**REPUBLIC OF TURKEY**
**BAHCESEHIR UNIVERSITY**

# FACTORS EFFECTING TURKISH CUSTOMERS' MOBILE MARKETING SERVICES ADOPTION

**Master's Thesis**

**AYŞEGÜL DEMİR**

**ISTANBUL, 2013**

**REPUBLIC OF TURKEY**
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**GRADUATE SCHOOL OF SOCIAL SCIENCES**

**MARKETING (EN)**

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This is to certify that we have read this thesis and we find it fully adequate in scope, quality and content, as a thesis for the degree of Master of Arts.

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# ABSTRACT

FACTORS EFFECTING TURKISH CUSTOMERS' MOBILE MARKETING SERVICES ADOPTION

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Marketing

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Rapid developments on mobile technology in the last decades and high rates of consumer's adaptations have remarkably changed the doing of business and offered marketers many new opportunities to reach and serve customers. The purpose of this thesis study is to examine critical determinants of Turkish consumers' intention to accept mobile marketing services and to provide insights for marketers in order to offer mobile marketing tools that meet consumers' expectations. This study also aims combining a literature review with the results from the qualitative survey leads to a conceptual model of factors effecting mobile marketing services adoption. Facilitating conditions, perceived value (refers also performance expectancy), social influence factors derived from the Unified Theory of Acceptance and use of Technology (UTAUT) and privacy concern factors are evaluated to question the critical determinants of Turkish consumers' intentions to participate in mobile marketing services. Both face to face and online questionnaire were conducted and 232 valid responses are collected. Relationships between the selected values and intention to participate in mobile marketing were analyzed through factor and regression analysis formulated in the Statistical Package for the Social Sciences (SPSS) program. Facilitating conditions, perceived value and social influence found support in our findings as indicators of mobile marketing services adoption, while the privacy concern factor did not. Additionally, the effect of demographic values (age, gender, occupation, education etc.) on intention to participate in mobile marketing services is also examined as a research question with ANOVA analyses and meaningful effect of education and income level on mobile marketing services adoption was seen.

**Key Words:** Mobile marketing, Mobile marketing services, Smartphones, Mobile technology, Technology adoption, Consumer behavior, Unified Theory of Acceptance and use of Technology

# ÖZET

TÜRKİYE'DEKİ TÜKETİCİNİN MOBİL PAZARLAMA SERVİS ADAPTASYONUNU ETKİLEYEN FAKTÖRLER

Ayşegül Demir

Pazarlama (EN)

Tez Danışmanı: Doç Dr. Kemal Suher

Haziran 2013, 110 Sayfa

Son yıllarda mobil teknolojilerde yaşanan hızlı gelişmeler ve tüketicilerin teknolojiye yüksek orandaki adaptasyonu, iş dünyasında önemli değişikliklere yol açmakta ve müşterilerine ulaşan ve hizmet eden pazarlamacılara yeni fırsatlar sunmaktadır. Bu tez çalışmanın amacı, mobil pazarlama servislerine adaptasyonu ve bu adaptasyonu etkileyen kritik faktörleri analiz ederek, tüketicilerin beklentileri ile uyumlu mobil pazarlama servislerinin sunulmasına katkı için pazarlamacılara çıktı sağlamaktır. Niteliksel anket sonuçları ile literatür taraması sentezlenerek mobil pazarlama servislerinin adaptasyonunu etkileyen faktörler için kavramsal bir model oluşturulması hedeflenmiştir. Birleştirilmiş Teknoloji kabulü ve kullanımı teorisine ait kolaylaştırıcı koşullar, algılanan değer/fayda,, sosyal etki faktörlerinin yanısıra gizlilik endişesi faktörleri Türkiye'de tüketicilerin mobil pazarlama servisleri kullanma niyetlerini etkileyen kritik belirleyiciler olarak analiz edilmiştir. Yüz yüze ve internet üzerinden yayınlanan anket çalışması ile 232 tane geçerli yanıt alınmıştır. Seçilen kritik faktörler ile mobil pazarlama adaptasyonunun arasındaki ilişkiyi açıklamak için istatistik paket programı olan SPSS kullanılarak factor ve regresyon analizleri yapılmıştır. Gizlilik endişesi dışındaki, Birleştirilmiş Teknoloji kabulü ve kullanımı teorisine ait kolaylaştırıcı koşullar, algılanan değer/fayda ve sosyal etki faktörleri mobil pazarlama adaprasyonu ile ilişkili bulunmuştur. Ayrıca, demografik özelliklerin (yaş, cinsiyet, eğitim, deneyim vb.) mobil pazarlama servislerini kullanımına etkisi araştırma sorusu olarak ANOVA analizleri ile irdelenmiş, eğitim ve gelir seviyesinin mobil pazarlama servisleri adaptasyonunu etkilediği gözlemlenmiştir.

**Anahtar Kelimeler:** Mobil pazarlama, Mobil pazarlama servisleri, Akıllı telefonlar, Mobil teknoloji, Teknoloji adaptasyonu, Tüketici davranışı, Birleştirilmiş teknoloji kabulü ve kullanımı teorisi

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## ABBREVIATION(S)

| | | |
|---|---|---|
| SMS | : | Short Messaging Service |
| MMS | : | Multimedia Messaging Service |
| GSM | : | Global System for Mobile Communications |
| GPS | : | Global Positioning System |
| LBS | : | Location Based (Mobile) Services |
| IP | : | Internet Protocol |
| ICT | : | Information and communication Technology |
| ITU | : | International Telecommunication Union |
| 1G | : | First Generation |
| 2G | : | Second Generation |
| 3G | : | Third Generation |
| 4G | : | Fourth Generation |
| LTE | : | Long Term Evolution |
| WAP | : | Wireless Application Protocol |
| UMTS | : | Universal Mobile Telecommunications System |
| EDGE | : | Enhanced Data rates for GSM Evolution |
| AMA | : | American Marketing Association |
| TAM | : | Technology Acceptance Model |
| TRA | : | Theory of Reasoned Action |
| TPB | : | Theory of Planned Behavior |
| IDT | : | Innovation Diffusion Theory |
| UTAUT | : | Unified Theory of Acceptance and use of Technology |
| RFID | : | Radio Frequency Identification Tags |
| SPSS | : | Statistical Package for the Social Sciences |

# 1. INTRODUCTION

Mobile technologies have profoundly transformed the ways of doing businesses and marketing. Customers use mobile devices for communication, entertainment, business and also information purposes. Mobile marketing (m-marketing) offers direct communication with consumers anytime and anyplace and gains more popularity as the number of mobile device users are on the increase. The latest developments allow continuous Internet access via mobile devices such as mobile phones or tablets and these advances bring up new challenges for marketers and marketing researchers (Liu et al. 2011).

Mobile phone is the most ubiquitous personal item in the world and ubiquity is the main feature of mobile commerce. This involves the delivery of services in the physical world and allows the mobile user to benefit from these services and carry out transactions in real time in anywhere (Sallam and Udgata 2011). There is more to do on the mobile handset than just talking or text messaging and over the years, the mobile phone has become an increasingly attractive product with added features (Jayawardhena et al. 2008). Mobile phones have attracted the attention of marketing practitioners and scholars not only because of the enhanced mobility and immediacy of the medium but also because of the personal nature of mobile phones (Im and Ha 2012). The mobile phone has become a portable entertainment player, a new marketing tool for retailers and manufacturers, a multi- channel shopping device, a navigation tool, a new type of ticket and money, and a new mobile Intranet device (Barutçu 2008) and at the same time, the mobile phone has also become an interesting channel for transmitting advertising messages to consumers (Liu et al. 2011). Through the introduction of data services, mobile phone has rapidly become a viable commercial marketing channel. Especially, mobile internet and smart devices has created a new channel for marketers to reach consumers by using mobile marketing services such as Short Messaging Service (SMS), Multimedia Messaging Service (MMS), E-mail, location based services (LBS), mobile applications including value added services such as news, city guide, weather and traffic information, navigation tracking etc., mobile browsing/shopping, social media communication, mobile games and many more.

The usage of mobile marketing services has been growing and become an important economic factor (Broeckelmann 2010). The use of the term mobile marketing in this study refers to any form of marketing activity; advertising or sales promotion activity aimed at consumers, and is conducted over a mobile channel. As the number of smartphone users increases, mobile marketing campaigns are receiving more attention than ever before from the marketers and unique characteristics of mobile phones make them an effective business communication tool to reach consumers (Im and Ha 2012). Therefore, it is important for marketers to improve consumer response rates and acceptance of mobile marketing via smartphones. Even though companies are investing seriously in mobile commerce and mobile marketing, the nature and implications of this channel have yet to be fully understood and studies need to be performed to gain an insight into how to benefit it best (Barutçu 2008).

This study focuses on examining the factors influencing consumers' intentions to accept mobile marketing services. The main objective is to engage Global System for Mobile Communications (GSM) operators' and companies' attention to new opportunities in mobile commerce and mobile marketing. Besides the factors of the Unified Theory of Acceptance and use of Technology (UTAUT) Technology Acceptance such as facilitating conditions, perceived value (refers also performance expectancy), demographic factors, social influence (age, gender, income, experience etc.), additionally privacy concern factor will be evaluated to question the critical determinants of Turkish consumers' intentions to use mobile marketing services.

After this introduction part, literature review including sub sections respectively; marketing, mobile technology, mobile marketing, theories behind mobile marketing services acceptance and cross cultural studies about mobile marketing acceptance provide detail information and studies conducted previous academic researches. The following research methodology, analysis, findings parts contain the study explanations, details and results based on online and face to face survey. The data is analyzed through factor, regression, ANOVA analysis and also T-test. In final section, conclusion is formed according to the literature review and the research results.

# 2. LITERATURE REVIEW

## 2.1. MARKETING

Marketing is not just an economic activity. Sales or advertising is just the tip of the marketing iceberg. Marketing drives the consumer society and the culture of consumption. Nowadays everything and anything is marketed; religion, politics, science, history, celebrities, careers, sport, art, fiction, fact and marketing affects everybody since, consumers cannot escape the market even they try to live the simple life (Saren 2007). According to the American Marketing Association (AMA) Board of Directors[1], "Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large". Kotler and Armstrong (2005) propose that marketing is the process by which organizations create value for customers and build strong customer relationships to have value from customers in return.

The importance of building long-term relationships has been recognized in various areas of marketing management. Most of the empirical studies had relied on the traditional view of marketing for their conceptual, analytical framework and their conclusions are drawn from data that have been generated and examined in the context of the marketing mix model where the variables of product, price, promotion, and distribution are managed in order to attract customers and generate transactions (Coviello and Brodie 2001). However, recent and ongoing changes in the business environment, most notably escalating competition, increasing globalization of markets and more demanding customers, are making it difficult to compete effectively on the basis of traditional marketing mix variables alone (Parasuraman 1998). A new paradigm of thought has emerged; it is argued that it is more important to focus on the development and management of relationships and such relationships may extend beyond final customers to include suppliers, channel intermediaries, and a variety of other market contacts (Coviello and Brodie 2001). Marketing approaches such as organizational buying behavior, industrial marketing,

[1] Mobile Marketing Association (MMA), Academic Review: Mobile Marketing: Convergence of Media & Mobile, September 2008, http://www.mmaglobal.com/node/2521 [accessed 14 October 2012].

business network research, relationship marketing, services marketing, logistics and one-to-one marketing (Ojasalo 2001) have all strongly focused on customer relationships. In order to build strong relations, communication tools have become more important.

Two major factors are changing the face of today's marketing communications. First, as mass markets have fragmented, marketers are shifting away from mass marketing and they have mostly developed focused marketing programs in order to build closer relationships with customers in more narrowly defined micro markets. Second, vast improvements in information technology are speeding the movement toward segmented marketing. Today's information technology helps marketers to keep closer track of customer needs and also more information about consumers at the individual and household levels is available than ever before. The shift from mass marketing to segmented marketing has provided the shift from mass marketing to one-to-one marketing and many companies have adopted direct marketing, as complementally to other marketing approaches (Kotler and Armstrong 2005). Direct marketing has a much longer history, originating from organizations selling their products directly using a catalogue and mail-order. Such companies offered the convenience of shopping from home, receiving one's purchases through the mail and these credit facilities have engaged customer's interest (Harridge 2008). From these rather modest inceptions, direct marketing has evolved into a complex science that involves collecting data on customers, storing transactional and behavioral information in a database, analyzing the performance of various tactics and manipulating data to maximize the return on investment (Harridge 2008).

Direct marketing became a powerful tool at the time when the cost of communication was falling rapidly (Palmer and Lewis 2009). The digitization of information enables sellers to customize the products and services they are selling and also allows marketers to customize the promotional messages directed at many customers (Schiffman et al. 2010, p. 33). Continuous developments in information, mobile technologies and low cost internet access have opened up opportunities for companies to deal directly with thousands or millions of individual customers in a way that was previously unimaginable, and only manageable through the use of intermediaries (Palmer and Lewis 2009). However, it is crucial to send the right information to the right customer, since most of the consumers felt "constantly bombarded" by radio and TV advertisements, billboards, pop-up ads, telemarketing calls,

junk mail, spam, et al. and more than two-thirds say all of this has little or nothing in common with them (Thomas 2007). It is a challenge for firms to evaluate the effectiveness of this diffusion of new channels. A more significant challenge is the lack of control over communication. Consumers are increasingly able to communicate among themselves, and it is much more difficult for marketer to attract consumer attention within this chaos environment. In this respect, interactivity and two-way communication has gained more importance. Mobile marketing is one of the most effective forms of direct and interactive marketing and this study aims to find out the factors effecting customers mobile marketing acceptance in order to provide insights for marketers. Before reviewing the literature of mobile marketing and previous studies about mobile marketing acceptance factors, it is essential to know about the mobile technology developments and trends throughout the years.

## 2.2. MOBILE TECHNOLOGY

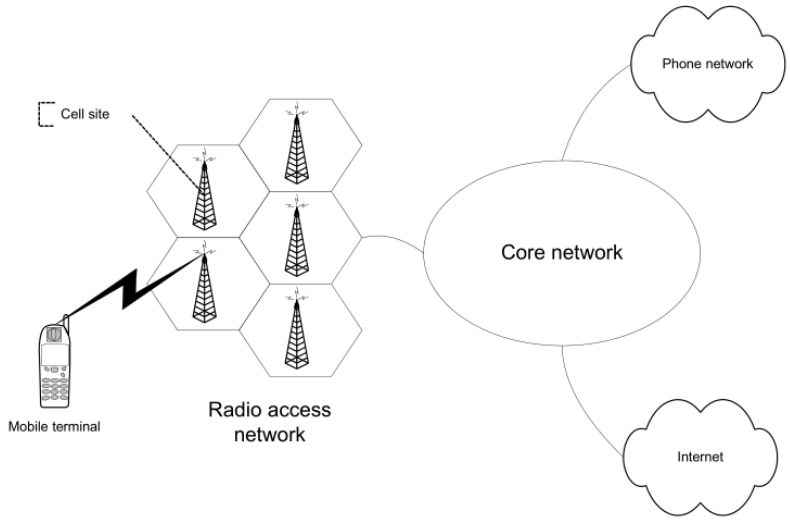
Mobile technology is directly what the name implies; technology that is portable.[2] This technology exists with the devices and also improved mobile networks which provide both mobile voice and data services. Some examples of mobile devices can be tablet PCs, personal digital assistants, mobile phones, PDAs, global positioning system (GPS) devices or smartphones, but it is incontestable that mostly used devices that serve the mobile technology are mobile phones and smartphones. The technology arena has also moved on from voice to wireless information which is enabled by mobile internet. Mobile internet distinguishes itself from other fixed or portable internet access systems by including the option to use the web anywhere even while traveling at high speed (e.g. in trains) (Gerpott,2010). Developments in mobile network technologies have allowed higher data transfers with higher transmission speeds and create the foundation for a wide range of mobile non-voice communication, information, entertainment, and commercial transaction services with value added data applications such as web browsing, e-mail, video streaming, gaming, shopping etc. In order to understand mobile technology more clearly, first, a brief history of mobile technology and then the mobility figures will be reviewed.

[2] Naismith, L., Lonsdale, P., Vavoula, G and Jenkings, M. S., 2004. Literature Review in Mobile Technologies and Learning, Futurelab Series, [online] 2004, **11** , http://www2.futurelab.org.uk/resources/documents/lit_reviews/Mobile_Review.pdf [accessed 05 May 2013]

### 2.2.1. Early History of Mobile Technology

Cellular telephony derives its name from the partition of a geographic area into small "cells" and each cell is covered by a local radio transmitter and receiver powerful enough to enable connectivity with cellular phones, referred to also as mobile terminals, within its area. Voice and data exchanged between a mobile terminal and regular phone networks, or the internet, are transmitted via the mobile network which consists of the cellular operator's radio access network and core network.[3] Below figure shows the simplest structure of the mobile network.

**Figure 2.1: Mobile Network**




*Source*: Encyclopedia of Life Support System (EOLSS)

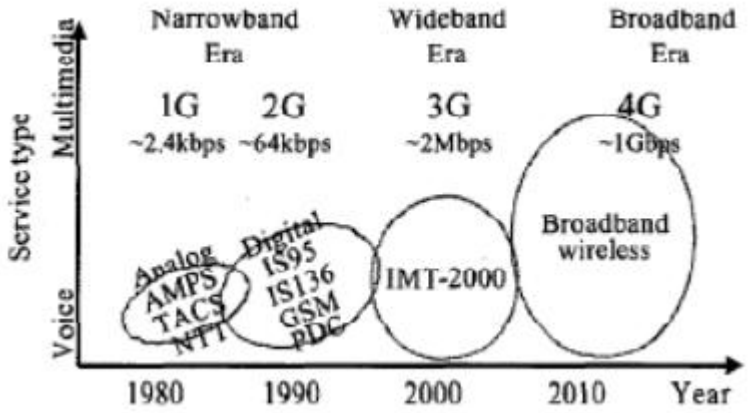
Mobile network has been evolved for many years. Although the cellular revolution is less than 20 years old, the entire history of "mobile radio" is barely 100 years old. In 1857, Scottish theoretical physicist Clark Maxwell derived a theory of electromagnetic radiation, which Italian inventor Guglielmo Marconi used as a basis for the invention of radio

[3] Pashtan, A., Wireless Terrestrial Communications: Cellular Telephony, EOLSS [online], **1**, http://www.eolss.net/Sample-Chapters/C05/ [Accessed 5 May 2013].

transmission in 1901.[4] This was a great achievement; however, it was unable to achieve reasonable data transmission rates for over a half century.

Cellular Network evolution has been categorized in to 'generations' as shown in figure 2.2

**Figure 2.2: Evolution of Mobile Cellular Networks**




*Source:* Kumar et al. 2010

In the 1970s, the First Generation, or 1G, mobile networks were introduced in AT&T's Bell Labs. Cell phone signals were based on analog system transmissions, and 1G devices were comparatively less heavy and expensive than prior devices.[5] The first commercial cellular network was the Nordic mobile telephone (NMT) network deployed in the Scandinavian countries in 1981 and the advanced mobile phone service (AMPS) cellular system was deployed in the United States in 1983 and was followed by other analog deployments across the world.[6] Also digital packet data (CDPD) developed in the early 1990s with maximum data speed 19,2Kbps. The global mobile phone market grew from 30 to 50 percent annually with the appearance of the 1G network, and the number of subscribers worldwide reached approximately 20 million by 1990.[7]

[4] Nubarrón J., 2011. Evolution Of Mobile Technology: A Brief History of 1G, 2G, 3G and 4G Mobile Phones, Brighthub [online], http://www.brighthub.com/mobile/emerging-platforms/articles/30965.aspx# [accessed 5 May 2013].

[5] Nubarrón J., 2011. Evolution Of Mobile Technology: A Brief History of 1G, 2G, 3G and 4G Mobile Phones, Brighthub [online], http://www.brighthub.com/mobile/emerging-platforms/articles/30965.aspx# [accessed 5 May 2013].

[6] Pashtan, A., Wireless Terrestrial Communications: Cellular Telephony, EOLSS [online], **1**, http://www.eolss.net/Sample-Chapters/C05/ [Accessed 5 May 2013].

[7] Nubarrón J., 2011. Evolution Of Mobile Technology: A Brief History of 1G, 2G, 3G and 4G Mobile Phones, Brighthub [online], http://www.brighthub.com/mobile/emerging-platforms/articles/30965.aspx# [accessed 5 May 2013].

Second-generation (2G) mobile systems were introduced in the end of 1980s. Low bit rate data services were supported as well as the traditional speech service. Compared to first-generation systems, higher spectrum efficiency, better data services, and more advanced roaming were offered by 2G systems (Kumar et al. 2010). The 2G carriers also began to offer additional services, such as paging, faxes, text messages and voicemail. An intermediary phase, 2.5G was introduced in the late 1990s and it uses the General Packet Radio Service (GPRS) standard, which delivers packet switched data capabilities to existing GSM networks and allows users to send graphics rich data as packets.[8] GPRS supports flexible data transmission rates as well as continuous connection to the network and is the most significant step towards 3G (Kumar et al. 2010). The importance for packet switching increased with the rise of the Internet and the Internet Protocol (IP). The Enhanced Data rates (EDGE) network which offers three times higher throughput on air interface in comparison with simple GSM/GPRS is an also example of 2.5G mobile technology (Zalud 2002).

At the start of the 21st century third generation (3G) systems are deployed (Zalud 2002). 3G networks enable network operators to offer users a wider range of more advanced services with greater network capacity and services include wide-area wireless voice telephony, video calls, and broadband wireless data, all in a mobile environment. Additional features also include High Speed Packet Access (HSPA) data transmission capabilities able to deliver speeds up to 14.4 Mbps (Kumar et al. 2010). 3G cellular services, also known as universal mobile telecommunications systems (UMTS) handled by the Third Generation Partnership Project (3GPP) established in 1998, sustain higher data rates and open the way to Internet style applications.[9]

The current generation of mobile telephony fourth generation 4G, which has not been deployed in Turkey yet, and also called Long term evolution (LTE) has been developed with the aim of providing much higher transmission rates. In contrast to 3G, the new 4G framework to be established will try to accomplish new levels of user experience and multi-service capacity by also integrating all the mobile technologies that exist (Kumar et al. 2010). 4G systems will be fully Internet Protocol (IP) based wireless Internet which will

[8] Nubarrón J., 2011. Evolution Of Mobile Technology: A Brief History of 1G, 2G, 3G and 4G Mobile Phones, Brighthub [online], http://www.brighthub.com/mobile/emerging-platforms/articles/30965.aspx# [accessed 5 May 2013].

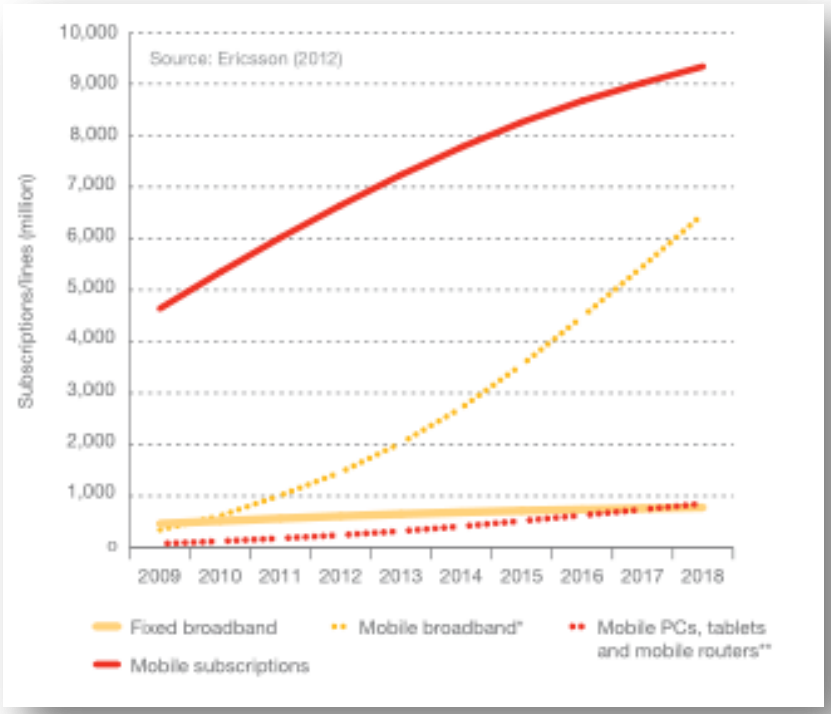
[9] Pashtan, A., Wireless Terrestrial Communications: Cellular Telephony, EOLSS [online], **1**, http://www.eolss.net/Sample-Chapters/C05/ [Accessed 5 May 2013].

provide access to wide range of telecommunication services, including advanced mobile services, supported by mobile and fixed networks. [10]

### 2.2.2. Mobility Figures

As a result of developments in mobile technologies, everything is going mobile. It has changed how people behave and how they prefer mobility to communicate and to improve their daily lives, through new and existing services. The penetration of mobile network connections and cell phones markets in developed countries is enormously high and furthermore, in developing countries, penetration is still growing quickly (Broeckelmann 2010). Below figures 2.3 and 2.4 from November 2012 Ericsson mobility report shows that by the end of 2012, total mobile subscriptions reached around 6,6 billion worldwide and are expected to reach around 9,3 billion by the end of 2018; global mobile broadband subscriptions will be around 1.5 billion in 2012, and are predicted to reach 6.5 billion in 2018.

**Figure 2.3: Fixed and mobile subscriptions 2009-2018**




[10] Nubarrón J., 2011. Evolution Of Mobile Technology: A Brief History of 1G, 2G, 3G and 4G Mobile Phones, Brighthub [online], http://www.brighthub.com/mobile/emerging-platforms/articles/30965.aspx# [accessed 5 May 2013].

Note: 'Mobile broadband subscriptions' is a sub-segment of 'Mobile subscriptions'. 'Mobile PCs/tablets' is a sub-segment of 'Mobile broadband subscriptions'

*Source:* Ericsson Mobility Report, November 2012.

**Figure 2.4: Mobile subscriptions and mobile traffic values**

| Mobile subscription essentials | 2011 | 2012 | 2018 forecast | CAGR 2012-2018 | Unit |
|---|---|---|---|---|---|
| Worldwide mobile subscriptions | 6,000 | 6,600 | 9,300 | 6% | millions |
| – Smartphone subscriptions | 750 | 1,100 | 3,300 | 20% | millions |
| – Mobile PC, tablet and mobile router subscriptions | 200 | 250 | 850 | 25% | millions |
| – Mobile broadband subscriptions | 1,000 | 1,500 | 6,500 | 30% | millions |
| – Mobile subscriptions, GSM/EDGE | 4,400 | 4,600 | 2,400 | -10% | millions |
| – Mobile subscriptions, WCDMA/HSPA | 900 | 1,200 | 4,400 | 25% | millions |
| – Mobile subscriptions, LTE | 9 | 55 | 1,600 | 75% | millions |

| Mobile traffic essentials | 2011 | 2012 | 2018 forecast | CAGR 2012-2018 | Unit |
|---|---|---|---|---|---|
| – Monthly data traffic per smartphone | 300 | 450 | 1,900 | 30% | MB/month |
| – Monthly data traffic per PC | 2,300 | 3,000 | 11,000 | 25% | MB/month |
| – Monthly data traffic per tablet | 450 | 600 | 2,700 | 30% | MB/month |
| Total monthly mobile data traffic | 600 | 1,100 | 13,000 | 50% | PetaByte/month |

| Traffic growth | Multiplier 2012-2018 | CAGR 2012-2018 |
|---|---|---|
| All mobile data | 12 | 50% |
| – Smartphones | 14 | 55% |
| – PC | 7 | 40% |
| – Tablets | 40 | 85% |

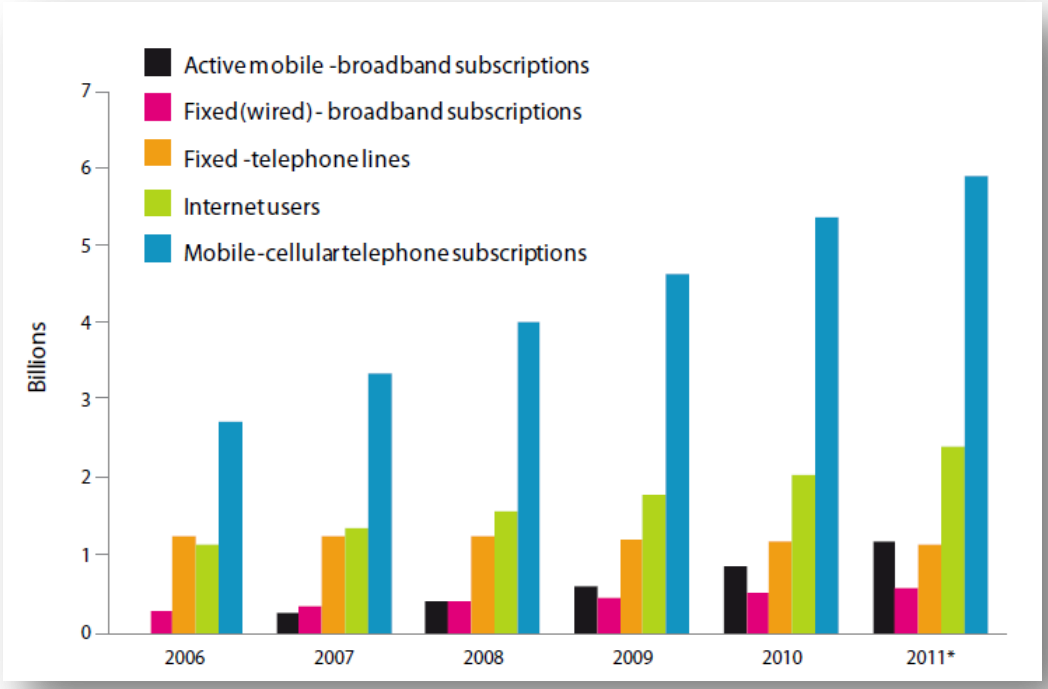
*Source:* Ericsson Mobility Report, November 2012.

Likewise, according to the International Telecommunication Union (ITU) data release[11] and below figure 2.5; total mobile cellular subscriptions reached almost 6 billion by end 2011, corresponding to a global penetration of 86 percent and by end 2011, there were more than 1 billion mobile broadband subscriptions worldwide. Mobile broadband has become the single most dynamic Information and Mobile broadband subscriptions have grown 45 percent annually over the last four years and today there are twice as many mobile-broadband as fixed broadband subscriptions.[12] These outputs apparently point out that mobile cellular subscriptions and mobile internet usage increase day by day.

[11] International Telecommunication Union (ITU), Key statistical highlights: ITU data release, June 2012, http://www.itu.int/ITU-D/ict/statistics/material/pdf/ 2011%20Statistical%20highlights_June_2012.pdf [accessed 13 October 2012].

[12] International Telecommunication Union (ITU), ICT Facts and Figures, 2011, http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2011.pdf [accessed 13 October 2012].

**Figure 2.5: Global ICT developments 2006-2011**



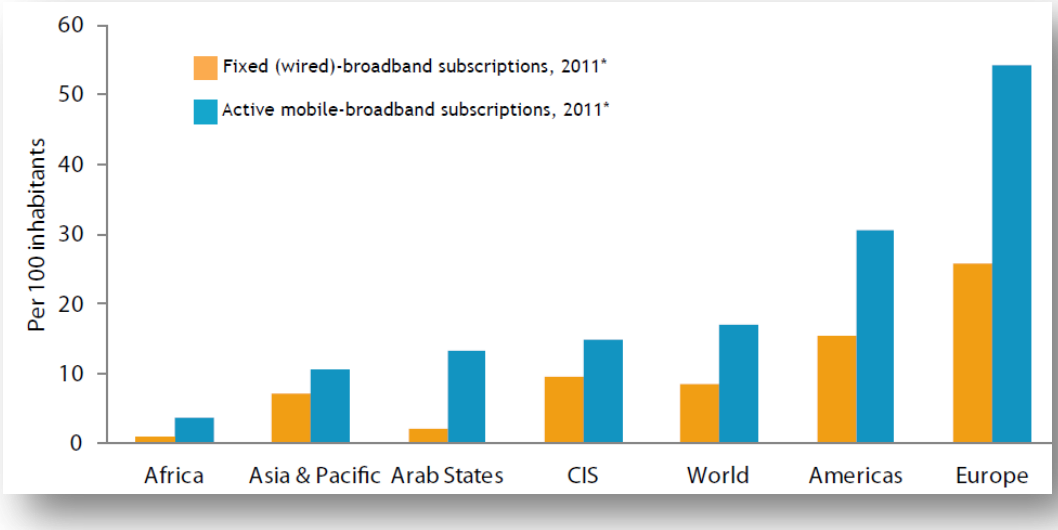

*Source:* ITU World Telecommunication, 2011.

From the intercontinental perspective, Europe leads in broadband connectivity, with fixed- and mobile-broadband penetration reaching 26 percent and 54 percent, respectively as shown below figure 2.6 (Turkey is located in Europe region). The world's top broadband economies are from Europe and Asia and the Pacific. In the Republic of Korea mobile broadband penetration exceeds 90 percent that is followed by Japan with 87,8 percent, Sweden with 84 percent, Australia with 82,7 percent and Finland with 78,1 percent.[13] More broadband penetrations doubtless require more investments on mobile networks. Current figures about the percentage of the population covered by a 2G mobile cellular network is twice as high as the population covered by a 3G network and 3G population coverage reached 45 percent in 2011.[14] Since 4G deployments are new, there is no certain value for the coverage ratio.

[13] International Telecommunication Union (ITU), ICT Facts and Figures, 2011, http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2011.pdf [accessed 13 October 2012].

[14] International Telecommunication Union (ITU), ICT Facts and Figures, 2011, http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2011.pdf [accessed 13 October 2012].

**Figure 2.6: Intercontinental Broadband subscriptions**




*Source:* ITU World Telecommunication, 2011.

On the other hand, figure 2.4 exhibits that as of today; only a part of mobile consumers can use mobile data services and innovative applications effectively with their advanced devices such as PDAs or smartphones because of the low level of smartphone penetration. Thus, most mobile phone owners have only restricted experiences with mobile services due to the mobile phone features that they have. First mobile phone was launched 40 years before in 3th April of 1973 by Martin Cooper who was an engineer in Motorola. This mobile phone was in 22 cm length, more than one kilogram weight, had 30 circuit board in it, needed 10 hours for battery loading and this battery only supported 20 minutes talk[15]. Mobile phones have been evolved tremendously within 40 years and today, especially mobile phones called smartphones do not only supports voice calls but also enable us to use internet, listen music, take photos, videos, e-mailing, chatting, shopping etc. and much more with their small size and average 100 gram weight. There is also regular mobile phones support limited services, however the developments in mobile technology and mobile marketing services push producers to focus on creating smartphones with new features. "The iPhone really changed the mobile phone from being a communication device to being a multimedia device." says Maria Mandel, Senior Partner, Executive Director Digital Innovation at Ogilvy, and North America Board Chair of the Mobile Marketing Association, "That

[15] Hurriyet, Cep telefonu 40 yaşında, 2013, http://www.hurriyet.com.tr/teknoloji/22955975.asp [accessed 2 April 2013].

opened the floodgates and since then we've seen an overwhelming number of consumers start demanding those types of devices."[16] Likewise, Süreyya Ciliv, CEO of the leader mobile operator in Turkey Turkcell, mentioned the new smartphone operations started by Turkcell in 2012 third quarter result meeting and noted that smartphone user subscriber rate is only 17 percent for Turkcell and there is still big way to go ahead. This ratio can be considered within the average level, since, according to the Ericsson mobility report[17], only around 15-20 percent of the worldwide installed base of mobile phone subscriptions uses smartphones, which means that there is considerable room for further uptake.

Many observers agree that one of the next important evolutions in the information technology area is mobility (Chtourou and Souiden, 2010) and marketers have begun to spend more serious amounts of money on mobile technology and mobile media. For instance, in order to invest this area, in Mobile World Congress[18] Turkcell has announced that, smartphone named Gebze and designed by Turkcell Technology, will be produced locally. This improvement will not only increase penetration of smartphones and mobile marketing activities, but also there is an expectation of half billion Turkish Liras decrease in Turkey's current account deficit by selling a billion devices. Many new mobile applications and services come out within last decade and upward trend of data consumption seems to continue. However, smartphones are not network smart devices; due to their huge demand of data downloading, mobile operators are required to provide proper solutions and services. Growths in wireless data services have placed higher demands on mobile wireless networks, and in response wireless carriers are upgrading their networks to offer faster data rates. More recently, wireless carriers have begun to deploy new fourth generation (4G) cellular networks that can deliver even higher data rates instead of existing third generation (3G) cellular networks (Yang 2012). Usage effectiveness and experience of mobile applications is better with the availability of high data rates delivery by mobile networks. Although, Turkey has not met with 4G technology yet, there are huge investments on 3G network and data speed rates converges current 4G networks. Briefly, usage of mobile

16 American Marketing Association, Transformers, 2010, http://www.marketingpower.com/ResourceLibrary/Documents/Content%20Partner%20Documents/COLLOQUY/2010/transformers.pdf [accessed 4 April 2012].

17 Ericsson, Ericsson Mobility Report, June 2012, http://www.ericsson.com/ [accessed 13 October 2012].

18 Milliyet, Turkcell'den akıllı telefon müjdesi:Gebze, January 2013, http://ekonomi.milliyet.com.tr/turkcell-den-akilli-telefon-mujdesi-gebze/ekonomi/ekonomidetay/26.02.2013/1673751/default.htm [accessed 4 April 2012].

applications triggers network investments and networks with high data rates triggers creation of new mobile services or applications that aim to arouse transactions in the market by simplifying our daily lives.

## 2.3. MOBILE MARKETING

Nowadays, mobile and wireless communication devices and systems are common place in our everyday life and marketing activities supported by mobile devices offer great opportunities for direct communication with consumers without the barriers of time, place, location and other. Mobile marketing is used to support all other marketing tools and tactics such as viral marketing (with the culture of online sharing), customer relationship management (by staying in touch with customers), corporate social responsibility (by publicizing social marketing campaigns), online advertising (in forms of content sponsorship and banners), and guerilla marketing (making use of low cost or free media to influence the target audience). The evolution of mobile marketing has resulted in new and fashionable ways of marketing the businesses, cost reductions, increased profitability, and hi-tech image (Tunsakul 2011). Mobile marketing also can be considered as a brand new system that hits the target by leading the customer's actions and directly presenting innovations by covering individualism, not mass. Mobile marketing has now become remarkable with its interesting practices in sales, payment, advertising, control and marketing management.

A diverse range of definitions for the broad concept of mobile marketing exist and literature is full of suggested definitions of mobile marketing (Roach 2009). Sullivan and Drennan (2002) propose the definition of m-marketing as "the application of marketing to the mobile environment of smart phones, mobile phones, personal digital assistants (PDA), and telematics". Bauer et al. (2005) identify m-marketing as "using the mobile phone as a means of conveying commercial content to customers". According to Carroll et al. (2006 p.110) mobile marketing is "Using interactive wireless media to provide customers with time and location sensitive, personalized information that promotes goods, services and ideas, thereby generating value for all stakeholders". Barutçu (2008) describes mobile marketing as "marketing activities and programs performed via mobile phone in mobile commerce". Shankar and Balasubramanian (2009) define mobile marketing as "two- or

multi-way communication and promotion of an offer between a firm and its customers using a mobile medium, device, or technology". From the marketing communication aspect, the Mobile Marketing Association (MMA)[19] defines mobile marketing as "Mobile Marketing is a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through any mobile device or network." On the other hand, Tähtinen (2006) reviews Academics' use of mobile marketing and his literature review yielded 5 distinct definitions of m-marketing and, when comparing the AMA's definition of marketing to the picture of mobile marketing provided through the five studies, there is a clear difference. Mobile marketing seems to be used to describe only one part of the marketing definition, namely the communication of value (Tähtinen, 2006). This conclusion receives support from two of the studies (Bauer et al. 2005; Heinonen and Strandvik 2006) that both use also the term 'mobile marketing communication' when describing the phenomenon. Similarly, Pousttchi and Wiedemann (2010, p.1) define mobile marketing as "form of marketing communication using mobile communication techniques to promote goods, services and ideas." Mobile marketing can be considered as the realization of marketing activities that are required to be realized directly with the individual via mobile instruments. Mobile marketing is a method of marketing that benefits from mobile technology in order to activate the target mass through personal messages (Yamamoto 2010, p.54).

Mobile is one of the many communication channels and the use of mobile phones and other mobile devices to market a brand or message called mobile marketing. Therefore, based on the above definitions, it can be concluded that the focus of mobile marketing is communication. Mobile marketing communication channels offer limitless possibilities and opportunities that cannot be gotten from any other medium (Nasir 2010, p.420). Mobile devices are always with us and unlike other advertising media; the mobile phone belongs to only one person. Mobile communication allows a company to target consumers with anytime, anywhere marketing. Other form of customer communication or commerce interaction cannot offer the ability to reach consumers at any time or at any place. Because of the ubiquitous nature of mobile devices, it is the most personalized and customized communication channel (Yang 2010). The demand for mobile devices, which are

[19] Mobile Marketing Association (MMA), MMA Updates Definition of Mobile Marketing, November 2009, http://www.mmaglobal.com/news [accessed 13 October 2012], p.8.

equipment such as smartphones, PDAs, and digital music players that are typically used on an anytime, anywhere basis without being connected by wires, and services that use these mobile devices is growing rapidly worldwide (Shankar and Balasubramanian, 2009). Mobile phone and mobile devices present the opportunity to interact directly with the consumers and get responses from the consumers. Also, marketing through mobile devices allows for innovative forms of customer relationships and is expected to lead to the development of numerous mobile commerce based services (Liu et al. 2011). Mobile communication establishes a direct dialogue between the marketer and the potential consumers; so that it is also an interactive media. Briefly, the personal and ubiquitous nature of the mobile device, the interactivity of the media, and its context sensitivity make the mobile marketing communication distinctive from other communication channels.

## 2.4. MOBILE MARKETING SERVICES

The literature to date is mostly based on mobile marketing practices using the classic mobile phone, with its very limited capability, compared to today's smartphones, which have almost unlimited potential with the mobile internet availabilities. As Barutçu (2008) noted that by using new browsers and other mobile applications, the new range of mobile technology offers the Internet "in user pocket" for which the users possibilities are endless, including banking, reaching all web pages via mobile phone without computer, booking or buying tickets, shopping and real time news. Moreover, with the introduction of new technologies such as radio frequency identification tags (RFID) and e-wallets that easily integrate with smartphones enable to get price comparisons, customer reviews, discounts, coupons, and other information by entering the bar code of a product and provide quick shopping experience across multiple channels (such as physical store, web-based, and mobile etc.) with substantially greater level of convenience, flexibility, efficiency, and personalization (Persaud and Azhar 2012). The advanced mobile internet technologies make the phone a portable entertainment player, a new marketing tool for retailers and manufacturers, a multi-channel shopping device, a navigation tool, a new type of ticket and money, and a new mobile intranet device (Barutçu 2008).

Developments in mobile technology have leaded variety of mobile data services. In general, mobile data services can be classified into four categories: communications services,

information content services, entertainment services, and commercial transaction services (Hong et al. 2008). Mobile communications services, which are currently the most widely used form of mobile data services, include SMS, MMS, e-mails, and mobile chatting. On the other hand, entertainment services are rapidly becoming popular among consumers. Examples of mobile entertainment services include ring-tones, digital characters, horoscope, mobile gaming, mobile video, mobile music, etc. (Barutçu 2007). Information content services deliver information content, such as news headlines, weather news, sports news, maps, location based information, traffic information, etc. Finally, commercial transaction services enable consumers to purchase movie/concert tickets, conduct financial transactions (e.g., buying and selling stocks, transferring funds between bank accounts, paying bills), and shop for goods and services (Hong et al. 2008).

Mobile advertising, location based mobile services (LBS), mobile sales promotion and discounts, mobile internet, advergame, mobile applications, mobile shopping stand out as the critical mobile marketing tools. Commonly, the objective of mobile marketing campaigns is to increase brand awareness and revenue, improve customer loyalty, generate opt-in databases and boost attendance at specific events (Salo et al. 2008). However, increasing technology and mobile alerts also has the potential to be intrusive and annoying. Hence, privacy concern which is apparently well understood in the sense that most people using the term believe that others share their particular definition (Suher and İspir 2009) and also permission for mobile marketing factors should be taken into consideration by marketers.

Mobile service providers are increasingly seeing the cell phone's screen as an opportunity to secure advertising revenue, much the same as broadcast TV station and movie theaters see their screens as an opportunity for advertisers to get their message to the viewing consumer. Mobile advertising has typically been categorized into push and pull models (Bamba and Barnes 2007). In the pull-model campaign, the marketer sends the information requested by the consumer; whereas in the push-model campaign, the marketer takes the initiative to send messages to the consumer such as sending SMS (Short Message Services) and MMS (Multimedia Message Service) advertisements to the potential customers. By using MMS, marketers can benefit from the use of photos, music, logos and animation and videos. SMS and MMS advertisements are expected to achieve higher response rates than

that of e-mail or television because all advertisements can be sent personally (Barutçu 2007). It is also noted that when advertisers provide funny and entertaining SMS advertising messages, which are informative and relevant to the target group, customers are likely to increase their purchasing intentions regarding the advertised products (Liu et al. 2011). All types of mobile phones support to receive SMS and SMS is still one of the most frequently used channels of mobile marketing today. However, as usage of smartphones like iPhone, Android and Blackberry, increase and people start to access Internet via through their mobile phones, mobile search is predicted to dominate mobile marketing and marketers can develop a wider range of pull-based services and employ a larger set of marketing techniques (Persaud and Azhar 2012).

Location based mobile services (LBS) play also an important role in mobile marketing. LBSs are the services in which the location of a person or an object is used to shape the application or service. ‘What is near me? ’ or ‘ where is the nearest restaurant?’ questions can be answered with these location based mobile services (Barutçu 2007). Technologies like the GPS enable operators to find the user’s location and be able to make contextual advertising or adapt the marketing impulse to customer’s current position (Suher and İspir 2009). According to some researchers, location-based advertising is even more effective in the pull scenario, as in a push scenario, consumers can feel controlled and refuse outright to give permission for using their positioning data (Pousttchi and Wiedemann 2010, p.3) while some others supported that LBSs will become the killer application of mobile commerce (Bauer et al, 2005). Location based services have become popular after the introduction of Google Maps and GPS on mobile phones. Nowadays, location based applications like Foursquare is widely used by internet phone users. People can easily share their locations on the social networks such as Facebook and Twitter. Many companies, stores and restaurants have used location based channel to publicize their information, sales promotion and discounts. Sales promotion is one of the promotional mix including coupons, discounts, rebates, free samples, gifts and incentive items in order to observe an immediate effect on sales. Mobile coupons in sales promotion play an important role, and marketers can predict a higher usage of mobile compared to their paper-based equivalents (Barutçu 2008) For example, some restaurant offers a promotional campaign in which a customer who checks in at its place for 3 times will receive a special discount. Each check-in means a great deal of brand awareness if friends of the person who checks in are of great number. It can be

also seen that Google Maps are widely used to enable most businesses to make themselves known to the public.

On the other hand, some consumers may use mobile data services for communication activities, while others focus on fun activities, such as games, ring-tones and music downloads. More specifically, mobile operators are actively contracting for entertainment content providers to develop games, contests, and TV-like soap opera stories that engage consumers to act like an audience, and provide an opportunity to secure revenue from advertisers that are increasingly interested in reaching mobile consumers via their cell phone or PDAs (Schiffman et al. 2010, p. 34). Two more recent additions to mobile entertainment services are advergaming, the combination of advertising and gaming, and value-added applications, in which it is possible to access new functionalities during use that go beyond the traditional pay-per-download to incorporate billing within the application itself for additional content and services (Feijooa et al. 2012). Advergaming is the use of interactive gaming technology to deliver embedded advertising messages to consumers and incorporates branding directly into the gaming environment (Çeltek 2010). Companies suborn the consumer into interact with their brand with an advergame, so they can find out on their own that they appreciate and value companies brand ideas (Çeltek 2010).

In the last few years, applications for mobile devices have become a matured market. An app is a piece of software that a consumer downloads onto their phone from a specific location or store created by their cell carrier, the device manufacturer or third party app store. Simple apps exist for standard feature phones, but today's mobile apps are typically associated with smartphones where their functionality is enhanced by rich graphics, animations, video and the ability to trigger phone functionality such as the GPS or the camera. Apps are specific to a phone platform and must be developed for them: iPhone, Android, BlackBerry and Windows are the current major platforms[20]. All GSM operators offer mobile internet applications in Turkey. When using the mobile internet, mobile phone users can have access to all web pages via mobile phone without computer (Barutçu 2008). There are three main types of apps that marketers can be concerned with: first type Branded

[20] Mobile Marketing Association (MMA), A Brand Marketer's Guide to the Mobile Web and Mobile Apps: Not an Either/or Proposition, 2011, http://www.mmaglobal.com/bestpractice [accessed 2 April 2013].

Apps are specifically developed to enhance some aspect of the company's product and while not typically used to sell that product, they encourage use of it such as Coke's Spin the Bottle (play the iconic game with a Coke bottle), the Weber's On the Grill (get recipes and grilling advice) or KRAFT's iFoodAssistant (menu planning with grocery list functionality), second type Mobile Media Related App are often extensions of well-known media properties that have functionality unique to the apps such as CNN Mobile or the weather Channel Mobile and third type Mobile Shopping/Commerce Related Apps refers retailers such as Macy's and Amazon are taking the lead with their customers and trying to establish a continuous on phone presence on mobile devices through their apps, which offer easy mobile commerce and price comparison by scanning a barcode.[21]

In addition to all mobile marketing services mentioned in this part, it is also very important that mobile marketing services should not be evaluated as separate medium. They need to take place in general marketing strategy of companies as a complementary member of marketing mix. However, considering the mobile technologies rapid development and increasing dominance, finding out factors affects customer mobile marketing services adoption in Turkey would be an important output for the marketers while drawing their marketing strategies and deeply understanding of related theories about acceptance of mobile marketing is required before determining these factors.

## 2.5. THEORIES BEHIND MOBILE MARKETING ACCEPTANCE

Many theories have been used to explain the acceptance of, intention for and attitudes towards the mobile marketing, mobile advertising or mobile phone marketing. To understand the various studies about mobile marketing, it is necessary to know the key points and particular details of related major theories.

### 2.5.1. Fishbein's Multi-Attribute Model

One of the most important and extensively researched models in the literature is Fishbein's behavioral model (Wu 2003). The Fishbein multi-attribute model (Ajzen and Fishbein 1980) is a complex and influential conceptualization of the relationships among consumer's

[21] Mobile Marketing Association (MMA), A Brand Marketer's Guide to the Mobile Web and Mobile Apps: Not an Either/or Proposition, 2011, http://www.mmaglobal.com/bestpractice [accessed 2 April 2013].

belief, attitudes, intentions and behavior. This model recommends that people form attitudes toward any object (e.g. product, service, or cause or an issue) on the basis of their beliefs (perceptions and knowledge) about the object and the evaluation of the object (Schiffman et al. 2010, p. 251). In this model, a person's overall attitude toward some object could be derived from his beliefs and feelings about various attitudes about the object. Thus it can be used as a multi-attribute measurement model. Fishbein's attitude model can be expressed in equation form as (Wu 2003);

$$A_o = \sum_{i=1}^{n} b_i e_i,$$

where;

Ao= the person's overall attitude toward the object o.

bi = the strength of his belief that the object is related to attribute i(belief component, such as the strength of the belief that mobile shopping is convenience).

ei= evaluation or intensity of feelings toward attribute I (evaluation component)

n= the number of relevant beliefs for that person.

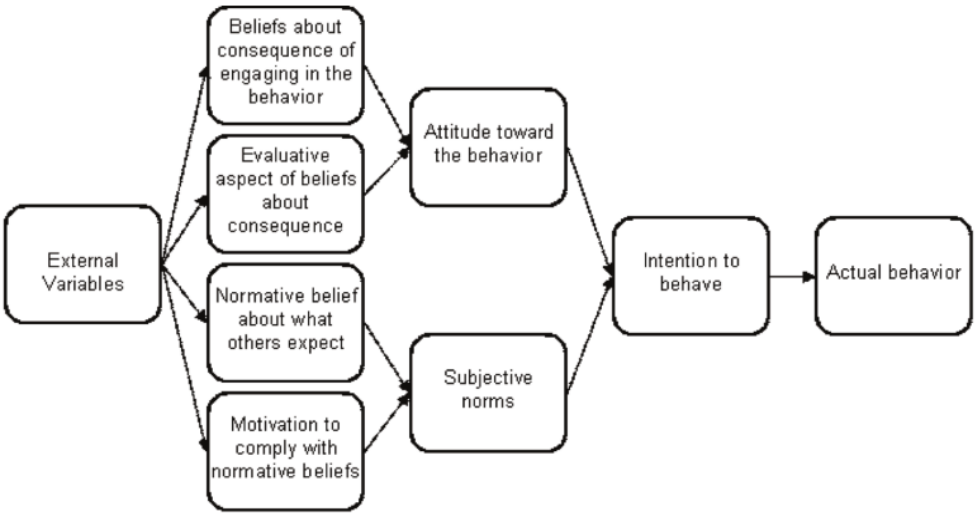
Based on this model, attitude towards a service (such as a mobile marketing service) can change when either evaluative aspect or strength of belief related with an attribute changes, or when attributes are added or removed. The Fishbein model provides a convincing approach to understand how an overall evaluation of a service is derived from a consumer's beliefs. Different consumer's beliefs about the same service may be dissimilar. The Fishbein model allows for differences among consumers in strength of beliefs and can readily explain these differences in service evaluation, also it suggests that the most positive overall evaluation should result from the integration of many strongly held positive beliefs about the service (Vatanparast 2010, p.257). Fishbein's model is extremely helpful to mobile marketers because it provides reasons for consumer preferences, identifies unfulfilled needs, and provides suggestions for new products.

### 2.5.2. Theory of Reasoned Action (TRA)

Theory of Reasoned Action (Fishbein and Ajzen, 1975) is a tool used to achieve deeper insights into how attitudes and beliefs are related with individual intentions to perform. The TRA model represents a comprehensive integration of attitude components into a model

that is designed to lead to both better explanation and better predictions of behavior. TRA is a refinement of Fishbein's multi-attribute model that clarifies the relationship between attitudes and behavior. In accordance with this expanded model, to understand intention it is also needed to measure the subjective norms that influence an individual's intention to act (Schiffman et al. 2010, p. 253). Subjective norm can be described as an individual's perception of the social pressure to perform the target behavior (Ajzen and Fishbein 1980). In other words, subjective norm is composed of the user's perception of how others thought about user's behavior, and the user's motivation to comply with the expectations of these referents (Fishbein and Ajzen 1975). The components of TRA are three general constructs: behavioral intention, attitude, and subjective norm. TRA proposes that the most significant determinant of a consumer's actual behavior is the intention to perform a behavior which is a function of attitude towards behavior and subjective norms (Vatanparast 2010, p. 258). The two functions are new contributions to Fisbein's previous model as below;

**Figure 2.7: Theory of Reasoned Action**



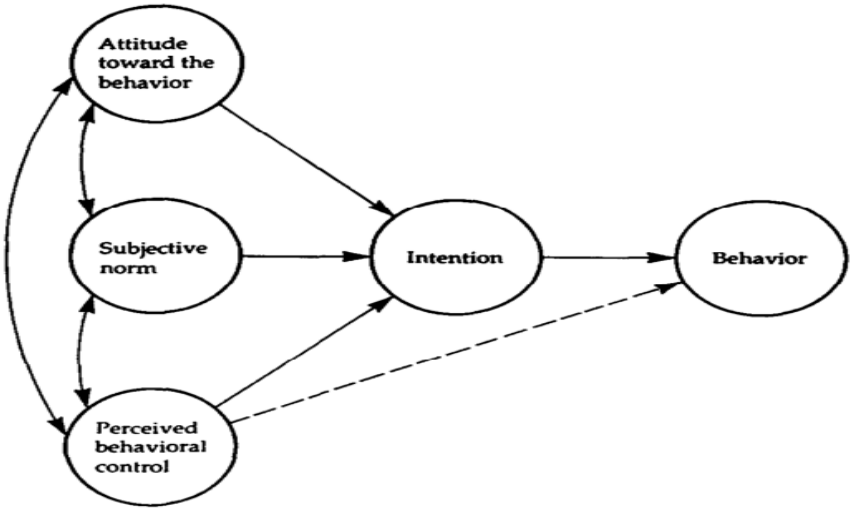

*Source:* Vatanparast, 2010, p. 258.

### 2.5.3. Theory of planned Behavior (TPB)

The theory of planned behavior is an extension of the theory of reasoned action (Ajzen and Fishbein 1980, Fishbein and Ajzen 1975) and includes an additional factor leading to "intention"; the construct of perceived behavioral control which is a consumer's perception of whether the behavior is or is not within consumer's control (Ajzen 1991). Perceived

behavioral control plays an important part in the theory of planned behavior. Perceived behavioral control denotes a subjective degree of control over the performance of a behavior and should be read as perceived control over the performance of a behavior (Yang and Zhou, 2011). Ajzen (1991) defines perceived behavioral control as "the perceived ease or difficulty of performing the behavior". In the context of system usage, perceived behavioral control relates to the degree to which an individual believes that consumer has control over personal or external factors that may facilitate or constrain system use (Vatanparast 2010, p. 258). For mobile services, attitude towards behavior can then be described as an individual's favorable or unfavorable evaluation of using a specific service while subjective norm can be seen as the perceived social pressure to use or not to use pointed service. Ajzen (1991) shows that perceived behavioral control, attitudes and subjective norms are all positively related to the intentions about the behavior which predicts the actual behavior of a consumer.

**Figure 2.8: Theory of planned behavior**



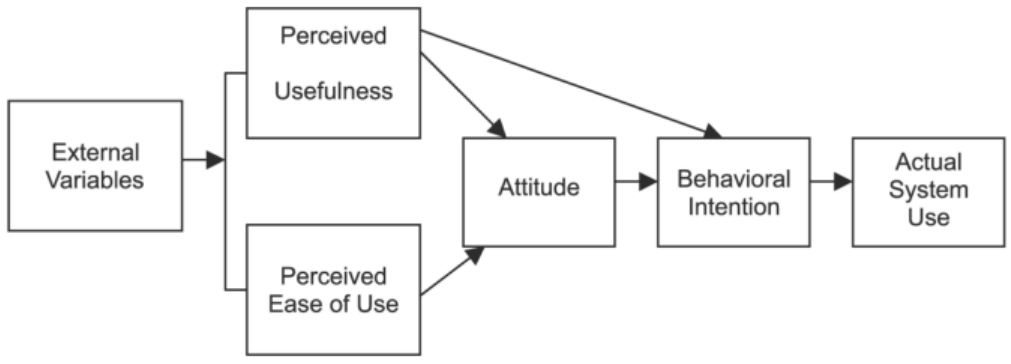

*Source*: Ajzen 1991.

The TPB model has not been tested sufficiently in empirical studies because of some limitations such as the ambiguity that surrounds the definition of perceived behavioral control and lack of consideration of unconscious motives as TPB is grounded on the belief that people think rationally and make logical decisions (Vatanparast 2010, p. 259).

### 2.5.4. Technology Acceptance Model (TAM)

TAM is grounded in the Theory of Reasoned Action (Fishbein and Ajzen 1975) and Theory of Planned Behavior (Ajzen 1991) and based on two key determinants of perceived usefulness: "the degree to which a person believes that using a particular system would enhance his or her job performance" and perceived ease-of-use "the degree to which a person believes that using a particular system would be free of effort" (Davis 1989). Although models related to TAM are typically applied to technology adoption within the organization (Davis 1989), it has been applied as well to more general contexts relating to consumers' adoption and usage of technology. Useful and easy-to-use technologies have a positive influence on a user's future attitude and intention towards using the technology. Basically, people are more likely to use a system that is believed to help them perform better. However, even if a system is useful, if it is too difficult to use, the effort required to use it prevails the potential of enhanced performance benefits to be derived from the system. Based on TAM model, the system can be more useful when it is easier to use, thus, technology acceptance via perceived usefulness is directly influenced by ease-of-use (Davis 1989). Many empirical studies have tested the TAM model and confirmed that these factors do correlate with the usage of target system, thus, if the technology is useful and easy to use by the consumers, the acceptance of the technology is likely to be positive as well (Lu et al. 2003). Also, in the mobile domain, consumers who find mobile technology useful and easy to use are consumers who have more positive attitudes towards mobile marketing (Gao et al. 2012).

**Figure 2.9: Technology Acceptance Model**

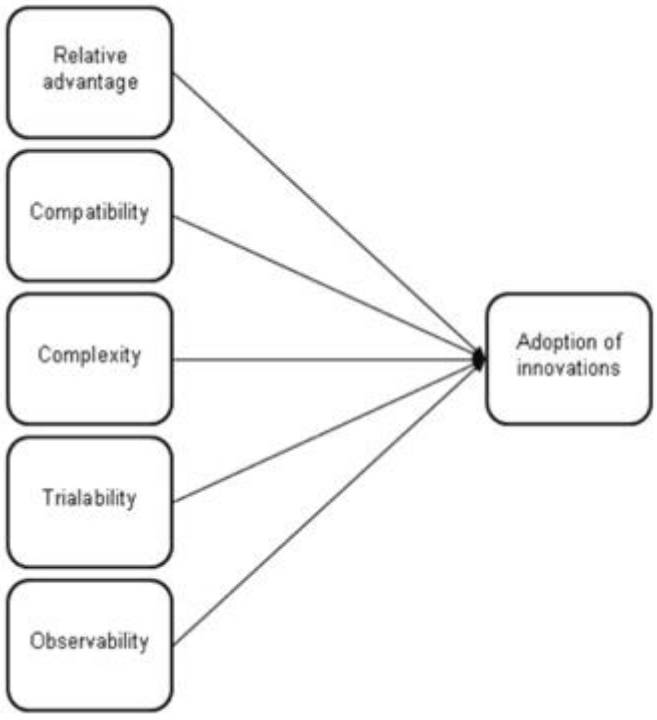



*Source:* Lu et al. 2003.

### 2.5.5. Innovation Diffusion Theory (IDT)

The diffusion of new goods or standards is an object of interest in innovation as well as diffusion theory. Innovation Diffusion Theory is another theory that clarifies acceptance and intention to use technology. Rogers (1983) defines innovation diffusion theory as "the process by which innovation is communicated through certain channels over time among the members of a social system." The diffusion process is considered to pass sequentially through knowledge, persuasion, decision, implementation and confirmation of the innovation (Chaudhuri 1994). In this regard, Rogers (1983) claims that the following five attributes of innovation influence the adoption of innovations; relative advantage, compatibility, complexity, trialability and observability.

**Figure 2.10: Drivers of adoption of innovations**




*Source*: Rogers,1983.

These five attributes are conceptually distinct but empirically interrelated with each other. Rogers (1983) defines relative advantage as "the degree to which innovation is perceived as being better than the idea it supersedes" such as economic profitability or in status giving. Relative advantage is one of the best predictors of an innovation's rate of adoption as

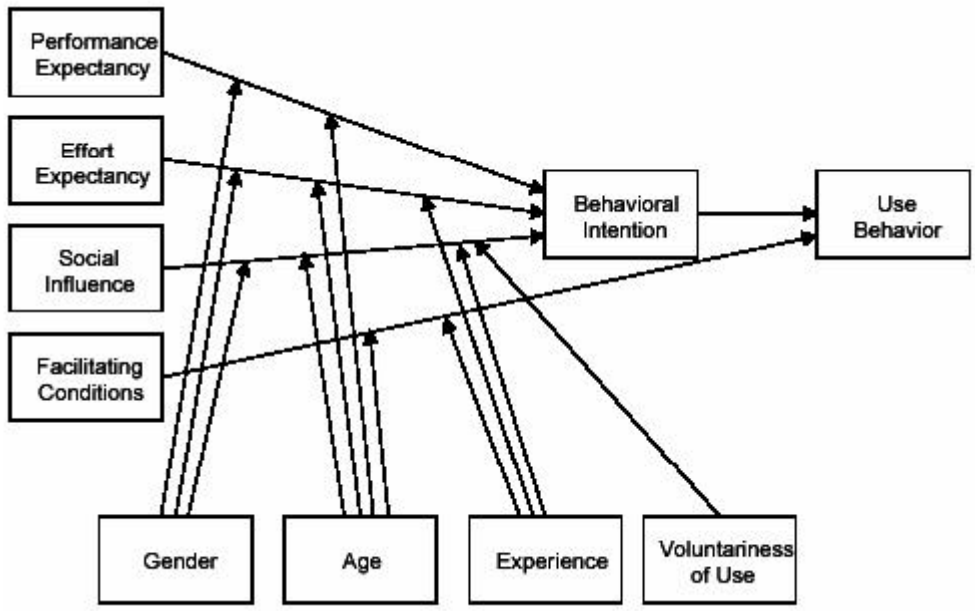
potential adopters need to know the degree to which a new idea is better than an existing one (Rogers 1983). Compatibility is defined by Rogers (1983) as "the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters". Compatibility has a positive direct effect on rate of adoption of innovations as a compatible idea will be less uncertain to the potential adopter. Rogers (1983) defines complexity as "the degree to which an innovation is perceived as relatively difficult to understand and use." The less difficult to understand and use the innovation will be, the less complex it will be perceived and the rate of adoption will be higher. Thus, the complexity of an innovation is negatively related to its rate of adoption (Rogers 1983). Trialability is defined by Roger (1983) as "the degree to which an innovation may be experimented with on a limited basis". The trialability on an innovation is directly and positively related to the rate of adoption of innovations. Rogers (1983) defines observability as "the degree to which the results of an innovation are visible to others." Rogers suggests a positive relation between observability and adoption rate because the faster the adoption of the innovation will be if the more visible the innovation is to others. Besides these five attributes, additional elements observed in Chaudhuri's (1994) study such as price, competition, cash resources, chance occurrences, company policy. From this perspective, mobile marketing services acceptance factors can be also changed according to the different bases or cultures. As Ajzen and Fishbein (1980) agree that attitudes towards an object and attitudes regarding a particular behavior relating to that object can frequently differ.

### 2.5.6. Unified Theory of Acceptance and use of Technology (UTAUT)

Models for technology acceptance and service adoption have been established and tested extensively. In 2003, Venkatash et al. proposed the Unified Theory of Acceptance and Use of Technology (UTAUT) model, which is based on the synthesis of eight well-established theories (i.e. Theory of Reasoned Action, Motivational Model, Theory of Planned Behavior, a combined TAM and TPB model, model of PC utilization, Innovation Diffusion Theory, and Social Cognition Theory) to assess the likelihood of success for new technology introductions. Although many studies have been conducted on information technology acceptance, most had limitations in addressing complex and sophisticated technology adoption and most were conducted after the users' acceptance or rejection decision rather than during the active adoption decision-making process (Venkatesh et al., 2003).

According to the review and synthesis of previous technology acceptance theories, four constructs were theorized and verified as significant determinants of predicting technology acceptance behavior in the UTAUT and these constructs were performance expectancy, effort expectancy, social influence, and facilitating conditions (Yang 2010). Performance expectancy measures the degree to which a person believes that using the system could help improve his or her performance, such as the mobile services, as being useful in achieving their goals in terms of job performance and this construct is similar to the usefulness construct in the TAM model (Pan et al. 2011). Effort expectancy explains how much people feel comfortable and find it easy to adopt and employ the system for their jobs. Social influence measures the degree to which a person believes that others who he/she cares about feel that he/she should use the system. Facilitating conditions measures the degree to which a person believes that organizational assistance is there to facilitate the usage of the system. UTAUT also considers the moderating effect of four other factors such as gender, age, experience and voluntariness of usage (Venkatesh et al., 2003). Unified Theory of Acceptance and Use of a Technology (UTAUT) model has shown greater
explanation power over past models for different empirical settings as seen below figure.

**Figure 2.11: The Unified Theory Acceptance and Use of Technology (UTAUT)**




*Source*: Venkatesh et al. 2003.

## 2.7. CONSUMER ATTITUDES AGAINST MOBILE MARKETING

Above theories have been used in many studies regarding the consumer attitudes against mobile technology, mobile marketing or related services and consumer acceptance issue in different countries. Different relations have been found according to the studies in various cultures. In order to understand the differences, before analyzing these previous results, cross cultural psychology impact on consumer behavior is mentioned shortly hereafter.

### 2.7.1. Cross Cultural Psychology Impact on Consumer Behavior

Consumer behavior helps firms and organizations improve their marketing strategies by attempting to understand the buyer decision making process, both individually and in groups. Schiffman et al. (2010, p. 23) clearly define consumer behavior as the process and activities people engage in when searching for, selecting, purchasing, using, evaluating, and disposing of products and services so as to satisfy their needs and desires. Consumer behavior was a relatively new field of study, because it had little history and research of its own, theorists borrowed heavily from concepts developed in other scientific disciplines, such as psychology, anthropology and economics to form the basis of this new marketing discipline (Schiffman et al. 2010, p. 36). Psychology has had considerable contributions to this new marketing discipline because it is the science of mind and behavior and according to Long (2006) psychological approaches focus on human agents and ground their theories on the innate nature of humans, the human mind and the limits and possibilities of behavior. Some related theories which have been applied in marketing as well as other business activities such as the adaptation level theory, congruity theory, attribution theory, perception, control theory, cross cultural studies and social exchange theory were developed by psychologists and also attitude measurement scale developed initially in psychology (Stock 1997). Especially, cross cultural approach is one of the important concepts from the discipline of psychology which has contribution to consumer behavior.

The field of cross-cultural psychology is the scientific study of variations in human behavior, taking into account the ways in which behavior is influenced by cultural context (Berry et al. 1992, p.3). Cross cultural psychology has had different theoretical orientations such as absolutism and relativism (Segall et al. 1998). According to Berry et al. (1992, p.4)

cultural absolutism is the idea that psychological phenomena, such as intelligence and honesty, do not differ from culture to culture and they are the same among cultures. From the absolutist perspective, human phenomena are basically the same in all cultures: honesty is honesty, and depression is depression, no matter where one observes it and culture is thought to play little or no role in the meaning human characteristics (Segall et al. 1998). On the other hand, cultural relativism was initially meant to warn against invalid cross-cultural comparisons, emphasizing ethnocentric value judgment which refers to the phenomenon of consumer preference for domestic products against imports (Kucukemiroglu 1999) and the opposite of absolutism. As it is seen, these contrary theoretical orientations have provided the ability of exposing similarities and varieties of customers' value among different nations. Therefore, cross cultural psychology has an important role in defining consumer values in different nations before emerging a new market for global brands.

International marketers have been aware of cultural differences among nations and cross cultural research has focused on "national characteristics" of different markets (Vida et al. 2008). Although cross cultural consumer analysis might also include a comparison of subcultural groups within a single country, it is more used by international marketers. International marketers should analyze cultural differences before expanding into targeted countries in order to assess the strength of these differences and whether they may have an effect on success (Laroche et al. 2002). Cross cultural analysis can provide marketers with an understanding of the psychological, social, and cultural characteristics of the foreign consumers they wish to target, so that they can design effective marketing strategies for the specific national markets involved (Schiffman et al. 2010, p. 430). Cross cultural aspects of consumer behavior emphasized in this part due to the mobile marketing services nature. Mobile marketing services are mostly universal in their basic features; therefore it is also taken into consideration that the different results of the same factors, affect the mobile marketing services adoption in different countries, can be come from the different culture's preferences, lifestyles, reactions and have considerable implications for global marketing managers.

### 2.7.2. Cross Cultural Studies About Mobile Marketing Acceptance

Previous research on mobile marketing has been made in several cultures and focused on subjects such as mobile coupon adoptions (Im and Ha 2012), SMS advertising and permission (Bamba and Barnes 2007, Suher and İspir 2009), attitudes toward mobile advertising in different cultures (Liu et al. 2011), permission-based mobile marketing (Jayawardhena et al. 2008), privacy issues in mobile advertising (Cleff 2007), success factors in mobile marketing (Scharl et al. 2005), intentions to use mobile shopping services (Lu et al. 2009 Wu 2003, Yang 2010), mobile viral marketing attitude, intention and behavior (Yang et al. 2011), consumer responsiveness to mobile marketing communication (Heinonen and Strandvik 2006), mobile services usage (Hong et al. 2008), gender differences in using mobile data services (Yang and Lee 2010), mobile phone marketing (Grant and O'Donohoe 2007, Roach 2009), consumer acceptance of mobile marketing (Bauer et al. 2005, Gao et al. 2012), attitudes towards mobile advertising, entertainment, discount coupons, and shopping (Barutçu 2008), consumers' reactions towards innovative mobile services (Broeckelmann 2010, Ismail et al. 2011, Persaud et al. 2012). Table 2.1 summarize several recent studies made different countries on mobile marketing in terms of their source, study focus, methodology with related country, and study variables.

Most of these studies are empirical in nature and are based on theories such as the Fishbein multi attribute model (Wu 2003), advertising research foundation model (Heinonen and Strandvik 2006), diffusion of innovation model (Im and Ha 2012, Roach 2009), gratifications theory and phenomenology (Grant and O'Donohoe, 2007), the theory of reasoned action (TRA), the theory of planned behavior (TPB), the technology adoption model (TAM) (Bauer et al. 2005, Gao et al. 2012, Im and Ha 2012, Ismail and Razak 2011, Lu et al. 2003, Revels et al. 2010, Yang et al. 2011, Yang and Lee 2010) and the Unified Theory of Acceptance and use of Technology (UTAT) (Yang , 2010). Some studies based on the TRA, TPB, and TAM frameworks used modified frameworks that included factors not in the original models, some factors were omitted from the analysis and new ones were added.

**Table 2.1: Review of literature on mobile marketing adoption**

| Source | Study Focus | Methodology | Study variables |
|---|---|---|---|
| Hong *et al.* (2008) | Understanding the behavior of mobile data services consumers | Online survey in Hong Kong<br>1,183 respondents<br>Decomposed theory of planned behavior (TPB) | *Dependent variable:* Intention to Continue Usage of Mobile Data Services<br>*Independent variables:* Attitudinal Beliefs (Perceived Usefulness, Perceived Ease of Us,Perceived Enjoyment), Normative Beliefs (Social Influence , Media Influence), Perceived Behavioral Control (Perceived Mobility), Perceived Monetary Value |
| Wu (2003) | Measure attitude toward online shopping | Personel interview survey in Taiwan<br>600 internet user respondents<br>Fishbein multi attribute model | *Dependent variable:* Attitude towards online shopping<br>*Independent variables: C*onsumer demographics, purchase preference, benefit perception,lifestyle |
| Jayawardhena *et al* . (2008) | Develop a conceptual model to examine factors that influence consumers to participate in permission-based mobile marketing | Online and paper based survey in Finland (200), Germany(207) and UK(206)<br>667 university student respondents<br>The partial least squares (PLS) approach | *Dependent Variable:* Permission<br>*Independent variables:* personal trust, institutional trust, perceived control and mobile marketing experience |
| Gao *et al.* (2012) | Examine factors influencing consumers' attitudes toward mobile marketing across two major markets—the United States and China | Survey in USA (300) and China (305)<br>605 undergraduate student respondents<br>Technology acceptance model (TAM) | *Dependent Variable:* Attitude towards mobile marketing<br>*Independent variables:* Percieved ease of use, Percieved Attachment, Innovativeness, Risk Avoidance, Privacy Concern |
| Lu *et al* . (2003) | A conceptual framework to explain the factors influencing user acceptance of wireless internet via mobile devices | Based on a review of the literature<br>Technology acceptance model (TAM) | *Dependent Variable:* Attitude towards wireless internet via mobile devices<br>*Independent variables:* Individual differences, Technology complexity, Facilitating conditions, Social influences, and Wireless trust environment |
| Barutçu (2008) | Analyse the possible significant impacts of mobile phone technology developments on marketing | Survey in Turkey<br>389 mobile phone users respondents | *Dependent Variable:* Attitudes towards mobile marketing tools (Mobile advertising, mobile sales promotion, mobile entertainment and mobile shopping)<br>*Independent variables:* Mobile phone user, Internet User or not , Demographic characteristics (Age Groups, Income level, Education Degrees, Employement Areas) |
| Persaud et al. (2012) | Focus on consumers' intentions to accept innovative mobile marketing services | Online survey in Canada<br>428 respondents | Dependent Variable: Intention to participate in mobile marketing<br>Independent variables: Perceived value, Trust, Shopping styles, Age, Gender,Education |

## Table 2.1: Review of literature on mobile marketing adoption

| Source | Study Focus | Methodology | Study variables |
|---|---|---|---|
| Lu *et al.* (2009) | Explore a conceptual model for analyzing customers' perceptions of using mobile commerce services for online shopping | Online survey in Taiwan<br>369 professional participants | *Dependent variable:* Mobile shopping intention<br>*Independent variables:* Anxiety,Mobile skillfulness (Ease of acces,Enjoyement, Usefulness), Compatibility |
| Yang (2010) | Examine critical determinants of US consumers' intentions to use mobile shopping services | Online survey in USA<br>400 mobile services users respondents<br>The Unified Theory of Acceptance and Use of Technology (UTAUT) model was adapted | *Dependent variable:* Attitude toward mobile shopping services<br>*Independent variables:* Utilitarian performance expectancy, Hedonic performance expectancy,Effort expectancy, Social influence, Facilitating conditions |
| Yang et al. (2011) | Apply the theory of planned behavior and the technology acceptance model to examine young American consumers ' mobile viral marketing attitude, intention and behavior | Online survey in USA<br>440 American college students respondents<br>Extend theory of planned behavior (TPB) and technology acceptance model (TAM) to mobile viral marketing research | *Dependent variable:* Intention and attitude to forward electronic messages<br>*Independent variables:* Subjective norm, behavioral control, Attitude |
| Liu et al. (2012) | Investigate factors influencing the perception of mobile advertising in different cultures | Survey interviews in Austria (164) and Japan (170)<br>334 undergraduate business students respondents | *Dependent variable:* Attitudes toward mobile Advertising<br>*Independent variables:* Infotainment, Irritation, Credibility |
| Bauer et al. (2005) | Develop a model of consumer acceptance of mobile marketing | Online Survey in Germany<br>1,028 respondents<br>Theory of Reasoned Action (TRA) | *Dependent variable:* Attitudes toward mobile Marketing<br>*Independent variables:* Social norms,Innovativeness, Knowledge about mobile communication, Information seeker-behaviour, Attitude toward advertising, Perceived utility,Perceived Risk |
| Ismail and Razak (2011) | Examine the factors influencing the intention to use mobile marketing among young consumers in Malaysia | Survey in Malaysia<br>289 university students respondents<br>Theory of Reasoned Action (TRA) | *Dependent variable:* Attitudes toward mobile Marketing<br>*Independent variables:* Perceived usefulness, Perceived ease of use, Perceived enjoyment, Perceived image, Subjective norm |
| Suher and İspir (2009) | Examine the factors that affect consumer attitudes towards SMS advertising and the relationship between these factors and attitude | Face-to-face survey in Turkey<br>291 university students respondents | *Dependent variable:* Attitudes toward SMS Advertising<br>*Independent variables:* Infotainment, Life Part, Irritation, Privacy |
| Grant and O'Donohoe (2007) | Explore young people's motivations for using mobile phones and their views on mobile marketing communications | Multi-method approach<br>A self-completion questionnaire and focus discussions<br>Gratifications theory and phenomenology | *Dependent variable:* Motivations for using mobile phones<br>*Independent variables:* Convenient entertainment, Social stimulation, Experiential learning, Escapism, Purchase information and advice |
| Revels et al. (2010) | Understanding consumer intention to use mobile services | Paper-based survey in Australia<br>141 respondents had prior experience with using m-commerce services<br>The Technology Acceptance Model (TAM) | *Dependent variable:* Intention to use m-services<br>Independent variables: Perceived usefulnes, Perceived enjoyment, Perceived cost, Perceived image |

**Table 2.1: Review of literature on mobile marketing adoption**

| Source | Study Focus | Methodology | Study variables |
|---|---|---|---|
| Im and Ha (2012) | Understand mobile coupon adoptions among US consumers | Online survey in USA<br>611 respondents<br>Innovation diffusion theory (IDF) and technology acceptance model (TAM) | *Dependent variable:* Mobile coupon usage behaviour<br>*Independent variables:* Perceived usefulness, perceived ease of use, Perceived risk, Personal innovativeness, subjective norm, attitude, behavioral intention, and actual use of mobile coupons |
| Broeckelmann (2010) | Explore consumers' reactions to different results of the confrontation with mobile services by using content analysis and examining participants' projections | Cartoon test in German<br>669 participants (mostly students) | *Dependent variable:* Reactions towards mobile marketing services<br>*Independent variables:* Anger,Disinterest, Skepticism, Check offers, Interest, Liking |
| Roach (2009) | Explore consumer perceptions of mobile phone marketing | Self-completed questionnaire in Australia<br>254 university students<br>Diffusion of innovation (DOI) model | *Dependent variable:* Consumer adoption of mobile phone marketing<br>*Independent variables:* Relative advantage, Compatibility, Complexity, Product involvement |
| Yang and Lee (2010) | Examine how consumers differ by gender in terms of the values sought from mobile data services | Online survey in USA<br>200 respondents (116 female, 84 male)<br>Technology acceptance model (TAM) | *Dependent variable:* Intention to use mobile data services<br>*Independent variables:* Utilitarian value, hedonic value, perceived ease of,perceived usefulness, attitude |
| Bamba&Barnes (2007) | Examine the phenomenon of consumers' willingness to give permission to receive short message service (SMS) advertisements | Focus group and scenario-based survey in UK<br>50 questionnaire | *Dependent variable:* Willingness to give permission to receive SMS advertisements<br>*Independent variables:* Knowledge, Brand familiarity, SMS ad relevance, Control over opt in conditions, Attitude toward SMS advertising. |
| Heinonen and Strandvik (2006) | Explore consumers' responsiveness to mobile marketing communication | Two empirical studies in Finland<br>66 respondents (ach respondent assessed one to four offerings in two to three situations, resulting in a total sample size of 1179 assessments)<br>Advertising Research Foundation model | *Dependent variable:* Consumer's responsiveness to marketing communication<br>*Independent variables:* SMS, MMS, E-mail, Direct mail. |
| Gurau and Ranchhod (2009) | Provide a comparison of mobile consumers' perceptions regarding privacy issues in three different national and cultural contexts | Face-to-face questionnaire in British, French and Romanian<br>900 respondents (300 for each country) | *Dependent variable: C*onsumers' perceptions regarding privacy issues in three different national and cultural contexts<br>*Independent variables:* privacy threat of collecting unapproved personal<br>information, personal data into mobile marketing databases and making an unapproved use of personal information in the mobile commerce environment,awareness of privacy protection legislation and corporate privacy statement. |
| Shankar et al. (2010), Cleff (2007) | Eevaluation of legal problems raised by this novel form of advertising; Diffusion and success factors of mobile marketing | Literature review | Review of current research and future research proposed |

Barutçu (2008) found that consumers have positive attitude towards mobile marketing tools; mobile advertising, mobile discount coupons and mobile entertainment except for mobile shopping. Likewise, Broeckelmann (2010) highlighted in his study that more than half of the participants are open minded about mobile advertising, location-aware advertising text messages are preferred over those that are not location aware, messages with a monetary incentive are preferred over purely informational messages and mobile shopping can be a feasible alternative to other marketing channels in situations of time pressure where there is no access to the internet via more convenient channels like notebook. Im and Ha (2012) emphasized in their study that people shop with coupons often but mobile coupons are not used as often and innovativeness became a major force to drive adoption of mobile coupons. According to the study of Bamba and Barnes (2007) the findings show that consumers' perceptions of SMS ads are rather negative and the negative attitude toward SMS advertisements implies that marketers have a lot of work to do to make SMS ads more popular and attractive to young consumers. Grant and O'Donohoe (2007) indicated that young people have little motivation to use mobile phones to obtain commercial information or advice; instead, mobile devices were valued for their non-commercial, personal and socially orientated uses.

Satisfaction has a significant impact on consumer intention to use mobile services, which supports a traditional perspective which refers attitude positively affects intention (Fishbein and Ajzen 1975), and perceived usefulness, perceived ease of use, perceived enjoyment and perceived cost influence customer satisfaction with mobile services (Revels et al. 2010). According to the study of Gao (2012), specifically, perceived usefulness had a greater positive effect on attitude toward mobile marketing and it is predicted that the positive effect of perceived usefulness on attitude toward mobile marketing would become weaker when personal attachment increased. Persaud et al. (2012) found that perceived value, which means the consumer's overall assessment of the benefits of a product based on perceptions about what is received and what is given up, is the most influential explanatory variable for the acceptance of mobile marketing. Bauer et al. (2005) found that entertainment and information value are identified as the central acceptance drivers of mobile marketing and also underlined the importance of precisely representing mobile marketing messages and campaigns according to consumer entertainment and information requirements. The effect of utilitarian performance expectancy on attitude toward using

mobile shopping services is significant and positive that indicate mobile shopping services help consumers save shopping time, compare product prices, and get relevant promotion information in their hands at user pinpoint locations (Yang 2010). Also, mobile skillfulness, which is a key predictor of three constructs: anxiety, enjoyment, and usefulness, plays an important role and have a direct and significant influence on behavioral intentions to use mobile services (Lu 2009). Perceived enjoyment is the strongest driver and predictor of mobile services satisfaction (Ismail and Razak 2011, Revels et al. 2010). If the use of technology arouses positive emotions and feelings in a consumer, the consumer is more tend to experience pleasure as a result of their engagement with the technological advances. According to the study of Hong et al. (2008), perceptions of pleasure and enjoyment are critical to consumers' usage behavior and imply that understanding, creating, and maintaining the perceptions of enjoyment involved in using mobile data services will be crucial to the success of service operators.

Gao (2012) found that the effect of privacy concern for attitude toward mobile marketing does not make sense in United States and China. However, according to the study of Persaud et al. (2012) while permission and brand trust are the basis for consumers' willingness to participate in mobile marketing, consumers are concerned about their privacy, want their permission respected, and would like to have some control over when and how they participate in mobile marketing. Indeed, the more control they can be allowed, the more likely they will deepen their involvement. For instance in general, consumers do not like SMS ads without permission, since SMS is typically private therefore consumers found it annoying to receive unsolicited SMS ads and they found their privacy violated (Bamba and Barnes 2007). The study of Heinonen and Strandvik (2006) showed that SMS communication was considered the most disturbing medium, responsiveness to marketing communication is lower for email and SMS compared to traditional direct mail and marketing communication as MMS was perceived as somewhat more appropriate than SMS communication. Suher and İspir (2009) highlighted the irritation, information, entertainment, credibility, and permission factors in their study and reported that irritation is the most important factor that affects attitudes toward SMS advertising. Gurau and Ranchhod (2009) emphasized that the legislators must develop more effective privacy protection legislation and also new ways to educate mobile consumers regarding their specific privacy rights and responsibilities due to the perceived high threat for personal

privacy from unsolicited advertising by the respondents from Romania, England and France. Also, Jayawardhena (2008) analyzed influential factors on the permission for mobile marketing in German, British and Finnish markets. Different strong factors were appeared in separate markets such as perceived control for German consumers; institutional trust, their personal experience with mobile marketing and control for British consumers; personal and institutional trust for Finnish consumers. Liu et al. (2012) made a study to understand the cross-national differences in consumers' perceptions of advertising value and reported that the impact of infotainment, irritation and credibility on the perceived value of advertising is higher for the Japanese sample than for the Austrian sample. Also he found that credibility is one of the crucial factors in establishing the customer-client relationship and next, the perceived value of advertising was found to be the most important determinant of consumers' attitudes toward advertising. Moreover, the research of Bauer (2005) provided evidence for the negative relationships between risk perception and the attitude toward mobile marketing and explained that risk perception mainly results from the fear of data misuse and the reception of unwanted mobile marketing messages. Perceived risk is an important factor to negatively influence consumers' intention to use a technology, particularly for location-based mobile services due to privacy concern (Im and Ha 2012). User permission, privacy, service provider control and brand trust are all key factors that have been found to drive consumer acceptance of mobile marketing (Roach 2009). These factors play important role in reducing consumers' worries about unsolicited mobile messages.

The effect of facilitating conditions on behavioral intention to use mobile shopping services was positive and in terms of technological infrastructure, consumers are more likely to adopt mobile shopping services if the technical infrastructure exists like internet enabled mobile phone, user friendly mobile shopping features to support the use of mobile shopping services (Yang 2010). The research of Bauer (2005) provided evidence for the positive relationships between the constructs innovativeness and knowledge about mobile communications as well as for information seeker behavior and attitude toward advertising. Depending on the technology innovations and their usage contexts, perceived ease of use can be as important as or even more important than perceived usefulness in determining continued usage intention of mobile data services (Hong et al. 2008). Lu (2009) also found that ease of access had a significant positive effect on usefulness and usefulness, enjoyment

and compatibility had significant effect on people's purchase intention on mobile shopping web sites. However, according to the study of Barutçu (2008), although non-Internet users and Internet users have similar attitudes toward mobile discount coupons, respondents who do not have an access to the Internet tend to have more positive attitudes towards marketing tools than those who have it.

Wu (2003) implied that who shop online have higher attitude toward online shopping and demographic items gender, age, education, occupation, income, interest and living area all had a significant relationship with the attitude toward online shopping; males have more positive attitudes, consumers 36 to 40 years old had the highest attitude and consumers with a junior high school education, soldiers, student, who like watching TV with a monthly income from 1515$ to 1.700$ and live in villages have higher attitude scores. According to the study of Gao (2012) in United States and China, gender does not appear to be a differentiating factor for attitude towards mobile marketing in several instances such as perceived usefulness, innovativeness, privacy concern, innovativeness. Barutçu (2008) also pointed out that there is no significant differences between respondents age, income, education and employment groups and their attitudes toward mobile advertising and mobile discount coupons while, there are statistically significant differences in mobile entertainment services, mobile shopping, mobile marketing and results imply that mobile phone users who are young and middle-aged, have high income, work as officials in public institutions, have graduate and undergraduate degrees have the highest positive attitudes towards mobile marketing tools and stand out as by far the most important target customers for mobile commerce and marketing. Persaud et al. (2012) suggested that while there are no differences between males and females in terms of their willingness to accept mobile marketing, there are differences in their consumption patterns; for example, men use their smartphones for gaming, entertainment, and shopping, especially when incentives are offered, but women use their phones more for social networking and research. Jayawardhena (2008) found that both males and females have similar dispositions towards permission and institutional trust is a significant predictor of permission, however, perceived control is a significant influence on permission for men but not for women. Female consumers' mobile data services usage was driven by hedonic value while male consumers' mobile data services usage was driven by utilitarian value and the effect of perceived ease of use on perceived usefulness of mobile data services is stronger for women

than men (Yang and Lee 2010). Persaud et al. (2012) indicated that men are more likely than women to respond to web offers served up through their mobile phones.

Empirical support for the relationship between behavior and social influences, which are equivalent to social norm and defined as other people's opinion, superior influence, and peer influence, can be found in many studies (Lu et al. 2003). Yang (2010) found that the relationship between social influences and behavioral intention to use mobile shopping services is significant and positive, implying that other consumers' opinions about the use of mobile shopping services are important in consumer adoption of mobile shopping services. From the study of Ismail and Razak (2011), it can be emphasized that intention to use mobile marketing could be enhanced by stimulating social pressure and young consumers prefer to follow their friends' opinion in mobile marketing environment rather than their family. Hence, the pressure from the people who, the consumers have close relationship with and think important, play a significant role in influencing their decision towards using the technology specifically in mobile marketing. Hong et al. (2008) found that the effect of social influence on consumers' intention was notable in the communication service category and entertainment service category, but not in the information content service category. He pointed out that this discrepancy may be related to the nature of the service categories such as; the information content services like weather, dictionary, map or financial market information are more appropriate for individual centric purposes while in contrast, consumers may use communication services like SMS, MMS and entertainment services (e.g. mobile games, movie and music downloads) to reinforce their social links and their feelings of group affiliation. Yang issued (2011) that American consumers will be more likely to embrace mobile viral marketing if their close friends or relatives consider it good to pass along mobile messages to each other, but subjective norm did not have a significant impact on their intent to forward entertaining messages. Also, Bauer et al. (2005) has proved the validity of the TRA for research in the area of mobile marketing in his study and results imply that social norms only have a slight direct influence on behavioral intention, but are a strong indirect determinant via personal attitude towards the act.

# 3. CONCEPTUAL FRAMEWORK AND HYPOTHESES

Conceptual framework of this study was developed using by following approach. First, a review of the existing literature on mobile marketing was conducted to identify the theoretical models used in other studies and the factors found as strong indicators of mobile marketing acceptance (as shown in Table I). Different theoretical frameworks used in prior research have produced numerous variables that seem to influence mobile marketing acceptance. Instead of testing all variables, more than one particular theoretical framework that produced different variables which have not studied before as indicators of mobile marketing acceptance in Turkey, was chosen. In order to reduce the large number of variables and make a short list of factors, studies made in Turkey were reviewed and relevant factors were not listed. After realizing that some factors of the synthesis of previous technology acceptance theories; Unified Theory of Acceptance and use of Technology (UTAUT) have not been studied before in Turkey, social influence, facilitating condition factors were taken into consideration. Performance and effort expectancy factors such as ease of use, complexity, trialability, and observability, were eliminated, and new variable perceived value refers utilitarian performance expectancy were added. Other factors related demographics and privacy concern were also added in order to make recent situation comparison with previous studies both in Turkey and other countries.

Perceived value is the consumer's overall assessment of the benefits of a product based on perceptions about what is received and what is leaved (Persaud et al. 2012). It has similar meanings with the factor utilitarian performance expectancy from Unified Theory of Acceptance and use of Technology (UTAUT). Gao (2012) and Yang (2010) found that perceived usefulness had a greater positive effect on attitude toward mobile marketing. When mobile marketing services help consumers save shopping time, money, compare product prices, and location based promotion information, consumers are expected to have a positive attitude toward using mobile shopping services. Hence, following hypotheses is formulated;

*Hypothesis 1:* Perceived value is positively related on intention to participate in mobile marketing.

Facilitating conditions are defined as the degree to which an individual believes that a technical infrastructure exists to support the use of the technology (Venkatesh et al. 2003). A previous study indicated that facilitating conditions have a direct influence on behavioral intention (Ajzen 1991). Facilitating conditions of mobile shopping services usage are critical to the adoption of mobile shopping services. When consumers have an internet enabled mobile phone that has a good interface for exploring mobile sites and a knowledge of how to use mobile shopping services, they are expected to be more likely to adopt the services. Smartphones and also the usage of mobile marketing services cause huge demand of data downloading. In order to respond this requirement, mobile operators have invested their mobile networks for years and network quality figures such as data downloading speed, coverage area, connectivity interruption rates are all significant criteria in the competition among mobile operators. Hence, availability of the network or the speed of the mobile contents downloading can be different factors as a facilitating condition which can attract mobile consumer reactions. Moreover, better smartphones with variety of additional features can lead and enable consumer to use more mobile marketing services. Thus, following hypothesis is proposed;

*Hypothesis 2:* Facilitating conditions is positively related on intention to participate in mobile marketing.

Social influence is often an important determinant of consumer behavior. Individual's behavioral intention towards adoption of mobile marketing services may be influenced by how important others like peer groups or family evaluate the technology. In this study, social influence refers to the perceived pressure from the people who the consumer thinks important. A wide range of research in social psychology concerns this concept and the unified theory of acceptance and use of technology incorporates social influence as an independent predictor of behavioral intention (Venkatesh et al., 2003). Young consumers also nowadays, subscribe to SMS or other mobile texting applications in order to be connected to their peers, which is a necessary condition for obtaining membership in a group (Grant and O'Donohoe 2007). Hence, consumers' intention to continue usage of mobile data services may increase in response to social influence and following hypothesis is proposed;

*Hypothesis 3:* Social influence is positively related on intention to participate in mobile marketing.

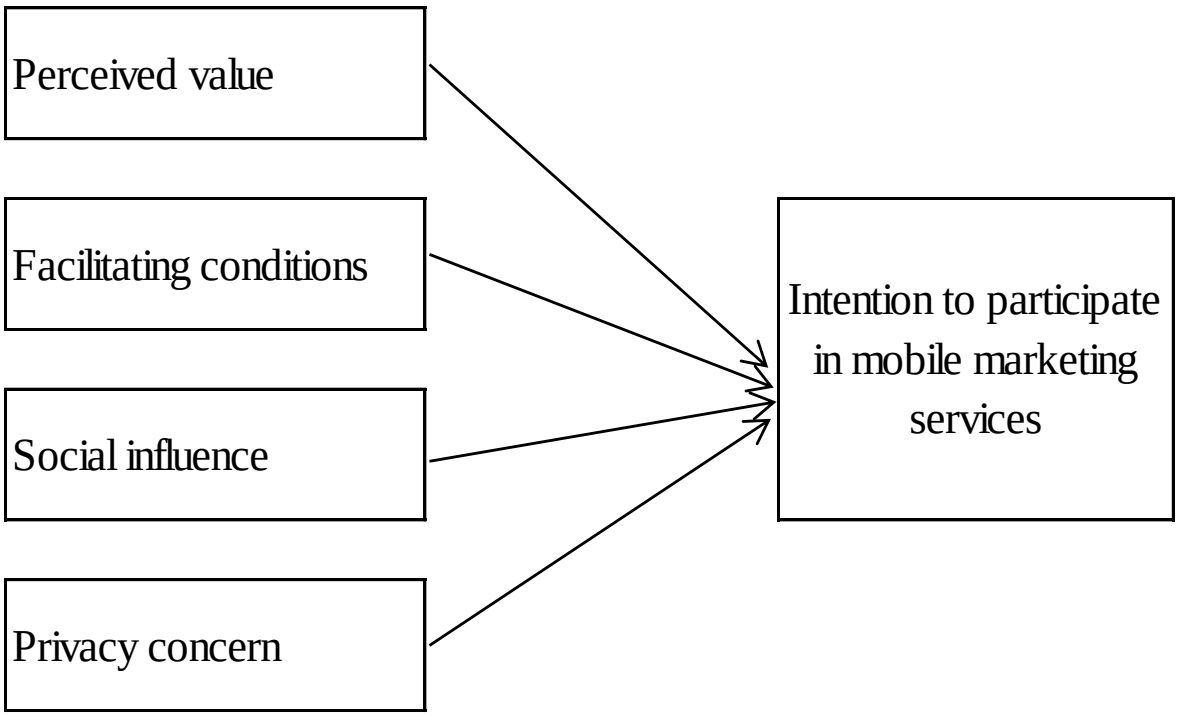
Privacy policy of mobile marketers represents an essential element for consumer acceptance, adoption and use of mobile marketing offers. Privacy concerns often arise with new information technologies such as the web enabled mobile technology that supports enhanced capabilities for collection, storage, use and communication of personal information (Lu et al. 2003) The construct privacy concern in broader online contexts refers to respondents' general concerns about personal and financial information provided to companies via websites and online channels. Many studies have reviewed in previous part that emphasized that user permission and privacy are key factors that have been found to drive consumer acceptance of mobile marketing. Hence, following hypothesis is formulated;

*Hypothesis 4:* Privacy concern is negatively related on intention to participate in mobile marketing.

Finally, demographic variables such as age, education, gender and income have been selected as a research question. The literature shows that younger and more educated have a high internet usage rate and a tendency to try new technology products and services (Barutçu 2007; Heinonen and Strandvik 2006). Also, Wu (2003) implied that demographic items gender, age, education, occupation, income, interest and living area all had a significant relationship with the attitude toward online shopping. However, the literature also shows that gender differences have not effect on willingness to accept mobile marketing (Persaud et al. 2012).

*Research Question:* Do demographic variables have effect on intention to participate in mobile marketing?

**Figure 3.1: Theoretical Model**



# 4. RESEARCH METHODOLOGY

Mobile marketing concept, types of mobile marketing, theories behind mobile marketing acceptance and different studies about mobile marketing is examined in details in the literature survey part of the study. This section of the study explains the details of the questionnaire which is particularly designed for this study. The objective of this study is find out the relationship between acceptance of mobile marketing services and the factors; perceived value, facilitating conditions, social influence, privacy concern and demographic variables. This survey also aims to find out latest trends in mobile marketing in Turkish market. Questionnaire, sample, data collection and data analyses approach will be defined in this part.

## 4.1. QUESTIONNAIRE

The questionnaire was developed after the literature survey part. The conceptualization and development of the questionnaire was based on the existing literature. All constructs used in this study were measured using at least more than one item and used 5-point Likert scale. The questionnaire and statements were developed from the existing literature and self-created as shown in Table 3.1.

**Table 3.1: Summary of the questionnaire items**

| Related Variable | Literature source (Adapted from) | Survey question |
|---|---|---|
| Demographic variables | Self created | from 1 to 10 |
| Intention to use mobile marketing services | Self created | 16 |
| Percieved Value | Persaud et al. (2012)<br>Revels et al. (2010) | 17a, 17b, 17c, 17d |
| Facilitating conditions | Yang (2010)<br>Self created | 17e, 17f, 17g, 17h, 17i, 17j |
| Privacy concern | Suher et. al. (2009)<br>Gao et al. (2012) | 17k, 17l, 17m |
| Social Influence | Yang (2010)<br>Hong et al. (2008) | 17n, 17o, 17p |

The survey questionnaire consisted of 17 questions and last two questions had totally 41 sub statements. The survey focused on consumers' intentions to accept innovative mobile marketing services. The questionnaire requested information about respondents' mobile phone usage behavior and their perceptions of, and intention to participate in mobile marketing. Demographic characteristics part includes first 10 questions of age, gender, marital status, education, income, employment, mobile phone usage history, mobile phone brand. Following five questions were added to categorize respondents in terms of their mobile internet and services orientations via their mobile phones. Next part of the questionnaire aims to evaluate participants' level of willingness to use different mobile marketing applications and services including SMS, Sales promotions and discounts, mobile applications, location-based services, mobile gaming, mobile shopping, mobile social media application and mobile internet with 25 items of statements in fifteenth question that the respondents marked using a five-point likert scale (1 strongly agree; 2 agree; 3 neither disagree nor agree; 4 disagree and 5 strongly disagree). The final part of the questionnaire is composed of the statements about factors that are expected to effect the adoption of mobile marketing. It is designed to measure how much respondents agree with the related statements of different characteristics of mobile marketing services. Respondents were asked to answer the questions on a 5-point likert scale, which are: (1) strongly agree, (2) agree, (3) neither disagree nor agree, (4) disagree and (5) strongly disagree.

A pilot survey was conducted with 10 people to have feedback whether the questions are understood explicitly or not. Only small revisions were made in two statements in order to eliminate any ambiguity of the meaning by taking into consideration of respondents comments. Respondents did not face any other problems about understanding the questions and their comments were satisfactory.

### 4.2. SAMPLE AND DATA COLLECTION

In the sampling stage, convenient sampling was implemented for selecting respondents. The answers of the questionnaire have been collected from individuals in Turkey, Istanbul. Participants were selected on a convenience basis; however people who are familiar with mobile marketing services were tried to be targeted. Participants use both mobile phones and smartphones were targeted in order to see the differences and also, both students from

different universities in İstanbul and working professionals who actively use smartphones as a part of daily life due to the job necessities were invited to the survey.

The questionnaire was prepared both on internet for online survey and the word document for paper based survey. The online survey instrument was placed on a survey agency website www.surveey.com where participants could access and respond to the survey through a survey link. The online survey was mainly promoted through e-mail-alerts. During a four-week period, 174 respondents attended the online survey. Paper based survey was conducted among graduate and undergraduate students in Bahçeşehir University and 70 surveys were collected. 5 half completed paper-based and 7 half completed online surveys were not taken into consideration and as a result, totally 232 survey were analyzed in this study.

### 4.3. DATA ANALYSIS APPROACH

After fully completed questionnaires by participants were collected, data was entered to SPSS for further statistical analyses. Answers of the 5-point likert scaled questions are recoded, due to the exact opposite ranking of the questionnaire. Strongly agree to disagree values recoded from 1,2,3,4,5 to 5,4,3,2,1. The following analyses were done to the data collected:

- Descriptive analyses were done for demographic and behavioral characteristics of consumers.
- Factor analysis and regression analysis were done to construct the formulas for dependent variable intention to participate in mobile marketing services, with the factors effecting the adoption of mobile marketing services as independent variables.
- T-tests and ANOVA analysis were done for demographic variables (age, gender, income, education, employment), in order to determine if there is differences among different demographic characteristics in the means of intention to participate in mobile marketing services.

# 5. ANALYSES AND FINDINGS

## 5.1. DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Below tables provide the demographic profile of the respondents.

**Table 5.1: Age**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| 18-24 years | 123 | 53,0% | 53,0% |
| 25-31 years | 63 | 27,2% | 80,2% |
| 32-40 years | 34 | 14,7% | 94,8% |
| 41 years and older | 12 | 5,2% | 100,0% |
| Total | 232 | 100,0% | |

In terms of age, 53 percent of respondents are between the ages 18 and 24 years, 27 percent are between the ages 25 and 31 years, and 20 percent are 32 years or older. As 80 percent of participants are below the age of 31, young and early adult population is dominant in this study. Since, younger people have high tendency to try new technology products and more curious about technology (Barutçu 2007; Heinonen and Strandvik 2006), participants of this study most likely have insight about mobile marketing services.

**Table 5.2: Gender**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Female | 112 | 48,3% | 48,3% |
| Male | 120 | 51,7% | 100,0% |
| Total | 232 | 100,0% | |

Table 5.2 shows a fairly balanced sample in terms of gender. Although males are slightly more than females with a ratio of 51,7 percent, it is possible to say that distribution is relatively equal with regard to gender. Thus, study represents preferences of both males and females equally.

**Table 5.3: Marital status**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Married | 61 | 26,3% | 26,3% |
| Unmarried | 171 | 73,7% | 100,0% |
| Total | 232 | 100,0% | |

There was not certain targeting about the marital status of the respondents while conducting the convenient sampling. However, after having the age distribution, unmarried people were expected to be high. Likewise, Table 5.3 shows that ratio of single people is quite high; 73,7 percent of the respondents are single and 26,3 percent are married.

**Table 5.4: Education**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| High school Graduate | 14 | 6,0% | 6,0% |
| University Student | 90 | 38,8% | 44,8% |
| University Graduate | 74 | 31,9% | 76,7% |
| Master Student | 15 | 6,5% | 83,2% |
| Master Graduate | 33 | 14,2% | 97,4% |
| Doctorate Student | 2 | 0,9% | 98,3% |
| Doctorate Graduate | 4 | 1,7% | 100,0% |
| Total | 232 | 100,0% | |

100 percent of the respondents have at least high school diploma. Most of the respondents with the percentage of 71 percent are university student or have university degree. 23 percent of the respondents have postgraduate degrees mater or doctorate. Only 6 percent of the respondents have comparable low level education as high school. Table 5.4 shows that highly educated people are so dominant, so it can be commented that the study represents the preferences and perspectives of educated segment. Shortly, the sample of this study is biased towards young, educated Turkish people.

**Table 5.5: Occupation**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Employed | 122 | 52,6% | 52,6% |
| Student | 107 | 46,1% | 98,7% |
| Unemployed | 3 | 1,3% | 100,0% |
| Total | 232 | 100,0% | |

52,6 percent of respondents are working professionals, who are either employees in public and private sector or self-employed and 46,1 percent are students. Only 1,3 percent of the respondents are unemployed who are housewives.

**Table 5.6: Monthly personal income**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Below 1,000 TL | 89 | 38,4% | 38,4% |
| 1,000-2,000 TL | 47 | 20,3% | 58,6% |
| 2,000-3,000 TL | 33 | 14,2% | 72,8% |
| 3,000-4,000 TL | 22 | 9,5% | 82,3% |
| 4,000-5,000 TL | 14 | 6,0% | 88,4% |
| Above 5,000 TL | 27 | 11,6% | 100,0% |
| Total | 232 | 100,0% | |

Survey includes participants from every income group; low, middle and high. 38,4 percent of the respondents' income is below 1,000 TL and 12 percent is above that 5,000 TL.

## 5.2. MOBILE PHONE AND MOBILE INTERNET USAGE OF THE RESPONDENTS

**Table 5.7: Mobile phone usage year**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| 1-6 years | 25 | 10,8% | 10,8% |
| 7-12 years | 144 | 62,1% | 72,8% |
| 13+ years | 63 | 27,2% | 100,0% |
| Total | 232 | 100,0% | |

Table 5.7 shows that participants are highly experienced in the means of mobile phone usage. The ratio of respondents who use mobile phone less than 6 years is only 10,8 percent , most of the respondents use their mobile phones for 7 to 12 years with the percentage of 62 and 27 percent are use mobile phones more than 13 years.

**Table 5.8: Mobile phone quantity**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| 1 mobile phone | 180 | 77,6% | 77,6% |
| 2 mobile phones | 45 | 19,4% | 97,0% |
| 3 mobile phones | 7 | 3,0% | 100,0% |
| Total | 232 | 100,0% | |

Participants mostly have one mobile phone with the percentage of 77,6, while 22,4 percent of respondents have two and more mobile phones.

**Table 5.9: Mobile phone types and brands**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| **Smartphone** | **205** | **88,4%** | |
| Iphone | 105 | 45,3% | 45,3% |
| Samsung | 38 | 16,4% | 61,6% |
| Nokia | 21 | 9,1% | 70,7% |
| Blackberry | 16 | 6,9% | 77,6% |
| Turkcell | 9 | 3,9% | 81,5% |
| HTC | 4 | 1,7% | 83,2% |
| LG | 4 | 1,7% | 84,9% |
| Sony | 4 | 1,7% | 86,6% |
| General Mobile | 2 | 0,9% | 87,5% |
| Vodafone | 2 | 0,9% | 88,4% |
| **Classic mobile phone** | **27** | **11,6%** | |
| Nokia | 19 | 8,2% | 96,6% |
| Samsung | 7 | 3,0% | 99,6% |
| Philips | 1 | 0,4% | 100,0% |
| **Total** | **232** | **100,0%** | |

Smartphone usage is dominant among the respondents with the percentage of 88,4 , only 11,6 percent of participants use classic or regular mobile phone which provides basic voice

and data services not supporting every mobile marketing services. Although some of the participants use more than one mobile phone, their first choice mobile phone was taken into consideration. When the mobile phone brands of respondents are analyzed, it is seen that the dominant leader among mobile phone brands is iPhone. Approximately half of the respondents are using iPhone with the percentage of 45,3. Other brands; Samsung with 19,4 percent, Nokia with 17,3 percent and Blackberry with 6,9 percent follow iPhone respectively. Recent mobile phone services are fully supported by smartphones and smartphone usage is high among the participants. This points out that, respondents are most probably familiar with the mobile marketing services asked in the survey.

**Table 5.10: Daily mobile internet usage**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| 0-1 hour | 63 | 27,2% | 27,2% |
| 1-3 hours | 74 | 31,9% | 59,1% |
| 3-5 hours | 26 | 11,2% | 70,3% |
| More than 5 hours | 33 | 14,2% | 84,5% |
| Never | 36 | 15,5% | 100,0% |
| Total | 232 | 100,0% | |

More than half of the respondents, with the percentage of 59,1, use mobile internet up to 3 hours in a day and 25,4 percent of the respondents use mobile internet more than 3 hours in a day. Only 15,5 percent of them never use mobile internet in a daily base. According to the respondents' profile, it can be concluded that participants are highly aware of and actively use mobile internet capabilities. 27 respondents of 36 non-mobile internet users have regular mobile phone, while 9 of them have smartphones. Except 9 respondents, all other smartphone owners use their mobile phone to connect to the Internet at least once a day.

**Table 5.11: Mobile content download**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Yes | 173 | 74,6% | 74,6% |
| No | 59 | 25,4% | 100,0% |
| Total | 232 | 100,0% | |

25,6 percent of respondents never download mobile contents, while 74,6 percent of them download mobile application contents via mobile internet which is a very high ratio. As

expected, whole 27 regular phone owners never download mobile contents; however additional 32 participants come from smartphone owners.

**Table 5.12: Types of most frequently downloaded mobile contents**

| | Frequency | Percent |
|---|---|---|
| Mobile apps of brands | 87 | 37,5% |
| Games | 82 | 35,3% |
| Magazine, News, Book Apps | 76 | 32,8% |
| Music | 49 | 21,1% |
| Video | 27 | 11,6% |
| Other | 5 | 2,2% |

Participants noted their at least one most frequently downloaded mobile contents and according to the results shown in Table 5.12, top three downloaded mobile contents are mobile apps of brands, games and magazine, news, book apps respectively.

**Table 5.13: Mobile contents download frequency**

| | Frequency | Percent |
|---|---|---|
| 1-2 times a week | 71 | 30,6% |
| 2-5 times a week | 22 | 9,5% |
| More than 5 times a week | 16 | 6,9% |
| Once a month | 64 | 27,6% |
| Total | 173 | 74,6% |

74,6 percent of the respondents who download content from their mobile phones and more than half; 58,2 percent of the respondents download content once a month and 1-2 times a week. Moreover, 16,4 percent of them download mobile contents more than 2 times a week.

**Table 5.14: Top uses of mobile phone**

| | Frequency | Percent |
|---|---|---|
| Text messaging | 184 | 79,3% |
| Making voice calls | 164 | 70,7% |
| Taking pictures/videos | 157 | 67,7% |
| Using social media apps (facebook, twitter, instagram etc.) | 151 | 65,1% |
| Sending/Recieving e-mail | 127 | 54,7% |
| Listening music | 95 | 40,9% |
| Playing games | 78 | 33,6% |
| Browsing internet | 74 | 31,9% |
| Reading Newspapers/getting informations | 59 | 25,4% |
| Using location based services such as Google map/around me | 36 | 15,5% |
| Banking transactions | 19 | 8,2% |
| Following campaign and discount messages | 7 | 3,0% |
| Following brands by downloading their mobile apps | 5 | 2,2% |
| Shopping | 3 | 1,3% |
| Other | 1 | 0,4% |
| Total | 1160 | 500,0% |

Top five uses of mobile phone were asked to the participant in the questionnaire. According to their choices shown in Table 5.14, it is seen that top five uses of mobile phone are; text messaging, making voice call, taking pictures/videos, using social media apps and sending/receiving e-mail respectively.

## 5.3. USAGE BEHAVIOR OF MOBILE MARKETING SERVICES

Before the factor analysis descriptive analysis were made to see the general bias towards the statements. Participants of the questionnaire were requested to state how willing they might be to use 25 mobile marketing services listed in Table 5.15. 5-point likert scale was used from “Strongly Agree” to “Strongly Disagree”. Table 5.15 shows the means of these services. According to the mean scores, connect to the Internet through a mobile phone search information has the highest intention to participate value with the score of 4 over 5.

**Table 5.15: Intention to participate in mobile marketing services**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Connect to the internet through mobile phone to search information | 232 | 4,0000 | 1,2168 |
| Download and use social media applications such as facebook, twitter, etc. | 232 | 3,9138 | 1,2898 |
| Share picture, video or comments instantly via social media applications with mobile phone | 232 | 3,7974 | 1,2475 |
| Download and use a mobile application which provide to see the nearby important places | 232 | 3,7457 | 1,1509 |
| Receive SMS messages about products and campaigns in the shop during shopping | 232 | 3,4397 | 1,2399 |
| Make banking transactions via mobile phone | 232 | 3,3966 | 1,3315 |
| Download and play a mobile phone game | 232 | 3,3534 | 1,2397 |
| Be able to compare prices of products in the store before buying by using a mobile application | 232 | 3,2328 | 1,2264 |
| Shop via mobile phone if it is cheaper | 232 | 3,1638 | 1,3089 |
| Download and use a mobile application which provide to see the nearby discounts and promotions | 232 | 3,1595 | 1,2433 |
| Shop via mobile phone if I have time limitation | 232 | 3,1034 | 1,2818 |
| Receive SMS about campaigns from stores I shop from | 232 | 2,9655 | 1,2956 |
| Download mobile app to follow campaigns of stores I shop from | 232 | 2,9526 | 1,2141 |
| Shopping via mobile phone | 232 | 2,9009 | 1,2939 |
| Download and use a general mobile phone application not developed by a specific brand | 232 | 2,8836 | 1,1656 |
| I am positive about using mobile marketing services | 232 | 2,8319 | 1,1924 |
| Receive SMS about new product and services from stores I shop from | 232 | 2,7931 | 1,3927 |
| Pay for and buy a mobile application that I am interested in | 232 | 2,7759 | 1,2455 |
| Receive product or service coupon via SMS from any store | 232 | 2,7112 | 1,2786 |
| Receive SMS about new product services or campaigns from any store | 232 | 2,6250 | 1,2351 |
| Attend surveys sent from mobile applications | 232 | 2,5647 | 1,2571 |
| See advertising while connecting to internet through mobile phone | 232 | 2,2198 | 1,2235 |
| See advertising of brands embedded in mobile phone game while playing game | 232 | 2,1466 | 1,3044 |
| See advertisement while using mobile applications | 232 | 2,0259 | 1,1949 |
| Tap the advertising that I see while connecting internet through mobile phone | 232 | 2,0043 | 1,2327 |
| Valid N (listwise) | 232 | | |

Social media services are also very popular. Downloading social media applications such as facebook, twitter, etc. and sharing picture, video and comments instantly via social media applications with mobile phone follows browsing internet with scores 3,9 and 3,8 over 5. Location based services follow social media services, participants rated download and use a mobile application which provide to see the nearby important places as 3,7 and receive SMS messages about products and campaigns in the shop during shopping as 3,4. Thus, it is possible to say that social media services are the second and location based services (LBS) are the third most popular among all mobile marketing services. Mobile banking transactions have also positive attitudes from respondents with the score of 3.39 over 5. Shopping via mobile phone when there is time limitation and cost advantage follows banking transactions graded as 3,16 and 3,10. However, surprisingly participants do not prefer to do shopping via mobile phone if there is no any motivation like time limitation or cost saving with the score of slightly below average 2,90 over 5. Mobile games are also another popular services that respondents prefer to play with the score of 3,35 over 5.

Regarding the mobile applications, participants prefer to download applications about social media and location based services while they do not prefer to download general mobile phone application or mobile applications of brands to follow their campaigns with the score of 2,95 and 2,88 over 5. Also respondents do not prefer to pay money for mobile applications even they are interested in. Findings about receiving SMS shows that SMS is not a preferred mobile marketing service with scores of 2,96 - 2,79,-2,71 and 2,62 over 5. Respondents do not want to recieve SMS to have information, coupon or campaigns except receiving SMS messages about products and campaigns in the shop during shopping which is related location based services.

The least favorite service among all mobile marketing services is to tap the advertising while connecting to mobile Internet with the score of 2 over 5. Participants also do not like to see advertisements while using mobile applications, playing game or connecting to mobile internet with the scores of 2 – 2,14- 2,21 over 5.

**Table 5.16: Attitude towards the characteristics of mobile marketing services**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| GSM operator or brands I shop from should not share my e-mail, phone or location information without my consent | 232 | 4,0345 | 1,3576 |
| I am reluctant to give my personal information in order to use mobile marketing services I am interested in | 232 | 3,6853 | 1,2656 |
| My mobile phone is sufficient to use mobile marketing services | 232 | 3,6509 | 1,3844 |
| My GSM operator offers enough services to use mobile marketing services | 232 | 3,6509 | 1,1523 |
| I have enough knowledge to use mobile marketing services | 232 | 3,5948 | 1,1805 |
| If my GSM operator offers more continuous and speedy connection, I use mobile marketing services more frequently and easily | 232 | 3,3405 | 1,3421 |
| More advanced mobile phones provide to use mobile marketing services more frequently and easily. | 232 | 3,3103 | 1,3219 |
| I analyze privacy policies of mobile marketing services | 232 | 3,2500 | 1,3825 |
| Mobile marketing services shorten my time spent on searching product or information | 232 | 3,0216 | 1,2603 |
| Mobile marketing services provide me to save money | 232 | 2,9095 | 1,1642 |
| Messages sent from mobile marketing applications help me to give better shopping decision | 232 | 2,7069 | 1,1954 |
| Receiving messages sent from mobile marketing applications is useful | 232 | 2,6940 | 1,1903 |
| People who are important to me and influence my behavior have impact on my mobile marketing services usage | 232 | 2,5862 | 1,2695 |
| I would use mobile marketing services because of the proportion of my friends who use mobile marketing services | 232 | 2,4052 | 1,1951 |
| My family think that I should use mobile marketing services | 232 | 2,2543 | 1,2274 |
| I could not answer messages sent through mobile marketing services with my mobile phone due to the limited internet connection | 232 | 2,1983 | 1,3141 |
| Valid N (listwise) | 232 | | |

In the last part of the survey, participants were requested to note agreement levels about the statements which point out key factors expected to affect intention to participate in mobile marketing services. According to the mean scores, it is possible to say that the most sensitive factor is privacy concern for respondents with the scores of 4 and 3,68 over 5.

They reluctant to give personal information for using mobile marketing services and do not accept any information sharing made by brands or GSM operators without their consent. Facilitating conditions is the second important factor for respondents and they state that if they have more advanced mobile phone and have more continuous and speedy connection better, they use mobile marketing services more frequently and easily with the score of 3,34 and 3,31 over 5. In terms of perceived value, average mean values are slightly below the average. Respondents only find using mobile marketing services as a time saving option with the value of 3,02, but they do not think mobile marketing is saving money or helping to give better shopping decision. Lastly, social influence factor was not considered as an effective factor for using mobile marketing services according to the participants. They are not influenced by people who influence their behavior, their friends and their family with the scores of 2,58 - 2,40 and 2,25 over 5.

After gathering the general attitudes, in order to explain the relationships between the usage behavior and the factors, factor, regression, T-test and ANOVA analysis will be made.

## 5.4. FACTOR ANALYSIS AND SCALE RELABILITIES

Before testing hypothesis it is required to determine the components and measure their reliability. Factor analysis with Varimax rotation was conducted using the likert scale variables. In order to determine the components factor analysis will be made for the 25 5-point likert scaled intention to participate in mobile marketing services questions and the 16 5-point likert scaled attitude towards the characteristics of mobile marketing services questions.

Factor and reliability analysis for independent variable;

First, factor analysis was made with the 25 questions which measure the intention to participate in mobile marketing services. Since there are more than one type of mobile marketing services such as internet search, LBS, SMS, mobile shopping etc., it is expected to have more than one factor. According to the first factor analyses KMO Bartlett's test result is greater than 0,5 with the value of 0,834. Hence it is possible to say that sample is adequate for the further analysis.

However in the rotated component matrix there were three questions which are not belong to any components therefore factor analysis for this set of questions was made by eliminating these three questions;

a) Pay for and buy a mobile application that I am interested in
b) Download mobile app to follow campaigns of stores I shop from
c) Download and use a general mobile phone application not developed by a specific brand

After refreshing the analysis below two questions were eliminated from the table according to their values below 0,6 seen in rotated component matrix.

d) I am positive about using mobile marketing services
e) Attend surveys sent from mobile applications

**Table 5.17: KMO and Bartlett's Test (intention to participate in mobile marketing services)**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | ,817 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2565,669 |
| | df | 190 |
| | Sig. | ,000 |

Although these five questions are eliminated from the analyses their descriptive analyses were made in previous section. According to the final result KMO Bartlett's test result is still greater than 0,5 with the value of 0,817 means that sample is adequate for the factor analysis.

**Table 5.18: Factor Analysis: Total variance explained (intention to participate in mobile marketing services)**

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5,027 | 25,135 | 25,135 | 3,177 | 15,884 | 15,884 |
| 2 | 4,315 | 21,576 | 46,710 | 3,099 | 15,494 | 31,378 |
| 3 | 2,095 | 10,475 | 57,185 | 2,894 | 14,468 | 45,845 |
| 4 | 1,646 | 8,230 | 65,416 | 2,564 | 12,819 | 58,664 |
| 5 | 1,077 | 5,386 | 70,802 | 2,427 | 12,137 | 70,802 |

According to the total variance explained Table 5.18 shows that these five components of factors explain the 70 percent of the data set which is a good rate since it is higher than 60 percent.

**Table 5.19: Factor Analysis: Rotated component matrix (intention to participate in mobile marketing services)**

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| See advertising of brands embedded in mobile phone game while playing game | 0,8616 | | | | |
| Tap the advertising that I see while connecting internet through mobile phone | 0,8352 | | | | |
| See advertisement while using mobile applications | 0,7863 | | | | |
| See advertising while connecting to internet through mobile phone | 0,7743 | | | | |
| Receive SMS about campaigns from stores I shop from | | 0,8762 | | | |
| Receive SMS about new product services or campaigns from any store | | 0,8312 | | | |
| Receive SMS about new product and services from stores I shop from | | 0,8264 | | | |
| Receive product or service coupon via SMS from any store | | 0,7689 | | | |
| Shop via mobile phone if I have time limitation | | | 0,8515 | | |
| Shop via mobile phone if it is cheaper | | | 0,8171 | | |
| Shopping via mobile phone | | | 0,8126 | | |
| Make banking transactions via mobile phone | | | 0,7103 | | |
| Download and use social media applications such as facebook, twitter, etc. | | | | 0,8588 | |
| Share picture, video or comments instantly via social media applications with mobile phone | | | | 0,8203 | |
| Connect to the internet through mobile phone to search information | | | | 0,6795 | |
| Download and play a mobile phone game | | | | 0,6258 | |
| Download and use a mobile application which provide to see the nearby discounts and promotions | | | | | 0,8252 |
| Receive SMS messages about products and campaigns in the shop during shopping | | | | | 0,7380 |
| Be able to compare prices of products in the store before buying by using a mobile application | | | | | 0,7187 |
| Download and use a mobile application which provide to see the nearby important places | | | | | 0,6091 |

Above table points out the five component and related questions asked for measuring intention to participate in mobile marketing services. These five factors were composed with related questions and named according to the mobile marketing services type; mobile advertising (1), SMS (2), mobile shopping and banking services (3), social media and entertaining services (4) and Location based services (5).

After the factor analysis, reliability test was made for each component. If Cronbach's Alpha value is greater than 0,70 in this test, it means that the related scale is reliable. According to the results shown in Table 5.20, Cronbach's Alpha value was greater than 0,70 for all five factors means that the scales are reliable.

**Table 5.20: Reliability Test (intention to paritcipate in mobile marketing services factors)**

| Factor | Cronbach's Alpha |
|---|---|
| 1 - Mobile advertising | 0,875 |
| 2 - SMS | 0,882 |
| 3 - Mobile shopping and banking services | 0,860 |
| 4 - Social media and entertaining services | 0,778 |
| 5 - Location based services | 0,793 |

In order to evaluate intention to participate mobile marketing services, a 25 item scale was used. Cronbach's Alpha was found 0,863 which is greater than 0,70 and the scale is proved to be reliable.

Factor and reliability analysis for independent variables;

Factor analysis was made with the 16 statements which measure the different variables expected to affect intention to participate in mobile marketing services. Since there are more than one variable such as perceived value, facilitating conditions, privacy concern and social influence, it is expected to have more than one component. According to the factor analysis, in the rotated component matrix there was a question which are not belong to any components therefore factor analysis was made again by eliminating that question;

a) More advanced mobile phones provide to use mobile marketing services more frequently and easily.

This second time below question was eliminated because of the same reason.

b) If my GSM operator offers more continuous and speedy connection, I use mobile marketing services more frequently and easily

After third refreshment of the analysis below question was eliminated from the table according to their values below 0,6 seen in rotated component matrix.

c) I could not answer messages sent through mobile marketing services with my mobile phone due to the limited internet connection

**Table 5.21: KMO and Bartlett's Test (independent variables)**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | ,791 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1267,300 |
| | df | 78 |
| | Sig. | ,000 |

Although three questions were eliminated from the analyses, their descriptive analyses were made in previous section. According to the final result KMO Bartlett's test result is greater than 0,5 with the value of 0,791 means that sample is adequate for the factor analysis.

According to the total variance explained Table 5.22 shows that these four components of factors explain the 71 percent of the data set which is a good rate since it is higher than 60 percent.

**Table 5.22: Factor Analysis: Total variance explained (independent variables)**

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3,870 | 29,767 | 29,767 | 2,858 | 21,984 | 21,984 |
| 2 | 2,953 | 22,714 | 52,481 | 2,438 | 18,752 | 40,737 |
| 3 | 1,382 | 10,629 | 63,109 | 2,253 | 17,334 | 58,070 |
| 4 | 1,085 | 8,346 | 71,455 | 1,740 | 13,385 | 71,455 |

**Table 5.23: Factor Analysis: Rotated component matrix (independent variable)**

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Messages sent from mobile marketing applications help me to give better shopping decision | 0,8486 | | | |
| Mobile marketing services provide me to save money | 0,8208 | | | |
| Mobile marketing services shorten my time spent on searching product or information | 0,8155 | | | |
| Receiving messages sent from mobile marketing applications is useful | 0,7759 | | | |
| I have enough knowledge to use mobile marketing services | | 0,8361 | | |
| My mobile phone is sufficient to use mobile marketing services | | 0,8249 | | |
| My GSM operator offers enough services to use mobile marketing services | | 0,8012 | | |
| I would use mobile marketing services because of the proportion of my friends who use mobile marketing services | | | 0,8680 | |
| People who are important to me and influence my behavior have impact on my mobile marketing services usage | | | 0,8371 | |
| My family think that I should use mobile marketing services | | | 0,7505 | |
| I analyze privacy policies of mobile marketing services | | | | 0,8110 |
| I am reluctant to give my personal information in order to use mobile marketing services I am interested in | | | | 0,7118 |
| GSM operator or brands I shop from should not share my e-mail, phone or location information without my consent | | | | 0,6508 |

Above table points out the four component and related questions asked four measuring respondents reaction to the different variables of mobile marketing services. These four factors were composed related questions and named as; perceived value (1), facilitating conditions (2), social influence (3) and privacy concern (4). Dependent variables are categorized the same as the first determined theoretical model. Although, the questions of independent variables are adopted from the previous academic studies and factor analysis of

them made in these sources, this factor analysis supports and proves once again the same outputs shown as below Table 5.24.

**Table 5.24: Factor analysis summary of independent variables**

| Independent Variable in Theoritical Model | Related Survey Question | Literature source (Adapted from) | Factor Analysis Result | Factor Loadings | Cronbach's Alpha |
|---|---|---|---|---|---|
| Percieved Value | Recieving messages sent from mobile marketing applications is useful | Persaud et al. (2012) | Factor 1 | 0,85 | 0,861 |
| | Messages sent from mobile marketing applications help me to give better shopping decision | Persaud et al. (2012) | Factor 1 | 0,82 | |
| | Mobile marketing services shorten my time spent on searching product or information | Persaud et al. (2012) | Factor 1 | 0,82 | |
| | Mobile marketing services provide me to save money | Persaud et al. (2012) | Factor 1 | 0,78 | |
| Facilitating conditions | My mobile phone is sufficient to use mobile marketing services | Yang (2010) | Factor 2 | 0,84 | 0,802 |
| | More advanced mobile phones provide to use mobile marketing services more frequently and easily. | self created | Not belong to any compenents | | |
| | I have enough knowledge to use mobile marketing services | Yang (2010) | Factor 2 | 0,82 | |
| | My GSM opeator offers enough services to use mobile marketing services | self created | Factor 2 | 0,80 | |
| | I could not answer messages sent through mobile marketing services with my mobile phone due to the limited internet connection | self created | Eliminated due to the weakness value (<0,6) | | |
| | If my GSM operator offers more continous and speedy connection, I use mobile marketing services more frequently and easily | self created | Not belong to any compenents | | |
| Privacy | GSM operator or brands I shop from should not share my e-mail, phone or location information without my consent | Suher et. al. (2009) | Factor 4 | 0,87 | 0,806 |
| | I analyze privacy policies of mobile marketing services | Gao et al. (2012) | Factor 4 | 0,84 | |
| | I am reluctant to give my personal information in order to use mobile marketing services I am interested in | Gao et al. (2012) | Factor 4 | 0,75 | |
| Social Influence | I would use mobile marketing services because of the proportion of my friends who use mobile marketing services | Yang (2010) | Factor 3 | 0,81 | 0,668 |
| | People who are impotant to me and influence my behavior have impact on my mobile marketing services usage | Hong et al. (2008) | Factor 3 | 0,71 | |
| | My family think that I should use mobile marketing services | self created | Factor 3 | 0,65 | |

After the factor analysis, reliability test was made for each component. According to the results shown in Table 5.25, Cronbach's Alpha value was greater than 0,70 for all factors except fourth one. Since in exploratory researches like this one, Cronbach's Alpha value may decrease to 0.60, 4th factor was also accepted as reliable.

**Table 5.25: Reliability Test (independent variables factors)**

| Factor | Cronbach's Alpha |
|---|---|
| 1-Percieved value | 0,861 |
| 2-Faciliating conditions | 0,802 |
| 3-Social influence | 0,806 |
| 4-Privacy concern | 0,668 |

## 5.5.CORRELATION ANALYSIS

Correlation analysis is done for the relations between the five dependent and four independent factors.

**Table 5.26: Correlations**

| | | Mobile advertising | SMS | Mobile shopping and banking services | Social media and entertaining services | Location based services | Percieved value | Faciliating conditions | Social influence | Privacy concern |
|---|---|---|---|---|---|---|---|---|---|---|
| Mobile advertising | Pearson Correlation | 1 | ,422** | ,179** | -,153* | -,052 | ,323** | -,141* | ,466** | -,111 |
| | Sig. (2-tailed) | | ,000 | ,006 | ,020 | ,428 | ,000 | ,032 | ,000 | ,091 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| SMS | Pearson Correlation | ,422** | 1 | ,140* | -,042 | ,208** | ,414** | -,179** | ,336** | -,076 |
| | Sig. (2-tailed) | ,000 | | ,033 | ,528 | ,001 | ,000 | ,006 | ,000 | ,246 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Mobile shopping and banking services | Pearson Correlation | ,179** | ,140* | 1 | ,312** | ,498** | ,376** | ,367** | ,303** | ,215** |
| | Sig. (2-tailed) | ,006 | ,033 | | ,000 | ,000 | ,000 | ,000 | ,000 | ,001 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Social media and entertaining services | Pearson Correlation | -,153* | -,042 | ,312** | 1 | ,386** | ,075 | ,361** | ,051 | ,434** |
| | Sig. (2-tailed) | ,020 | ,528 | ,000 | | ,000 | ,255 | ,000 | ,438 | ,000 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Location based services | Pearson Correlation | -,052 | ,208** | ,498** | ,386** | 1 | ,335** | ,318** | ,242** | ,310** |
| | Sig. (2-tailed) | ,428 | ,001 | ,000 | ,000 | | ,000 | ,000 | ,000 | ,000 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Percieved value | Pearson Correlation | ,323** | ,414** | ,376** | ,075 | ,335** | 1 | ,187** | ,439** | ,110 |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,255 | ,000 | | ,004 | ,000 | ,093 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Faciliating conditions | Pearson Correlation | -,141* | -,179** | ,367** | ,361** | ,318** | ,187** | 1 | ,009 | ,466** |
| | Sig. (2-tailed) | ,032 | ,006 | ,000 | ,000 | ,000 | ,004 | | ,895 | ,000 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Social influence | Pearson Correlation | ,466** | ,336** | ,303** | ,051 | ,242** | ,439** | ,009 | 1 | -,007 |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,438 | ,000 | ,000 | ,895 | | ,913 |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Privacy concern | Pearson Correlation | -,111 | -,076 | ,215** | ,434** | ,310** | ,110 | ,466** | -,007 | 1 |
| | Sig. (2-tailed) | ,091 | ,246 | ,001 | ,000 | ,000 | ,093 | ,000 | ,913 | |
| | N | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |

**. Correlation is significant at the 0.01 level (2-tailed).

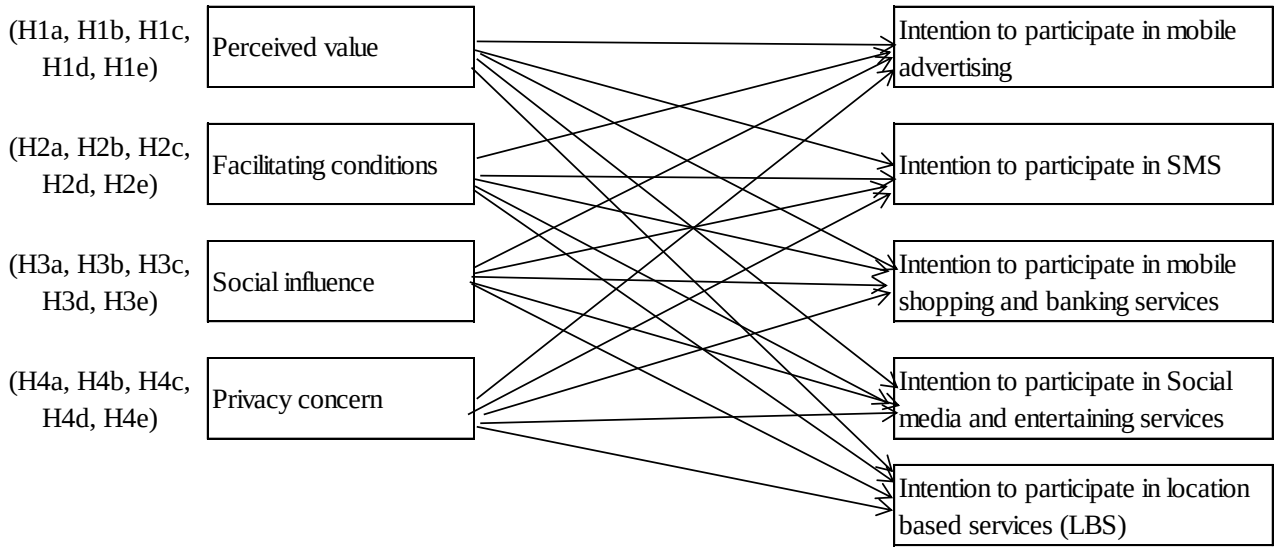
*. Correlation is significant at the 0.05 level (2-tailed).

According to the results of correlation analysis shown in Table 5.26 points out whether five dependent variables have relationships between four independent variables or not. Pearson correlation values with the mark * and ** mean that two variables have relationship and the value of Pearson correlation expresses the percentage of the relation. From this perspective, it is possible to say that the strongest dependent and independent variable relationship is between social influence and intention to participate in mobile adverting and variables have the strong relationship with the value of 46 percent and the weakest relationship is between facilitating conditions and intention to participate in mobile adverting variables with the value of 14 percent. However the highest relationship is between two dependent variable intention to participate location based services and mobile shopping with the value of 49,8 percent. Only facilitating conditions and intention to participate mobile advertising of SMS have negative relationships, since the Pearson correlation is negative and also relationship is meaningful. According to the correlation table, with some few exceptions, dependent and independent variables have linear relationships. Hence, it is possible to make regression analyses for each dependent variable.

## 5.6. REGRESSION ANALYSIS

After factor analysis, dependent variable divided to five components as mentioned in previous analysis. Thus, every hypothesis is divided sub hypotheses shown as below.

**Figure 5.1: Theoretical Model after Factor analysis**



Four hypotheses are tested with five regression equation composed for every dependent variable. First regression equation is formulated to explain relationship between intention to participate in mobile advertising and the dependent variables perceived value, facilitating conditions, social influence and privacy concern. Relationships between demographic variables such as age, gender, occupation, education and income are analyzed with ANOVA and T-test further on.

**Model 1: Regression Analysis for the dependent value intention to participate in mobile advertising**

ANOVA tables are explained deeply for the first analysis in order to make interpretation, following four analyses are made with the same method.

**Table 5.27: Regression analysis: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,518(a) | ,268 | ,255 | ,91183 |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions

R, which takes the value between -1 and +1, is .518 in this model of the research seen from Table 5.27. Besides, R 2 which takes the values between 0 and 1, is calculated as .268 that explains 27 percent of the variance in consumers' intentions to accept mobile advertising. If R values is closer to 1, it means the regression equation is stronger, in terms of high predictive value. R and R 2 values show that the result of regression equation is very satisfying.

Below ANOVA table shows if the R2 value is different than zero. Since p value is lower than 0,05 it is possible to say that predictive level value R2 is different than zero and this regression equation can explain the dependent variable. Thus, it is possible to say that users' intention to participate in mobile advertising can be predicted by the regression equation by the input variables.

**Table 5.28: Regression analysis: ANOVA table of intention to participate in mobile advertising**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 69,109 | 4 | 17,277 | 20,780 | ,000(a) |
| | Residual | 188,736 | 227 | ,831 | | |
| | Total | 257,845 | 231 | | | |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions
b Dependent Variable: Mobile advertising

After determining that the regression equation is significant, it is needed to decide which characteristics of mobile marketing services determine the users' intention to participate mobile advertising. Significance level is the crucial indicator and variables with significance under .05 are listed in Table 5.29 below. This table indicates that the variables perceived value, facilitating conditions and social influence are all statistically significant predictors ($p < 0,05$) of consumers' intentions to participate in mobile advertising, however privacy concern is not statistically significant.

**Table 5.29 - Regression coefficients of dependent variable intention to participate in mobile advertising**

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | B | Std. Error |
| 1 | (Constant) | 1,374 | ,297 | | 4,628 | ,000 |
| | Perceived value | ,199 | ,068 | ,190 | 2,940 | ,004 |
| | Facilitating conditions | -,153 | ,065 | -,153 | -2,347 | ,020 |
| | Social influence | ,388 | ,064 | ,383 | 6,040 | ,000 |
| | Privacy concern | -,059 | ,066 | -,058 | -,905 | ,366 |

a Dependent Variable: Mobile advertising

Inspection of the Beta coefficients in Table 5.29 shows that social influence is the most influential explanatory variable at .383, followed by perceived value and facilitating conditions. The meaning of this equation is that, users' intention to participate in mobile advertising is determined by how much they are influenced by their family, friends or people important for them, how much services add value to them and how much their

conditions provide accessibility to mobile advertising services. Privacy concern has no effect on mobile advertising acceptance as consistent with previous study of Gao (2010).

**Model 2: Regression Analysis for the dependent value intention to participate in SMS**

**Table 5.30: Regression analysis: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,512(a) | ,262 | ,249 | ,96904 |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions

R2 is calculated as .262 that explains 26 percent of the variance in consumers' intentions to accept SMS.

**Table 5.31: Regression analysis: ANOVA table of intention to participate in SMS**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 75,835 | 4 | 18,959 | 20,190 | ,000(a) |
| | Residual | 213,160 | 227 | ,939 | | |
| | Total | 288,995 | 231 | | | |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions
b Dependent Variable: SMS

Since p value is lower than 0,05, predictive level value R2 is different than zero and this regression equation can explain the dependent variable intention to participate in SMS.

**Table 5.32: Regression coefficients of dependent variable intention to participate in SMS**

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | B | Std. Error |
| 1 | (Constant) | 2,099 | ,316 | | 6,651 | ,000 |
| | Perceived value | ,429 | ,072 | ,388 | 5,979 | ,000 |
| | Facilitating conditions | -,268 | ,069 | -,252 | -3,864 | ,000 |
| | Social influence | ,180 | ,068 | ,168 | 2,640 | ,009 |
| | Privacy concern | ,000 | ,070 | ,000 | -,005 | ,996 |

a Dependent Variable: SMS

Similar with first model, privacy concern is not statistically significant. Beta coefficients in Table 5.32 shows that perceived value is the most influential explanatory variable at .388, followed by facilitating conditions and social influence.

**Model 3: Regression Analysis for the dependent value intention to participate in mobile shopping and banking**

**Table 5.33: Regression analysis: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,517(a) | ,267 | ,254 | ,94477 |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions

R2 is calculated as .267 that explains 27 percent of the variance in consumers' intention to participate in mobile shopping and banking.

**Table 5.34: Regression analysis: ANOVA table of intention to participate in mobile shopping and banking**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 73,821 | 4 | 18,455 | 20,676 | ,000(a) |
| | Residual | 202,619 | 227 | ,893 | | |
| | Total | 276,439 | 231 | | | |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions
b Dependent Variable: Mobile shopping and banking services

Since p value is lower than 0,05, predictive level value R2 is different than zero and this regression equation can explain the dependent variable intention to participate in mobile shopping and banking.

**Table 5.35: Regression coefficients of dependent variable intention to participate in mobile shopping and banking**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | B | Std. Error |
| 1 | (Constant) | ,609 | ,308 | | 1,978 | ,049 |
| | Perceived value | ,245 | ,070 | ,226 | 3,498 | ,001 |
| | Facilitating conditions | ,311 | ,068 | ,299 | 4,590 | ,000 |
| | Social influence | ,211 | ,066 | ,201 | 3,171 | ,002 |
| | Privacy concern | ,055 | ,068 | ,052 | ,809 | ,419 |

a Dependent Variable: Mobile shopping and banking services

Similar with model one and two, privacy concern is not statistically significant. Beta coefficients in Table 5.35 show that facilitating conditions is the most influential explanatory variable at .299, followed by perceived value and social influence.

**Model 4: Regression Analysis for the dependent value intention to participate in social media and entertaining services**

**Table 5.36: Regression analysis: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,473(a) | ,224 | ,210 | ,85980 |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions

R2 is calculated as .224 that explains 22 percent of the variance in consumers' intention to participate in social media and entertaining services.

**Table 5.37: Regression analysis: ANOVA table of intention to participate in social media and entertaining services**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 48,314 | 4 | 12,079 | 16,339 | ,000(a) |
| | Residual | 167,813 | 227 | ,739 | | |
| | Total | 216,127 | 231 | | | |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions
b Dependent Variable: Social media and entertaining services

Since p value is lower than 0,05, predictive level value R2 is different than zero and this regression equation can explain the dependent variable intention to participate in social media and entertaining services.

Different from first three models, privacy concern and facilitating conditions are statistically significant, while perceived value and social influence variables are not statistically significant. Beta coefficients in below Table 5.38 show that privacy concern is the most influential explanatory variable at .341, followed by facilitating conditions.

**Table 5.38: Regression coefficients of dependent variable intention to participate in social media and entertaining services**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | B | Std. Error |
| 1 | (Constant) | 1,847 | ,280 | | 6,597 | ,000 |
| | Perceived value | -,029 | ,064 | -,030 | -,448 | ,655 |
| | Facilitating conditions | ,190 | ,062 | ,207 | 3,084 | ,002 |
| | Social influence | ,060 | ,061 | ,065 | ,993 | ,322 |
| | Privacy concern | ,318 | ,062 | ,341 | 5,155 | ,000 |

a Dependent Variable: Social media and entertaining services

**<u>Model 5: Regression Analysis for the dependent value intention to participate in location based services</u>**

**Table 5.39: Regression analysis: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,477(a) | ,228 | ,214 | ,84644 |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions

R2 is calculated as .228 that explains 22 percent of the variance in consumers' intention to participate in location based services.

**Table 5.40: Regression analysis: ANOVA table of intention to participate in location based services**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 48,025 | 4 | 12,006 | 16,758 | ,000(a) |
| | Residual | 162,637 | 227 | ,716 | | |
| | Total | 210,663 | 231 | | | |

a Predictors: (Constant), Privacy concern, Social influence, Perceived value, Facilitating conditions
b Dependent Variable: Location based services

Since p value is lower than 0,05, predictive level value R2 is different than zero and this regression equation can explain the dependent variable intention to participate in location based services.

In this model independent are all statistically significant. Beta coefficients in below Table 5.41 show that perceived value is the most influential explanatory variable at .213, followed by privacy concern, facilitating conditions and social influence.

**Table 5.41: Regression coefficients of dependent variable intention to participate in social media and entertaining services**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | B | Std. Error |
| 1 | (Constant) | 1,213 | ,276 | | 4,399 | ,000 |
| | Perceived value | ,201 | ,063 | ,213 | 3,211 | ,002 |
| | Facilitating conditions | ,166 | ,061 | ,183 | 2,738 | ,007 |
| | Social influence | ,135 | ,060 | ,148 | 2,268 | ,024 |
| | Privacy concern | ,186 | ,061 | ,202 | 3,066 | ,002 |

a Dependent Variable: Location based services

## 5.7. INTERPRETATION OF THE HYPOTHESIS

In order to interpret four hypothesis of this study, results of five regression equations formulated between five dependent variables and four independent variables are summarized below Table 5.42.

**Table 5.42: Summary of the Regression Analyses**

| | | Dependent variables: Intention to participate in | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mobile advertising | | SMS | | Mobile shopping and banking | | Social media and entertaining services | | Location based services | |
| Related Hypothesis | Independent variables | Standardized Coefficients Beta | Sig. Std. Error | Standardized Coefficients Beta | Sig. Std. Error | Standardized Coefficients Beta | Sig. Std. Error | Standardized Coefficients Beta | Sig. Std. Error | Standardized Coefficients Beta | Sig. Std. Error |
| H1 | Perceived value | 0,19* | 0,004 | 0,388** | 0,000 | 0,226** | 0,001 | -0,030 | 0,655 | 0,213* | 0,002 |
| H2 | Facilitating conditions | -0,153* | 0,020 | -0,252** | 0,000 | 0,299** | 0,000 | 0,207* | 0,002 | 0,183* | 0,007 |
| H3 | Social influence | 0,383** | 0,000 | 0,168* | 0,009 | 0,201* | 0,002 | 0,065 | 0,322 | 0,148* | 0,024 |
| H4 | Privacy concern | -0,058 | 0,366 | 0,000 | 0,996 | 0,052 | 0,419 | 0,341** | 0,000 | 0,202* | 0,002 |

Note:*p < 0.05;**p < 0.01

Above summary table points out which independent variables are statistically significant, whether independent variables have relationships with five independent variables or not and also the direction of the relationships. In order to see more clearly significant relationships highlighted with grey color in the table. Hypotheses and their results are written below

*Hypothesis 1:* Perceived value is positively related on intention to participate in mobile marketing.

Perceived value has relationship with four independent variables; intention to participate in mobile advertising, SMS, mobile shopping and banking and location based services. Perceived value only does not make sense for intention to participate in social media and entertaining services. Relationships are all positive. Since majority of the dependent variables, which are four out of five, have positive relationships with perceived value factor, it is possible to say that hypothesis 1 is statistically significant at 0,05 significance level and accepted.

*Hypothesis 2:* Facilitating conditions is positively related on intention to participate in mobile marketing.

Facilitating conditions has relationships with every dependent variable. However, relationship directions are different among dependent variables. Relationships between facilitating conditions and mobile advertising, facilitating conditions and SMS are negative, while relationships between facilitating conditions and mobile shopping&banking,

facilitating conditions and social media&entertaining services, facilitating conditions and location based services are positive. Since majority of the dependent variables, which are three out of five, have positive relationships with facilitating factor, it is possible to say that hypothesis 2 is statistically significant at 0,05 significance level and accepted.

*Hypothesis 3:* Social influence is positively related on intention to participate in mobile marketing.

Social influence has relationships with four independent variables; intention to participate in mobile advertising, SMS, mobile shopping and banking and location based services. Social influence only does not make sense for intention to participate in social media and entertaining services. Relationships are all positive. Since majority of the dependent variables, which are four out of five, have positive relationships with perceived value factor, it is possible to say that hypothesis 3 is statistically significant at 0,05 significance level and accepted.

*Hypothesis 4:* Privacy concern is negatively related on intention to participate in mobile marketing.

Privacy concern has relationships only with two independent variables; social media and entertaining services and location based services. Social influence only does not make sense for intention to participate in social media and entertaining services mobile advertising, SMS or mobile shopping and banking. Significant two relationships are positive. However hypothesis claims a negative significant relationship with intention to participate in mobile marketing services. Besides the relationships direction, majority of the dependent variables, which are three out of five, do not have relationships with privacy concern factor, it is possible to say that hypothesis 4 is statistically not significant at 0,05 significance level and rejected.

## 5.8. ANSWER OF THE RESEARCH QUESTION

In order to find out answer for the research question, whether demographic variables such as age, gender, occupation, education, marital status, mobile phone type, income level and mobile internet usage frequency have effect on intention to participate in mobile marketing services, T-test for nominal measured variables and ANOVA analysis for scale measured variables are done.

**Gender effect:**

In order to find out if gender makes a significant different in intention to participate in mobile marketing services, two tailed T-test is done to assess whether the means of male and female are statistically different from each other. Five dependent variables take into consideration and significances are above .05 for all dependent variable except social media and entertaining services. Hence, it is proved that two groups male and female are not statistically different from each other. Gender differences have disappeared likewise the study of Persaud et al. (2012). However in our sample there is a slightly difference in type of mobile marketing services usage among male and female. Women use their mobile phones more for social networking then male. T-test support this with the females' mean value of 4 and males' mean value 3,5.

**Table 5.43: T-test for gender relation**

| | Gender | N | Mean | Sig. (2-tailed) |
|---|---|---|---|---|
| Mobile advertising | Female | 112 | 2,033 | 0,362 |
| | Male | 120 | 2,160 | 0,360 |
| SMS | Female | 112 | 2,888 | 0,132 |
| | Male | 120 | 2,667 | 0,130 |
| Mobile shopping and banking services | Female | 112 | 3,141 | 0,994 |
| | Male | 120 | 3,142 | 0,994 |
| Social media and entertaining services | Female | 112 | 4,049 | 0,000 |
| | Male | 120 | 3,502 | 0,000 |
| Location based services | Female | 112 | 3,469 | 0,253 |
| | Male | 120 | 3,325 | 0,251 |

**Marital Status:**

In order to find out if marital status makes a significant different in intention to participate in mobile marketing services, two tailed T-test is done to assess whether the means of married and unmarried respondents are statistically different from each other. Five dependent variables take into consideration and significances are above .05 for all dependent variable except mobile shopping and banking services. Hence, it is proved that two groups married and unmarried people are not statistically different from each other. Only intention to participate in mobile shopping and banking services is more in married people than unmarried people. T-test support this with the females' married value of 3,5 and males' mean value 2,9.

**Table 5.44: T-test for maritial status relation**

| | Marital Status | N | Mean | Sig. (2-tailed) |
|---|---|---|---|---|
| Mobile advertising | Married | 61 | 2,049 | 0,668 |
| | Unmarried | 171 | 2,117 | 0,678 |
| SMS | Married | 61 | 2,840 | 0,590 |
| | Unmarried | 171 | 2,750 | 0,589 |
| Mobile shopping and banking services | Married | 61 | 3,582 | 0,000 |
| | Unmarried | 171 | 2,984 | 0,000 |
| Social media and entertaining services | Married | 61 | 3,705 | 0,566 |
| | Unmarried | 171 | 3,788 | 0,519 |
| Location based services | Married | 61 | 3,463 | 0,514 |
| | Unmarried | 171 | 3,370 | 0,473 |

**Mobile phone type:**

In order to find out if mobile phone type used by consumer makes a significant different in intention to participate in mobile marketing services, two tailed T-test is done to assess whether the means of smartphone and classic mobile phone users are statistically different from each other. Significances are below .05 for only two dependent variable mobile advertising and SMS. Since, dependent variables of intention to participate in mobile marketing services are mostly do not differ according to the mobile phone type, it is proved that two groups smartphone and classic mobile phone users are not statistically different from each other. As an exception, classic mobile phone users have lower intention to participate in mobile advertising and SMS than smartphone users with the mean values shown in Table 5.45.

**Table 5.45: T-test for mobile phone type relation**

| | Mobile Phone Type | N | Mean | Sig. (2-tailed) |
|---|---|---|---|---|
| Mobile advertising | Smartphone | 205 | 2,035 | 0,011 |
| | Classic mobile phone | 27 | 2,583 | 0,014 |
| SMS | Smartphone | 205 | 2,688 | 0,001 |
| | Classic mobile phone | 27 | 3,426 | 0,000 |
| Mobile shopping and banking services | Smartphone | 205 | 3,167 | 0,321 |
| | Classic mobile phone | 27 | 2,944 | 0,310 |
| Social media and entertaining services | Smartphone | 205 | 3,796 | 0,191 |
| | Classic mobile phone | 27 | 3,537 | 0,194 |
| Location based services | Smartphone | 205 | 3,398 | 0,890 |
| | Classic mobile phone | 27 | 3,370 | 0,892 |

**Age:**

Since, there is more than two age groups, ANOVA analysis is made to assess whether the means of people in different age groups are statistically different from each other.

**Table 5.46: ANOVA analysis for Age: Test of Homogeneity of Variances**

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Mobile advertising | 1,656 | 3 | 228 | ,177 |
| SMS | 1,917 | 3 | 228 | ,128 |
| Mobile shopping and banking services | 1,235 | 3 | 228 | ,298 |
| Social media and entertaining services | 3,263 | 3 | 228 | ,022 |
| Location based services | 1,902 | 3 | 228 | ,130 |

Significances are greater than .05 for all dependent variables except social media and entertaining services. This means, variances are homogenous and further ANOVA analysis is possible for all variables except social media and entertaining services. For intention to participate in social media and entertaining services Brown-Forsythe significance value is checked from robust test. Since, the significance value of social media and entertaining services is below 0,05 this dependent variable also taken in consideration.

**Table 5.47: ANOVA analysis for Age: ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Mobile advertising | Between Groups | 1,578 | 3 | ,526 | ,468 | ,705 |
| | Within Groups | 256,267 | 228 | 1,124 | | |
| | Total | 257,845 | 231 | | | |
| SMS | Between Groups | 3,487 | 3 | 1,162 | ,928 | ,428 |
| | Within Groups | 285,507 | 228 | 1,252 | | |
| | Total | 288,995 | 231 | | | |
| Mobile shopping and banking services | Between Groups | 20,285 | 3 | 6,762 | 6,019 | ,001 |
| | Within Groups | 256,154 | 228 | 1,123 | | |
| | Total | 276,439 | 231 | | | |
| Social media and entertaining services | Between Groups | 5,483 | 3 | 1,828 | 1,978 | ,118 |
| | Within Groups | 210,644 | 228 | ,924 | | |
| | Total | 216,127 | 231 | | | |
| Location based services | Between Groups | 10,182 | 3 | 3,394 | 3,860 | ,010 |
| | Within Groups | 200,480 | 228 | ,879 | | |
| | Total | 210,663 | 231 | | | |

According to the ANOVA table, intention to participate in mobile shopping and banking services and location based services significances are below .05 which means that age groups differ regarding the intention to participate in mobile shopping and banking services and LBS. In order to find out which age group brings that difference, post-hoc test scheffe is done. According to the scheffe test, age groups 25-21 years and 32-40 years differ from age groups 18-24 years and older than 41 years. It is possible to say that mid age group has higher intention to participate in mobile shopping and banking services with mean values of 3,44 and 3,56. Also the age group 25-31 years highly prefer to participate location based marketing services with the mean value 3,67 comparing the age group older than 41 with the mean value 3,08 over 5.

**Table 5.48: ANOVA analysis for Age: Post-hoc (Scheffe) tests**

**Mobile shopping and banking services**

Scheffe

| | N | Subset for alpha = .05 |
|---|---|---|
| Ag | 1 | 1 |
| 18-24 years | 123 | 2,8902 |
| 41 years and older | 12 | 2,9167 |
| 25-31 years | 63 | 3,4444 |
| 32-40 years | 34 | 3,5662 |
| Sig. | | ,117 |

**Table 5.48: ANOVA analysis for Age: Post-hoc (Scheffe) tests (cont')**

**Location based services**

Scheffe

| Ag | N | Subset for alpha = .05 |
|---|---|---|
| | 1 | 1 |
| 41 years and older | 12 | 3,0833 |
| 18-24 years | 123 | 3,2358 |
| 32-40 years | 34 | 3,5515 |
| 25-31 years | 63 | 3,6786 |
| Sig. | | ,120 |

## Education:

**Table 5.49: ANOVA analysis for Education: Test of Homogeneity of Variances**

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Mobile advertising | ,095 | 6 | 225 | ,997 |
| SMS | ,934 | 6 | 225 | ,471 |
| Mobile shopping and banking services | ,780 | 6 | 225 | ,586 |
| Social media and entertaining services | 1,404 | 6 | 225 | ,214 |
| Location based services | 1,366 | 6 | 225 | ,230 |

Since significances are greater than .05 for all dependent variables variances are homogenous and further ANOVA analysis is possible. According to the ANOVA Table 5.50, participants in different education level groups differ in intention to participate in mobile shopping and banking services, social media and entertaining services and location based services ($p<0,05$). In order to find out which education level groups create these differences, Scheffe test is done.

**Table 5.50: ANOVA analysis for Education: ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Mobile advertising | Between Groups | 3,325 | 6 | ,554 | ,490 | ,816 |
| | Within Groups | 254,520 | 225 | 1,131 | | |
| | Total | 257,845 | 231 | | | |
| SMS | Between Groups | 3,609 | 6 | ,602 | ,474 | ,827 |
| | Within Groups | 285,386 | 225 | 1,268 | | |
| | Total | 288,995 | 231 | | | |
| Mobile shopping and banking services | Between Groups | 21,360 | 6 | 3,560 | 3,140 | ,006 |
| | Within Groups | 255,079 | 225 | 1,134 | | |
| | Total | 276,439 | 231 | | | |
| Social media and entertaining services | Between Groups | 13,830 | 6 | 2,305 | 2,564 | ,020 |
| | Within Groups | 202,297 | 225 | ,899 | | |
| | Total | 216,127 | 231 | | | |
| Location based services | Between Groups | 12,882 | 6 | 2,147 | 2,443 | ,026 |
| | Within Groups | 197,780 | 225 | ,879 | | |
| | Total | 210,663 | 231 | | | |

According to the Scheffe tests; intention to participate in mobile shopping and banking services highly differ among the education level groups master & university graduates and master & doctorate students. Graduates more prefer to use mobile shopping and banking services with the mean value of 3,4 comparing students mean value 2,7. Intention to participate social media and entertaining services highly differ among the education level groups doctorate students (mean value 4,8) and high school & doctorate graduates (mean value 3,2 and 3,3). Doctorate students are much more willing to use social media and entertaining services. Intention to participate location based services highly differ among the education level groups university & master graduates (mean value 3,5 and 3,6) and high school & doctorate graduates (mean value 2,8). University and master graduates are much more willing to use social location based services.

## Table 5.51: ANOVA analysis for Education: Post-hoc (Scheffe) tests

**Mobile shopping and banking services**

Scheffe

| Education | N | Subset for alpha = .05 |
|---|---|---|
| | 1 | 1 |
| Master Student | 15 | 2,7167 |
| Doctorate Student | 2 | 2,7500 |
| High school Graduate | 14 | 2,8750 |
| University Student | 90 | 2,8833 |
| Doctorate Graduate | 4 | 3,0000 |
| Master Graduate | 33 | 3,4242 |
| University Graduate | 74 | 3,4831 |
| Sig. | | ,926 |

**Social media and entertaining services**

Scheffe

| Education | N | Subset for alpha = .05 |
|---|---|---|
| | 1 | 1 |
| High school Graduate | 14 | 3,2321 |
| Doctorate Graduate | 4 | 3,3125 |
| University Student | 90 | 3,6222 |
| University Graduate | 74 | 3,8885 |
| Master Graduate | 33 | 3,8939 |
| Master Student | 15 | 4,2167 |
| Doctorate Student | 2 | 4,8750 |
| Sig. | | ,089 |

**Location based services**

Scheffe

| Education | N | Subset for alpha = .05 |
|---|---|---|
| | 1 | 1 |
| High school Graduate | 14 | 2,8393 |
| Doctorate Graduate | 4 | 2,8750 |
| University Student | 90 | 3,2389 |
| Doctorate Student | 2 | 3,2500 |
| Master Student | 15 | 3,4333 |
| University Graduate | 74 | 3,5980 |
| Master Graduate | 33 | 3,6515 |
| Sig. | | ,834 |

**Income:**

**Table 5.52: ANOVA analysis for Income: Test of Homogeneity of Variances**

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Mobile advertising | ,259 | 5 | 226 | ,935 |
| SMS | ,623 | 5 | 226 | ,683 |
| Mobile shopping and banking services | 1,084 | 5 | 226 | ,370 |
| Social media and entertaining services | ,713 | 5 | 226 | ,614 |
| Location based services | ,810 | 5 | 226 | ,543 |

Since significances are greater than .05 for all dependent variables variances are homogenous and further ANOVA analysis is possible.

**Table 5.53: ANOVA analysis for Income: ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Mobile advertising | Between Groups | 2,991 | 5 | ,598 | ,530 | ,753 |
| | Within Groups | 254,854 | 226 | 1,128 | | |
| | Total | 257,845 | 231 | | | |
| SMS | Between Groups | 6,200 | 5 | 1,240 | ,991 | ,424 |
| | Within Groups | 282,794 | 226 | 1,251 | | |
| | Total | 288,995 | 231 | | | |
| Mobile shopping and banking services | Between Groups | 19,783 | 5 | 3,957 | 3,484 | ,005 |
| | Within Groups | 256,656 | 226 | 1,136 | | |
| | Total | 276,439 | 231 | | | |
| Social media and entertaining services | Between Groups | 11,763 | 5 | 2,353 | 2,602 | ,026 |
| | Within Groups | 204,364 | 226 | ,904 | | |
| | Total | 216,127 | 231 | | | |
| Location based services | Between Groups | 10,772 | 5 | 2,154 | 2,436 | ,036 |
| | Within Groups | 199,890 | 226 | ,884 | | |
| | Total | 210,663 | 231 | | | |

According to the ANOVA table, participants in different income level groups differ in intention to participate in mobile shopping and banking services, social media and entertaining services and location based services ($p<0,05$).

According to the Scheffe tests; intention to participate in mobile shopping and banking services highly differ among the groups have income 4,000-5,000 TL and below 1,000TL monthly. Participants who have higher income level are more willing to participate in mobile shopping and banking services with the mean value of 3,8 comparing lower income level with mean value 2,8. Intention to participate social media and entertaining services highly differ among the groups have income 4,000-5,000 TL (mean value 4,2) and 1,000-2,000 TL (mean value 3,4) monthly. Participants who have mid income level are less willing to participate in social media and entertaining services. Intention to participate location based services highly differ among the groups have income 4,000-5,000 TL and below 1,000TL monthly. Participants who have higher income level are more willing to participate in location based services with the mean value of 3,8 comparing lower income level with mean value 3,2.

**Table 5.54: ANOVA analysis for Income: Post-hoc (Scheffe) tests**

**Mobile shopping and banking services**

Scheffe

| | N | Subset for alpha = .05 |
|---|---|---|
| Monthly Personal Income | 1 | 1 |
| Below 1,000 TL | 89 | 2,8989 |
| 1,000-2,000 TL | 47 | 2,9840 |
| 2,000-3,000 TL | 33 | 3,2348 |
| 3,000-4,000 TL | 22 | 3,2955 |
| Above 5,000 TL | 27 | 3,6296 |
| 4,000-5,000 TL | 14 | 3,8036 |
| Sig. | | ,080 |

**Social media and entertaining services**

Scheffe

| | N | Subset for alpha = .05 |
|---|---|---|
| Monthly Personal Income | 1 | 1 |
| 2,000-3,000 TL | 33 | 3,3939 |
| Below 1,000 TL | 89 | 3,6573 |
| Above 5,000 TL | 27 | 3,8148 |
| 3,000-4,000 TL | 22 | 3,8523 |
| 1,000-2,000 TL | 47 | 4,0479 |
| 4,000-5,000 TL | 14 | 4,1607 |
| Sig. | | ,114 |

**Table 5.54: ANOVA analysis for Income: Post-hoc (Scheffe) tests (cont')**

**Location based services**

Scheffe

| Monthly Personal Income | N<br>1 | Subset for alpha = .05<br>1 |
|---|---|---|
| Below 1,000 TL | 89 | 3,1629 |
| 3,000-4,000 TL | 22 | 3,3636 |
| 2,000-3,000 TL | 33 | 3,3712 |
| 4,000-5,000 TL | 14 | 3,5714 |
| 1,000-2,000 TL | 47 | 3,6064 |
| Above 5,000 TL | 27 | 3,7500 |
| Sig. | | ,373 |

**Mobile Internet Usage:**

**Table 5.55: ANOVA analysis for mobile Internet: Test of Homogeneity of Variances**

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Mobile advertising | ,342 | 4 | 227 | ,849 |
| SMS | 1,472 | 4 | 227 | ,212 |
| Mobile shopping and banking services | ,284 | 4 | 227 | ,888 |
| Social media and entertaining services | ,692 | 4 | 227 | ,598 |
| Location based services | 1,209 | 4 | 227 | ,308 |

Since significances are greater than .05 for all dependent variables variances are homogenous and further ANOVA analysis is possible. According to the ANOVA table, participants have different mobile internet usage frequency differ in intention to participate in SMS, mobile shopping and banking services and social media and entertaining services. In order to find out which groups create these differences, Scheffe test is done and according to the results shown in Table 5.57, it is clearly seen that participants who never use mobile internet highly differ from participant who use mobile internet more than 3 hours in a day. In terms of intention to participate in SMS, non-mobile internet users with the mean value 3,2 are more willing to participate in SMS comparing heavily mobile internet users 3-5 hours within a day with the mean value 2,5. Regarding to intention to

participate in mobile shopping & banking and social media & entertaining services, contrary relation is issued. Participants who use mobile internet 3-5 hours a day more prefer to use mobile shopping & banking and social media & entertaining services comparing participants who never use mobile internet.

**Table 5.56: ANOVA analysis for mobile Internet: ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Mobile advertising | Between Groups | 4,676 | 4 | 1,169 | 1,048 | ,383 |
| | Within Groups | 253,169 | 227 | 1,115 | | |
| | Total | 257,845 | 231 | | | |
| SMS | Between Groups | 9,790 | 4 | 2,448 | 1,990 | ,097 |
| | Within Groups | 279,204 | 227 | 1,230 | | |
| | Total | 288,995 | 231 | | | |
| Mobile shopping and banking services | Between Groups | 16,722 | 4 | 4,181 | 3,654 | ,007 |
| | Within Groups | 259,717 | 227 | 1,144 | | |
| | Total | 276,439 | 231 | | | |
| Social media and entertaining services | Between Groups | 15,420 | 4 | 3,855 | 4,360 | ,002 |
| | Within Groups | 200,706 | 227 | ,884 | | |
| | Total | 216,127 | 231 | | | |
| Location based services | Between Groups | 1,823 | 4 | ,456 | ,495 | ,739 |
| | Within Groups | 208,840 | 227 | ,920 | | |
| | Total | 210,663 | 231 | | | |

**Table 5.57: ANOVA analysis for mobile Internet: Post-hoc (Scheffe) tests**

**SMS**

Scheffe

| | N | Subset for alpha = .05 |
|---|---|---|
| Daily Mobile Internet Usage | 1 | 1 |
| 3-5 hours | 26 | 2,4904 |
| 1-3 hours | 74 | 2,7162 |
| 0-1 hour | 63 | 2,7222 |
| More than 5 hours | 33 | 2,7348 |
| Never | 36 | 3,2222 |
| Sig. | | ,074 |

**Table 5.57: ANOVA analysis for mobile Internet: Post-hoc (Scheffe) tests (cont')**

**Mobile shopping and banking services**

Scheffe

| Daily Mobile Internet Usage | N | Subset for alpha = .05 | |
|---|---|---|---|
| | 1 | 2 | 1 |
| Never | 36 | 2,7083 | |
| More than 5 hours | 33 | 2,9924 | 2,9924 |
| 0-1 hour | 63 | 3,0357 | 3,0357 |
| 1-3 hours | 74 | 3,3480 | 3,3480 |
| 3-5 hours | 26 | | 3,5962 |
| Sig. | | ,135 | ,180 |

**Social media and entertaining services**

Scheffe

| Daily Mobile Internet Usage | N | Subset for alpha = .05 |
|---|---|---|
| | 1 | 1 |
| Never | 36 | 3,4306 |
| 0-1 hour | 63 | 3,5040 |
| 1-3 hours | 74 | 3,9088 |
| 3-5 hours | 26 | 4,0577 |
| More than 5 hours | 33 | 4,0833 |
| Sig. | | ,052 |

## Occupation

**Table 5.58: ANOVA analysis for mobile Occupation: Test of Homogeneity of Variances**

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Mobile advertising | ,301 | 2 | 229 | ,740 |
| SMS | 2,262 | 2 | 229 | ,106 |
| Mobile shopping and banking services | ,337 | 2 | 229 | ,714 |
| Social media and entertaining services | 1,978 | 2 | 229 | ,141 |
| Location based services | ,224 | 2 | 229 | ,799 |

Since significances are greater than .05 for all dependent variables variances are homogeneous and further ANOVA analysis is possible.

**Table 5.59: ANOVA analysis for mobile Internet: ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Mobile advertising | Between Groups | ,600 | 2 | ,300 | ,267 | ,766 |
| | Within Groups | 257,245 | 229 | 1,123 | | |
| | Total | 257,845 | 231 | | | |
| SMS | Between Groups | 2,496 | 2 | 1,248 | ,998 | ,370 |
| | Within Groups | 286,498 | 229 | 1,251 | | |
| | Total | 288,995 | 231 | | | |
| Mobile shopping and banking services | Between Groups | 17,564 | 2 | 8,782 | 7,769 | ,001 |
| | Within Groups | 258,875 | 229 | 1,130 | | |
| | Total | 276,439 | 231 | | | |
| Social media and entertaining services | Between Groups | ,416 | 2 | ,208 | ,221 | ,802 |
| | Within Groups | 215,711 | 229 | ,942 | | |
| | Total | 216,127 | 231 | | | |
| Location based services | Between Groups | 3,256 | 2 | 1,628 | 1,797 | ,168 |
| | Within Groups | 207,407 | 229 | ,906 | | |
| | Total | 210,663 | 231 | | | |

According to the ANOVA table, participants in different income level groups differ only in intention to participate in mobile shopping and banking services. Scheffe test results point out that employed participant with the mean value 3,4 highly differ from unemployed and student participants with the mean value of 2,6 over 2,8.

**Table 5.60: ANOVA analysis for mobile Occupation: Post-hoc (Scheffe) test**

**Mobile shopping and banking services**

Scheffe

| | N | Subset for alpha = .05 |
|---|---|---|
| Occupation | 1 | 1 |
| Unemployed | 3 | 2,6667 |
| Student | 107 | 2,8575 |
| Employed | 122 | 3,4016 |
| Sig. | | ,362 |

**Summary of T-test and ANOVA Analyses Results:**

In order to see the result of the research question about demographic variables, consolidated results of T-test and ANOVA analysis are summarized Table 5.61 and the variables have effect on intention to participate in five mobile marketing services are colored with grey.

**Table 5.61: Summary of T-test and ANOVA Analyses Results**

| | | Dependent variables: Intention to participate in | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mobile advertising | | SMS | | Mobile shopping and banking | | Social media and entertaining services | | Location based services | |
| **Independent Variables** | **Sub Groups** | N | Mean | N | Mean | N | Mean | N | Mean | N | Mean |
| Gender | Female | 112 | 2,033 | 112 | 2,888 | 112 | 3,141 | 112 | 4,049** | 112 | 3,469 |
| | Male | 120 | 2,160 | 120 | 2,667 | 120 | 3,142 | 120 | 3,50** | 120 | 3,325 |
| Marital Status | Married | 61 | 2,049 | 61 | 2,840 | 61 | 3,582** | 61 | 3,705 | 61 | 3,463 |
| | Unmarried | 171 | 2,117 | 171 | 2,750 | 171 | 2,984** | 171 | 3,788 | 171 | 3,370 |
| Mobile Phone Type | Smartphone | 205 | 2,035* | 205 | 2,688** | 205 | 3,167 | 205 | 3,796 | 205 | 3,398 |
| | Classic mobile phone | 27 | 2,583* | 27 | 3,426** | 27 | 2,944 | 27 | 3,537 | 27 | 3,370 |
| Age | 18-24 years | 123 | 2,085 | 123 | 2,748 | 123 | 2,890* | 123 | 3,707 | 123 | 3,236* |
| | 25-31 years | 63 | 2,024 | 63 | 2,925 | 63 | 3,444* | 34 | 3,904 | 63 | 3,679* |
| | 32-40 years | 34 | 2,287 | 34 | 2,544 | 34 | 3,566* | 63 | 3,905 | 34 | 3,552* |
| | 41 years and older | 12 | 2,104 | 12 | 2,896 | 12 | 2,9167* | 12 | 3,250 | 12 | 3,083* |
| Education Level | High school Graduate | 14 | 2,304 | 14 | 3,107 | 14 | 2,875* | 14 | 3,232* | 14 | 2,839* |
| | University Student | 90 | 2,186 | 90 | 2,769 | 90 | 2,883* | 90 | 3,622* | 90 | 3,239* |
| | University Graduate | 74 | 2,037 | 74 | 2,804 | 74 | 3,483* | 90 | 3,622* | 74 | 3,598* |
| | Master Student | 15 | 1,783 | 15 | 2,683 | 15 | 2,717* | 15 | 4,217* | 15 | 3,433* |
| | Master Graduate | 33 | 2,038 | 33 | 2,644 | 33 | 3,424* | 33 | 3,894* | 33 | 3,652* |
| | Doctorate Student | 2 | 2,375 | 2 | 2,000 | 2 | 2,750* | 2 | 4,875* | 2 | 3,250* |
| | Doctorate Graduate | 4 | 2,125 | 4 | 2,938 | 4 | 3,000* | 4 | 3,313* | 4 | 2,875* |
| Income | Below 1,000 TL | 89 | 2,188 | 89 | 2,927 | 89 | 2,899* | 89 | 3,657* | 89 | 3,163* |
| | 1,000-2,000 TL | 47 | 1,968 | 47 | 2,622 | 47 | 2,984* | 47 | 4,048* | 47 | 3,606* |
| | 2,000-3,000 TL | 33 | 2,008 | 33 | 2,795 | 33 | 3,235* | 33 | 3,394* | 33 | 3,371* |
| | 3,000-4,000 TL | 22 | 1,989 | 22 | 2,409 | 22 | 3,296* | 22 | 3,852* | 22 | 3,364* |
| | 4,000-5,000 TL | 14 | 2,357 | 14 | 2,732 | 14 | 3,804* | 14 | 4,161* | 14 | 3,571* |
| | Above 5,000 TL | 27 | 2,102 | 27 | 2,824 | 27 | 3,630* | 27 | 3,815* | 27 | 3,750* |
| Mobile internet usage | Never | 36 | 2,403 | 36 | 3,222* | 36 | 2,708* | 36 | 3,431* | 36 | 3,229 |
| | 0-1 hour | 63 | 2,123 | 63 | 2,722* | 63 | 3,036* | 63 | 3,504* | 63 | 3,369 |
| | 1-3 hours | 74 | 2,010 | 74 | 2,716* | 74 | 3,348* | 74 | 3,909* | 74 | 3,453 |
| | 3-5 hours | 26 | 1,942 | 26 | 2,490* | 26 | 3,596* | 26 | 4,058* | 26 | 3,538 |
| | More than 5 hours | 33 | 2,045 | 33 | 2,735* | 33 | 2,992* | 33 | 4,083* | 33 | 3,379 |
| Occupation | Employed | 122 | 2,061 | 122 | 2,779 | 122 | 3,402* | 122 | 3,803 | 122 | 3,504 |
| | Student | 107 | 2,133 | 107 | 2,743 | 107 | 2,858* | 107 | 3,729 | 107 | 3,266 |
| | Unemployed | 3 | 2,417 | 3 | 3,667 | 3 | 2,667* | 3 | 3,583 | 3 | 3,500 |

Note:*p < 0.05;**p < 0.01

To sum up, according to the result, it is possible to say that intention to participate in mobile marketing services is not different according to the age, gender, marital status, occupation or mobile phone types usage characteristics of the participants who show similar reaction against at least three dependent variables. On the other hand, intention to participate in mobile marketing services differ according to the education level, income and mobile internet usage characteristics of the participants who show distinct reaction against at least three dependent variables.

# 6. DISCUSSION AND CONCLUSION

This study gives deeper insights to Turkish mobile internet service providers and companies in the means of increasing the adoption of mobile marketing services with explaining consumers' intention to participate in mobile marketing services with different determinants adopted from Unified Theory of Acceptance and use of Technology (UTAUT) factors which have not examined before in Turkey. Only the determinant privacy concern is adapted from other academic resources.

According to the outputs of the study, three hypothesis are accepted which are related with the factors of Unified Theory of Acceptance and use of Technology (UTAUT) (Venkatesh et al. 2003); perceived value, facilitating conditions and social influence. These factors are positively related on intention to participate in mobile marketing. Some researchers supported the outcome of this study with their previous studies, while some of them obtained different results.

Regarding the first hypothesis, it is proved that perceived value is positively related on intention to participate in mobile marketing. In literature, this relationship is supported by the Gao (2012), Persaud et al. (2012) and Yang (2010). Persaud et al. (2012) found that perceived value is the most influential explanatory variable for the acceptance of mobile marketing and Yang (2012) proved that the effect of utilitarian performance expectancy on attitude toward using mobile shopping services is significant and positive. Hence, it is possible to say that the result of first hypothesis is consistent with other studies reviewd in literature part. Second hypothesis is accepted and states that facilitating conditions is positively related on intention to participate in mobile marketing. This relationship is supported with the previous studies by Yang (2010), Ajzen (1991) and Venkatesh et al. (2003). Thus, it is possible to say that the result of second hypothesis is consistent with other studies reviewed in literature part. Third hypothesis is also accepted and declared that social influence is positively related on intention to participate in mobile marketing. This relationship is supported with the previous studies by Yang (2010), Hong et al. (2008) and Ismail and Razak (2011). Also, Bauer et al. (2005) has proved the validity of the TRA for research in the area of mobile marketing in his study and results imply that social norms only have a slight direct influence. Therefore, it is possible to say that the result of third

hypothesis is consistent with other studies reviewed in literature part. From the point of academic view, this study brings a great contribution to the literature by proving the validity of Unified Theory of Acceptance and use of Technology (UTAUT) theory factors except only effort expectancy factor in Turkey.

Last hypothesis of this study is rejected and noted that privacy concern is not related on intention to participate in mobile marketing. Hypothesis claimed a negative relationship but surprisingly, besides the non-relationship results with the adoption of mobile advertising, SMS and mobile shopping, privacy concern shows positive relationship with the adoption of social media & entertaining services and location based services. This finding is interesting when considering the social media platforms including much personal information with low level security. Gao (2012) also proved that the effect of privacy concern for attitude toward mobile marketing does not make sense in United States and China. However on the other side, according to the study of Suher and İspir (2009) four factors are important for attitudes toward SMS advertising in Turkey: Infotainment, Life partner, Privacy, and Irritation. This study is consistent with the study of Gao (2012), while is not consistent with the study of Suher and İspir (2009).

This study also proved that respondents from different education and income levels have different mobile marketing services adoptions. Respondents with higher income level are more positive comparing the respondents with lower income level regarding the mobile marketing services; mobile shopping&banking, social media&entertaining services and location based services similarly with the findings of Wu (2003). Doctorate graduates do not prefer to participate in social media services and location based services while university and master graduates highly prefer. However, there are no differences according to the gender, age, occupation or marital status except mobile shopping & banking and social media&entertaining services as consistent with the study of Persaud et al. (2012) points out that gender differences have not effect on willingness to accept mobile marketing. Also, Barutçu (2008) pointed out that there is no significant differences between respondents age, income, education and employment groups and their attitudes toward mobile advertising and mobile discount coupons while, there are statistically significant differences in mobile entertainment services, mobile shopping, mobile marketing. According to this study, women are significantly more active on social networks than men

means that they tend to depend more on relationships in virtual environments than men. Correspondingly, the findings of Yang and Lee (2010) show that attitudes of women's toward using internet-enabled mobile phone and mobile data services would be positive and stronger in social networking activities than men. On the other hand, married customers differ from unmarried customers, and employed customers differ from unemployed customers in terms of mobile shopping&banking adoption. Time limitations due to the heavy responsibilities may be pushed married and employed customers to shop via mobile phone.

Mobile internet usage is also another factor effect the mobile marketing services adoption. It is clearly seen from the results that participants who never use mobile internet highly differ from participant who use mobile internet more than 3 hours in a day and non-mobile internet are negative to participate in mobile shopping&banking and social media and entertaining services, but non-internet users are more positive to accept SMS. However, according to the study of Barutçu (2008), non-Internet users and Internet users have similar attitudes toward mobile discount coupons and respondents who do not have an access to the Internet tend to have more positive attitudes towards marketing tools than those who have it. That result is not consistent with the findings reviewed in the literature part.

In terms of intention to participation to mobile marketing services, when the means of the factors' sub-scale items were analyzed, results show that connecting to the Internet through a mobile phone to search information has the highest intention to participate value following by social media services and location based services. Likewise Bauer et al. (2005) found that entertainment and information value are identified as the central acceptance drivers of mobile marketing. However, participants have a very negative attitude toward seeing advertising during various services like searching through mobile internet, playing mobile game or using mobile application receiving any SMS except the location based discount SMSs. Similarly, according to the study of Broeckelmann (2010) location-aware advertising text messages are preferred over those that are not location aware and according to the study of Bamba and Barnes (2007) and also Suher and İspir (2009), respondents mostly held negative attitudes toward SMS advertising.

# 7. IMPLICATIONS

This study brings a great contribution to the companies in order to offer mobile marketing services that meet consumers' expectations by proving the validity of Unified Theory of Acceptance and use of Technology (UTAUT) theory factors which have not analyzed before in Turkey. According to the results, companies are advised to give place to mobile marketing services, especially mobile search, social media and location based services, offer cost and time effective mobile marketing services, encourage the usage of smartphone, provide a mobile network with continuous internet availability and use the social influence effect. Besides, it is very essential that types of mobile marketing services should be chosen according to customer preferences.

Customers have a very negative attitude toward seeing advertising during using various mobile marketing services and also negative attitude toward SMS advertisements. Therefore, marketers have a lot of work to do to make mobile or SMS ads more popular and attractive and companies need to develop their campaigns by using most popular and adopted services like mobile search, social media services and location based services.

Customers are more positive to participate in mobile shopping if they save money or time while they are negative if there is no any stated benefit. This output help marketers to find adequate solutions to increase mobile shopping adoption. Marketers need to simplify mobile shopping interface which enables customers to shop within seconds and also offer discounted prices comparing non mobile stores.

In terms of technological infrastructure, consumers are more likely to adopt mobile marketing services if the technical infrastructure exists like continuous internet enabled mobile phone, internet enable provider or GSM operator and user friendly & easy understandable mobile services features to support the use of mobile marketing services. It is advised to marketers to adopt customers and the technological developments by increasing the smartphone sales, serving & reaching the customer over the best network providers and operating systems, finding different ways to increase the knowledge about how to use mobile marketing services and which benefits these services bring to them, since

if customers have higher perceived value from mobile marketing services (save time, money), they are more willing to participate in mobile marketing services. Not only marketers, but also GSM operators needed to invest their network to satisfy the huge data consumption increasing day by day.

Besides all, it is crucial to evaluate the mobile marketing services as a complementary medium of general marketing strategy and also marketing mix in order to maximize the benefit.

# 8. LIMITATIONS

This study has some limitations. One is about the age and mobile phone type usage distribution of the sample. Approximately 80 percent of sample was between the ages 18-31, thus, the results may not be generalized for consumers over age 31. Similarly, 88 percent of sample had smartphone which enables them to use variety of advanced mobile marketing services. Since the average of smartphone usage in Turkey is only 20 percent, the results may not be generalized to a broader population. Also, the size of the sample is not small but caution must be exercised since the sample size was relatively small. This study can be done among a wider range of participants when there is not a time limitation to find the results which will represent a broader population. Additionally, whereas the variables in the research model are able to explain a significant amount of the variances of intention to participate in mobile advertising, SMS, mobile shopping & banking, social media & entertaining services and location based services, there is still a need to find additional variables that can enhance the ability of the proposed model to explain and predict mobile marketing services adoption factors.

This study suggests that future researchers investigate the relationships between other values of mobile marketing services such as effort expectancy, trust, satisfaction, aesthetics, hedonic value, monetary value etc. in terms of consumer characteristics such as lifestyle, socio-psychographic to better understand driving values of mobile marketing services adoption. By examining the relationship between values and mobile marketing service characteristics, marketers could create more sophisticated marketing and positioning strategies to meet various consumer values get from mobile marketing services adoption. Since mobile marketing services except SMS is in its infancy stage and the features of these mobile marketing services will be evolving in the future, it would be worthwhile to examine consumer intention to participate in mobile marketing services again when consumers are oriented to the use of the services.

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# APPENDICES

**APPENDIX 1: QUESTIONNAIRE (ENGLISH)**

Dear Participant,

This questionnaire study is prepared for the master thesis about "Mobile Marketing Services Adoption" by Aysegul Demir, who is a graduate student in Marketing department under the advisory of Doc. Dr. Kemal Suher. All the questions must be answered completely for your questionnaire to be included in the study.

Thank you for your contribution to our study.

1. **Your Age** ___
2. **Your Gender**

Female____ Male____

3. **Your marital status:**

Unmarried____ Married____

4. **Your education level**

High School___ University___ Master___ Doctorate__

5. **Are you working?**

Yes ____ (please continue with the question 6)

No ____ (please choose one of them below and continue with the question 7)

Student ____
Retired ____
Housewife ____
Other ____

6. **Occupation : _____**

7. **Your monthly personal income:**

Below 1000 TL ___
1000-2000 TL ___
2000-3000 TL ___
3000-4000 TL ___
4000-5000 TL ___
Above 5000 TL ___

8. **For how many years have you been using a mobile phone?** : _____

9. **How many mobile phones do you have?** _____
10. **Mobile phone brand that you are using:**

Smartphone (please write here) _____
Classic mobile phone (please write here) _____

**11. How many hours in a day do you use mobile internet via your mobile phone?**

Never ___
0-1 hour ___
1-3 hours ___
3-5 hours ___
More than 5 hours ___

**12. Dou you download mobile applications via your mobile phone by using internet?**

Yes ____ (please continue with the questions 13 and 14)
No ____ (please continue with the question 15)

**13. Please mark your first two application type that you frequently download.**

____Music
____Game
____Video
____Mobile apps of brands
____ Magazine, News, Book Apps
____Other…….(please state)

**14. How many times do you download these contents?**

Once a month ___
1-2 times a week ___
2-5 times a week ___
More than 5 time a week___

**15. Please mark first five action that you frequently do with your mobile phone**

___ Making voice calls
___ Text messaging
___ Sending/receiving e-mail
___ Taking pictures/videos
___ Using social media apps (facebook, twitter, instagram etc.)
___ Using location based services such as Google map/around me
___ Listening music
___ Playing games
___ Browsing internet
___ Reading Newspapers/getting information
___ Shopping
___ Following campaign and discount messages
___Making banking transactions
___ Following brands by downloading their mobile apps
___Other…….(Please state)

**16. Please note your agreement level according to your willingness to use each of the mobile marketing services (1: Strongly agree, 2: Agree, 3: Neither Agree Nor Disagree, 4: Disagree, 5:Strongly Disagree)**

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Receive SMS about new product and services from stores I shop from | | | | | |
| Receive SMS about campaigns from stores I shop from | | | | | |
| Receive SMS about new product services or campaigns from any store | | | | | |
| Receive product or service coupon via SMS from any store | | | | | |
| Download mobile app to follow campaigns of stores I shop from | | | | | |
| Download and use a general mobile phone application not developed by a specific brand | | | | | |
| See advertisement while using mobile applications | | | | | |
| Pay for and buy a mobile application that I am interested in | | | | | |
| Download and use a mobile application which provide to see the nearby important places | | | | | |
| Receive SMS messages about products and campaigns in the shop during shopping | | | | | |
| Download and use a mobile application which provide to see the nearby discounts and promotions | | | | | |
| Be able to compare prices of products in the store before buying by using a mobile application | | | | | |
| Shopping via mobile phone | | | | | |
| Shop via mobile phone if it is cheaper | | | | | |
| Shop via mobile phone if I have time limitation | | | | | |
| Make banking transactions via mobile phone | | | | | |
| Connect to the internet through mobile phone to search information | | | | | |
| See advertising while connecting to internet through mobile phone | | | | | |
| Tap the advertising that I see while connecting internet through mobile phone | | | | | |
| Download and play a mobile phone game | | | | | |
| See advertising of brands embedded in mobile phone game while playing game | | | | | |
| Download and use social media applications such as facebook, twitter, etc. | | | | | |
| Share picture, video or comments instantly via social media applications with mobile phone | | | | | |
| Attend surveys sent from mobile applications | | | | | |
| I am positive about using mobile marketing services | | | | | |

**17. Please note your agreement level about following statements. (1: Strongly agree, 2: Agree, 3: Neither Agree Nor Disagree, 4: Disagree, 5:Strongly Disagree)**

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Receiving messages sent from mobile marketing applications is useful | | | | | |
| Messages sent from mobile marketing applications help me to give better shopping decision | | | | | |
| Mobile marketing services shorten my time spent on searching product or information | | | | | |
| Mobile marketing services provide me to save money | | | | | |
| My mobile phone is sufficient to use mobile marketing services | | | | | |
| More advanced mobile phones provide to use mobile marketing services more frequently and easily. | | | | | |
| I have enough knowledge to use mobile marketing services | | | | | |
| My GSM operator offers enough services to use mobile marketing services | | | | | |
| I could not answer messages sent through mobile marketing services with my mobile phone due to the limited internet connection | | | | | |
| If my GSM operator offers more continuous and speedy connection, I use mobile marketing services more frequently and easily | | | | | |
| GSM operator or brands I shop from should not share my e-mail, phone or location information without my consent | | | | | |
| I analyze privacy policies of mobile marketing services | | | | | |
| I am reluctant to give my personal information in order to use mobile marketing services I am interested in | | | | | |
| I would use mobile marketing services because of the proportion of my friends who use mobile marketing services | | | | | |
| People who are important to me and influence my behavior have impact on my mobile marketing services usage | | | | | |
| My family think that I should use mobile marketing services | | | | | |

**APPENDIX 2: QUESTIONNAIRE (TURKISH)**

Sayın Katılımcı,

Bu anket çalışması Bahçeşehir Üniversitesi Pazarlama Bölümü Yüksek Lisans öğrencisi Ayşegül Demir'in, Doç. Dr. Kemal Süher danışmanlığında yürütmekte olduğu "Mobil Pazarlama Uygulamaları Adaptasyonu" konulu Yüksek Lisans tezi kapsamında gerçekleştirilmektedir. Çalışmadan sonuç alınabilmesi için anketteki tüm soruların yanıtlanmasına gerek duyulmaktadır. Ankete katılmak için isminizi belirtmeyebilirsiniz.

Katılımınız ve katkınız için teşekkür ederiz.

1. **Yaşınız** ___
2. **Cinsiyetiniz**

Kadın ____ Erkek ____

3. **Medeni durumunuz:**

Bekar ____ Evli ____

4. **En son bitirdiğiniz kurum itibariyle eğitim durumunuz:**

Lise___ Üniversite___ Lisansüstü___ Doktora___

5. **Çalışıyor musunuz?**

Evet ____ (ise lütfen 6. soruya geçiniz)

Hayır ____ (ise lütfen aşağıdakilerden birini seçiniz ve 7. Soru ile devam ediniz)

Öğrenci ____
Emekli ____
Ev hanımı ____
Diğer ____

6. **Mesleğiniz/Şu andaki göreviniz : _____**

7. **Aylık ortalama kişisel geliriniz:**

1000 TL ve altı ___
1000-2000 TL ___
2000-3000 TL ___
3000-4000 TL ___
4000-5000 TL ___
5000 TL'den fazla ___

8. **Kaç yıldır cep telefonu kullanıyorsunuz? _____**
9. **Kaç tane telefonunuz var? _____**
10. **Kullandığınız cep telefonunun markası:**

Akıllı Telefon (ise buraya yazınız) _____
Cep Telefonu (ise buraya yazınız) _____

11. **Cep telefonunuzdan Internet kullanımınız günde kaç saattir?**

Hiç ___
Günde 0-1 saat ___
Günde 1-3 saat ___
Günde 3-5 saat ___
Günde 5 saatten fazla ___

**12. Cep telefonunuzdan interneti kullanarak çeşitli mobil uygulamaları indiriyor musunuz?**

Evet ____ (ise lütfen 13 ve 14. sorulara geçiniz)
Hayır ____ (ise lütfen 15. soruya geçiniz)

**13. Aşağıdaki uygulamalardan en çok indirdiğiniz iki tanesini işaretleyiniz.**

____Music
____Oyun
____Video
____Ürün ve hizmet sağlayan firmaların mobil uygulamaları
____Dergi, gazete, haber, kitap uygulamaları
____Diğer…….(Lütfen belirtiniz)

**14. Bu içerikleri hangi sıkılıkta indiriyorsunuz?**

Ayda 1 defa ___
Haftada 1-2 defa ___
Haftada 2-5 defa ___
Haftada 5'den fazla ___

**15. Cep telefonunuzda en çok kullandığınız ilk beş özelliği işaretleyiniz.**

___Sesli görüşme yapmak
___Mesajlaşmak
___Elektronik posta göndermek/kabul etmek
___Resim/video çekmek
___Sosyal medya uygulamalarını (facebook, twitter, instagram gibi) kullanmak,
___Google map/around me gibi lokasyon bazlı uygulamaları kullanmak
___Müzik dinlemek
___Oyun oynamak
___İnternete girerek arama yapmak
___Haberleri okumak ve bilgi edinmek
___Alışveriş yapmak
___Kampanya ve indirim mesajlarını takip etmek
___Bankacılık işlemleri yapmak
___Müşterisi olduğum mağaza veya hizmet kuruluşlarının uygulamalarını indirerek yeni ürünlerini takip etmek.
___Diğer…….(Lütfen belirtiniz)

16. **Lütfen aşağıda listelenen çeşitli mobil pazarlama uygulamalarından herbirini kullanma konusunda ne derece istekli olduğunuzu ölçek üzerinde belirtiniz. (1: Kesinlikle Katılıyorum, 2: Katılıyorum, 3: Kararsızım, 4: Katılmıyorum, 5:Kesinlikle Katılmıyorum)**

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Müşterisi olduğum firmalardan ürün veya hizmet tanımını bildiren SMS almak | | | | | |
| Müşterisi olduğum firmalardan ürün veya hizmet kampanyalarını bildiren SMS almak | | | | | |
| Müşterisi olduğum firmaların kampanyalarını mobil uygulamalarını indirerek takip etmek | | | | | |
| Herhangi bir ürün veya hizmet ile ilgili kampanya veya tanıtım amaçlı SMS almak | | | | | |
| Herhangi bir ürün veya hizmet ile ilgili indirim kuponu teklif eden SMS almak | | | | | |
| Herhangi bir markaya veya bir markaya ait olmayan mobil uygulamaları cep telefonuma indirmek ve kullanmak | | | | | |
| Mobil uygulamaları kullanırken reklam görmek | | | | | |
| İlgimi çeken ücretli mobil uygulamaları satın almak | | | | | |
| Bulunduğum yerin yakınındaki eczane, restoran, hastane, banka gibi önemli noktaları gösteren mobil uygulamayı cep telefonuma indirerek kullanmak | | | | | |
| Bulunduğum mağazada o esnada geçerli olan kampanyaları SMS almak | | | | | |
| Bulunduğum yerin yakınındaki tüm promosyon ve indirimleri gösteren mobil uygulamayı indirerek kullanmak | | | | | |
| Mağazada beğendiğim ürünü almadan önce ürünün fiyat kıyaslamasını gösteren mobil uygulamayı indirerek kullanmak | | | | | |
| Cep telefonumdan alış veriş yapmak | | | | | |
| Cep telefonumdan daha ucuz ve maliyet avantajlı olması durumunda alış veriş yapmak | | | | | |
| Cep telefonumdan kısıtlı vaktim olması durumunda alış veriş yapmak | | | | | |
| Cep telefonumdan bankacılık işlemlerimi yapmak | | | | | |
| Cep telefonumdan internete girerek bilgi aramak | | | | | |
| Cep telefonum ile internette gezinirken reklam görmek | | | | | |
| Cep telefonum ile internette gezinirken önüme çıkan reklamlara tıklamak | | | | | |
| Cep telefonu oyunlarını indirmek ve oynamak | | | | | |
| Cep telefonumdan indirdiğim oyunu oynarken, oyun içerisine yerleştirilmiş markaların reklamını görmek | | | | | |
| Cep telefonuma Facebook, twitter gibi sosyal medya uygulamalarını indirmek ve kullanmak | | | | | |
| Mobil sosyal medya uygulamalarında anlık çektiğim resim, video veya yorumlarımı paylaşmak | | | | | |
| Mobil uygulamalar üzerinden gönderilen anketlere katılmak | | | | | |
| Mobil pazarlama servislerini kullanmaya olumlu bakarım | | | | | |

**17. Aşağıdaki ifadelere ne derece katıldığınızı ölçek üzerinde belirtiniz. (1: Kesinlikle Katılıyorum, 2: Katılıyorum, 3: Kararsızım, 4: Katılmıyorum, 5:Kesinlikle Katılmıyorum)**

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Mobil pazarlama uygulamaları üzerinden iletilen mesajları (kupon, reklam, teklif, vb.) kabul etmenin faydalı olduğunu düşünüyorum. | | | | | |
| Mobil pazarlama uygulamaları ile iletilen mesajlar, daha iyi alışveriş kararı vermeme yardımcı olur. | | | | | |
| Mobil pazarlama uygulamaları ürünleri/bilgileri araştırırken harcadığım zamanı kısaltır. | | | | | |
| Mobil pazarlama uygulamaları maliyet avantajı/tasarruf elde etmemi sağlar. | | | | | |
| Mobil pazarlama servislerini kullanacak özellikte telefona sahibim. | | | | | |
| Daha donanımlı ve yeni teknolojileri destekleyen bir telefona sahip olmam mobil pazarlama servislerini daha kolay ve sık kullanmamı sağlar. | | | | | |
| Mobil pazarlama servislerini kullanmak için gerekli bilgilere sahibim. | | | | | |
| Mobil pazarlama servislerini kullanmak için hizmet aldığım GSM operatör gerekli hizmeti vermektedir. | | | | | |
| Mobil pazarlama uygulamaları üzerinden gelen bir çok mesaja cep telefonumdan internet erişimi yeterli olmadığı için cevap veremiyorum. | | | | | |
| GSM operatörünün daha hızlı ve kesintisiz mobil internet servisi sunması mobil pazarlama servislerini daha sık ve kolay kullanmamı sağlar. | | | | | |
| GSM servis operatörüm veya müşterisi olduğum markalar iznim olmadan cep telefonu/e-mail adresi, konum gibi bilgilerimi başkaları ile paylaşmamalıdır. | | | | | |
| Mobil pazarlama uygulamalarının gizlilik politikalarını incelerim. | | | | | |
| İlgi duyduğum mobil pazarlama servislerini kullanmak için gerekli olan isim, mail adresi gibi kişisel bilgilerimi vermek konusunda isteksizim. | | | | | |
| Arkadaşlarımın çoğu mobil pazarlama servislerini kullandığı için ben de mobil pazarlama servislerini kullanırım. | | | | | |
| Mobil pazarlama servislerini kullanmamda, örnek aldığım benim için önemli insanların etkisi vardır. | | | | | |
| Ailem, mobil pazarlama servislerini kullanmam gerektiğini düşünüyor. | | | | | |

# CV

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**High School** : Tevfik Serdar Anatolian High School, 2002

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| | |
|---|---|
| 01/04/2013 – | Turkcell Group-Globaltower<br>Senior Source and Project Management Specialist |
| 12/09/2011 – 31/03/2013 | Turkcell<br>Senior Network Procurement Specialist |
| 01/01/2008 – 11/09/2011 | Turkcell Group-Globaltower<br>Procurement and Contract Management Specialist |
| 05/03/2007 – 31/12/2007 | Turkcell Group- Globaltower<br>Contract management and Sales support (Part Time) |
| 03/08/2006 – 04/09/2006 | Atatürk Airport DHMİ.,<br>Management Dept.- Internship study |
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