.8% of U.S. respondents and 93.9%
of Pakistan respondents—were between 18 and 24 years old. Despite these demographic differences, mobile activity was similar across the two samples.

Analysis

The focal dependent variable in our conceptual model is acceptance of mobile marketing among youth consumers. The independent variables are the five additional constructs related to the mobile acceptance factors identified in Fig. 1. Given the cross-market nature of our study, it was important to ensure measurement equivalence before testing the theoretical model (Douglas and Nijssen 2003; Steenkamp and Baumgartner 1998; Van de Vijver and Leung 1997). To validate the measures of our constructs, we conducted a series of confirmatory factor analyses (CFA) using LISREL 8.5 (Joreskog and Sorbom 1999) to test the dimensionality, reliability, and convergent and discriminant validities of the measures (cf. Anderson and Gerbing 1988). We performed CFAs for both the U.S. and Pakistan samples in separate measurement models. In each of these two steps, we conducted CFA for individual constructs (i.e., one measurement model per construct) as well as all constructs in one overall measurement model.

Some raw indicators were removed from further analysis for the following reasons: (1) if the raw indicator had low factor loadings (below .40), (2) the indicator had a large correlated error with other indicators, and (3) if there were notable differences in factor loading structure between the two countries (Steenkamp and Baumgartner 1998). Table 1 shows the results of the overall measurement model containing factors for all constructs for separate U.S. and Pakistan samples. Aside from the factor loadings, we also report the fit indices, Cronbach’s alphas, construct reliabilities, and average variances extracted (Fornell and Larcker 1981). The fit indices collectively show adequate fit of the measurement model with the data (Hu and Bentler 1999).

We also assessed the structural equivalence of the measurement model across two countries by performing contrast tests on the overall pattern of factor loadings across the two samples (Byrne 1998; Joreskog and Sorbom 1999). First, one overall measurement model was unconstrained and another was estimated with the constraint that the loadings for the indicator variables on their respective latent variables were the same across sub-samples. The $\chi^2$ for the unconstrained model was 393.24 (df=240) while that for the constrained model was 410.95 (df=257). As the $\chi^2$ difference, 17.71 (df=17) was not significant and the two models had similar fit indices (e.g., NFI, CFI, RMSEA), we concluded that the structural equivalence in the measurement model between the two countries was confirmed (Byrne and Campbell 1999; Steenkamp and Baumgartner 1998). This finding was further verified in pairwise comparisons on individual factor loadings, performed one loading at a time, where no significant $\chi^2$ differences were noted across the two samples.

All path coefficients from latent factors to their corresponding indicators were appropriately high (ranging from .47 to .92 for standardized coefficients) and significant. The composite reliability coefficients and Cronbach’s alphas all exceeded the recommended cutoff value of .60 (Bagozzi and Yi 1988), showing evidence of acceptable reliability among the remaining items for all the dimensions. The average variances explained for all constructs were higher than the cutoff level of .50, meeting this stringent measure of convergent validity (Fornell and Larcker 1981). Collectively, these indicators show adequate convergent validity for our measures in both samples (Anderson and Gerbing 1988).

The first evidence for discriminant validity came from all the correlation coefficients between factors being significantly different from 1.0 (the sum of the correlation coefficients and two times the standard errors were smaller than 1) (Anderson and Gerbing 1988). We further assessed the discriminant validity of the factors (see Anderson 1987) by performing a series of two-factor CFA models for all possible pairs of factors. In each model, the $\Phi$ coefficient was constrained to unity and then freed and a chi-square difference test was then performed. Discriminant validity was obtained for all the construct factors using this test ($\Delta \chi^2 [1]>3.84$ for all pair-wise comparisons).

Table 2
Results of multi-group analyses and model tests on individual country samples.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>US (n=169)</th>
<th>Pakistan (n=215)</th>
<th>$\Delta \chi^2$ ($\Delta df=1$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: providing information $\rightarrow$ mobile marketing</td>
<td>.42***</td>
<td>.23**</td>
<td>.10</td>
</tr>
<tr>
<td>H2: accessing content $\rightarrow$ mobile marketing</td>
<td>.30***</td>
<td>.50***</td>
<td>1.36</td>
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<tr>
<td>H3a: sharing content $\rightarrow$ mobile marketing</td>
<td>.04</td>
<td>-.12</td>
<td>.21</td>
</tr>
<tr>
<td>H3b: sharing content $\rightarrow$ providing information</td>
<td>.19*</td>
<td>.45**</td>
<td>3.63</td>
</tr>
<tr>
<td>H3c: sharing content $\rightarrow$ accessing content</td>
<td>.02</td>
<td>.55***</td>
<td>12.63*</td>
</tr>
<tr>
<td>H4: risk acceptance $\rightarrow$ providing information</td>
<td>.58***</td>
<td>.42***</td>
<td>.70</td>
</tr>
<tr>
<td>H5: risk acceptance $\rightarrow$ accessing content</td>
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<td>.11</td>
<td>7.63*</td>
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<td>H6: personal attachment $\rightarrow$ providing information</td>
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</table>

Model fit indices:
US: $\chi^2=148.01$, df=108, $p<.001$, CFI=.98, IFI=.98, NFI=.95, and RMSEA=.047.
Pakistan: $\chi^2=162.37$, df=108, $p<.001$, CFI=.98, IFI=.98, NFI=.96, and RMSEA=.049.

* Significant at .05.
** Significant at .01.
*** Significant at .001.

1 In a few cases such as for “Accessing Content” and “Mobile Marketing Acceptance”, we noted the different number of items for the two countries and deleted the difference-making item(s) in order to keep the configural equivalence between the two countries. For example, item “I would be willing to receive coupons for discounts on certain products or services on my cell phone” loaded well on “Mobile Marketing Acceptance” in the U.S. measurement model but fitted poorly with the construct in the Pakistan measurement model.
Results

We tested the conceptual structural equations model, using LISREL 8.5 (Joreskog and Sorbom 1999) on the U.S. and the Pakistan samples, respectively. The fit indices in both model tests show adequate fit between the conceptual model and the data (Hu and Bentler 1999). For example, the Root Mean Square Error of Approximation (RMSEA) for both the U.S. (.05) and Pakistan (.05) samples were lower than the cutoff value of .06 for close fit (Hu and Bentler 1999). Seven out of ten hypotheses received significant support in each country sample, while the remaining hypotheses were rejected. The results from these tests are shown in Table 2.

For the U.S. sample, the accepted hypotheses were H1, H2, H3b, H4, H5, H7, and H8. For the Pakistan sample, the accepted hypotheses were H1, H2, H3b, H3c, H4, H7, and H8. The hypotheses that held in both the U.S. and Pakistan samples were H1, H2, H3b, H4, H7, and H8. There was no support for H3a and H6 in both the U.S. and Pakistan samples.

We also assessed the structural equivalence of the conceptual model across the two countries by performing a series of contrast tests on the structural patterns across the two samples (Byrne 1998; Joreskog and Sorbom 1999). First, the structural equivalence of the overall conceptual model was assessed by comparing χ² of two models: one unconstrained overall model and another estimated with the constraint that the loadings for the predictor variables on their respective criterion variables were the same across sub-samples. The χ² for the unconstrained model was 386.20 (df=230) while the χ² for the constrained model was 421.87 (df=240). As the χ² difference, 35.67 (df=10) was significant, we concluded that the structural equivalence in the overall conceptual model between the two countries was not confirmed and certain significant differences in path loadings existed between them (Byrne and Campbell 1999; Steenkamp and Baumgartner 1998).

We then continued with this procedure to further assess the equivalence of individual hypotheses across the two samples. The results of these multi-group analyses are shown in Table 2. Out of the multi-group contrast tests on individual hypotheses, only two showed significant χ² differences: they pertained to H3c and H5, respectively. Given these results, the U.S. and Pakistan respondents differed with respect to the extent that their likelihood to access content using the cell phone was influenced by their risk acceptance and tendency to share content among peers. Specifically, respondents’ risk acceptance increased their tendency to access content in the U.S. sample while this effect was non-significant in the Pakistan sample; yet respondents’ tendency to share content among peers increased their tendency to access content in the Pakistan sample while this effect was non-significant in the U.S. sample.

Comparison with a rival model

In order to ensure confidence in our theoretical model, we followed Bagozzi and Yi (1988) and tested a rival model to compare model performance. Our proposed conceptual model is based on theory that hypothesizes a specific nomological network of constructs. In the rival model, we allowed the antecedent factors (i.e., risk acceptance and personal attachment) to influence all three mediating variables (providing information, sharing content, and accessing content) and the dependent variable (mobile marketing acceptance).

We compared our proposed conceptual model with this rival model using the following criteria: overall fit, percentage of the model’s statistically significant parameters, theoretical interpretation of the paths, and explained variance of the endogenous constructs (Algesheimer, Dholakia, and Herrmann 2005; Morgan and Hunt 1994). We received similar results when comparing the rival model with our proposed models in the U.S. and Pakistan sample, and in both cases the added hypotheses in the rival model did not result in improvements over the conceptual model in any of the above areas.

For example, when tested in the Pakistan data, the rival model (1) scored a lower percentage of supported hypotheses, 7 out 13 (54%) as compared to 7 out of 10 (70%) for the conceptual model, (2) failed to improve overall model fit (χ² difference was a non-significant 6.29 for a loss of three degrees of freedom), (3) yielded similar or worse explained variances on all mediating and dependent variables, and (4) contained theoretically meaningless relationships (e.g., between risk acceptance and sharing content with peers). Taken collectively, these results provide added support for the nomological network in our proposed conceptual model.

Discussion and implications

This study reveals several implications for theory and practice relating to the antecedents of mobile marketing acceptance among the youth consumer segment within an established and an emerging market.

Theoretical implications

The findings from our research extend the current marketing communications and mobile marketing literature in three areas. First, the findings reported here illustrate the role of two antecedent factors— including personal attachment and risk acceptance— related to acceptance of mobile marketing practices. Second, our proposed model emphasizes the role of marketing-related and value-based mobile activity in mediating the relationships between these antecedent factors and mobile marketing acceptance. Third, this study illustrates the importance of research examining similarities and differences in mobile marketing acceptance factors across markets characterized by varying stages of economic development, regulatory efforts, and technology penetration.

Antecedent factors related to mobile marketing acceptance

Our research indicates that risk acceptance and personal attachment influenced mobile activities such as providing information, sharing content, and accessing content, which in turn led to acceptance of mobile marketing practice. Greater degrees of risk acceptance significantly influenced likelihood to engage in mobile activity related to providing information (H4)
across both markets and accessing content (H5) in the U.S. sample only. Greater degrees of personal attachment influenced mobile activity related to accessing (H7) and sharing content (H8), yet not providing information (H6). Taken together, this supports past research in the online setting by illustrating the importance of issues of perceived risk and privacy intrusion specifically in the mobile context.

Risk acceptance was operationalized as a willingness of the respondent to engage in mobile marketing for something in return (coupon, enter sweepstakes, access content). Accordingly, this finding reaffirms past research (e.g., Barwise and Strong 2002; Bauer et al. 2005; Harris Interactive 2007) which has stressed the delivery of value in consumer acceptance of mobile advertising. However, the relationship between risk acceptance and accessing content was not significant for the Pakistan sample. One explanation for this may be that in individual oriented societies such as the U.S., risk acceptance related to privacy concerns may have a greater impact because individual freedoms are sacrosanct. In collective societies such as Pakistan, where individual welfare is subsumed within a system of collective welfare, the relationship between risk acceptance and activities such as accessing content in the mobile setting may be lessened by community, rather than individual, concerns. Future research should more fully explore the determinants of risk acceptance or tolerance in cross-market settings involving demographic, regulatory, economic, and cultural factors.

Our research also adds support to past studies (e.g., Harris Interactive 2007) illustrating the role, evident in both samples, of personal attachment (perhaps through unique personalized content and features) as an antecedent factor indirectly influencing mobile marketing acceptance through the activity of accessing and sharing mobile content. This suggests that young individuals view their mobile phones as a reflection of the self and a status-based accessory with which to convey personal identity, similar to the role of other fashion items. In turn, personal attachment may influence mobile activity in the form of accessing and sharing content. This finding is important to future theory development in that it further illustrates the role of social acceptance within certain consumer groups as an indicator of technology acceptance.

Mediating effects on mobile marketing acceptance

Our research also shows the mediating effects of mobile activity involving information provision, accessing content, and sharing content on mobile marketing acceptance. The likelihood of respondents to provide information (H1) and access content (H2) were significant influencers of acceptance across both markets. This suggests that consumers’ use of their mobile phones for providing information and for accessing content may serve as a priming factor for future engagement in mobile marketing. A surprising finding was that the likelihood of sharing content did not directly influence mobile marketing acceptance (H3a) in both markets. Additionally, the likelihood of sharing content did significantly influence the likelihood of providing information to marketing-related firms in both samples (H3b), yet this likelihood of sharing content influenced likelihood to access content (H3c) only in the Pakistan sample. These two findings may be explained by recognizing that the relationship between risk acceptance and accessing content was significant only within the U.S. sample. Therefore, this illustrates that there may be greater reluctance, measured by levels of risk acceptance, to access content within the U.S. sample because of heightened personal privacy concerns as evidence by the results for H5. An implication related to this finding is that stimulating mobile activity by way of trust- and value-based approaches to motivating individuals to provide information and access share content may represent a key step to strengthening intent to engage in mobile marketing.

Similarities and differences across markets

This research demonstrates a relatively high degree of similarity across markets in the mobile marketing context. Whereas past research (e.g., Zhu, Kraemer, and Xu 2006; Sundqvist, Frank, and Puumalainen 2004) investigating innovation adoption rates across cultures has found significant differences among region and culture, we show several antecedent and mediating factors related to mobile marketing acceptance that were common across the two markets studied. Six of the ten hypothesized relationships (see Table 2) studied were similar across the U.S. and Pakistan samples. The six hypotheses that were supported included H1, H2, H3b, H4, H7, and H8. Two hypotheses (H3a and H6) were not supported in both samples, H3c (sharing content—accessing content) was supported only within the Pakistan sample, and H5 (risk acceptance—accessing content) was supported only within the U.S. sample.

Researchers have argued that through globalism—the extent to which markets are alike with respect to cultural, social, and technology influences—the world is increasingly becoming a homocultural marketplace (Jenkins 2006; Khanh and Hau 2007). Although established and emerging markets differ significantly with respect to economic development and technology infrastructure, as well as culture, the youth respondents in these markets show a surprising number of similarities regarding their mobile marketing acceptance factors. Given that markets such as the U.S. and Pakistan are so culturally different, future research might examine these cultural differences in greater depth in order to illustrate how these cultural differences influence usage and acceptance of mobile marketing. For instance, mobile can be considered both a personal and social technology, and perhaps one perspective with which to examine the extent of acceptance across markets could be based on Hofstede’s (1980) notion of social distance in a cross-cultural context.

Managerial implications

It is important for managers to recognize the various drivers of, and obstacles to, acceptance of mobile marketing practices among consumers across global markets. The findings from this study suggest several implications to managers involved in the development of mobile marketing strategy and programs. This
study suggests that managers should recognize the influence of personal attachment and personalization needs related to mobile phones among youth consumers in both established and emerging markets. These findings also suggest that managers will want to develop mobile strategies that stimulate viral mobile activity such as content sharing which then could lead to greater propensity to engage in mobile marketing programs.

Drivers of, and obstacles to, acceptance of mobile marketing

We found several factors directly and indirectly influencing mobile marketing acceptance that were consistent across both markets. These factors were likelihood of providing information, likelihood of accessing content, likelihood of sharing content, level of risk acceptance, and level of personal attachment to one’s mobile phone. For managers, this suggests that mobile programs targeting the youth consumer, such as The Yard mobile campaign launched by Coca-Cola’s Sprite brand in 2007, will need to (1) emphasize meaningful incentives and value propositions in order for consumers to provide information, (2) make available compelling content that will stimulate viral activity, and (3) recognize the trade-offs consumers may make in terms of risk tolerance and benefits offered. In practice, willingness on behalf of consumers to engage with firms in mobile marketing programs will most likely be fueled by incentives such as free text messaging services in return for permission to receive mobile advertisements and promotions, economic factors that reduce enhance risk acceptance such as fixed-rate pricing plans, and personalized content that offers value and which matches personal profiles offered on an opt-in basis.

However, these findings point to numerous obstacles to the growth of mobile marketing practice among young consumers that managers must consider as well. For instance, in markets such as the U.S. there are significant public policy considerations, fueled by consumer concern, that have led to active industry self-regulation of mobile marketing practice and privacy policies. To develop strategies to get consumers to opt-in and participate in the commercial mobile space, managers will need to understand the degree to which privacy issues across various consumer segments (beyond the youth consumer) and markets may inhibit this participation. Although we only examined the youth market, a Forrester Research study showed that 80% of European consumers across age groups expressed concern over personal privacy with respect to text messaging marketing (Forrester 2001), and efforts by the MMA to develop a privacy protection “code of conduct” have highlighted consumer choice and control, marketer constraint, and confidentiality (MMA 2006b).

Therefore, it will be important for practitioners to consider the trade-off between delivering customer value without seemingly capitalizing on, or abusing, consumer risk acceptance in the mobile marketing context. One approach to permission-based involvement in the mobile space discussed previously is personalization—that is, to finely target individuals with value-based content, features, and applications that suit their needs. Another approach would again involve an incentive-based model in which consumers agree to accept advertising “pushed to them” in return for free access and mobile content. Managers will need to emphasize personalization and trust models or incentive-based models to foster greater participation in mobile marketing programs.

Growing numbers of people in emerging markets such as Pakistan, China, and India have access to voice and data mobile communications. Even though spending power still may be limited with respect to services or retail goods in these markets, there is perhaps willingness on the part of consumers in these markets to engage and interact in the mobile space, particularly with respect to the rapid emergence of 3G networks and the increasing economic availability of mobile phones.

Brands entering or competing in both emerging as well as established markets may seek to emphasize the mobile platform for advertising and promotional efforts in order to capitalize on favorable acceptance characteristics such as current mobile activity and the growing usage of mobile devices. Furthermore, the prominence of mobile activity—hedonic and utilitarian, across both established and emerging markets—as a factor influencing mobile marketing acceptance factors in this study points to the importance of delivering value and content that is acceptable and desirable (e.g., entertaining content or informative content such as location-based search tools) to consumers in the mobile setting. For example, applications such as mobile television delivering content unique to the mobile space might prove to be successful in the future for the delivery of both programming and advertising content.

Study limitations and future research

This was an exploratory study employing a non-probability sample of the youth segment within two markets. The choice of this sampling strategy may limit the generalizability of our findings: while the sampling technique helped to gather data from an important consumer segment within the mobile market (i.e., the youth market), the findings from this research are limited in that the data are taken from narrow sampling frames of primarily college students. Future research within a broader sampling frame should further examine differences related to age and gender as well as socio-economic and cultural factors. Additionally, our correlation-based structural equation tests of sequences among the antecedents, mediators, and outcome variable might not be final, and other causal sequences not tested in this study might in fact be plausible and worth investigating in future research. Despite these limitations, this was an initial attempt at a parsimonious, yet integrative model linking an array of antecedent factors to acceptance of mobile marketing practices across two global markets.

References


Appendix A: Literature Review


Fishbein, Martin and Ick Ajzen (1975), Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.


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