

Entertainment and Informational aspects as precursory factors of Attitudes and Behavioral Intentions in Mobile Advertising environments

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Abstract

The growth of mobile devices has created a new communication channel for companies. The use of Short Messaging Service (SMS) allows marketers to directly communicate with their consumers anytime and anyplace making mobile advertising an ideal advertising tool. Borrowing the technology acceptance model (TAM) we use utilitarian (informativeness) and hedonic aspects (entertainment) of mobile advertising in order to investigate how these aspects affect consumers' attitudes toward mobile advertising; to contrast the impact of general opinion about advertising on mobile attitudes; and to study the relationship between attitudes on behavioral intentions in mobile environments. Data were collected from 429 users of different countries. Structural modeling techniques were applied to analyze the data. The results indicate that attitude toward mobile advertising depend on the level of entertainment and informativeness of a mobile advertising and there is a direct relationship between consumer attitudes and consumer behavior. Finally, some implications for practice are discussed.

Keywords: Mobile advertising, consumer attitudes, informativeness, entertainment

1. Introduction

In the last years the rapid growth of the mobile phones and other mobile communication devices and the nature of these mechanisms, have created many opportunities in the advertising area, allowing companies not only to announce their products and services, but also build, and develop customer relationships, and receive direct response from customers (e.g. Sultan, 2005). In particular, Short Messaging Service (SMS) has been very popular (e.g. Merisavo *et al.*, 2007). In 2002, the total number of SMS messages sent globally totaled 670 billion and this figure was expected to rise to 2.6 trillion in 2007 (e.g. Bauer *et al.*, 2005). In percentage, around 50% of European Internet users frequently send SMS to their family and friends (e.g. Smith, Husson, and Mulligan, 2005).

Therefore, many firms and marketers have seen this convenient and moveable device as a new and powerful channel for marketing (e.g. Wu, Luh, and Shieh, 2007); which is called *mobile advertising* and where advertisements are presented as short textual messages and sent to mobile phones (e.g. Tsang, Ho, and Liang, 2004).

Numerous leading companies in the market such as BMW, McDonald's, Nike or Adidas have recognized this potential and have already launched campaigns using the mobile phone as a means of present commercial content to customers (e.g. Bauer *et al.*, 2005; Peters *et al.*, 2007); nevertheless mobile advertising has mostly been carried out by mobile operators and, to a lesser degree, by consumer brands (Virtanen, Bragge, and Tuunanen 2005).

In spite of the positive results of these campaigns, many studies have found out that consumers generally hold negative attitudes toward advertisements (e.g. Zanot, 1981, 1984) and these attitudes seem to be more negative when receiving mobile advertisements, as others studies (e.g. Tsang, Ho, and Liang, 2004) and this present research confirm. However, research on mobile advertising is still scarce (e.g. Scharl *et al.*, 2005). Despite the potential of SMS as an advertising medium, little attention from academics and marketer researchers have received its users, volume of usage, acceptance and effectiveness (e.g. Merisavo *et al.*, 2007). Still, some initial research exists (e.g. Bruner and Kumar, 2005; Nysveen, Pedersen and Thorbjorn). Both studies have examined attitudes toward the adoption of m-commerce using TAM construct, although they did little to explain consumer's perception about mobile advertising (e.g. Peters *et al.*, 2007).

Previous researches have mainly focused on mobile commerce barriers (such as privacy protection) and not offer a clear distinction between mobile advertising value and attitudes. In order to analyze the positive perceptions of mobile consumers and to develop an explicative model which clearly differentiates value and attitude, the main objectives of this study are: (1) to test how the entertainment and informational aspects perceived by consumers in mobile advertising affect their attitudes; (2) to contrast the impact of general opinion about advertising on mobile attitudes; (3) finally, we study the relationship between attitudes on behavioral intentions in mobile environments.

Taking into account the preceding considerations, we structure this work as follow: First, we conduct a review of relevant literature pertaining to mobile advertising. Second, we formulate some working hypotheses and explain our processes of data collection and measures. Next, we discuss the main findings, conclusions, managerial implications, and limitations of our work, and lastly we outline some possibilities for further research.

2. Conceptual background

The study of attitudes toward advertisements is an important concept in research on marketing and information systems. Attitude can be defined as a learned predisposition of human beings (Fishbein, 1967). More specifically, attitude toward an advertisement is defined as a learned predisposition to respond in a consistently favorable or unfavorable manner toward advertising in general (MacKenzie and Lutz, 1989). In mobile advertising context it is important to note that attitude toward advertising via mobile devices pertains to consumers' attitudes toward this advertising type in general and not to exposure to one particular advertisement (e.g. Haghirian and Inoue, 2006). Although the study of attitudes toward mobile advertising has still not been broadly studied many researchers have been interested in the attitude toward advertising and toward advertising on Internet.

On the one hand, the study of the consumers' attitudes toward advertising in general have long been found to be negative (e.g. Zanot, 1981; Alwitt and Prabhaker, 1994; Mittal, 1994). Schlosser and colleagues reported that attitudes toward Internet advertising are affected by enjoyment, informativeness, and the advertisement's utility for making behavioral

(purchasing) decisions (Schlosser *et al.*, 1999). In turn, Braket and Carr based its study on the premise that the perceived entertainment, informativeness, irritation, and credibility of an advertisement affect the way consumers evaluate it (Brackett and Carr, 2001).

While the constructs identified by Ducoffe (1996) and Brackett and Carr (2001) have proven to be relevant, the distinction between advertising value and advertising attitude is not clear. In fact, other studies in this area do not make a distinction. We use attitude as a dependent variable and consider the antecedents of advertising value as factors of attitude in our framework.

Mobile advertising attitudes' research is still unknown; nevertheless, some studies have been carried out (e.g. Tsang *et al.*, 2004; Haghirian and Inoue 2006). Both investigations have discussed antecedents of consumer attitudes toward advertising via mobile devices through the study of influencing factors on consumers' perceived advertising value of mobile marketing.

This present research aims to explain as much as possible consumers' attitudes toward mobile advertising since there is an increase debate about whether or not consumers are willing to receive mobile advertisements. Although in our review, consultancy reports, industrial reports, and exploratory academic studies demonstrate that the general attitude toward mobile advertising from consumers' viewpoint is rather negative, there is undoubtedly a lot of uncertainty related to the topic.

In order to develop our study we have based our framework study on TAM and the study of attitudes. TAM was developed to predict end-user acceptance of information system within organizations which is an extension of Fishbein and Ajzen's (1975) theory of reasoned action. TAM proposes that consumers' intentions to utilize technology are contingent on the perceived usefulness and perceived ease of use of the technology (Bagozzi *et al.*, 1992; Davis, 1989). As attitude is an important construct for our study, we have chosen technology acceptance model (TAM) to predict the attitude and the use of mobile advertising. Moreover, TAM model is the model generally accepted by marketer researchers and due to its versatility allows the adaptation to different contexts.

In the present research we have taken two constructs (entertainment and informativeness) because benefits in mobile advertising context are still unknown. On the other hand, costs in mobile advertising such as intrusiveness have been longer studied (e.g. Wehmeyer, 2007). However, in future research we will set out a broader model in order to consider all variables affecting mobile advertising.

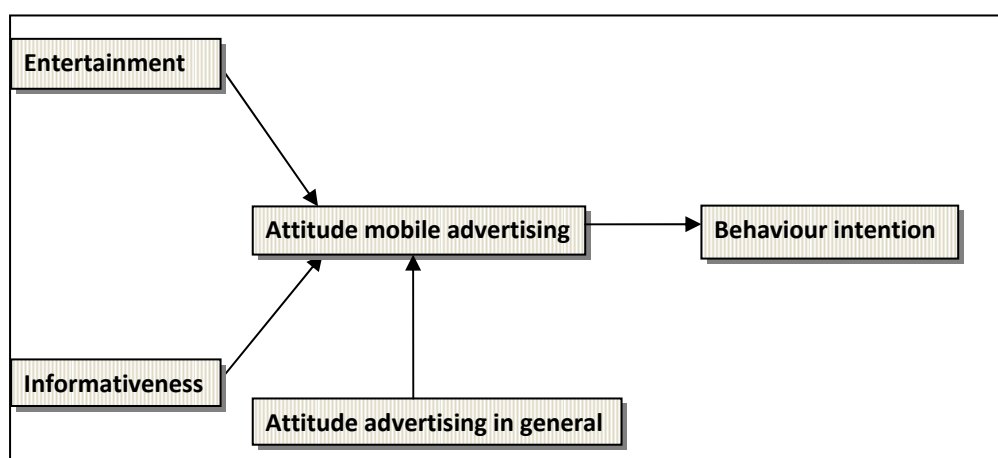


Figure 1. Research model

3. Formulation of hypotheses

3.1 Entertainment

Entertainment refers to the ability to arouse aesthetic enjoyment (Oh and Xu, 2003). Entertainment is an important predictor of the value of advertising so is crucial to the effectiveness of Web advertising (e.g. Aaker *et al.*, 1992; Ducoffe, 1996; Rosenberg 1960; Teo *et al.*, 2003).

A high degree of pleasure and involvement during interaction with computer-based media leads to concurrent subjective perceptions of positive affect and mood of consumer (e.g. Hoffman and Novak, 1996). People's feeling of enjoyment associated with advertisements play the greatest role in accounting for their overall attitudes toward them (e.g. Shavitt *et al.*, 1998). According to previous research a message have to be concise and funny and thus immediately captures consumers' attention (Katterbach, 2002).

More specifically, entertainment is also a crucial factor for mobile advertising since it is the most significant of the factor affecting respondent's attitudes toward mobile advertising (e.g. Tsang *et al.*, 2004). Thus, in our context of analysis, we may expect that entertainment of an advertising message is positively correlated with a positive attitude toward advertising via mobile devices. Taking into account these considerations, we propose our first hypothesis:

Hypothesis 1: The perceived entertainment of mobile advertisements affects positively the attitude toward mobile advertising

3.2 Informativeness

Informativeness refers to the ability to effectively provide relevant information (Oh and Xu, 2003). As well as entertainment, the content of advertisements (informativeness) is important to the effectiveness of advertising and it shows a direct influence on the customers' perceptions of the company and the company's products. According to Siau and Shen, the information delivered to consumers via mobile devices needs to show qualitative features like accuracy, timeliness, and usefulness for the consumer (Siau and Shen, 2003), therefore, what consumers expect from messages is that they are relevant for them (Milne and Gordon, 1993). Hence, we conclude that informativeness is being perceived more positive by the recipient. We propose the following hypothesis:

Hypothesis 2: The perceived informativeness of mobile advertisements affects positively the attitude toward mobile advertising

3.3 Attitude toward advertising in general

Attitude toward an advertisement can be defined as a learned predisposition to respond in a consistently favorable or unfavorable manner toward advertising in general (Mackenzie and Lutz, 1989). With regard to the relationship between attitude toward mobile advertising and attitude toward advertising in general, consumers are more familiarized with advertising in general because they are more used to it. Consequently, it is expected that consumers have an attitude toward advertising in general consistent and stable. However, mobile advertising in an instrument more innovative, therefore, attitudes toward mobile advertising will be more changing. Attitude toward mobile advertising is highly dependent of the attitude that consumers have about advertising in general (Bauer *et al.*, 2005). Hence, we propose the following hypothesis:

Hypothesis 3: Attitude toward advertising in general affects positively the attitude toward mobile advertising

4. Data collection

Data were collected thanks to a web survey using Spanish and English-speaking mobile users in the summer of 2009. This method of collecting the data is consistent with the habitual research practice in the similar contexts (e.g. Steenkamp and Geyskens, 2006; Bagozzi and Dholakia, 2006). To obtain the responses, a viral marketing strategy was developed. This strategy was based on the following aspects: (1) notorious bloggers were contacted in order to promote the survey in their blogs, Twitter's accounts and other social networks, such as Facebook or Hi5; (2) research team also promoted the project through the creation of a Facebook group, several posts included on heavy traffic websites, mobile social networks and well-known electronic forums; (3) a prize was also offered to stimulate not only the answers but also the viral effect.

We obtained 429 valid questionnaires (atypical cases, repeated responses and incomplete questionnaires were controlled) with the following socio-demographical characteristics (see Table 1).

Table 1. Socio-demographical characteristics of the sample

Gender		Activity	
Female	49%	Student	24%
Male	51%	Self-employed	17%
Age		Unemployed	9%
<20 years old	4%	Housewife	2%
20-30 years old	61%	Employee	48%
31-40 years old	23%	Education level	
41-50 years old	9%	Without studies	1%
>50 years old	3%	Primary education	2%
		Secondary education	11%
		Higher education	86%

5. Measures Validation

5.1. Content and face validity

The most relevant and recent literature on mobile marketing, internet advertising and e-marketing was reviewed in order to develop a scale which guarantee the content validity of the measurements instruments (see table 2).

Table 2. Content Validity

CONCEPT	SOURCE	ITEM
Entertainment	Tsang, Ho and Liang (2004) Edwards, Li, and Lee (2002)	I feel that mobile advertisements are enjoyable and entertaining I feel that mobile advertisements are pleasant I feel that mobile advertising is more entertaining than other advertising sources (Own source) I think that mobile advertising is not boring (Own source) Mobile advertising is usually attractive and fun
Informativeness	Tsang, Ho and Liang (2004) Edwards, Li, and Lee (2002)	<i>I feel that mobile advertising offers timely information</i> Mobile advertisements provide the information I need I feel that mobile advertising is more informative than other advertising sources (Own source) <i>I think that mobile advertising does not offer me irrelevant information (Own source)</i> Mobile advertising offers me data that I need to make my purchase decisions. I feel that mobile advertising is helpful.
Attitude towards mobile advertising	Talor and Todd (1995) Xu (2007)	I like the idea of using mobile advertising Mobile advertising is a good idea Concerning consumer needs, mobile advertising is more interesting than other media.
Attitude towards Advertising in general	Grossbart, Muehling y Kangun (1986) Muehling (1987) Bruner y Kumar, (2007)	Please, you have to answer these questions thinking of all types of advertising (TV, radio, magazines, Internet, etc). <i>In general, I think advertising is good</i> In general, I think advertising is useful In general, I think advertising is positive In general, I think advertising is favorable In general, I think advertising is believable
Behaviour Intention	Talor and Todd (1995) Xu (2007)	Likely, I will use mobile advertising to consume if I have the chance I expect to use mobile advertising for shopping

Note: Items in *italics* were eliminated in the depuration of the scales

Due to the scarcity of valid scales adapted to the mobile environment, it was necessary to adapt the initial scales in order to guarantee their face validity. Face validity is defined as the degree that respondents judge that the items are appropriate to the targeted construct (Anastasi, 1988). Face validity was tested through a variation of the Zaichkowsky method (Zaichkowsky, 1985), whereby each item is qualified by a panel of experts as “clearly representative”, “somewhat representative” or “not representative of the construct of interest”. Items were retained if a high level of consensus was observed among the experts (Lichtenstein, Netemeyer and Burton, 1990).

5.2. Exploratory analysis of reliability and dimensionality

An initial exploratory analysis of reliability and dimensionality was applied to initial set of items (Churchill, 1979; Anderson and Gerbing, 1988). The Cronbach alpha indicator was used to assess the initial reliability of the scales, considering a minimum value of .7 (Cronbach, 1970). The item-total correlation was also used to improve the levels of the Cronbach alpha, considering a minimum value of .3 (Nurosis, 1993). Only one of the items had to be deleted due to a low level of item-total correlation.

The dimensionality of each scale was assessed by carrying out a principal components analysis. Factor extraction was based on the existence of eigenvalues higher than 1. In addition, it was required that factorial loadings were higher than .5 points and a significant total explained variance (Hair, Anderson, Tatham and Black, 1998).

5.3. Confirmatory analysis of dimensionality

A *confirmatory model development strategy* was followed to confirm the dimensional structure of the scales, as well as to test convergent and discriminant validity. We used the statistical software EQS version 6.1. As an estimation method we chose Robust Maximum Likelihood, since it affords more security in samples which might not present multivariate normality. We followed the criteria proposed by Jöreskog and Sörbom (1993):

- a) The weak convergence criterion means eliminating indicators that do not show significant factor regression coefficients ($t_{\text{student}} > 2.58$; $p = .01$).
- b) The strong convergence criterion involves eliminating non-substantial indicators, that is, those whose standardized coefficients are lower than .5.
- c) According to the suggestion of Jöreskog and Sörbom (1993), we also eliminated the indicators that least contribute to the explanation of the model, taking $R^2 < .3$ as a cut-off point.

Two of the items had to be deleted due to low levels of R^2 . Concerning to model fit, although the Chi-square was highly significant, other indicators suggested also a good model fit (Steenkamp and Geyskens, 2006): Chi-square = 358.961, 125 d.f., $p < .001$; Bentler-Bonett Normed Fit Index = .947; Bentler-Bonett Nonnormed Fit Index = .956; Comparative Fit Index (CFI) = .964; Bollen (IFI) Fit Index = .965; Root Mean Sq. Error of App. (RMSEA) = .066; 90% Confidence Interval of RMSEA (.058 ; .074).

5.3. Composite reliability

The Cronbach alpha indicator is frequently used to assess reliability. However some authors consider that it underestimates reliability (Smith, 1974), so that the use of composite reliability has been suggested (Jöreskog, 1971), using a cut-off value of .6 (Nunnally, 1994). The results were satisfactory (see Table 3).

5.4. Construct validity

Construct validity was assessed considering two types of criteria.

Convergent validity refers to the principle that the indicators for a given construct should be at least moderately correlated among themselves. This was tested by checking that the factor loadings of the confirmatory model were statistically significant (level of .01) and higher than .5 points (Steenkamp and Geyskens, 2006). Results were satisfactory.

Discriminatory validity refers to the principles that the indicators for different constructs should not be so highly correlated as to lead one to conclude that they measure the same thing. We tested that the correlation between the variables in the confirmatory model were not much higher than .8 points (Bagozzi, 1994). Secondly, according to Real *et al.* (2005), we compared the squared root of the AVE (diagonal elements in Table 3) with the correlations among constructs (off-diagonal elements in Table 3). In other words, we checked that the construct shares more variance with its measures than the variance it shares with the other constructs in the model (Wiertz and De Ruyter, 2007).

Table 3. Composite reliability and discriminant validity

	Entertainment	Attitude towards mobile advertising	Behaviour Intention	Attitude towards Advertising in general	Informativeness
Entertainment	.87				
Attitude towards mobile advertising	.64	.85			
Behaviour Intention	.58	.79	.87		
Attitude towards Advertising in general	.33	.56	.58	.85	
Informativeness	.77	.68	.74	.46	.80
Composite reliability	.94	.88	.90	.89	.88
AVE	.76	.72	.76	.73	.64

6. Results

To test the hypotheses we develop a structural equation model. Figure 2 shows the results corresponding to hypotheses 1 to 4.

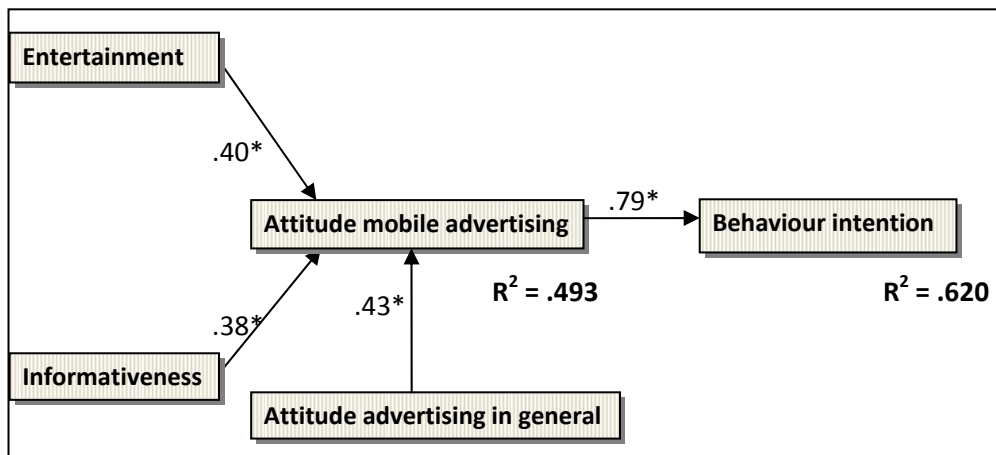


Figure 2. The Structural Equation Model: Standardized Solution

Note: (*) expresses that coefficients are significant at the level of .01.

Results reveal the acceptance of all the hypotheses to a level of .01. Lastly, the model fit showed acceptable values (Chi-square = 800.139, 131 d.f., $p < .001$; Bentler-Bonett Normed Fit Index = .891; Bentler-Bonett Nonnormed Fit Index = .899; Comparative Fit Index (CFI) = .898; Bollen (IFI) Fit Index = .899; Root Mean Sq. Error of App. (RMSEA) = .109; 90% Confidence Interval of RMSEA (.102, .116).

7. Conclusions

Previous researches have mainly focused on mobile commerce barriers (such as privacy protection), nevertheless positive perceptions of mobile advertising have not been widely studied. Moreover, mobile advertising research has not offered a clear distinction between mobile advertising value and attitudes toward mobile advertising. For this reason, this current research has developed an explicative model which clearly differentiates value and attitude toward mobile advertising and which analyzes positive perceptions of mobile consumer. Our results confirm that: (1) the entertainment and informational aspects perceived by consumers in mobile advertising affect their attitudes; (2) there is an impact of general opinion about advertising on mobile attitudes; and (3), there is also a positive and direct influence of attitudes on behavioral intentions.

7.1. Managerial recommendations

The research highlights the importance to develop utilitarian and hedonic values in mobile communications. However, data collected show that these two aspects should be improved by marketers. People perceive a very low level of entertainment and informativeness in mobile advertisements. For instance, according to our data people think that mobile advertising is boring (average rating 2.83 out of 7 in a likert scale) and it is less entertainment than other advertising media. Moreover, users do not consider that mobile advertising provide the information they need (average rating 2.43 out of 7 in a likert scale).

Mobile campaigns are focused mainly on SMS communications. In fact, this is the format considered by most of our respondents in this research. This suggests that companies should strengthen both factors with other kind of mobile advertising formats (e.g. sponsored applications, geo-marketing, iPhone apps) in order to improve consumers' attitude toward mobile advertising and its effectiveness.

Mobile advertising is a real opportunity for enterprises to get new costumers and communicate with the current ones; however present formats are not offering a value added for costumers.

7.2. Limitations and future research lines

Although based on real world data, the study has certain limitations. A substantial portion of the respondents were young people (20-30) with a higher level of education as Table 1 shows. Therefore, care must be taken when extrapolating our findings to other populations and it would be useful to replicate this study with a wider sample of consumers who represent diverse age groups and more diverse education level and thereby help generalize the results obtained herein, as well as conduct a cross-cultural analysis of potential differences in the determinant since our main sample is based with Spanish users.

Based on our results, we predict that mobile advertising is going to be the future trend that companies are going to adopt to communicate with their customers. The present findings have implications for both researchers and marketers. It would be interesting to know what the factors which contribute to create these negative attitudes toward mobile advertising and how we can change it. In future investigations we should study other constructs affecting consumer attitudes in order to have a more real vision of mobile advertising.

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