

## The Role of Mobile Advertising on Consumers' Purchase Decisions: A Research on Consumer Attitudes towards Mobile Advertising

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### Abstract

*In addition to the creation of mobile phones containing various features, the developments in mobile technology have particularly enabled mobile phones to be improved and differentiated. While these utilized improved multimedia features, they also made the internet applicable. Due to mobile devices providing opportunities such as text, video and voice communication to consumers and enabling them to be online anywhere, purchase decisions of consumers shifts from fixed devices to mobile devices in terms of communication resources. Mobile advertising occasionally influences consumers in their purchase decisions. Since the mobile device usage is very high, now the mobile advertising can reach more consumers. Monitoring consumers' opinions and ideas regarding mobile advertising and knowing their attitudes are few of the key factors that would render corporations successful in their target markets with the correct marketing strategies. With this in mind, "Attitudes towards Mobile Advertising" and "Demographic Features" of the consumers who decide to purchase goods in Turkey are analyzed with a survey in this study. The survey has been conducted with individuals who are over 18 years of age, that own mobile devices, follow advertisements and that can make purchase decisions. Convenience sampling method has been used. At first, Factor Analysis has been applied to gathered data and One-Way Analysis of Variance has been used in order to study the relationship between variations gathered by factor analysis and demographic features. The Consumer Attitudes towards Mobile Advertising have been deduced to five variables with the Factor Analysis. These five factor groups are "Adopting Mobile Advertisements", "Informativeness", "Amusingness", "Leadership in Utilization of Technology" and "Annoyingness". The relationship between deduced five variables and demographic features are analyzed by utilizing One-Way Analysis of Variance. At the end of the analysis, it has been found that "Amusingness", "Leadership in Utilization of Technology" variables had no relation with demographic features but other variables did. It is envisioned that the study results would beneficially guide the corporations who seek to draw attention of consumers using mobile advertisement applications.*

**Keywords:** Mobile Advertisements, Mobile Marketing, Mobile Devices, Consumers' Purchase Decisions, Consumer Attitudes towards Mobile Advertising

### 1. Introduction

Changes and developments in technology and in the internet have enabled various innovations to surface. In order to keep up with these innovations, the corporations have started to think out of the box by differentiating all of their applications and activities and reach the consumers with different communication devices. The leading aspects of these communication devices are the mobile devices. Today, mobile phones, smartphones, PDAs (Personal Digital Assistant), notebook and tablet PCs are among the mobile devices that hold the key to reach the customer in the imminent way. However, mobile phones are the most popular among these mobile devices.

The corporations differentiate themselves from their competitors with mobile marketing by using mobile devices that have become an essential part of lives and habits of millions of people worldwide. As a sort of direct and one-on-one advertising, mobile advertising creates opportunities to send specific customized advertising messages to individuals, provided that their consent is taken first. When it is considered that everyone today has mobile phones, mobile marketing and mobile advertisements that enable access to customers on request, many corporations opt for this feature. Corporations today can send their personalized mobile advertisements at the right place and at the right time. Thus, corporations can reach consumers, in other words, mobile users via audio, text and video formats by using new channels such as SMS, MMS, Bluetooth or mobile internet. (Özgüven, 2013: 2).

“Turkish Electronic Communication Sector Report” of Information and Communication Technologies Authority, covering April, May and June of 2014, contains valuable data regarding number of mobile and internet users in Turkey. As in global world, the number of mobile device users in Turkey is rapidly increasing and this affects the number of people who connect to web via mobile devices, increasing the number of online users. According to the report of Information and Communication Technologies Authority, as of June the number of mobile users in Turkey is 70,791,075; this equals to a penetration ratio of 92.3%. In addition, on the assumption that mobile devices generally used by individuals over the age of 9, it can be stated that mobile penetration ratio has reached 110.3%, excluding the 0-9 age group. While the number of SMSs was reported to be 34.45 million and MMS approximately 30.9 million in the first quarter of 2014, these numbers have reached 31.97 million for SMS and 33.5 million for MMS in the second quarter of 2014. As of second quarter of 2014, the total number of internet users in Turkey has exceeded 37 million people. When the total number of internet users in 2014’s second quarter is analyzed, an increase of 5.8% is observed in comparison to previous quarter. With the increase in number of mobile, especially fiber internet users, general upward trend has continued and annual increase rate of total number of Internet users was realized as 23.8%. The number of mobile computer and cellular users have increased by 7.6% in comparison to previous quarter and have reached 28,445,663 people. In this period, total mobile internet usage has increased 18% in comparison to previous quarter (BTK, 2014).

Internet usage and the number of mobile users increase rapidly worldwide and this ranks directly proportional among the development level of countries and their citizens. According to January 2014 report of We Are Social Singapore, the number of internet users worldwide is 2,4 billion and the internet penetration ratio worldwide is 35%. The number of mobile users worldwide is reported to be over 6,5 billion and this reveals a mobile penetration ratio of 93%. The average daily internet usage is 4,8 hours on computers and 2,1 hours on mobile devices. When daily internet usage in Turkey is considered, the numbers are 4,9 hours on computers and 1,9 hours on mobile devices (<http://eticaretmag.com/sosyal-medya-ve-mobil-istatistikleri/>).

According to a study by Exact Target, an average user spends 3,3 hours on his/her mobile phone every day. In reference to a survey conducted with 470 mobile phone users, 205 of these users also use a tablet. Eighty five percent of mobile phone users say that their phone is an essential part of their live and this ratio can reach as much as ninety percent in users between ages 19-24 (<http://www.internetretailer.com/2014/03/06/consumers-spend-33-hours-day-their-smartphones>).

Corporations use mobile devices as marketing communication channels in order to reach consumers. Since they started to send personalized messages that match the features of consumers, the attitudes of consumers differ in terms of demographic, socio-cultural and psychological features of the consumer and the content of the message. As a result of this, consumers are occasionally influenced by these mobile advertisements in their purchase decisions. Keeping this in mind this study was prepared, initially by conducting literature search regarding the role of mobile advertising and mobile advertisements on consumer attitude and their purchase decisions.

Next, "Attitudes towards Mobile Advertising" and "Demographic Features" of the consumers that use mobile devices and may decide to purchase goods in Turkey are analyzed with a survey in this study. The survey has been conducted with individuals who are over 18 years of age, that own mobile devices, follow mobile advertisements and that can give purchase decisions. Convenience sampling method has been used. The survey results have been reviewed by making various analyses such as factor analysis, regression analysis and one-way analysis of variance.

## **2. Mobile Advertisements**

As the mobile communication technology is becoming an indispensable factor in individuals' lives, both individuals and corporations perform their individual transactions and other activities via mobile devices. As the time is ever important in today's age, the functions of mobile devices assist dramatically in establishment of active communication, enabling information flow and making use of the time well (Barutçu, 2008: 259). For instance, the individuals can swiftly and practically check their e-mails, make transactions from their bank accounts, purchase tickets for various activities, read newspapers, watch TV streams on their mobile phones, without any limitation of time or place. This situation, in other words the mobile life style, makes their lives easier on a large scale.

Together with the developments in mobile technologies, mobile devices affecting corporations' commercial activities and adding new dimensions to consumers' purchase behaviors resulted in the notion of mobile marketing. Such that mobile marketing is a new marketing approach that, makes use of mobile communication technologies in order to go one step ahead in this competitive environment, provide more output with less resources, minimize operational costs by utilizing latest technologies and gain a modern structure (Kocabaş, 2005:113). Scharl et.al. (2005: 165) define mobile marketing as a realm in which the wireless consumers are encouraged towards products, utilized free of time and place. It would be used to gather personalized information and all stakeholders would benefit from this type of communication, reached via mobile devices. Another definition describe mobile marketing as conveying various marketing activities, specially advertisement messages, sales offers, special offers, sales, raffles, contests, etc. to consumers via mobile devices. The most important feature of the mobile marketing activities performed via mobile devices is the ability to establish voice, text and visual communication with consumers anywhere, any time and the ability to store messages. In order for the corporations to be successful in mobile marketing activities, they need to establish an active communication with consumers. In addition, they need to create a blend of mobile marketing, mobile campaign and mobile marketing programs efficiently.

The key aspects of mobile marketing are the mobile advertisements and they can be utilized to send personalized, informative, remindful or persuasive advertisement messages, depending on the place, date and interests of the consumers via mobile devices (Barutçu, 2008: 274). For instance, according to the age, education and location of mobile user, mobile advertisement messages regarding nearest movie theaters can be shown or if they are university students, information regarding houses for rent or student dorms related to their universities can be sent (Barutçu and Göl, 2009: 27). In today's age however, where the usage of mobile devices as advertisement mediums increase remarkably, there is a strong possibility for these messages being deleted without being read due to corporations sending these messages without any consent or without performing a correct target audience analysis or in other words, creating a strategic planning (Elden, 2009: 550).

Marketing Science Institute has ranked the importance of mobile advertisement with regards to corporation as follows: supporting sales development, reaching consumers more swiftly with direct sales, getting feedback of a satisfied customer and calculation of satisfaction, data gathering opportunity regarding customers, performing product promotion, assessing involved individuals and creating brand awareness (Carrol et.al. 2007: 81).

According to the medium of the advertisement itself, it is possible to group mobile advertisement types in three groups. These are text message SMS - Short Message Service, Multimedia Messaging Service - MMS and Bluetooth.

The first thing that comes to mind as mobile marketing and mobile advertising is considered is the bulk SMS delivery. SMS, is the operation where the text messages are sent and received via mobile phone over GSM networks. As both a brand tool and a stimulus oriented at consumers (Akbiyık et.al. 2009: 6), SMS advertisements are important tools for corporations. However, should the SMS advertisements reach a point where they become irritating for the consumer, this would realize a negative perception and image.

Therefore, consumers' consent must be taken before sending SMS messages. Since consent decreases the level of customer irritation, it is observed as a substantial notion in mobile marketing (Smutkup, Krairit and Khang, 2012: 541). In determination of the success of SMS messages, factors such as attracting consumers, creating positive images and using these positive images in order to encourage purchase decisions are among the significant criteria. In this aspect, active regulation of SMS messages is a major factor for convincing purchase decision (Arslan and Arslan, 2012: 71).

The advantages of SMS advertisements are personal communication, ability to classify consumers, high feedback rates, increased consumer satisfaction, entering a continuous and strong relationship with the consumers, low costs, ability to reach consumers and self-financing (Kocabaş, 2005:115), while the disadvantages are 160-character limit, lack of color, image and motion and risk of spam messages. In addition to these, due to limited communication and presentation of multimedia expressions on mobile devices, it is argued that the SMS is the most preferred advertisement type today (Öztürk, 2013: 119).

MMS, transfers messages containing graphics, animation, photographs, melody, audio recording and text via mobile phones over GSM networks. With its utilization is gradually increasing along with its rich foundation (Babacan, 2006: 210), MMS has all the perks of SMS and further advantages such as multimedia presentation that enables transferring more creative and powerful messages (Arslan and Arslan, 2012: 71; Alniaçık, 2011: 54). It is envisaged that as the number of mobile devices that support MMS messaging increase, the advertisements which have multimedia content such as MMS will be more popular and will have more potential to replace TV commercials in the future.

Bluetooth is a secure wireless communication method that enables high-speed data transfer in short distances, developed as an alternative to cable connections. In the same time, Bluetooth technology is a radio-based system that has high transfer speeds and depends on user consent (Özgül, 2013: 143). Bluetooth advertisements that use this technology are sent in places where there are special broadcasts transmitted to consumers' phone (Barutçu, 2008: 276). For instance, instead of sending an SMS in a supermarket, an information message that would guide the consumer to special offer sections could be sent to everyone who is entering the supermarket (Özgül, 2013: 143). Thus, a more active marketing communication can be established by sending fast, low-cost (there is no message delivery charge and millions of messages can be sent after configuration), continuous and instant messages via Bluetooth (Barutçu and Göl, 2009: 32).

In addition, ability to connect to web via mobile devices, brings the mobile internet advertisements. Mobile internet advertisements are divided into three groups. These are short message (SMS) advertisements, mobile video advertisements and mobile calling advertisements. SMS advertisements containing text messages, are directly sent to the end users by the corporations. Mobile video advertisements contain banners, links or symbols that can be embedded in mobile applications such as maps, games and videos available in WAP or mobile HTML websites. Mobile calling advertising contains text links and sponsored images that user encounters in search results while using mobile phone to search for something (Khan, et.al, 2010: 8).

### ***3. The Role of Mobile Advertisements on Consumer Attitudes and Purchase Decisions***

Attitude, which is a notion that directs consumer behaviors, can be defined in various manners in literature. Attitude is generally a tendency to form a potential behavior form or a state of readiness to behave, for an individual who is encountering any situation, event, fact or a person (İnceoğlu, 2004:13). With this definition in mind, it is possible to state that attitude appears in any kind of behavior of an individual. According to another definition, attitude is a tendency of an individual to react positively or negatively to an object, an idea or an environment. It is known that the attitudes of individuals have direct effects on their purchase decisions and purchase decisions influence consolidation or alteration of a certain attitude (Odabaşı and Barış, 2003: 157).

Corporations use communication channels in building attitude and the most important communication channel in recent years is mobile advertisement. At the same time, corporations seek to create positive consumer attitudes towards themselves by using these new communication channels. Primary concern which the corporations need to emphasize is the notion of how mobile advertisements are perceived by consumers and what kind of attitudes consumers show.

In order to understand the function of mobile advertisements and to make them more effective, consumer attitudes and behaviors need to be reviewed elaborately. In the relevant studies, literature shows that the emphasis was put on calculation of attitudes, intent and behavior.

The most commonly researched mobile advertisement type in literature is SMS advertisements. Previous studies conducted regarding consumer attitudes against mobile advertisements in Turkey and in the world are presented below.

When worldwide studies are analyzed; Tsang et. al. (2004) have stated that fun and informative SMS advertisements from a credible sender have positive impact on consumer attitudes and behaviors. On the other hand, irritating content of the advertisement would yield a negative impact.

Okozaki (2004) has asserted that there are two important attitudes towards mobile advertising. These are perceived informativeness-amusingness and perceived annoyingness. According to study results, while the perceived informativeness-amusingness have positive effect on attitudes towards mobile advertisements, perceived annoyingness have negative effect on attitudes towards mobile advertisements.

In its study where the aim was to determine consumer attitudes towards mobile advertising, Mobile Marketing Research Firm Enpocket (2006) has concluded that the consumers generally perceive advertisement messages aimed at their self-needs in a better way and show more interest towards these.

In their study, Chowdhury et. al (2006) have deduced that participants have establish a negative attitude towards advertisements' informativeness and amusingness qualities.

Okozaki, Katsura and Nishiyama (2007) have asserted that trust directly and positively affects attitudes towards mobile advertising. The findings of the study supports the fact that the effect of trust towards mobile advertising is meaningful and strong.

Carroll et. al (2007) have stated that factors such as the content of the message, consent, the control of service providers over sent message, dispatch time and frequency of the messages were effective on acceptance of mobile advertising.

In their study, Drossos et. al. (2007) have determined incentive, interaction, location/time benefit and advertisement source as the factors which have influence on consumers' attitude and purchase behaviors. Results of the study shows that these factors need to be further emphasized in order to augment the effectiveness of SMS advertising.

In their study, Hanley and Becker (2008) have laid stress on the fact that college students mostly do not favor receiving SMS advertisement, but they are keen to read about advertisements regarding monetary incentives.

Xu et. al. (2008) have concluded that the amusingness, credibility and intimacy features of mobile advertisements have fundamental impact on consumers' attitudes.

In their study where the young consumers' attitudes towards mobile advertising are determined, Waldt et.al. (2009) have emphasized that the consumers have negative attitudes towards these kinds of advertisements and advertisements should have features like consent, incentive, award and informativeness in order to achieve success. Moreover, they argued that positive perceptions will be acquired if the mobile advertising is fun, informative and credible.

When the studies in Turkey are analyzed; İspir and Suher (2009a) have determined amusingness, annoyingness, credibility and informativeness as the factors which affect attitudes towards SMS advertisements. According to analysis results, these factors are suggestive factors in affecting attitudes towards SMS advertisements and amusingness is also an important factor. Moreover, prior consent of receiver is a substantial variable that affect general attitude.

In another study, in which Suher and İspir (2009b) have analyzed the factors which have influence on attitudes towards mobile advertising and the relationship between these factors and attitude, they have found that factors such as information-amusement, life partner, confidentiality and annoyingness were effective. According to analysis results, annoyingness is the most important factor that has influence on attitudes towards SMS advertisements. In addition, the study reveals a new factor, called "life partner", which can also be profoundly analyzed in future studies.

Working on this same topic, in their comparative study of mobile phone users' attitudes towards mobile advertising tools, Barutçu and Göl (2009) have concluded that mobile phone users have assumed a positive attitude towards text, voice and video messages received via SMS, MMS and Bluetooth.

In Usta's (2009) study, the factors that were oriented at determining consumers' attitudes towards SMS advertising were found to be amusingness, informativeness, annoyingness, credibility, general attitude, advertising with consent and advertising with reward. General attitude towards SMS advertisements were found to be negative and only advertising with consent and award were found to be positive in terms of attitude.

In their study of determining attitude and behavior towards SMS advertising, Çakır et al. (2010) have confirmed that the consumers strike a positive attitude and behavior towards SMS advertisements.

Alnaçık (2011) has made analysis, trying to determine whether young consumers who have different purchase styles, possess suggestive differences between attitudes towards SMS advertising, their intent to accept SMS advertisements and their intent to use utilize these advertisements in their purchase decisions. The result of analysis has showed that consumers, who have different purchase styles, possess suggestive differences between attitudes towards SMS advertising, their intent to accept SMS advertisements and their intent to use utilize these advertisements in their purchase decisions.

In their study, Nadiri and Tümer (2011) have concluded that there is a statistical suggestive relationship between college students' attitudes towards mobile advertising and amusingness, informativeness, credibility and advertisement value.

In their study, focused on determination of y generation's attitudes towards SMS advertising, Bozyiğit et. al. (2011) have grouped the attitudes towards SMS advertising in four main factors as informativeness, amusingness, personalization and manipulation. The participants were found to have near-negative attitudes towards SMS advertisements. Moreover, the participants have required SMS advertisements to be tailored for themselves (addressing their own names, etc) and to be informative.

In their study in which Karaca and Tekin (2011) have analyzed attitudes and behaviors towards SMS advertising in terms of gender differences, they have concluded that women possess more positive attitudes and behaviors towards SMS advertising, in comparison to men. In terms of attitude, it has been determined that women strike more positive attitudes towards personalized SMS advertising compared to men and in terms of behavior, women's tendencies to reach shopping locations where it is the subject matter of SMS advertising, are higher than men.

In their study in which Karagöz and Çağlar (2011) have analyzed consumer attitudes towards mobile marketing applications in retail industry, they have stated that mobile advertising should be utilized in certain hours of the day, in convenient numbers without disturbing consumers; the consumers believe that mobile advertising is innovative and creative and consumers' demographic structures, interest and desires need to be carefully evaluated before mobile marketing application.

#### **4. A Study of Consumer Attitudes towards Mobile Advertising**

##### **4.1. Purpose, Scope of the Study**

In today's age where the mobile phone usage is increasing day by day, the mobile advertising messages reach more consumers. Monitoring consumers' opinions and ideas regarding mobile advertising and knowing their attitudes are few of the key factors that would render corporations successful in their target markets with the correct marketing strategies. For this reason, the corporations need to observe demographic structures of consumers and to determine whether this is connected to consumers' attitudes in order to recognize the consumers who are in their target market before using mobile marketing applications. A successful determination of consumers' attitudes, interests and desires and observing its relationship with demographic factors by the corporations will help them to follow correct marketing strategy applications.

With this in mind, "Attitudes towards Mobile Advertising" and "Demographic Features" of the consumers that decide to purchase goods in Turkey are analyzed with a survey in the study. The survey has been conducted with individuals that are over 18 years of age, that own mobile devices, follow mobile advertisements and that can give purchase decisions. Convenience sampling method has been used. The survey results have been reviewed by making various analyses such as factor analysis and one-way analysis of variance.

In research model of the study, the relationship between "Consumer Attitudes towards Mobile Advertising" and "Demographic Features" was analyzed.

While "Consumer Attitudes towards Mobile Advertising" in Turkey was determined, variables used in previous studies were taken as samples and applied in the research. Previous studies such as "Tsang et. al. (2004), Okozaki (2004), Okozaki, Katsura and Nishiyama (2007), Barutçu (2007), Xu et al. (2008), Waldt et al. (2009), Barutçu and Göl (2009), İspir and Suher (2009), Usta (2009), Wanmo Koo (2010), Karagöz and Çağlar (2011),

Nadiri and Tümer (2011), Bozyiğit et.al., (2011), Karaca and Tekin (2011)" which analyzed "Attitudes towards Mobile Advertising" were used as examples and survey questions were generated.

The survey work of the study has been performed by conducting face to face interviews with 300 individuals that are over 18 years of age who use mobile devices and might purchase by being influenced by mobile advertising. Convenience sampling method has been used. In the survey study where "Consumers' Attitude Towards Mobile Advertising" is analyzed, Likert Scale has been used (1. Definitely Disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Definitely Agree). The relation between "Consumers' Attitude Towards Mobile Advertising" and "Demographic Features" have been analyzed with One-Way Analysis of Variance and SPSS 18 Analysis Program have been used for data analysis.

## 4.2. Research Methodology

Limits of research, the research model and bulk sample selection of research are presented below.

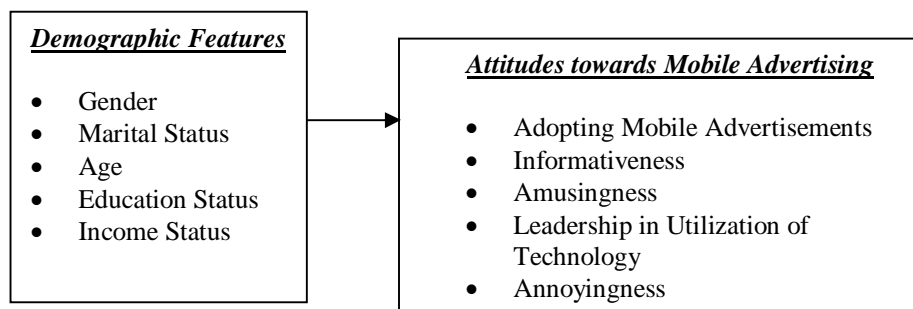
### 4.2.1. Limits of Research

In this study, consumers' "Attitudes towards Mobile Advertising" and "Demographic Features" have been analyzed with a survey research. The limits of the study were individuals who are over 18 years of age and own mobile devices, follow mobile advertisements and that can give purchase decisions.

Survey study has been performed by interviewing face to face with 300 individuals and convenience sampling method has been used.

### 4.2.2. Research Model

The research model that has been established in order to clarify consumers' "Attitudes towards Mobile Advertising" and "Demographic Features" is as follows (Figure 4.1).



**Figure 4.1: A Study Model Regarding the Relationship between "Consumers Attitudes towards Mobile Advertising" and "Demographic Features"**

The hypothesis of the study is included below.

**H<sub>1</sub>:** There is a suggestive relation between consumers' "Attitudes towards Mobile Advertising" and "Demographic Features (gender, marital status, age, education, income)".

The scale that contain consumers' "Attitudes towards Mobile Advertising", is created by sources presented in the table below (Table 4.1)

**Table 4.1: The Table of "Consumers' Attitudes towards Mobile Advertising" Scale**

| VARIABLES  | SOURCE                               |
|--|--------------------------------------|
| <u><i>Attitudes Towards Mobile Advertising</i></u> | Tsang et al., 2004                   |
| ✓ Adopting Mobile Advertisements                   | Okozaki, 2004                        |
| ✓ Informativeness                                  | Okozaki, Katsura and Nishiyama, 2007 |
| ✓ Amusingness                                      | Barutçu, 2007                        |
| ✓ Leadership in Utilization of Technology          | Xu et al., 2008                      |
| ✓ Annoyingness                                     | Waldt et al., 2009                   |
|  | Barutçu and Göl, 2009                |
|  | İspir and Suher, 2009                |
|  | Usta, 2009                           |
|  | Karagöz and Çağlar, 2011             |
|  | Bozyiğit et.al., 2011                |
|  | Karaca and Tekin, 2011               |
|  | Nadiri and Tümer, 2011               |

#### 4.2.3. Determination of Study Bulk Sample

The survey work of the study has been performed by conducting face to face interviews with 300 individuals that are over 18 years of age who use mobile devices and might purchase by being influenced by mobile advertising. The sample audience was reached by using convenience sampling method and surveys have been conducted.

#### 4.3. Findings of the Study

The analysis of the study has been examined by separating into two sections: definitional and deductive.

##### 4.3.1. Definitional Analysis Findings

Survey participants were chosen from consumers over 18 who use mobile phones and follow mobile advertising offers. The demographic features are presented by analyzing gender, education, income, age and marital status of 300 individuals. The consumers are comprised of 300 individuals of which the 49.7% are women and 50.3% are men. The education status of these individuals is as follows: "19.0% high school education, 56.3% associate degree, 14.3% undergraduate, 8.7% bachelor's degree and 1.7% post graduate and higher. The income distribution of consumers is as follows: 40.0% between 500 - 1000 TL, 25.7% between 1001 - 2000, 25.3% between 2001 - 3000 and 9.0% between 3001-4000. Age distributions are, 51.3% between 18-25, 21.3% between 26-35, 17.7% between 36-45, 7.3% between 46-55 and 2.3% over 56. Consumers' marital statuses are 20.0% married, 70.3% single, 1.7% widower and 7.0% divorced.

The scale of consumers' 'Attitudes Towards Mobile Advertising' consists of 22 questions. Twenty two questions are subjected to question factor analysis and this has emerged five factor groups.: These five factor groups are "Adopting Mobile Advertisements", "Informativeness", "Amusingness", "Leadership in Utilization of Technology" and "Annoyingness" (Table 4.2). For "Attitudes Towards Mobile Advertising" variables comprised of 22 variables, at the end of performed credibility analysis, a significance level of 0.05 and Cronbach's Alfa Value of 0.875 have been determined. Moreover, a credibility analysis has been performed to each of the five factor groups in the study and Cronbach's Alpha Value is examined (Table 4.2).

Alpha value carries values between 0 and 1 and it desired for the admissible value to be at least 0.7 (Altunışık et. al., 2005: 116). Therefore, it can be stated that the credibility of the scale, along with the credibility of each factor group in itself, is significantly high.

In the factor analysis, which has been performed according to "Attitudes towards Mobile Advertising" which consists of 22 questions; when Kaiser-Meyer-Olkin (KMO) sample efficiency test is applied; relevance value is found to be 0.000 and KMO value is found to be 0.886. The test of factor analysis of practicability to any data set is measured with 'Kaiser-Meyer-Olkin (KMO) sample efficiency test. The KMO values between 0.5-1.0 are deemed to be acceptable (Altunışık et.al. 2005; 217). Therefore KMO value of 0.886 is believed to be sufficient enough for factor analysis.



Also, it has been examined that the five factors which have been obtained in the study have attested the 62,453% of total variance. The factor groups which are obtained as a result of factor analysis, the credibility of factor groups and factor loads of the components that constitute factor groups are given in Table 4.2.

**Table 4.2: Factor Analysis Results of Consumers' Attitudes towards Mobile Advertising**

| Factor Group | Factor Group Name              | Credibility of Factor Group (Cronbach's Alfa Coefficient ) | Attitudes towards Mobile Advertising  | Factor Loads |
|--------------|--------------------------------|--|---|--------------|
| Factor1      | Adopting Mobile Advertisements | 0.875  | *Advertisement related messages are my references in purchase decisions.                            | 0.576        |
|              |                                |  | * I trust advertisement related messages.   | 0.566        |
|              |                                |  | * I have positive views of receiving advertisement messages on my mobile phone.                     | 0.752        |
|              |                                |  | * I am glad to receive mobile advertisement messages on my mobile phone.                            | 0.779.       |
|              |                                |  | * I believe and trust Mobile Advertisements.  | 0.777        |
| Factor2      | Informativeness                | 0.848  | * I value and like Mobile Advertisements.   | 0.800        |
|              |                                |  | * I read different advertisement messages on my phone, in order to make comparisons.                | 0.791        |
|              |                                |  | * In order to make correct decision, I read many advertisement messages that I receive on my phone. | 0.786        |
|              |                                |  | * The advertisement messages that I receive on my phone provide current information that I need.    | 0.702        |
|              |                                |  | *I like sales and sale offer messages that I receive on my phone.                                   | 0.492        |
|              |                                |  | * I take notice of advertisement messages are in my area of interest.                               | 0.505        |
| Factor3      | Amusingness                    | 0.800  | *I like mobile advertising messages that I receive from familiar corporations.                      | 0.536        |
|              |                                |  | * It's fun and pleasant to receive advertisement messages.  | 0.778        |
|              |                                |  | * I like receiving advertisement messages.  | 0.784        |
|              |                                |  | * Personalized advertisement messages tailored for me are fun.                                      | 0.761        |
| Factor4      | Leadership in Technology       | 0.803  | * It is fun to join a game or a competition with an SMS.  | 0.572        |
|              |                                |  | * I have deep knowledge of mobile communication.  | 0.830        |
|              |                                |  | * When compared to my friends, I am an expert in mobile communication.                              | 0.826        |
| Factor5      | Annoyingness                   | 0.696  | * Among my friends, generally I am the first one who learns about the latest phones                 | 0.727        |
|              |                                |  | * Advertisement messages are annoying and waste of time.  | 0.587        |
|              |                                |  | * The content of advertisement messages are generally irritating.                                   | 0.826        |
|              |                                |  | * Advertisement messages are deceptive.   | 0.786        |

### 4.3.2. Deductional Analysis Findings

Deductional analysis findings of the study are examined with One-Way Analysis of Variance (ANOVA) below.

#### ▪ One-Way Analysis of Variance (ANOVA)

With the One-Way Analysis of Variance, it has been sought to test whether there are differences between "Consumers' Attitudes towards Mobile Advertising" according to demographic feature groups such as "gender, marital status, age, education status, income status". In variance analysis, independent variables are comprised of non-metric values (categorized - gender, marital status, age, education status, income status) while dependent variables are comprised of metric values (Nakip, 2004: 208). Dependent variable "Consumers Attitudes Towards Mobile Advertising" is metric due to calculation with Likert Scale and is tested with Variance Analysis, which is a parametric analysis type.

In One Way Anova, the significance value in Anova table is observed. This value was compared to 0.05, which is the value relevance level and  $H_0$  hypothesis was acknowledged in case of significant value is big. In other words, it has been deduced that there is no difference between opinions in terms of "gender, marital status, age, education status and income status." In case the significant value is less than 0.05, its alternative hypothesis  $H_1$  has been acknowledged. In Tables 4.3, 4.4, 4.5, 4.6 and 4.7, the results of One-Way Analysis of Variance are summarized. Our tested main hypothesis are as follows:

**$H_1$ :** There is a suggestive relation between consumers' "Attitudes towards Mobile Advertising" and Demographic Features (gender, marital status, age, education, income)".

The Consumer Attitudes towards Mobile Advertising have been deduced to five variables with the Factor Analysis. These five factor groups are "Adopting Mobile Advertisements", "Informativeness", "Amusingness", "Leadership in Utilization of Technology" and "Annoyingness". The relation between reduced five variables of "Adopting Mobile Advertisements", "Informativeness", "Amusingness", "Leadership in Utilization of Technology" and "Annoyingness" and demographic features are analyzed with One-Way Analysis of Variance.

**Table 4.3: One Way Anova Test Results of "Consumers' Attitudes towards Mobile Advertising" and "Gender" Demographic Variable**

| Consumers' Attitude Variables towards Mobile Advertising | Gender |              |
|--|--------|--------------|
|  | F      | p            |
| Adopting Mobile Advertisements                           | 7.184  | <b>0.008</b> |
| Informativeness  | 0.067  | 0.796        |
| Amusingness  | 1.247  | 0.265        |
| Leadership in Technology                                 | 2.310  | 0.130        |
| Annoyingness   | 2.292  | 0.131        |

**Table 4.4: One Way Anova Test Results of "Consumers' Attitudes towards Mobile Advertising" and "Marital Status" Demographic Variable**

| Consumers' Attitude Variables towards Mobile Advertising | Marital Status |              |
|--|----------------|--------------|
|  | F              | p            |
| Adopting Mobile Advertisements                           | 0.322          | 0.809        |
| Informativeness  | 2.748          | <b>0.043</b> |
| Amusingness  | 1.152          | 0.328        |
| Leadership in Technology                                 | 1.033          | 0.378        |
| Annoyingness   | 5.706          | <b>0.001</b> |

**Table 4.5: One Way Anova Test Results of "Consumers' Attitudes towards Mobile Advertising" and "Age" Demographic Variable**

| Consumers' Attitude Variables towards Mobile Advertising | Age   |              |
|--|-------|--------------|
|  | F     | p            |
| Adopting Mobile Advertisements                           | 3.043 | <b>0.018</b> |
| Informativeness  | 2.584 | <b>0.037</b> |
| Amusingness  | 1.862 | 0.117        |
| Leadership in Technology                                 | 2.123 | 0.078        |
| Annoyingness   | 4.026 | <b>0.003</b> |

**Table 4.6: One Way Anova Test Results of "Consumers' Attitudes towards Mobile Advertising" and "Education Status" Demographic Variable**

| Consumers' Attitude Variables towards Mobile Advertising | Education Status |              |
|--|------------------|--------------|
|  | F                | p            |
| Adopting Mobile Advertisements                           | 1.411            | 0.230        |
| Informativeness  | 2.423            | <b>0.049</b> |
| Amusingness  | 1.645            | 0.163        |
| Leadership in Technology                                 | 0.341            | 0.850        |
| Annoyingness   | 4.122            | <b>0.003</b> |

**Table 4.7: One Way Anova Test Results of "Consumers' Attitudes towards Mobile Advertising" and "Income Status" Demographic Variable**

| Consumers' Attitude Variables towards Mobile Advertising | Income Status |              |
|--|---------------|--------------|
|  | F             | p            |
| Adopting Mobile Advertisements                           | 2.963         | <b>0.033</b> |
| Informativeness  | 0.945         | 0.419        |
| Amusingness  | 0.089         | 0.966        |
| Leadership in Technology                                 | 1.592         | 0.192        |
| Annoyingness   | 3.603         | <b>0.014</b> |

*Note: Bold values show discrepancies between variables that are analyzed in terms of grouping variable (gender, marital status, age, education status, income status).*

H<sub>1</sub> hypothesis: There is a suggestive relation between consumers' "Attitudes towards Mobile Advertising" and "Demographic Features (gender, marital status, age, education, income)". They have been subjected to One-Way Analysis of Variance.

With One-Way Analysis of Variance, the notion of whether there is a difference between "Consumers' Attitudes toward Mobile Advertising" is tested according to "gender"; it has been observed that there is a suggestive relation between "Gender" and "Adopting Mobile Advertisements," which is a variable that determines Attitudes towards Mobile Advertising and H<sub>1</sub> hypothesis is accepted. There is no suggestive relation between Gender and "Informativeness", "Amusingness", "Leadership in Utilization of Technology" and "Annoyingness" variables and therefore, for these variables H<sub>1</sub> hypothesis is rejected. Therefore H<sub>1</sub> hypothesis is partially accepted.

With One-Way Analysis of Variance, the notion of whether there is a difference between "Consumers' Attitudes toward Mobile Advertising" is tested according to demographic features of "marital status" and "education status"; it has been observed that there is a suggestive relation between "marital status", "education status" and "Informativeness" and "Annoyingness" which are variables that determine Attitudes towards Mobile Advertising and H<sub>1</sub> hypothesis is accepted. There is no suggestive relation between "Adopting Mobile Advertisements", "Informativeness", "Amusingness" and "Leadership in Utilization of Technology" variables and therefore, for these variables H<sub>1</sub> hypothesis is rejected. Therefore, H<sub>1</sub> hypothesis is partially accepted.

With One-Way Analysis of Variance, the notion of whether there is a difference between "Consumers' Attitudes toward Mobile Advertising" is tested according to "age"; it has been observed that there is a suggestive relation between gender and "Adopting Mobile Advertisements", "Informativeness" and "Annoyingness" which are variables that determine Attitudes towards Mobile Advertising and  $H_1$  hypothesis is accepted. For "Amusingness" and "Leadership in Utilization of Technology" variables,  $H_1$  hypothesis is rejected. Therefore,  $H_1$  hypothesis is accepted for majority of variables.

With One-Way Analysis of Variance, the notion of whether there is a difference between "Consumers' Attitudes toward Mobile Advertising" is tested according to "income status"; it has been observed that there is a suggestive relation between "Adopting Mobile Advertisements" and "Annoyingness" which are variables that determine Attitudes towards Mobile Advertising and  $H_1$  hypothesis is accepted. For "Informativeness", "Amusingness" and "Leadership in Utilization of Technology" variables,  $H_1$  hypothesis is rejected. Therefore,  $H_1$  hypothesis is partially accepted.

*As the results of One-Way Analysis of Variance:*

$H_1$  hypothesis: There is a suggestive relation between consumers' "Attitudes Towards Mobile Advertising" and "Demographic Features (gender, marital status, age, education, income)". They have been subjected to One-Way Analysis of Variance.

- \*Among Attitudes towards Mobile Advertising, "Adopting Mobile Advertisements" variable differ by *gender, age and income status* and for these differences  $H_1$  hypothesis is accepted.
- \*Among Attitudes towards Mobile Advertising, "Informativeness" variable differ by *marital status, age and education status* and for these differences  $H_1$  hypothesis is accepted.
- \*Among Attitudes towards Mobile Advertising, "Annoyingness" variable differ by *marital status, age and education status and income status* and for these differences  $H_1$  hypothesis is accepted.
- \*Among Attitudes towards Mobile Advertising "Amusingness" variable does not differ according to Demographic Features (gender, marital status, age, education status, income status) and for these variables  $H_1$  hypothesis is rejected.
- \*Among Attitudes towards Mobile Advertising "Leadership in Utilization of Technology" variable does not differ according to Demographic Features (gender, marital status, age, education status, income status) and for these variables  $H_1$  hypothesis is rejected.

## **5. Conclusion and Suggestions**

Mobile devices' ability to satisfy people's communication needs and to become a significant marketing tool with the features they possess, adds a new dimension to advertising activities of corporations. In recent years, mobile advertising are potently preferred by the corporations, thanks to features such as customization as per individual and the ability to create different messages depending on location, time and interests. However, the essential subject matter for the corporations is how mobile advertising effects consumers' purchase decisions. The effects of mobile advertising on purchase decision may vary according to message content, sender corporations or consumers' brand selection. Mobile advertising plays an important role in consumers' purchase decisions. In this sense, consumers' attitudes towards mobile advertising comes in view as a prominent variable that determines their purchase decisions.

In order to understand the function of mobile advertisements and to make them more effective, consumer attitudes and behaviors need to be reviewed elaborately. Thus, positive or negative attitudes in purchase decisions will be observed more closely and the successes and effectiveness of corporations in mobile advertisement messages will be sighted. For this reason, consumer attitudes and their demographic features were analyzed in this study, in order to be closely acquainted with the users who are sent mobile advertisement messages via mobile devices.

The corporations need to observe demographic structures of consumers and determine whether this is connected to consumers' attitudes in order to recognize the consumers who are in their target market before using mobile marketing applications. A successful determination of consumers' attitudes, interests and desires and observing its relationship with demographic factors by the corporations will help them to follow correct marketing strategy applications.

With this in mind, "Attitudes towards Mobile Advertising" and "Demographic Features" of the consumers that decide to purchase goods in Turkey are analyzed with a survey in this study.

The survey has been conducted with individuals that are over 18 years of age, that own mobile devices, follow mobile advertisements and that can give purchase decisions. Convenience sampling method has been used.

At first, factor analysis has been applied to gathered data and One-Way Analysis of Variance has been used in order to study the relationship between variations gathered by factor analysis and demographic features.

Consumers' "Attitudes Towards Mobile Advertising" scale is made of 22 questions and five factor groups were created by subjecting 22-question factor analysis. The Consumer Attitudes Towards Mobile Advertising have been deduced to five variables with the Factor Analysis. These five factor groups are "Adopting Mobile Advertisements", "Informativeness", "Amusingness", "Leadership in Utilization of Technology" and "Annoyingness". The relationship between deduced five variables and demographic features are analyzed by utilizing One-Way Analysis of Variance. At the end of the analysis, it has been found that "Amusingness", "Leadership in Utilization of Technology" variables had no relation with demographic features but other variables did.

At the end of the study, consumers who use mobile advertising are grouped and identified according to different demographic criteria. Deriving from the notion of mobile advertisement users who have different demographic criteria, might have different attitudes and behaviors, this study has observed that some attitudes have relations with demographic variables, while others do not. It has been observed that "Amusingness", "Leadership in Utilization of Technology" have no relationship with demographic features. Thus, it can be said that the users who have the attitudes of "Amusingness", "Leadership in Utilization of Technology", do not differ in behaviors according to the demographic features of "gender, marital status, age, education status and income status". On the other hand, it can be stated that the users who possess the attitudes of "Adopting Mobile Advertisements, "Informativeness" and "Annoyingness" show behaviors and strike different attitudes that vary against demographic criteria.

Research results are very significant in providing the detailed structure of attitude variable that possess an important role in purchase decisions with relation to mobile advertising. With the research results, attitudes towards mobile advertisements are exhaustively analyzed and "Leadership in Utilization of Technology" factor has been added, divergently from previous studies which are mentioned in literature review. However, contrary to hypothesis, it has been observed whether the behaviors of the users who strike the attitude of "Leadership in Utilization of Technology" differ against the demographic variables.

With the research results, corporations who seek to use mobile advertising to attract consumers' attention can be guided in terms of attention and consideration points and this can be a beneficial experience for them. In this context, some assistance may be given in preparation of mobile advertisement campaigns. The corporations applying the mobile advertising campaigns can create more effective advertising campaigns and they can avoid possible negative feedback received from users.

In future researches, factors that influence purchase decisions of Turkish consumers and their attitudes towards mobile campaigns can be tested with using further studies containing more representative samples.

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