

## **Prioritization of Factors Affecting Consumers' Attitudes toward Mobile Advertising**

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### **ABSTRACT**

Rapid development of technology, especially in Information Technology, has caused new activities in marketing and electronic commerce. Mobile advertising has become one of the most popular applications in mobile commerce, particularly in the form of text advertising through Short Messaging Service. One of the most important issues is the way advertisement affect the consumers. The present research aimed at determining consumers' attitudes toward mobile advertising and factors affecting them, prioritizing these factors, and finally expanding knowledge in this field. The target population of this research was Rasht city in Iran (capital city of Guilan province in north of Iran) and the method of sampling was the cluster sampling. To test the question and hypotheses, we utilized independent-t test, regression, one-way analysis of variance (ANOVA), and Friedman test. The results of analyzing 384 questionnaires showed that consumers' attitudes toward mobile advertising was positive and the tendency to mobile phone advertisements among men and women was the same. According to the results of this study, other demographic characteristics such as age, education level, occupation, monthly income had no impact on customers' attitude toward mobile advertising. Four factors related to characteristics of message including entertainment, Informativeness, irritation and credibility of mobile ads affected the attitude of consumers toward mobile advertising and among the effective factors, entertainment of mobile advertising had the most impact on consumers' attitudes toward mobile advertising.

**KEYWORDS:** Attitude, Entertainment, Informativeness, Irritation, Credibility

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### **1. INTRODUCTION**

The rapid spread of mobile phones and other portable devices have paved new ways for marketing which make possible effective communication between target markets, marketers, and customers. Delivering limited text messages, such a new device has impact on other media [15]. The increasing penetration ratio of using mobile phone in Iran including twenty one million users of First Operator (Hamrahe Aval)<sup>1</sup> and more than twenty six million of all networks in Iran, which are increasing day by day, have attracted many marketers and businessmen to such an entirely new media [34]. The popularity of mobile phone as communicative media is widespread, but it can be said utilizing mobile phone for sending ad messages is just the beginning. Such issues provide opportunities for new researches. For instance, what is a consumer's attitude toward mobile advertising? Which factors have impact on customers' attitude toward mobile advertising? This paper focuses on such questions. In the same way, to find an answer for the above mentioned questions is vital for utilizing mobile advertising more effectively. So that what matters first and foremost is customer's feeling and reaction towards sent ads via mobile phone. Regarding the attraction of such advertisement media and the importance of customers' attitude who has taken mobile phone as a vital device, it should be said that no sophisticated research has been done in this area in Iran. This is why it is not clear enough for institutes and marketing organizations that which factors impact customers' attitude towards mobile advertising and it causes some problems in that area. So that this paper aims at studying customers' attitude and various factors impact on the former and it is organized as follows: Section 2 discusses the literature background. Section 3 discusses the theoretical framework of this research. Section 4 discusses the research methodology. Section 5 discusses the results and Section 6 concludes the study.

### **2. LITERATURE BACKGROUND**

#### **2.1. Mobile advertising**

Dickinger et al. define mobile marketing as "Using interactive wireless media to provide customers with time and location sensitive, personalized information that promotes goods, services and ideas, thereby generating value for all stakeholders" [14].

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Mobile marketing is based upon sending information to consumers using either SMS (Short Messaging Service) or MMS (Multimedia Message Service) [23].

Mobile advertising is a commercial message transmitted to target consumers through a handset [29].

Okazaki et al. define mobile advertising as “short messages which transfer business-to-customer (B To C) <sup>2</sup> messages to a wireless device” [33].

For the purpose of this study, SMS advertising will be defined as “Using short message service (SMS), sent to consumers cell phones, to provide consumers with time and location sensitive information that promotes goods, services and ideas, thereby generating value for all stakeholders” [23].

Studies have highlighted a vast number of advantages of mobile advertising and includes that this medium allows for real-time communication with consumers anytime and anywhere [23].

Another benefit of mobile advertising is that, if effectively planned, a mobile advertising campaign is low in cost. [23].

Although mobile advertising has a great advantage over more traditional mediums of advertising, it is often stressed that the medium should not be used in isolation [23].

Mobile advertising should be complimentary with the traditional mediums of advertising [23].The complementary nature of mobile advertising may be based upon the fact that mobile marketing and mobile advertising are still in the early stages of commercial deployment. Consumers may not as yet be fully adapted to mobile phone technology and the receiving of mobile advertisements [5].

## 2.2. Attitude toward Mobile advertising

The study of attitudes toward advertisements is an important concept in research on marketing and information systems [17]. Attitudes toward advertisements are consumers’ inclinations to react to a particular message in a positive or negative way [10]. In the same vein, attitudes toward mobile advertising are the consumer’s propensity to react positively or negatively to specific mobile advertising [11].

According to Fishbein’s Attitude Theory, a stimulus, such as a mobile advertisement of a particular brand, has an effect on a consumer’s belief system which in turn influences and leads to the consumer developing a specific attitude towards the advertised brand [3]. 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 [20].

Table1. A brief summary of researches on mobile advertising in Iran and other countries

Research Subject	Researcher and Year	Research Findings
Mobile advertising ; consumer attitude and effective factors in creating positive attitude	Faraz Sadeghvaziri (2008)	Consumers generally have positive attitudes toward mobile advertising, and personalization and monetary benefit of mobile advertising have positive affect in creating positive attitude toward mobile advertising.
Effective factors on mobile advertising acceptance	Rabiee & Khoshelhan (2009)	Perceived usefulness and ease of use are factors which can impact customers' attitude toward mobile advertising.
Consumer Attitudes Toward Mobile Advertising: An Empirical Study	Tsang,Ho & Liang (2004)	Consumers generally have negative attitudes toward mobile advertising unless they have specifically consented to it and there is a direct relationship between consumer attitudes and consumer behavior.
Entertainment and Informativeness as Precursory Factors of Successful Mobile Advertising Messages	Blanco,Blasco & Azorin (2010)	Firstly the results suggest that the entertainment and informational aspects perceived by consumers in mobile advertising affect their attitudes. Secondly there is an impact of general opinion about advertising on mobile attitudes.
Attitudes of young consumers towards SMS advertising	Vander Waldt, Rebello & Brown (2009)	Consumers’ perceptions of the entertainment value, informativeness and credibility of SMS advertisements are positively correlated to consumers’ attitudes. Also consumers’ perceptions of the irritation aspect of SMS advertisement is negatively correlated with consumers’ attitudes.
Factors affecting consumers’ responses to mobile advertising from a social norm theoretical perspective	Koury & Yang (2010)	The study found that perceived usefulness (PU) of mobile advertising predicted attitude toward mobile advertising, whereas perceived ease of use (PEOU) of mobile advertising did not predict attitude toward mobile advertising. Lastly attitude towards mobile advertising significantly predicted the intention to adopt mobile advertising.
An exploration of texting behavior and attitudes toward permission-based advertising in new Zealand	Maneesoonthern & Fortin (2004)	Respondents have negative attitudes toward mobile advertising and requesting permission has important impact on users’ tendency for receiving mobile advertising
Costumer attitude toward advertising via mobile devices. An empirical investigation among Austrian users	Haghirian & Madlberger (2005)	Users’ attitude toward mobile advertising is negative and ads value and message content have the most impact on the attitude
Generation Y Attitudes Toward Mobile Advertising	Wanmo Koo (2010)	Entertainment, informativeness, irritation and credibility are effective factors on consumers’ attitudes toward mobile advertising in clothes industry and such factors are different between American and Korean respondents

It is interesting to say that the former researches about mobile advertising indicate the popularity of them [6, 19] while the latter researches are just vice versa: negative attitude toward mobile advertising [39, 8, 2]. In the field of attitude toward mobile advertising, the previous researches, which show the negative attitude of customers toward mobile advertising, one can refer to Tsang et.al. (2004) in Taiwan, Maneesoonthorn and Fortin (2004) in New Zealand, Haghirian and Madlberger (2005) in Australia, and finally, Vander Waldt et al. (2009) in South Africa. See Table 1 above.

**3.Theoretical Framework**

The framework for the study of consumer attitudes toward mobile advertising relies on the models developed for the study of consumers’ attitudes toward internet or web advertising and advertising in general [9, 27]. Ducoffe (1996) developed a model depicting the perceptual antecedents of entertainment, informativeness and irritation, used to determine consumers attitudes toward internet advertising and formed the basis for the model developed by Brackett and Carr (2001) to test consumers’ attitudes toward web advertising [16]. The model, as illustrated in Diagram 1, has the same three constructs identified in the model developed by Ducoffe [16], but it contains other additional constructs namely credibility, which is an antecedent of consumer attitudes towards an advertisement [27]. The framework depicted in Figure 1 has in the past been used to test consumers’ attitudes toward mobile advertising [22, 42] and provides the theoretical framework for this study. The constructs entertainment, informativeness, irritation and credibility will be used in this study to test hypotheses.

On the other hand, Brackett & Carr believe that the demographic variables can influence consumers’ attitudes toward internet advertising and then mobile advertising [9], so that some demographic variables such as gender, age, occupation, educational level, and monthly income will be taken into account.

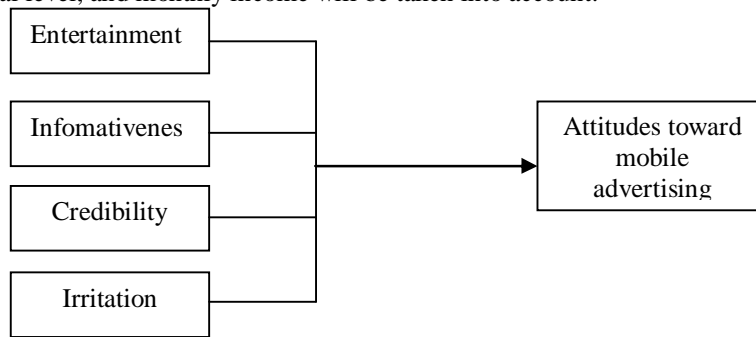


Fig .1 Theoretical Framework; Source: Brackett & Carr, 2001; Tsang et al., 2004; Haghirian et al., 2005

**3.1. Entertainment**

McQuail defines entertainment as“...the ability to fulfill an audience’s needs for escapism, diversion, aesthetic enjoyment, or emotional enjoyment” [16]. Perceived entertainment in advertising can be defined as an amusing and pleasant experience through the use of media [31].

Shavitt and Lowrey (1998) concluded that pleasure one feels from advertisements plays the most important role in his/her overall attitude toward advertisement [40]. According to Haghirian and et al. (2005) the perceived entertainment of mobile advertising is not only related to attitude, but also adds perceived value of the advertisement by customer [22]. This variable was operationalized through five items indicated in table 2. Accordingly, the following hypothesis was proposed.

H1: Entertainment of mobile advertising affects the attitude of consumers toward mobile advertising.

**3.2. Informativeness**

Informativeness refers to ability of gathering data effectively [24]. Informativeness in e-commerce can be defined as the degree of practical and supportive information offered by web providers, an attribute positively related to consumers’ attitudes toward web advertising [31]. In addition, the quality of information offered in companies’ web-pages is a determinant of consumers’ perceptions of companies and their products [22] and a predictor of consumers’ perceived value of Internet [16] and mobile advertising [22].

Blanco and et al. (2010) findings show that the perceived informativeness of mobile advertising has positive impact on consumers’ attitude toward mobile advertising [7]. This variable was operationalized through six items indicated in table 2. Based on the literature, the following hypothesis is posited.

H2: Informativeness of mobile advertising affects the attitude of consumers toward mobile advertising.

**3.3. Irritation**

Ducoffe (1996), in the context of advertising, defines irritation as: “When advertising employs tactics that annoy, offend, insult, or are overly manipulative” [16].

Irritation in advertising can be defined as an advertisement that generates annoyance, discontent, and brief intolerance [1]. Irritation results in negative attitudes toward advertising [35] and brands [10], and the level of negativism as a result of irritating advertising vary by brand. Furthermore, advertising irritation is predictive of perceived value of Internet [9] and mobile [22] advertising. Attitudes toward web advertising are negatively related to perceived irritation of web advertising [10].

Tsang and et al. assert that perceived irritation of mobile advertising has impact on consumers' attitude toward mobile advertising [42]. This variable was operationalized through six items indicated in table 2. Thus, the following hypothesis was developed.

H3: Irritation toward mobile advertising affects the consumers' attitudes toward mobile advertising.

**3.4. Credibility**

Advertisement credibility has been defined by Mackenzie and Lutz as "the extent to which the consumer perceives claims made about the brand in the advertisement to be truthful and believable" [27]. Credibility is consumers' confidence in the honesty and plausibility of the advertisement [11]. Credibility also plays an important role in mobile advertising. Haghirian et al. (2005) reported a positive relationship between credibility and consumers' perceived value of mobile advertising [22]. Thus, this variable was operationalized through 3 items indicated in table 2. Based on the above discussion, the following hypothesis was defined.

H4: Credibility of mobile advertising affects the attitude of consumers toward mobile advertising.

**5.RESEARCH METHODOLOGY**

**5.1. Measuring instrument**

Existing scales in the relevant literature were used to develop the questionnaires. The questionnaire is consisted of two parts. The first part includes five questions such as demographic characteristics of respondents, gender, age, occupation, education level, and monthly income. Similarly, in the second part of the questionnaire 21 items were used to analyze customers' opinions. All items in this study are five point Likert-like scales. The used criteria can be followed in Table 2.

Table2. Criteria considered in the questionnaire

Variables	Scale items	Source
Entertainment	Enjoyable; Entertaining; Pleasing; Fun to receive; Exciting	Ducoffe (1996)
Informativeness	Good source of up-to-date sales information; Makes sales information immediately accessible; Provides timely information; Good source of sales information; Convenient source of sales information; Supplies relevant sales information	Ducoffe (1996)
Irritation	Deceptive; Confusing; irritating; Insults people's intelligence; Biased	Ducoffe (1996)
Credibility	Convincing; believable; Supplies complete sales information	Mackenzie & Lutz (1989)
Attitude	Overall, I like mobile advertising	Tsang et al (2004)

To check validity of the questionnaire, apart from extracting some criteria from review of literature, the validity concept was approved by professors and professionals in the same field of study. In other words, they unanimously agreed that the questionnaire meets the objective of the research. To check reliability of the questionnaire Cronbach Alpha Test was employed which is 0.85.

**5.2. Sample Size**

The population of the research includes all the citizens of Rasht (capital city of Guilan province in north of Iran) who own a mobile phone and have in the past received an SMS advertisement from an organization advertising. However, it is because doing research on such scale is hardly possible so that Cluster Sampling<sup>3</sup> was used. Since the number of population is more than 100,000 people, the sample considering the minimum number according to Morgan table is 384 people (n=384). The way of distributing questionnaire is that first the city was divided into five districts. Next, the questionnaire was distributed among those who accepted to answer the questions in proportion to the total percentage of customer services offices in each districts. Considering the fact that those who come to customer services offices have mobile phone and receive SMS ads so that distributing the questionnaire in such places is plausible. To assure that net return would not be less than desired number, 500 questionnaires was distributed and finally, of the completed questionnaires, 384 questionnaires were chosen for data analysis.

**4.RESULTS AND DISCUSSION**

**4.1. Description of Sample**

The characteristics of respondents based on gender, age, education level, occupation, and monthly income. Among 384 respondents, 52.9% (n = 203) were males, while the other half 47.1% (n =181) were females. In terms of their education level, about 52.1% (n = 200) were BA/BS. More than 61.2% (n = 235) of the sample reported

earning 300,000-500,000 T monthly income. The majority of the participants were between the ages of 20-35 years old 66.4% (n = 255). Finally, in terms of occupation 39.3 % of participants (n = 151) were self-employed.

**4.2. Hypotheses testing**

To analyze the major question of the research, customers’ attitudes toward mobile advertising, Parametric student’s t-test(One sample mean test) was used since the result from Goodness of Fit Test ( Kolmogorov-Smirnov), showed that Sig=0.152 which was more than 0.05, the normally distributed samples for dependent variable was 95%. In the same way, in comparison of mean test in SPSS the level of significance was examined from two sides but in this test one side level of significance mattered, so that t result of table of comparison of mean test was compared with t of T distribution Table. In conclusion, since the level of significance  $\alpha=0.05$ , degree of freedom=1.645( $28.739 > 1.645$ ) so that customers’ attitudes toward mobile advertising were positive. See Table 3.

Table3. Analyzing research major question

	Calculated t for comparison mean test	t of distribution table	The sector of rejection of null hypothesis in comparison of mean test(Reject H0)	Result of comparison of mean test
Major hypothesis	28.739	1.645	$t > 1.645$	The hypothesis H <sub>1</sub> can be accepted

To analyze research hypotheses simple linear regression test was used. Based on the results, regarding level of significance  $\alpha=0.05$ , in all four hypotheses the levels of significance were less than 5% ( $Sig < 0.05$ ) which meant 0.00. So that it can be said the four factors, entertainment, informativeness, Irritation and credibility of mobile advertising, had affect customers’ attitude towards mobile advertising. As a result, all four hypotheses were accepted.

The correlation coefficients (R) of the test indicated the positive relationship between customers’ attitudes toward mobile advertising and entertainment (0.764), informativeness (0.746), credibility (0.672), while there was a negative relationship between attitudes toward mobile advertising and Irritation (-0.553).

The coefficients of determination (R<sup>2</sup>) showed that 58% of variance of customers’ attitudes toward mobile advertising could be explained by the variation in customers’ perceptions of the entertainment value of mobile advertising. As a result, it can be said that 55% of variance of customers’ attitudes toward mobile advertising could be explained by variation in informativeness, 45% by Irritation and 30% by credibility.

**4.3. The impact of demographic characteristics on attitude**

In order to examine differences in attitudes between male and female to compare the two groups using Independent-samples t-test was attempted. See Table 4.

Table4. Impact of gender on attitude

	Levene’s Statistics		F	Sig.	t	Sig. (2-tailed)	95% Confidence Interval of the Difference	
							Lower	Upper
Costumers’ attitudes toward mobile advertising	Equal	variances assumed	3.289	0.171	1.437	0.151	-0.03844	0.2474
	Equal	variances not assumed						

Regarding the fact that Sig in Lerene’s Test Table is 0.171 and it was more than 0.05 level of significance so that variances were equal and according to Sig in T Test Table which equals 0.151 and was more than 0.05 level of significance, the null hypothesis that was the same equation of male and female tendency to mobile advertising could be proven.

To investigate other demographic characteristics, one-way analysis of variance test (ANOVA) was used. The tests results showed that other demographic characteristics had no impact on customers’ attitude toward mobile advertising since the level of significance of all the tests were more than 0.05. In other words, it can be said the difference in age groups, education level, occupation, and monthly income had no impact on customers’ attitude toward mobile advertising.

**4.5. Ranking factors affecting customers’ attitude**

To analyze and compare the importance of factors affecting customers' attitude toward mobile advertising, Friedman test was employed. Results suggested that entertainment variable had the highest rank of 2.85 and irritation had the lowest rank of 2.22.

## 6. Conclusion

The major aim of this research is analysis of customers' attitude toward mobile advertising including four effective factors such as entertainment, informativeness, irritation, credibility, and their prioritization. As empirical data show customers' attitude toward mobile advertising is positive that is customers like mobile advertising. The tendency to mobile phone advertisements among men and women is the same; the findings of this research is the same as those of Siavashi (1388) which indicate men and women have similar attitudes toward SMS advertisements [41]. Regarding the fact that majority of the respondents are among 20-35 age groups it can be estimated one of the reasons of having positive attitude is that sample under investigation is young. 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. Since such attitude is mostly cultural, it is probable that cultural differences bring different attitudes toward various statistical societies. Future researchers can focus on whether cultural differences among respondents can make any difference in their attitudes toward mobile advertising. Iran has a multi-cultural society so that a study that highlights differences in consumer attitudes toward mobile advertising based on cultural differences could be valuable.

This study confirmed that all four factors of SMS characteristics (i.e., entertainment, informativeness, irritation, and credibility) affect customers' attitude and among them entertainment is one of the most effective factors. On the other hand, the importance of other factors such as informativeness and credibility should not be ignored. With regard to entertainment is the strongest predictor of a positive influence on attitudes toward mobile advertising, marketers needs to look at ways of increasing the entertainment as well as the level of enjoyment consumers associate with the receiving of mobile advertisements. For instance, the marketers can send mysterious SMSs to arouse their customers' curiosity[4] and some items such as color, sound and image can be used as well; to do so, using MMS for sending advertisement messages via mobile phone can be effective [12]. While credibility is positively related to attitudes toward mobile advertising, irritation is negatively related to mobile advertising. This factor highlights the importance of permission-based marketing in protecting the credibility of the mobile advertising channel. Permission based marketing ensures that advertisements are sent to only those consumers that are interested in receiving information from the organization and avoids targeting those consumers that will perceive the advertisement as being intrusive or irritating[36,37, 38]. The relationship between irritation of mobile advertising and consumer attitudes toward mobile advertising, suggests that marketers need to ensure that messages are sent to consumers at a reasonable time during the day [13].

Another limitation of the study is that the attitude construct was measured on one item. The scale may not be a very accurate measurement of consumers' attitudes toward mobile advertising. Future researchers can also develop a new scale to measure attitudes toward mobile advertising and other constructs affecting consumers' attitudes in order to have a more real vision of mobile advertising.

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<sup>1</sup> - Hamrah-e-Avval is Iran's first and largest mobile phone network operator. It is owned by the Mobile Communication Company of Iran (MCI)

<sup>2</sup> - Business or transactions conducted directly between a company and consumers who are the end-users of its products or services. Business to consumer as a business model differs significantly from the business to business model, which refers to commerce between two or more businesses.

<sup>3</sup> - Cluster sampling is a sampling technique used when "natural" but relatively homogeneous groupings are evident in a statistical population. It is often used in marketing research. In this technique, the total population is divided into these groups (or clusters) and a simple random sample of the groups is selected.