Türkiye'de SMS Reklamları: Tüketici Tutumlarını Etkileyen Faktörler

SMS Advertising In Turkey: Factors Affecting Consumer Attitudes

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ÖZET

Mobile telefonların kullanımdaki hızlı artış hem pazarlamacılar hem de reklamcılar için yeni bir taşıma platformu yaratmıştır. Mobil cihazların popülerliği arttıkça, Kısa Mesaj Servisleri (SMS) potansiyel tüketicilere ulaşmak için daha da önemli olmaya başlamıştır. Bu çalışma, tüketicilerin SMS reklamlarına yönelik tutumlarını etkileyen faktörleri ve bu faktörler ile tutum arasındaki ilişkiyi incelemektedir. Yapılan faktör analizi sonucunda Bilgi-eğlence, Yaşam Partneri, Gizlilik ve Rahatsız Edicilik olarak adlandırılan dört faktör bulunmuştur. Literatüre paralel olarak sonuçlar Rahatsız ediciliğin SMS reklamlarına yönelik tutumları etkileyen en önemli faktör olduğunu göstermektedir. Araştırma, ileri çalışmalar ile derinlemesine incelenebilecek "Yaşam Partneri" olarak adlandırılan yeni bir faktörü de ortaya koymaktadır.

Anahtar Kelimeler: Reklam, Reklamlara Yönelik Tutum, SMS Reklamları.

Çalışmanın Türü: Araştırma

ABSTRACT

The rapid increase of the use of mobile phones has created new delivery platforms to both marketers and advertisers. As the popularity of mobile devices increases, Short Messaging Service (SMS) has become more important to access potential customers. Recently, Internet and mobile telephony technologies have become more integrated. The marriage of the Internet and wireless telephony that use such platforms as Wireless Application Protocol (WAP) Short Message Services (SMS), and variants of Hyper Text Markup Language (HTML) can make serious financial contributions to global wireless advertising revenue as a new advertising arena. This new advertising platform, which is wireless advertising or mobile advertising, refers to any communication about products, services, and ideas uses mobile devices for promotional purposes. There are two forms of mobile advertising. The early and the first form is the SMS ads and the second mobile advertising form is Multimedia Message Service (MMS). MMS ads are more creative and effective than was the early mobile advertising form. SMS advertising offers important advantages to the advertiser who seeks to have effective two- way communication with consumers. The research on attitudes toward advertising has two important branches. One is the attitude toward the ad (A_{ad}), and the other is the attitude toward advertising in general. A_{ad} concept is related to a specific advertisement, especially exposure to the advertising in specific mediums. In contrast to A_{ad}, the attitude toward advertising in general is related to the consumers' general idea of the advertising system and is a more comprehensive concept. Early studies on A_{ad} focus on the consumers' cognitive information process in terms of recall of ad content, unaided recall, and recognition. Then, studies started to investigate the nature and effects of consumers' affective reaction to actual advertising stimuli. Consumer attitudes toward advertising in general are widely researched. Most of these studies focus on the structure of advertising attitudes rather than the generalizability of overall attitudes. In other words, respondents typically are asked not only about their overall attitudes toward advertisement, but also their perception of advertising in terms of trustworthiness, offensiveness, informativeness, entertainment value, the effects on product prices and value as well as the attitudes toward regulatory issues. In recent years, consumers' attitudes towards new medium advertisement, such as the Internet, are being investigated. Most studies attempting to measure attitudes toward online advertising derive their theoretical frameworks from previous studies of attitude toward advertising in general. The starting point of consumer attitudes toward SMS advertising studies is based on the models of consumer attitudes toward online advertising studies and the constructs of those models. Additionally, the Diffusion of Innovation Theory, Technology Acceptance Theory, and the Theory of Reasoned Action have been used to explain consumer attitudes towards SMS advertising. These theories can explain and develop models for both intention and behavior toward acceptance of SMS advertising. According to other studies on consumer attitudes toward SMS advertising, permission, wireless service provider control, mobile advertising trust, perceived irritation, information, entertainment, credibility, and delivery of message are the mentioned factors that explain consumer attitudes toward SMS advertising. However, irritation, information, entertainment, credibility, and permission are the highlighted factors in these studies. This study examines the factors that affect consumer attitudes towards SMS advertising and the relationship between these factors and attitude. Face-to-face survey was the method chosen to collect the data. The questionnaire has two parts. The first part contains 30 items that measures attitudes toward SMS advertising. In the second part of the questionnaire, age, sex and mobile phone ownership of respondents were determined. Respondents were chosen by using the Convenience Sampling method. The 30 items on the attitude measurement scale were subjected to principal component analysis (PCA) with varimax rotation. 13 items was excluded analysis and 17 items produced four components with eigenvalues that exceeded 1. These components were named as Infotainment, Life Partner, Privacy, and Irritation. The results show parallel findings to the literature, namely, that Irritation is

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the most important factor that affects attitudes toward SMS advertising. The research presents a new attitude indicator called "Life Partner" that can be further analyzed in future studies. To investigate the relationship between factors that affect the attitudes toward SMS advertising and attitudes as a construct confirmatory second-order factor analysis was used. attitude is conceptualized as a second order construct that has four dimensions: Infotainment, Life Partner, Privacy, and Irritation. The validity of this developed theory was tested using confirmatory factor analysis. According to the results of confirmatory second-order factor analysis, attitude relates negatively to Infotainment (-.59) and Life Partner (-.17), but related positively to Privacy (.64) and Irritation (.83). Attitude shows strong relationships with Irritation, Privacy, and Infotainment respectively. Life Partner shows the weakest relationship. The findings of this study show parallel results to those in the literature, meaning that, the attitudes of Turkish consumers toward SMS advertising can be analyzed using similar factors already presented in the literature. Credibility and Permission did not find support in our findings as indicators of attitude toward SMS advertising, but the Life Partner factor did as a new indicator. In future studies, these indicators should be given extra importance and analyzed for their exact position with repeated studies. In this study we focused on the factors affecting attitudes structure rather than intention and behavior dimensions of models. So, in future studies, the finding of this study must be tested with broader models that can include the intention and behavior dimension that originated with the TRA, TAM and Innovation Diffusion theories.

Keywords: Advertising, Attitudes toward Advertising, SMS Advertising.

The Type of Research: Research

INTRODUCTION

Traditional advertising is evolving today to digital adverting and media vehicles as a result of recent technological developments. Media usage statistics show that digital platforms will account for 66% of media usage by 2010, and that figure will rise to 80% by 2020. During this period the Internet is expected to grow consistently. Digital mobile and online ads are among the main sources of online growth while subscriptions, TV and music downloads, video- on-demand, online/mobile video games and e-publishing are other major sources. These improvements will create expansion in the use and penetration of both the Internet and mobile devices (Whiteside, 2008: 3). As an indicator of this pattern, today nearly one-third of the world's population now has a mobile phone, and that number is expected to reach 48% by 2011 (Green, 2007: 8).

Internet is the broadest platform of digital-enabling media that consumers had ever seen. Digital advertising, spurred by the advent of the Internet, has irrevocably changed the old-guard silos of video, audio, graphics and text advertising. A successful campaign now involves text, graphics, video and audio across many media types and seeks out an audience segment that would have been far too expensive to target in mass media prime time in the past. A campaign might include user-generated content for TV, web banner ads, permission-based e-mail, web video clips, web search, mobile banners, and now, the new mobile advertising video format of mobisodes (Sharma, Herzog & Melfi, 2008: 32-33). Besides Sales growth of the mobile phone market continues to outpace the PC, especially in developing markets. According to this fact, some marketing specialists make prediction about mobile advertising will one day surpass television, radio, newspaper and outdoor (Harden & Heyman, 2009: 224). Developments in this area is endless for example, as more and more mobile phones are GPS-enabled which means it is possible to triangulate location from cellular phone tower locations, carriers will know where their customers are and will be able to make contextual advertising. If there are retail locations in proximity to the customer, it will be possible to send them a coupon or a special discount. But privacy is an important point in the edge of marketing opportunities (Harden & Heyman, 2009: 224).

Privacy is an ill-defined but apparently well-understood concept. It is ill-defined in the sense that people use the term to mean many different things. At the same time, the term "privacy" is apparently well understood in the sense that most people using the term believe that others share their particular definition. The term "privacy" generally includes reference to the types of information available about an individual, whether they are primary or derived from analysis. These types of information include behavioral, financial, medical, biometric, consumer, and biographical. Privacy interests also attach to the gathering, control, protection, and use of information about individuals. (Waldo, Herbert & Millett, 2007: 22)

Recently, Internet and mobile telephony technologies have become more integrated. As a product of this partnership, advanced wireless data services bring the world to the pockets of the people, services that include banking, travel, email, news feeds, games, etc. The marriage of the Internet and wireless telephony that use such platforms as Wireless Application Protocol (WAP) Short Message Services (SMS), and

variants of Hyper Text Markup Language (HTML) can make serious financial contributions to global wireless advertising revenue as a new advertising arena (Barnes, 2002: 401). This new advertising platform, which is wireless advertising or mobile advertising, refers to any communication about products, services, and ideas uses mobile devices for promotional purposes. There are two forms of mobile advertising. The early and the first form is the SMS ads that are sent to the mobile phones belonging to a predetermined audience with a willingness to participate in mobile advertising campaigns. These communications are text- based messages and limited to 160 characters. The second mobile advertising form is Multimedia Message Service (MMS). MMS ads are more creative and effective than was the early mobile advertising form and add the support of both graphics and audio clips (Li & Stoller, 2007: 5).

Today it is clear that when used either as a complementary medium in integrated marketing activities with traditional media or as a standalone medium, SMS advertising offers important advantages to the advertiser who seeks to have effective two- way communication with consumers (Trappey & Woodside, 2005:382). In such two way communication it is important for advertisers to understand the consumer attitudes towards modes of advertising to produce more effective campaigns. For this reason, public attitudes towards advertising have been a focus of research attention for a long time. The main aim of this paper is to understand and reveal the key factors that affect consumer attitudes toward SMS advertising.

LITERATURE REVIEW

Attitudes are basically our predispositions towards things. An attitude indicates whether or not we like something (Severin & Tankard, 2001: 151). Attitude is an enduring system of positive or negative evaluations, emotional feelings and pro or con action tendencies with respect to a social object (Krech, Crutchfield & Ballachey, 1962: 177). Attitudes have three main components: affective, cognitive, and behavioral. Affective component includes our liking or feelings about an object. The cognitive component refers to beliefs about an object, and the behavioral component refers to the actions we take regarding that object (Severin & Tankard, 2001: 152).

The research on attitudes toward advertising has two important branches. One is the attitude toward the ad (A_{ad}), and the other is the attitude toward advertising in general. Attitude toward ad (A_{ad}) can be defined as "a predisposition to respond in a favorable or unfavorable manner to particular advertising stimulus during a particular exposure occasion" (Lutz, 1985: 46). Attitude toward advertising in general is defined as "a learned predisposition to respond in a consistently favorable or unfavorable manner to advertising in general (Lutz, 1985: 53).

Attitudes Toward the Ad (A_{ad})

It is obvious that the extent of attitude toward advertising in general is much broader than that of A_{ad}. It is understood also that the A_{ad} concept is related to a specific advertisement, especially exposure to the advertising in specific mediums. It is not related to consumer attitudes toward advertising in general (Lutz, 1985: 46). In contrast, the attitude toward advertising in general involves general attitudes toward advertising as a media concept.

Early studies on A_{ad} focus on the consumers' cognitive information process in terms of recall of ad content, unaided recall, and recognition. Then, studies started to investigate the nature and effects of consumers' affective reaction to actual advertising stimuli (MacKenzie & Lutz, 1989: 48). Following this focus, studies in this field give attention to A_{ad} as a mediator of advertiser effects on brand attitudes and purchase intentions (Mitchell & Olson, 1981; Shimp, 1981). After a consensus about A_{ad} was established, namely that it is an important mediator for advertising response, researchers now often examine the A_{ad} construct in more depth. In all these studies, namely, Lutz, MacKenzie and Belch (1983), Lutz (1985), MacKenzie and Lutz (1989), tried to understand the nature of the underlying effects of A_{ad} and reveal the antecedents of A_{ad}, and finally were able to generate a comprehensive conceptual model of both the cognitive and affective antecedents of A_{ad}.

The primary features of the model generated by Lutz, MacKenzie and Belch (1983) and then Lutz (1985), were: (1) the articulation of an explicit organizational framework for past research pertinent to A_{ad} (2) the assertion that A_{ad} like brand attitude may derive from through both central and peripheral

processing mechanisms adopted from the Elaboration Likelihood Model (ELM), and (3) some preliminary speculation about a possible underlying casual structure that relates to the five classes of antecedent variables (ad credibility, ad perception, attitude toward advertiser, attitude toward advertising in general, and mood) for A_{ad}. Lutz (1985) extended the Lutz, MacKenzie and Belch's (1983) model. These extensions included a fuller discussion of each of class of antecedent variables, included both past research and process concern, explicit consideration of interrelations among the various antecedent variables, and a specification of the important moderating variables that were expected to alter the pattern of interrelationships observed for the antecedent. The most recent and modified version of the A_{ad} model was presented by MacKenzie and Lutz (1989) and is very similar to the earlier versions. The major refinement is within the ad perception subsystems. In the modified version, determinants of ad perceptions are the actual execution characteristics of the ad stimulus, attitude toward advertising in general and attitude toward the advertiser in particular.

Attitude Toward the Advertisement in General

In contrast to A_{ad}, the attitude toward advertising in general is related to the consumers' general idea of the advertising system and is a more comprehensive concept.

Consumer attitudes toward advertising in general are widely researched. The most cited study is Bauer and Greyser's research. They conducted an early academic assessment of public attitudes toward advertising involving personal interviews with a large national probability sample and found that more people hold favorable attitudes toward advertising than hold unfavorable attitudes and that a majority of respondents fells that advertising is essential. Still, a majority of respondents felt that advertisements are misleading (as cited in Shavitt, Lowrey & Heafner, 1998: 8). To understand more clearly how the public feels about advertising, Bauer and Greyser's belief statements about advertising in general are mostly used as a measurement, and they frequently emphasize that belief statements regarding advertising have two dimensions – the economic and the social effects (Andrews, 1989: 27).

By the 1970's, consumer attitudes toward advertising in general were becoming increasingly negative (Zanot, 1984: 10). In the years that followed, parallel to the 1970's, unfavorable assessment of public attitudes toward advertising in general were found in different studies (Muehling, 1987; Raid & Soley, 1982; Andrews, 1989; Sandage & Leckenby, 1980; Alwit & Prabhaker, 1994; Mittal, 1994; Pollay & Mittal, 1993) On the other hand, more recent studies now find favorable attitudes toward advertising in general (Mehta & Purvis, 1995; Mehta, 2000; Shavitt, Lowrey & Heafner, 1998; Singh & Vij, 2008; Petrovici & Paliwoda, 2007).

Most of these studies focus on the structure of advertising attitudes rather than the generalizability of overall attitudes. In other words, respondents typically are asked not only about their overall attitudes toward advertisement, but also their perception of advertising in terms of trustworthiness, offensiveness, informativeness, entertainment value, the effects on product prices and value as well as the attitudes toward regulatory issues (Schlosser, Shavitt & Kanfer, 1999: 36).

Attitudes Toward Online Advertising

In recent years, consumers' attitudes towards new medium advertisement, such as the Internet, are being investigated. Most studies attempting to measure attitudes toward online advertising (Ducoffe, 1996; Schlosser, Shavitt & Kanfer, 1999; Brackett & Carr 2001; Wang et al. 2002) derive their theoretical frameworks from previous studies of attitude toward advertising in general.

Ducoffe (1996) studied the relationship between the perceptual antecedents (entertainment, informativeness, and irritation) and web advertising values and consumer attitudes toward web advertising based on his earlier work. Ducoffe (1996) found that web advertising is generally informative and entertaining, although more informative than entertaining. Schlosser, Shavitt and Kanfer (1999) studied the relationship between attitudes toward Internet advertising (IA) and several belief dimensions and identified five factors: Advertising utility (informative, entertaining and useful for making decisions), indignity, trust, price perception, and regulation. Their findings indicate that 43% of the variance in overall IA attitudes can be explained by the advertising utility factor alone. More importantly, parallel to

Ducoffe's (1996) results, the enjoyment item contributes the most to IA attitudes. Brackett and Carr (2001) modified Ducoffe's model and added credibility and demographic variables as the new variable for attitudes toward web advertising. They found that four antecedents (informativeness, entertainment, irritation and credibility) had a direct relationship with advertising value, while demographic variables had indirect relationship with advertising value. They also found that informativeness, entertainment, credibility, and demographic variables all had a direct relationship with attitude toward advertising.

Wang et al. (2002) also introduced a proposed model of attitudes toward Web advertising and based their model on studies completed by Ducoffe (1996) and Brackett and Carr (2001). The main difference is that Wang et al. (2002) do not distinguish advertising value from advertising attitude. In addition Wang et al. (2002) modify the earlier models by adding interactivity and motive, because of the unique/new characteristics of the Internet environment.

Attitudes Toward SMS Advertising

The starting point of consumer attitudes toward SMS advertising studies is based on the models of consumer attitudes toward online advertising studies and the constructs of those models. Additionally, the Diffusion of Innovation Theory, Technology Acceptance Theory, and the Theory of Reasoned Action have been used to explain consumer attitudes towards SMS advertising (Muk, 2007; Tsang, Ho & Liang, 2004; Wu & Wang, 2005). These theories can explain and develop models for both intention and behavior toward acceptance of SMS advertising.

One of the theories used to explain the intentions for SMS advertising via the mobile phone is Rogers's Innovation Diffusion Theory. Rogers (2003: 265) proposes that adoption behaviors are influenced by beliefs related to five attributes of innovation. These include relative advantage, compatibility, complexity, trialability, and observability and are used to explain user adoption and the decision-making process. In addition, the Innovation Diffusion Theory predicts the implementation of new technological innovations and clarifies how these variables interact (Wu and Wang, 2005: 721).

The other theory used to explain consumer attitudes toward SMS advertising is the Theory of Reasoned Action (TRA). Attitude, intention, and behavior are its three major constructs. TRA links individual beliefs, attitudes, intentions, and behavior to describe the psychological process that mediates the observed relations between attitudes and behavior (as cited in Tsang, Ho, & Liang, 2004: 69). The Technology Acceptance Model (TAM) theorizes that an individual behavioral intention to use a system is determined by two beliefs, namely, perceived usefulness and perceived ease of use (Vankatesh & Davis, 2000: 187). TAM is adopted from the Theory of Reasoned Action (TRA) and has a less comprehensive set of innovation attributes as a predictor of intention based on the Rogers (2003) model (Muk, 2007: 181).

In the literature there are distinctive studies about attitudes toward SMS advertising. Muk (2007) tries to examine the differences between American young consumers and their Korean counterparts regarding the interest in accepting SMS advertising via a mobile phone. In the research, Muk (2007) tries to explain the acceptance of wireless ad by discussing related attitudes and subjective norms. For attitudes, he uses Rogers' (2003) five innovation attributes as behavioral beliefs. According to Muk's (2007) findings consumer beliefs about attributes associated with successful innovations significantly relate to attitudes toward acceptance of SMS advertising. These attitudes are predictors of the intention to adopt/accept SMS advertising.

Okozaki, Katsura and Nishiyama (2007) argue that trust in mobile advertising directly and positively affects attitudes toward mobile advertising. Their findings support the claim that the effects of mobile advertising trust on the attitudes toward mobile advertising is both significant and strong. Okozaki (2004) suggests that attitudes toward wireless ads have two antecedents - perceived infotainment and perceived irritation. These results (Okazaki 2004) show that perceived infotainment positively influences attitude towards wireless ads, while perceived irritation negatively influence attitude toward wireless ads.

Ducoffe's (1996) and Bracket and Carr's (2001) models have been adopted for mobile advertising by Tsang, Ho, and Liang (2004). Tsang, Ho, and Liang (2004) use entertainment, informativeness, irritation, credibility, and permission as variables that affect attitudes. Entertainment, informativeness, and credibility have positive correlations with attitudes, while irritation has a negative correlation. Additionally consumers

generally have negative attitudes toward mobile advertising unless they have specifically consented to receiving it; there is a direct relationship between consumer attitudes and consumer behavior. According to Tsang, Ho, and Liang (2004: 65) permission is an important variable and it is not a good idea to send SMS advertisements without prior permission from the related target audience.

Carol et al. (2007) identify and demonstrate four factors that have a significant impact on mobile advertising acceptance: Permission, content, wireless service provider control, and delivery of message. Wu and Wang (2004) present and extend the Technology Acceptance Model (TAM), which integrates innovation diffusion theory, perceived risk, and cost into the TAM to investigate what determines user mobile commerce (MC) acceptance. They use perceived risk, cost, compatibility, perceived usefulness, and perceived ease of use as variables that affect behavioral intention to use and actual use in their model. According to their findings all variables except perceived ease of use significantly affect user behavioral intent. Among these findings, compatibility has the most significant influence

RESEARCH METHODOLOGY

The main aim of this research is to learn the factors that affect attitudes toward SMS advertising in Turkey. In contrast to the available studies on the SMS advertising acceptance models, this study examines only attitude structures rather than intention or behavioral structures of the other models. In light of this main aim for this study, two research questions are offered:

a. What are the main factors that affect attitudes toward SMS advertising in Turkey and do these factors relate to one another?

b. Is there any relationship between the factors that do affect attitudes toward SMS advertising and attitude as a construct?

Relating these research questions to a face-to-face survey was the method chosen to collect the data. The questionnaire has two parts. The first part contains 30 items that measures attitudes toward SMS advertising. To develop an attitude measurement scale, the studies of Ducoffe (1996); Bracket and Carr (2001); Carol et al (2007); Tsang, Ho, and Liang (2004); Okozaki, Katsura and Nishiyama (2007); and Suher, Ispir, and Oztürk (2008) were used. The scale used was the 5- point Likert scale (1- Strongly Disagree to 5-Strongly Agree). In the second part of the questionnaire, age, sex and mobile phone ownership of respondents were determined. The survey was pre-tested on 20 students and revised using their feedback. A total of 300 questionnaire forms were giving to students and work personnel at Anadolu University and Bahcesehir University in Turkey. A total of 291 surveys were used for the analysis. 9 surveys were excluded from analysis because these surveys were uncompleted. Respondents were chosen by using the Convenience Sampling method. Of the group, 84.2% of the respondents were under 30 years of age, 48.1% were women, and 51.9% were male. Of the study group, 64.9% of respondents had one mobile phone, and 35.1% had two or more mobile phones.

FINDINGS
Factors Affecting SMS Attitudes Toward SMS Advertising

The 30 items on the attitude measurement scale were subjected to principal component analysis (PCA) with varimax rotation, using the SPSS Version 15. Prior to performing PCA, the suitability of data for factor analysis was assessed. The Kaiser-Meyer-Oklin value was .89, exceeding the recommended value of .60 while Bartlett's Test of Sphericity reached statistical significance (Chi Square=3019.942, df=136 $p<0.05$) (Tabachnick & Fidell, 2007).

Items 2, 7, 10, 13, 19, 20, 27, 28, 29, 30 were excluded from analysis because of the low communality values of those items (Pallant, 2007). Items 21, 22, 24 were excluded from analysis because these items are complex variables (Tabachnick & Fidell, 2007). As a result, 17 items was used for the principal components analysis. The principal components analysis revealed the presence of four components with eigenvalues that exceeded 1, explaining 34.1%, 20.6%, 9.8%, and 5.9% of the variance, respectively. These components were named as Infotainment, Life Partner, Privacy, and Irritation, respectively. The results of the principal components analysis can be seen in Table 1.

Cronbach's Alpha coefficients were computed for the reliability test. According to the Alpha coefficients of factors, reliability is acceptable for Infotainment and Life Partner factors with a recommended value of .70; however, the values for the Irritation and Privacy factors are not acceptable (Pallant, 2007). Cronbach's Alpha values are, however, quite sensitive to the number of items in the scale. With short scales, it is common to find Cronbach's values that are quite low. In such a case, it is more appropriate to report a mean inter-item correlation. Recommended optimal range for the inter-item correlation is .2 to .4 (Pallant, 2007). The mean inter-item correlations for Privacy and Irritation factors were computed to produce .276 for Irritation and .464 for Privacy, acceptable values. Convergent Validity and Discriminant Validity was used for the validity of the factors, For Convergent Validity, factor loadings of items should be .50 and above (Child, 1970). As seen in Table 1, all factor loadings of items are above .50. For Discriminant Validity, correlations between factors should not exceed .90 (Hair, Anderson & Tatham, 1998). When the correlations between the factors were analyzed, correlations changed from .216 to .326.

**Table 1.** Analysis Results for the Principal Components

Item	Components	Mean	Factor Loads	Eigen values	% of Variance	Alpha
	Infotainment					
1	SMS-based advertising interests me	1.88	0.83			
9	I like SMS-based advertising campaigns	1.84	0.85			
14	It is enjoyable and fun to receive SMS-based advertising	1.80	0.87			
16	I like to receive SMS-based advertisements	1.80	0.91			
17	I use SMS-based advertisements as a reference for purchases	1.98	0.73	5.797	34.10	0.92
18	SMS-based advertising is a good source for up-to-date information	2.32	0.78			
25	I see SMS-based advertisements as a trustable source of information	2.04	0.72			
	Life Partner					
3	If I forget my mobile phone or if it is stolen, my daily activities come to a halt	3.49	0.86			
4	I feel lonely if I do not have my mobile phone with me	3.12	0.87			
6	I want my mobile phone with me even if I will not use it	3.81	0.71	3.507	20.63	0.91
11	My mobile phone is my close friend	2.91	0.82			
12	If I do not have my mobile phone with me, I feel insufficient	3.33	0.91			
23	I use my mobile phone as my personal assistant	3.39	0.79			
	Privacy					
8	My GSM Service Provider shouldn't give my mobile phone number to third parties without my permission	4.71	0.78	1.675	9.86	0.62
15	I do not like to give my phone number to everyone	4.39	0.86			
	Irritation					
5	I receive too much SMS-based advertising	3.71	0.63	1.010	5.94	0.43
26	SMS-based advertisements are almost everywhere	3.75	0.84			
	Total Variance Explained %				70.53	

Relationship Between Factors That Affect Attitudes Toward SMS Advertising And Attitude As A Construct

To investigate the relationship between factors that affect the attitudes toward SMS advertising and attitudes as a construct confirmatory second-order factor analysis was used. Confirmatory factor analysis is a more complex and sophisticated set of techniques usually used later in the research process to test (confirm) specific hypotheses or theories concerning the structure that underlies a set of variables (Pallant, 2007). While Exploratory FA is associated with theory development; Confirmatory FA is associated with theory testing. The question in exploratory FA is: What are the underlying processes that could have produced correlations among these variables? The question in Confirmatory FA is: Are the correlations among variables consistent with a hypothesized factor structure (Tabachnick & Fidell, 2007)? This study found the factors affecting attitudes toward SMS advertising with the help of explanatory factor analysis. In other words, attitude is conceptualized as a second order construct that has four dimensions: Infotainment, Life Partner, Privacy, and Irritation. The validity of this developed theory was tested using confirmatory factor analysis. The reason for using a second-order factor model rather than a first-order model is that second order models are potentially applicable when there are higher order factors that are hypothesized to account for the relations between lower orders factors (Chen, Sousa, & West, 2005). Here in this study, it is assumed that the developed factors relate to the attitude structure that is theoretically parallel to the literature

The Structural Equation Modeling (SEM) software LISREL 8.51 was used perform a confirmatory second-order factor analysis based on the data from 291 respondents. The model has 38 parameters that need to be estimated. Because we have an initial size of 291, we have a ratio of 7.7 participant to 1 parameter estimated. The data does not have any missing values. The model is over-identified, a preferable situation for SEM. According to the univariate and multivariate normality tests (Skewness and Kurtosis values) the data is not normally distributed. After the data was normalized, the maximum likelihood (ML) estimation method was used. The main reason for selecting the ML method for non- normal data is that the analysis of continuous non-normal variables in SEM requires a weighted least squares (WSL) estimation method. However, WLS needs a very large sample. Another solution for non-normality is to normalize the variables before the analysis (Jöreskog, Sörbom, du Toit & du Toit, 2001).
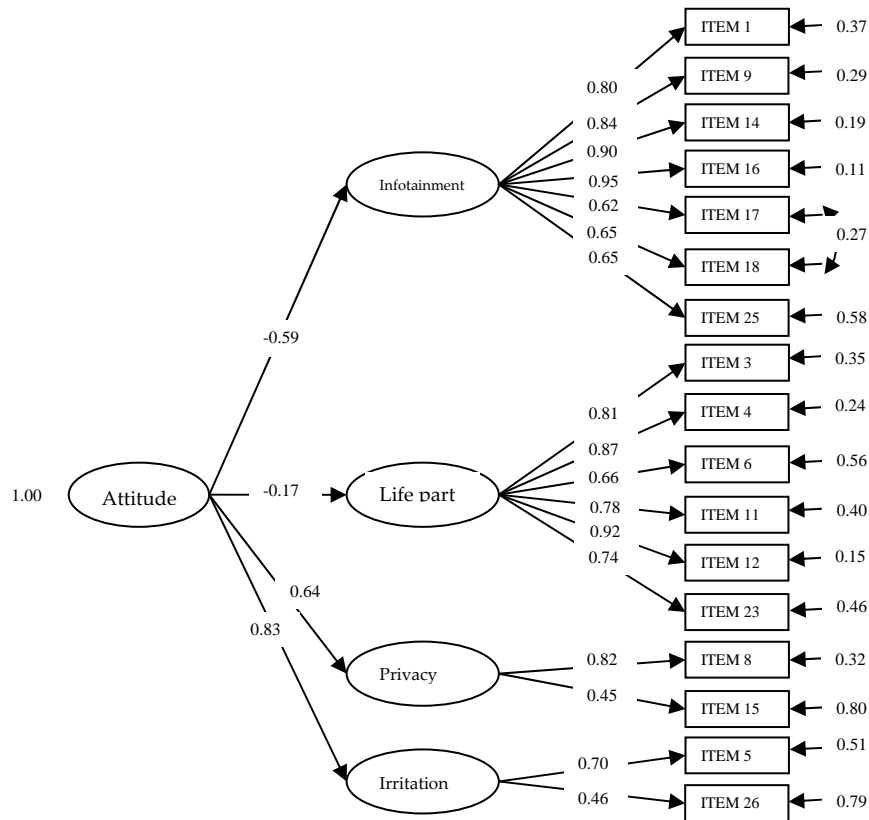
Chi-Square=189.34, df=114, P-value=0,00001, RMSEA=0,048
Figure 1. Results of the Second-Order Model: Standardized Solution.

The hypothesized model was tested next, and support was found for the hypothesized Model x^2 (115, N=291) = 252.75, p=0.00, RMSEA=0.064, CFI=0.95 (Schreiber et al. 2006). Post hoc model modifications were performed in attempt to develop a better fitting and a possibly more parsimonious model. As a modification, the error covariance between Item 17 and Item 18 was added. A Chi square difference test indicated that the model was significantly improved by this modification. x^2_{diff} (1, N=291) = 63.42, p=0.00. After the modification, the model was re-estimated, x^2 (114, N=291) =189.34, p=0.00001, RMSEA=0.048, CFI=0.97, GFI=0.93, SMRS=0.067, NNFI=0.97. Those values indicate a good fit between the model and the observed data. Standardized parameter estimates are provided in Figure 1; unstandardized estimates are shown in Table 2.

Table 2. Results of the Confirmatory Second-Order Factor Analysis

Relationship From --------> to	Unstd.	Std.	R²	t	p
Infotainment - Item1	0.86	0.8	0.63	*	0.00
Infotainment - Item9	0.92	0.84	0.71	16.60	0.00
Infotainment - Item14	0.89	0.9	0.81	18.09	0.00
Infotainment - Item16	0.94	0.95	0.89	19.44	0.00
Infotainment - Item17	0.64	0.62	0.38	11.59	0.00
Infotainment - Item18	0.74	0.65	0.42	12.25	0.00
Infotainment - Item25	0.63	0.65	0.42	11.85	0.00
Privacy - Item8	0.52	0.82	0.68	*	0.00
Privacy - Item15	0.35	0.45	0.20	3.80	0.00
Irritation - Item5	0.79	0.70	0.49	*	0.00
Irritation - Item26	0.47	0.46	0.21	4.45	0.00
Life part - Item3	1.85	0.81	0.65	*	0.00
Life part - Item4	1.20	0.87	0.76	17.57	0.00
Life part - Item6	0.72	0.66	0.44	12.16	0.00
Life part - Item11	1.02	0.78	0.60	14.93	0.00
Life part - Item12	1.19	0.92	0.85	18.96	0.00
Life part - Item23	0.89	0.74	0.54	13.91	0.00
Attitude[a] - Infotainment[b]	-0.59	-0.59	0.35	-6.89	0.00
Attitude[a] - Lifepart[b]	-0.17	-0.17	0.03	-2.13	0.00
Attitude[a] - Privacy[b]	0.64	0.64	0.41	6.85	0.00
Attitude[a] - Irritation[b]	0.83	0.83	0.69	7.08	0.00

* Fixed parameters, [a] Second order factor, [b] Second order indicators

Attitude relates negatively to Infotainment (-.59) and Life Partner (-.17), but related positively to Privacy (.64) and Irritation (.83). Attitude shows strong relationships with Irritation, Privacy, and Infotainment respectively. Life Partner shows the weakest relationship.

CONCLUSION AND DISCUSSION

This study investigated factors that affect consumer attitudes toward SMS advertising in Turkey and also the relations between attitude and the indicators. The empirical data show four factors are important for attitudes toward SMS advertising in Turkey: Infotainment, Life partner, Privacy, and Irritation. According to other studies on consumer attitudes toward SMS advertising, (Tsang, Ho, & Liang 2004; Carol et. al. 2007; Okozaki 2004; Wu & Wang 2004; Ducoffe 1996; Bracket & Carr's 2001) permission, wireless service provider control, mobile advertising trust, perceived irritation, information, entertainment, credibility, and delivery of message are the mentioned factors that explain consumer attitudes toward SMS advertising. However, irritation, information, entertainment, credibility, and permission are the highlighted factors in these studies. The findings of this study show parallel results to those in the literature, meaning that, the attitudes of Turkish consumers toward SMS advertising can be analyzed using similar factors already presented in the literature.

Confirmatory second-order factor analysis supports the conceptualized model and reveals that attitude, as a second order factor, relates to Infotainment, Life Partner, Privacy, and Irritation. In this study, differently from the literature in this area, the Life Partner variable was presented as a new indicator that affects attitude towards SMS advertising. Although, the explained variance for this factor by the second

order factor (attitude) is low, the Life Partner variable does hold a meaningful place in the conceptualized model. The reason for a low explained variance in Life Partner is that this variable could be the indicator of attitudes towards mobile phones rather than attitudes towards SMS advertising. In other words Life Partner may have an indirect effect on the attitudes toward SMS Advertising.

Additionally, when the means of the factors' sub-scale items were analyzed, respondents mostly held negative attitudes toward SMS advertising, similar to the findings of Tsang, Ho, and Liang (2004). These results were also justified with confirmatory second order factor analysis results

LIMITATIONS OF THE STUDY AND FUTURE STUDIES

The study has certain limitations. First, the data were collected in a convenience sampling, which may have produced sampling biases. Secondly, attitudes toward the SMS advertising measurement instrument were adopted from previous research. Despite pre-testing, there may have been semantic and linguistic biases in the translation from English to Turkish. Third, there is a main disadvantage of second order models. Second order models mean to move away from the empirical platform.

Credibility and Permission did not find support in our findings as indicators of attitude toward SMS advertising, but the Life Partner factor did as a new indicator. In future studies, these indicators should be given extra importance and analyzed for their exact position with repeated studies.

In this study we focused on the factors affecting attitudes structure rather than intention and behavior dimensions of models. So, in future studies, the finding of this study must be tested with broader models that can include the intention and behavior dimension that originated with the TRA, TAM and Innovation Diffusion theories. With these new studies it will be valuable to estimate what factors really contribute negative attitudes toward SMS advertising and how attitudes can be changed. Additionally, practitioners may be able to create more effective SMS advertising campaigns using the findings of these studies and thus avoid possible effects of negative attitudes on consumers' intentions and behaviors.

REFERENCES

Alwit L. F. & Prabhaker, P.R. (1994). Identifying who dislikes television advertising: not by demographics alone. *Journal of Advertising Research*, 34 (6), 17-29.

Andrews, J. C. (1989). The dimensionality of beliefs toward advertising in general. *Journal of Advertising*, 18 (1), 26-35.

Barnes, S. (2002) Wireless digital advertising: Nature and implications. *International Journal of Advertising*, 31 (3), 399-420.

Brackett, L. K. & Carr, B. N. Jr. (2001). Cyberspace advertising vs. other media: Consumer vs. mature student attitudes. *Journal of Advertising Research*, 45(5), 23-32.

Carol, A., Barnes, S. J., Scornavacca, E. & Fletcher, K. (2007). Consumer perception and attitudes towards SMS advertising: Recent evidence from New Zealand. *International Journal of Advertising*, 26 (1), 79-98.

Chen, F. F., Sousa, K. H. & West, S. G. (2005). Testing measurement invariance of second order factor models. *Structural Equation Modeling*, 12 (3), 471-492.

Child, D. (1970). *The Essentials of Factor Analysis*. London: Holt, Rinehart and Winston.

Ducoffe, R.H. (1996). Advertising value and advertising on the web. *Journal of Advertising Research*, 36 (5), 21-35.

Green, A. (2007). Will people watch advertising on their mobile phones? *WARC Media FAQ*

Hair, J F., Anderson, R. E., Tatham, R. L & Black, W. C. (1998). *Multivariate Data Analysis*, New Jersey: Prentice-Hall.

Harden, L.& Heyman, B. (2009). *Digital Engagement*, America: American Management Association, (AMACOM).

Jöreskog, K., Sörbom, D., Du Toit, S. & Du Toit, M. (2001). *LISREL 8: New Statistical Features*. Chicago: SSI.

Krech, D., Crutchfield, R. S., & Ballachey, E.L. (1962). *Individual in Society, A Textbook Of Social Psychology*. New York: Mc-Graw Hill.

Li, H. & Stoller, B (2007). Parameters of mobile advertising: A field experiment. *International Journal of Mobile Marketing*, 2 (1), 6-11.

Lutz, R.J. (1985). Affective and cognitive antecedents of attitude towards the ad: A conceptual framework, (Eds. L. F. Alwitt & A.A. Mitchell) *Psychological Processes and Advertising Effects Theory, Research, and Application*,. Hillsdale, NJ: Lawrence Erlbaum Associates, 45-63.

Lutz, R. J., Mackenzie, S. B. & Belch, G. E. (1983). Attitude toward the ad as a mediator advertising effectiveness: Determinants and consequences. (Eds. R. P. Bagozzi & A. M. Tybuout) *Advances In Consumer Research*, Ann Arbor, MI: Association For Consumer Research, 532-539.

Mckenzie S. B. & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude towards the ad in an advertising pretesting context. *Journal of Marketing*, 53, 48-65.

Mehta, A. (2000). Advertising attitudes and advertising effectiveness. *Journal of Advertising Research*, 40 (3), 67-72.

Mehta, A. & Purvis, S. C. (1995). When attitudes towards advertising in general influence advertising success. *in Proceeding of Conference of American Academy of Advertising*, Norfolk, VA, 190-196.

Mitchell, A. A. & Olson, J. C. (1981). Are product attribute beliefs the only mediator of advertising effects on brand attitude? *Journal of Marketing Research,* 18 (3), 318-332.

Mittal, B. (1994). Public assessment of TV advertising: Faint praise and harsh criticism. *Journal of Advertising Research*, 34 (1), 35-53.

Muehling, D. D. (1987). An investigation of factors underlying attitude-toward-advertising-in-general. *Journal of Advertising*, 16 (1), 32-40.

Muk, A. (2007). Consumers' intentions to opt in to SMS advertising. *International Journal of Advertising*, 26 (2), 177-198.

Okazaki, S. (2004). How do Japanese consumers perceive wireless ads? A multivariate analysis. *International Journal of Advertising*, 23 (4), 429-454.

Okozaki, S, Katsura, A. & Nishiyama, M. (2007). How mobile advertising works: The role of trust in improving attitudes and recall. *Journal of Advertising Research,* 47 (2), 165-178.

Pallant, J. (2007). *SPSS Survival Manual,* (3rd Ed.) New York: Open University Press.

Petrovici, D. & Paliwoda, S. (2007). An empirical examination of public attitudes towards advertising in a transitional economy. *International Journal of Advertising*, 26 (2), 247-276.

Pollay, R. F. & Mittal, B. (1993). Here's the beef: factors, determinants, and segments in consumer criticism of advertising. *Journal of Marketing*, 57 (3), 99-114.

Raid, L. N. & Soley, L. C. (1982). Generalized and personalized attitudes toward advertising's social and economic effects. J*ournal of Advertising,* 11 (3), 3-7.

Rogers, E. M. (2003). *Diffusion of Innovations*, (5th Ed.), New York: Free Press.

Sandage, C. H. & Leckenby, J. D. (1980). Student attitudes toward advertising: institution vs. instrument. *Journal of Advertising*, 9 (2), 29-44.

Schlosser, A. E., Shavitt, S. & Kanfer, A. (1999). Survey of internet users' attitudes toward internet advertising. *Journal of Interactive Marketing*, 13 (1), 34-54.

Schreiber, J. B., Stage, F. K., King J., Nora, A. & Barlow, E. A. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99 (6), 323-337.

Severin, W. J., & Tankard, J. W. Jr. (2001). *Communication Theories*, (5th Ed.), New York: Longman.

Shavitt, S., Lowrey, P. & Heafner, J. (1998). Public attitudes toward advertising: more favorable than you might think. *Journal of Advertising Research*, 38 (4), 7-22.

Singh, R. & Vij, S. (2008). 'Public attitude toward advertising: an empirical study of Northern India. *The ICFAI Journal of Marketing Management*, 7(1), 49-66.

Shimp, T. A. (1981). Attitudes toward the ads as a mediator of consumer brand choice. *Journal of Advertising*, 10 (2), 9-15.

Sharma, C., Herzog, J. & Melfi, V. (2008). *Mobile Advertising, Supercharge Your Brand in the Exploding Wireless Market*, America: John Wiley & Sons.

Suher, H. K.; Ispir, N. B.; & Oztürk, E. (2008). Turkish consumers' attitudes towards SMS advertising: A qualitative analysis. *Paper Presented 5th Communication in The Millennium Symposium*, Istanbul, Turkey, 2008.

Waldo, J., Lin, H. & Millett, L. I. (2007). *Engaging Privacy and Information Technology in a Digital Age*, Washington: National Academies Press.

Vankatesh, V. & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 46 (2), 186-204.

Wang, C., Zhnag, P., Choi, T., & D' Eredita, M. (2002). Understanding consumer attitude toward advertising, *Paper Presented 8th Americas Conference on Information Systems*. Dallas, 2002

Whiteside, S. (2008) The digital media market in 2008. *WARC Report*.

Wu, J. H. & Wang, S.C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information And Management*, 42, 719-729.

Tabachnick, B. G. & Fidell, L. S. (2007). *Using Multivariate Statistics*, (5th Ed.), New York: Pearson.

Trappey, R. & Woodside, A. G. (2005). Consumer responses to interactive advertising campaigns coupling short-message-service direct marketing and TV commercials. *Journal of Advertising Research*, 45 (4), 382-401.

Tsang, M. M., Ho, S. & Liang T. (2004). Consumer attitudes toward mobile advertising: an empirical study. *International Journal of Electronic Commerce*, 8 (3), 65-78.

Zanot,E. J. (1984). Public attitudes toward advertising: The American experience. *International Journal of Advertising*, 13, 3-15.